

**Development of a project portfolio management
model for executing organisational strategies: A
normative case study**

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DECLARATION

I declare that the research project, **“Development of a project portfolio management model for executing organisational strategies: A normative case study”**, is my own work and that each source of information used has been acknowledged by means of a complete reference. This thesis has not been submitted before for any other research project, degree or examination at any University.



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ABSTRACT

Various research studies show that organisations struggle to bridge the gap between strategy formulation and its day-by-day implementation (Project Management Institute, 2014a and 2016b; Morris and Jamieson, 2004; Sull, Homkes, and Sull, 2015). These studies also show that organisations are not effectively implementing and applying portfolio management (also referred to as project portfolio management in the literature to distinguish it from financial portfolio management) best practices to achieve strategic results. Understanding the value of portfolio management, implementing and applying best practices are vital to successfully execute business strategies and strategic objectives.

This research study is a normative case study to develop a portfolio management model for Eskom, the South African National Electricity Utility, to effectively implement and embed portfolio management best practices and enhance decision-making to select, categorise, prioritise, optimise and balance, authorise, plan and manage the right projects and programmes and allocate the limited resources (e.g. funds and manpower) available to maximise business value and deliver strategic results effectively. The research study also expands the theory/body of knowledge on the steps (activities, processes, roles and responsibilities, tools and techniques, etc.) to be followed to successfully implement and embed portfolio management in organisations.

The implementation of the recommendations resulting from this research can improve the maturity of portfolio management processes and contribute towards Eskom becoming a high agile organisation by ensuring that projects and programmes align to the strategic objectives and delivers the required strategic results as outlined in Eskom's Corporate Plan. The effective application of portfolio management best practices within Eskom will result in a more reliable security of electricity supply to meet the electricity demand in South Africa. The development of a portfolio management model can also serve as a blueprint for other State Owned Companies and other organisations.

Keywords: qualitative research, normative case study; organisational strategies execution; portfolio management model; portfolio management best practices, portfolio management implementation steps

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LIST OF ABBREVIATIONS

APM	Association for Project Management
APMBoK	Association for Project Management Body of Knowledge
BA&P	Business Analysis and Planning
BAU	Business as Usual
BI	Business Intelligence
BRA	Benefits Release Approval
BSI	British Standards Institution
CDC (or PPG)	Change Delivery Committee
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CRA	Concept Release Approval
CSF	Critical Success Factor
DCF	Discounted Cash Flow
DEA	Department of Environmental Affairs
DRA	Definition Release Approval
DTC	Design To Cost
DWS	Department of Water and Sanitation
EAF	Energy Availability Factor
ECA	Export Credit Agency
EHPUM	Eskom High Performance Utility Model
EIU	Economic Intelligence Unit
EPMO	Enterprise/Eskom Project Management Office
EPPM	Enterprise Project Portfolio Management
ERA	Execution Release Approval
ERP	Enterprise Resource Planning
EVA	Economic Value Added
EXCO	Executive Committee
FRA	Finalisation Release Approval

GC	Group Commercial
GCIA	Group Capital Integration and Assurance
GRC	Governance, Risk and Compliance
HR	Human Resources
IC	Investment Committee
IDM	Integrated Demand Management
IRR	Internal Rate of Return
ISO	International Standards Organisation
IT	Information Technology
JAD	Joint Application Development
KPI	Key Performance Indicator
M&A	Mergers and Acquisitions
MB	Management Board
MoP	Management of portfolios
MYPD	Multi Year Price Determination
NERSA	National Energy Regulator of South Africa
NPV	Net Present Value
OGC	Office of Government Commerce in the United Kingdom
OPM	Organisational Project Management (i.e. project, programme and portfolio management)
PCM	Process Control Manual
PD	Portfolio Director
PDB/PPG	Portfolio Delivery Board/Portfolio Process Group
PDG	Portfolio Direction Group
PESTLE	Political, Economic, Social, Technological, Legal and Environmental
PfBM	Portfolio Benefits Manager
PfDM	Portfolio Delivery Manager
Pf Owner	Portfolio Owner
PCLF	Planned Capability Load Factor

PD	Portfolio Director
PDF	Project Delivery Framework
PDG	Portfolio Direction Group
PMI	Project Management Institute
PMISA	Project Management Institute South Africa
PO	Project Office
PP	Payback Period
P&PM	Programme and Project Management
PPG (or CDC)	Portfolio Progress Group
PPM	Project Portfolio Management
R&D	Research and Development
RACI	Responsible Accountable, Consult Inform
RCA	Regulatory Clearing Account
RFI	Request for Information
RFP	Request for Proposal
RMO	Results Management Office
ROI	Return on Investment
SaaS	Software-as-a-Service
SBU	Strategic Business Unit
SEF	Strategic Execution Framework
SIS	Strategic Intent Statement
SLA	Service Level Agreement
SMART	Specific, Measurable, Attainable, Realistic and Time-bound
SOC	State Owned Company
SPfMO	Strategic Portfolio Management Office
SRO	Senior Responsible Owner
SS	Strategy Support
TCO	Total Cost of Ownership
WBS	Work Breakdown Structure

DEFINITION OF TERMS/GLOSSARY

Aligning processes	A process group to optimise the portfolio and manage strategic change, supply and demand, portfolio value, portfolio information, and portfolio risks (PMI Standard for Portfolio Management Ed 3, 2013).
Authorisation	The process of approving, funding, and communicating the authorisation for initiating work on a component included in a “balanced portfolio” (PMI Standard for Portfolio Management Ed 3, 2013).
Authorise portfolio	Process for allocating resources to execute selected portfolio components and to formally communicate portfolio-balancing decisions (PMI Standard for Portfolio Management Ed 3, 2013).
Authorising and controlling processes	A process group to authorise portfolio components and providing on-going portfolio oversight (PMI Standard for Portfolio Management Ed 3, 2013).
Benefit	An outcome of actions, behaviours, or services that provide utility to the sponsoring organisation as well as the program’s intended beneficiaries (PMI Standard for Program Management Ed 3, 2013). A measurable improvement resulting from an outcome perceived as an advantage by one or more stakeholders (OGC MoP, 2011).
Benefits realisation analysis	A technique to analyse portfolio component achievement of planned benefits (PMI Standard for Portfolio Management Ed 3, 2013).
Benefits sustainment	On-going maintenance activities performed beyond the end of the program by receiving organisations to ensured continued generation of the improvements and outcomes delivered by the program (PMI Standard for Program Management Ed 3, 2013).
Business as usual	“Business as usual” includes all the activities and processes that an organisation undertakes in order to run its business on a day-to-day basis (OGC MoP, 2011).
Business change life-cycle	A generic name used to represent any organisational process or framework which helps to guide the delivery of programmes and projects using a collection of repeatable processes and decision points (OGC MoP, 2011).
Capability and capacity analysis	A technique performed to understand the human, financial, and asset capacity and capability of the organisation in order to select, fund, and execute portfolio components (PMI Standard for Portfolio Management Ed 3, 2013).

Categorisation	Splitting a portfolio into organisationally appropriate categories or segments – for example, by initiative type or investment objective. The organisation’s investment criteria can be tailored to suit each category of investment (OGC MoP, 2011).
Categorisation of components	A technique to group portfolio components based on criteria (PMI Standard for Portfolio Management Ed 3, 2013).
Category	A predetermined key description used to group potential and authorised components to facilitate further decision making. Categories usually link their components with a common set of strategic goals (PMI Standard for Portfolio Management, 2013).
Champion-challenger model	A technique whereby everyone is expected to comply with the defined portfolio processes (the current <i>champion</i>) but anyone can recommend a change (a <i>challenger</i>) One adopted, the <i>challenger</i> becomes the new <i>champion</i> process. Such challenges should be encouraged as a way of ensuring engagement across the organisation, and the number of submissions received should be monitored on a regular basis (OGC MoP, 2011).
Clear line of sight	A technique that seeks to ensure a transparent chain from strategic intent through to benefits realisation.
Change	Projects and programmes used to implement changes to the organisation (OGC Portfolio Management Guide, 2008).
Communication methods	Tools that share and distribute information among portfolio stakeholders, such as email video conferencing, web portals, etc. (PMI Standard for Portfolio Management Ed 3, 2013).
Communication requirements analysis	A technique to determine the information needs of portfolio stakeholders and define the information type and format for delivery to stakeholders (PMI Standard for Portfolio Management Ed 3, 2013).
Component (portfolio)	See portfolio component.
Component proposal	A recommendation or plan, business case, or feasibility study, developed by stakeholders or sponsors, to introduce or change a portfolio component or components (PMI Standard for Portfolio Management Ed 3, 2013).
Cost benefit analysis	A technique that weighs expected costs against expected financial and non-financial benefits (value) to determine the best (according to relevant criteria) course of action (PMI Standard for Portfolio Management Ed 3, 2013).
Decision conferencing	A technique whereby managers consider and debate in a facilitated workshop the relative weightings to attach to the organisation’s strategic objectives; the criteria to be used to assess strategic contribution in each case; and the scores to

allocate to individual initiatives. In this way the portfolio governance body comes to a collective decision of the composition of the portfolio. This has been found to be very effective in terms of optimising portfolio returns and also results in enhanced commitment to the portfolio and to the portfolio management processes (OGC MoP, 2011).

Define portfolio	Process of creating an up-to-date list of qualified components and organising them into relevant business groups to which a common set of decision filters and criteria can be applied for evaluation, selection, prioritisation, and balancing action (PMI Standard for Portfolio Management Ed 3, 2013).
Define portfolio roadmap	Process of defining the high-level portfolio components, multi-year milestones, and interdependencies (PMI Standard for Portfolio Management Ed 3, 2013).
Defining processes	A process group to develop the portfolio strategic plan, charter, and the portfolio management plan and to define the portfolio and portfolio roadmap (PMI Standard for Portfolio Management Ed 3, 2013).
Development pipeline	The initiatives under development, concept and feasibility testing, prior to formal inclusion in the portfolio as 'live' programmes and projects (OGC MoP, 2011).
Develop portfolio charter	Process of developing the portfolio charter to authorise the portfolio manager to develop portfolio management processes that supports the portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Develop portfolio communication management plan	Process of developing portfolio communications management plan, a subsidiary plan of the portfolio management plan, including engaging stakeholders and analysing how the information and communication needs of the portfolio stakeholders will be met (PMI Standard for Portfolio Management Ed 3, 2013).
Develop portfolio management plan	Process of defining the overall portfolio management, including subsidiary plans for portfolio communication, performance, and risk (PMI Standard for Portfolio Management Ed 3, 2013).
Develop portfolio performance plan	Process for developing the portfolio performance management plan, a subsidiary plan of the portfolio management plan, including how portfolio value is defined and optimised through portfolio component allocation, targets, and results (PMI Standard for Portfolio Management Ed 3, 2013).
Develop portfolio risk management plan	Process for developing portfolio risk management plan, a subsidiary plan of the portfolio management plan, including methods for managing and reporting risks (PMI Standard for Portfolio Management Ed 3, 2013).

Develop portfolio strategic plan	Process for analysing and developing the portfolio strategic plan to determine how the organisational strategy and goals will be carried out through the portfolio management process (PMI Standard for Portfolio Management Ed 3, 2013).
Elicitation techniques	Techniques to gather requirements for portfolio planning (PMI Standard for Portfolio Management Ed 3, 2013).
End project report	A report given by the project manager to the project board that confirms the handover of all products and provides an updated business case and an assessment of how well the project has performed against its project initiation documentation (OGC MoP, 2011).
Enterprise environmental factors	Conditions, not under the immediate control of the team, that influence, constrain or direct the project, program, or portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Evaluation	The process of scoring specific potential components using key indicators and their related weight criteria for comparison purpose for further decision making (PMI Standard for Portfolio Management Ed 3, 2013).
Gap analysis	A technique to evaluate the current portfolio mix of components and determine changes needed so components may be added, changed, or terminated to rebalance the portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Gated review	A structured review of a project, programme or portfolio as part of formal governance arrangements carried out at key decision points in the life-cycle to ensure that the decision to invest as per agreed business cases and plans remains valid (OGC MoP, 2011).
Governance decisions	Portfolio governing body decisions based on portfolio performance, component proposals, and risks as well as capability and capacity of resources, funding allocations, and future investment requirements (PMI Standard for Portfolio Management Ed 3, 2013).
Governance (portfolio)	Encompasses the structures, accountabilities and policies, standards and processes for decision-making within an organisation in order to answer the key strategic questions: "Are we doing the right things?", "Are we doing them the right way", and "Are we realising the benefits?" (OGC MoP, 2011).
Governance recommendations	Portfolio governing body recommendations based on portfolio performance, component proposals, and risks as well as capability and capacity of resources, funding allocations, and future investment requirements (PMI Standard for Portfolio Management Ed 3, 2013).
Graphical analytical methods	Tools such as risk versus return charts, histograms, pie charts, and other methods to visualise portfolio information

(PMI Standard for Portfolio Management Ed 3, 2013).

Health check	A health check is a quality tool that provides a snapshot of the status of a project, programme or portfolio. The objective of the health check is to obtain an objective assessment of how well the project, programme or portfolio is performing relative to its objectives and any processes, or standards (OGC MoP, 2011).
Hurdle rate of return	The target rate of return set by an organisation, which potential investments need to achieve in order to be considered for funding. Also used as the discount rate to covert future cash flows into the net present value (OGC MoP, 2011).
Identification of components	A technique to identify the portfolio components from an inventory of work or proposed components based on prioritisation, objectives, expected benefits, and performance criteria (PMI Standard for Portfolio Management Ed 3, 2013).
Initiative (change initiative)	A programme or project (OGC MoP, 2011).
Integration of portfolio management plans	A technique to align subsidiary portfolio plans with the portfolio management plan to ensure consistency (PMI Standard for Portfolio Management Ed 3, 2013).
Interdependency analysis	A technique to identify dependencies between portfolios, portfolio components, or with external elements (PMI Standard for Portfolio Management Ed 3, 2013).
Inventory of work	A list of active work that may be potential portfolio components and a starting point to develop a portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Investment choice assessment	Technique to align the portfolio based on new and changing strategic objectives, evaluate responses to threads and opportunities, and indicate portfolio investment gaps (PMI Standard for Portfolio Management Ed 3, 2013).
Key criteria	Predetermined measures, values, or conditions used in the scoring model to measure alignment with strategic goals PMI Standard for Portfolio Management Ed 3, 2013).
Key descriptors	A set of characteristics used to categorise and document a portfolio component for further decision-making (PMI Standard for Portfolio Management Ed 3, 2013).
Management board	Generic term used to describe either a project management board, programme management board or portfolio management board, or any combination (OGC MoP, 2011).
Management by exception	A technique by which variances from plan that exceed a pre-set control limit are escalated for action – for example, where spends exceed budget by 10% (OGC MoP, 2011).

Manage portfolio information	Process of collecting, distributing, and ensuring required information available to portfolio stakeholders in a timely manner (PMI Standard for Portfolio Management Ed 3, 2013).
Manage portfolio risks	Process of assessing and combining the probability and occurrence and impact of identified risks; numerically analysing the overall effect of selected risks on the portfolio; and prioritising risks for subsequent further analysis or action (PMI Standard for Portfolio Management Ed 3, 2013).
Managing portfolio value	Process of identifying and managing how organisational benefits and value are defined and optimised through portfolio component allocation, targets, and results (PMI Standard for Portfolio Management Ed 3, 2013).
Manage strategic change	Process of responding to changes in organisational strategy and environment to assess impacting the portfolio and enable changes, including rebalancing and other portfolio changes (PMI Standard for Portfolio Management Ed 3, 2013).
Manage supply and demand	Process of identifying financial, human, and other resource availability and capability requirements; mapping against organisational and portfolio constraints and demands; and allocating resources according to portfolio allocation decisions (PMI Standard for Portfolio Management Ed 3, 2013).
Modelling and analysis tools	Tools to measure risk and include probability (likelihood) and impact (consequences) (PMI Standard for Portfolio Management Ed 3, 2013).
New component	A component that is being added to an existing project portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
One version of the truth	A technique whereby each element of portfolio progress reporting (costs, benefits, progress, etc.) is derived from an agreed source managed by the portfolio office (OGC MoP, 2011).
Optimise portfolio	Process of assessing the portfolio components based on the organisation's selection and ranking processes in order to create the component mix with the greatest potential to collectively support the organisation's strategy and goals (PMI Standard for Portfolio Management Ed 3, 2013).
Optimism bias	The demonstrated systematic tendency for appraisers to be over-optimistic about key project parameters, including capital costs, operating costs, works duration and benefits delivery (OGC MoP, 2011).
Organisational energy	The extent to which an organisation (division or team) has mobilised its emotional, cognitive and behavioural potential to pursue its goals (OGC MoP, 2011).
Organisational governance	The process by which an organisation directs and controls its operational and strategic activities, and by which the

	organisation responds to the legitimate rights, expectations, and desires of its stakeholders (PMI Standard for Portfolio Management Ed 3, 2013).
Organisational process assets	Plans, processes, policies, procedures, and knowledge bases that are specific to and used by the performing organisation (PMI Standard for Portfolio Management Ed 3, 2013).
Organisational strategy and objectives	An organisational document that contains the mission and vision statements as well as goals, objectives, and strategies intended to achieve the vision PMI Standard for Portfolio Management Ed 3, 2013).
PESTLE	A technique used generally in organisational change management to undertake an environmental scan at a strategic level (OGC MoP, 2011).
Phase gate	A review at the end of a phase in which a decision is made to continue to the next phase, to continue with modification, or to end a project or program (PMI Standard for Portfolio Management, 2013).
Planning sessions	A technique to structure collaboration for planning portfolio activities such as to define and manage risks (PMI Standard for Portfolio Management, 2013).
Portfolio	A portfolio is a collection portfolio components grouped together to facilitate to facilitate their management to meet, in whole or part, an organisation's strategic objectives (BS ISO 21504:2015). Projects, programs, sub-portfolios, and operations managed as a group to achieve strategic objectives (PMI Standard for Portfolio Management Ed 3, 2013). The totality of an organisation's investment (or segment thereof) in the changes (projects and programmes) required to achieve its strategic objectives (OGC MoP, 2011).
Portfolio authorisation	A technique to formally authorise portfolio components, allocate funding, and assign resources (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio balancing	The process of optimising the of portfolio components to further the strategic objectives of the organisation (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio charter	The document issued by the portfolio sponsor that formally authorises the existence of a portfolio and provides the portfolio manager with the authority to apply portfolio resources to portfolio activities (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio communication	A knowledge area that includes the processes required to develop the portfolio communication management plan and

management	manage portfolio information (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio communication management plan	A subsidiary plan or component of the portfolio management plan that defines all communication needs, establishes communications requirements, specifies frequency, and identifies recipients for information associated with the portfolio management process (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio component	Project, programme, portfolio, or other related work (BS ISO 21504:2015). A discreet element of portfolio that is a program, project or other work (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio component reports	Status reports from the portfolio's program and project managers (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio dash-board	A technique to represent decision support. Information at an amalgamated level using tabular and graphical representation such as graphs and traffic lights (OGC MoP, 2011).
Portfolio definition cycle	One of the two continuous cycles within the portfolio management model containing portfolio management practices related to defining a portfolio, i.e. understand, categorise, prioritise, balance and plan (OGC MoP, 2011).
Portfolio delivery cycle	One of the two continuous cycles within the portfolio management model containing portfolio management practices related to delivering a portfolio, i.e. management control, benefits management, financial management, risk management, organisational governance, stakeholder engagement, and resource management (OGC MoP, 2011).
Portfolio delivery plan	A collection of tactical information regarding the planned delivery of the portfolio based on the overarching portfolio strategy. The portfolio delivery plan usually focuses on the forthcoming year in detail in terms of schedule, resource plans, costs, risks and benefits to be realised (OGC MoP, 2011).
Portfolio governance management	A knowledge area that includes the processes to develop the portfolio management plan; define, optimise, and authorise the portfolio; and provide on-going portfolio oversight (PMI Standard for Portfolio Management, 2013).
Portfolio management	Project portfolio management is generally the centralised management of one or more project portfolios, which includes identifying, prioritising, authorising, directing and controlling projects, programmes and other work to achieve specific strategic goals (ISO 21500:2012).

	The centralised management of one or more portfolios to achieve strategic objectives (PMI Portfolio Standard Ed 3). Portfolio management is the selection and management of all of an organisation's projects, programmes and related business-as-usual activities taking into account resource constraints (PMI Standard for Portfolio Management Ed 3, 2013). Portfolio management is a co-ordinated collection of strategic processes and decisions that together enable the most effective balance of organisational change and business-as-usual (OGC MoP, 2011).
Portfolio management framework	The central repository containing a description of the agreed portfolio management practices adopted by the organisation and its governance arrangements (OGC MoP, 2011).
Portfolio management model	A logical diagram describing the relationship between the portfolio management principles, cycles and practices (OGC MoP, 2011).
Portfolio manager	Person or organisation responsible for applying portfolio management to a portfolio who may be supported by a portfolio management team (BS ISO 21504:2015).
Portfolio management information systems	A tool, manual or automated, for information collected and distribution to support the portfolio management processes (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio management plan	A formal approved document that defines how the portfolio will be executed, monitored, and controlled to meet organisational strategy and objectives (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio office	The office which is established centrally to manage the investment process, strategic alignment, prioritisation and selection, progress tracking and monitoring, optimisation and benefits achievement by an organisation's projects and programmes on behalf of its senior management (OGC MoP, 2011).
Portfolio organisational structure analysis	A technique to determine the portfolio management organisational structure and determine roles and responsibilities (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio performance management	A knowledge area that includes the processes to develop the portfolio performance management plan, manage supply and demand, and portfolio value (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio performance management plan	A subsidiary plan or component of the portfolio management plan that describes the performance measures, reporting (on scope, cost, schedule, and resources) resource optimisation, and benefits realisation (PMI Standard for Portfolio

	Management Ed 3, 2013).
Portfolio periodic reporting and review	The process of reporting on the portfolio components as a whole using key indicators and reviewing the performance of the component mix by comparing actual with anticipated evolution, value, risk level, spending and strategic alignment (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio principles	The portfolio management principles represent the foundations upon which effective portfolio management is built – by providing the organisational culture and environment in which the portfolio definition and delivery practices can operate effectively (OGC MoP, 2011).
Portfolio process assets	Portfolio plans, processes, policies, procedures, and knowledge bases used by the portfolio manager and stakeholders (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio reports	Reports that provide information on performance, risks, resources, and governance decisions (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio review meetings	A technique used by portfolio governance bodies to review the portfolio status to make portfolio decisions (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio risk	An uncertain event, set of events or conditions that, if they occur, have one or more effects, either positive or negative, on at least one strategic business objective of the portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio risk management	A knowledge area that includes the processes required to develop the portfolio risk management plan and manage portfolio risks (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio risk management plan	A subsidiary plan or component of the portfolio management plan that describes how risk management activities will be structured and performed (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio roadmap	A document that provides the high-level strategic direction and portfolio information in a chronological fashion for portfolio management and ensures dependencies within the portfolio are established and evaluated (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio strategic plan	A formal, approved document that describes the portfolio vision, objectives, and goals, to achieve organisational strategy and objectives (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio strategic management	A knowledge area that includes the processes required to develop the portfolio strategic plan, portfolio charter, portfolio

	roadmap, and manage strategic change (PMI Standard for Portfolio Management Ed 3, 2013).
Portfolio strategy	A collection of top-level strategic information that provides total clarity to all stakeholders regarding the content and long-term objectives of the portfolio. The portfolio strategy is an important communication tool and as such should be motivational to the reader (OGC MoP, 2011).
Prioritisation analysis	A technique to compare and rank selected portfolio components, based on their evaluation scores and other management considerations, to ensure alignment with organisational strategy and objectives (PMI Standard for Portfolio Management Ed 3, 2013).
Probability and impact matrix	A grid for mapping the probability of each risk occurrence and its impact on project objectives if that risk occurs (PMI Standard for Portfolio Management Ed 3, 2013).
Project portfolio oversight	Process of providing governance in identifying, documenting, authorising, and controlling changes to the project portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Quantitative and qualitative analysis	Technique that includes analyses to optimise the portfolio, such as scenario analysis, probability analysis and cost/benefit analysis (PMI Standard for Portfolio Management Ed 3, 2013).
Rebalancing assessment	A tool to assess the portfolio and considering rebalancing portfolio components, resource requirements, and the portfolio budget to realign the portfolio risks (PMI Standard for Portfolio Management Ed 3, 2013).
Reference class forecasting	A technique where forecasts of an initiative's duration, costs and benefits are derived from what actually occurred in a reference class or similar project (OGC MoP, 2011).
Resource	An organisation's physical or virtual entities (human or otherwise) that are of limited availability and can be used to undertake operations or business change (OGC MoP, 2011).
Risk acceptance	A risk response strategy whereby a project team decides to acknowledge the risk and not take any action unless the risk occurs (PMI Standard for Portfolio Management Ed 3, 2013).
Risk avoidance	A risk response strategy whereby a project team acts to eliminate the threat or protect the project from its impact (PMI Standard for Portfolio Management Ed 3, 2013).
Risk reviews	A technique to evaluate existing risks and identify new risks (PMI Standard for Portfolio Management Ed 3, 2013).
Risk transference	A risk response strategy whereby the project team shifts the impact of a threat to a third party, together with ownership of the response (PMI Standard for Portfolio Management Ed 3,

2013).

Scenario analysis	A technique to evaluate scenarios in order to predict their effect on portfolio objectives (PMI Standard for Portfolio Management Ed 3, 2013).
Scoring model	A set of weighted criteria and corresponding key indicators to measure and score components for comparison and prioritisation purposes (PMI Standard for Portfolio Management Ed 3, 2013).
Senior responsible owner	The single individual with overall responsibility for ensuring that a project or programme meets its objectives and delivers the projected benefits (OGC MoP, 2011).
Stage/phase gate	Structured reviews of a project, programme or portfolio as part of formal governance arrangements that are carried out at key decision points in the life-cycle to ensure that the decision to invest as per agreed business cases and plans remains valid (OGC MoP, 2011).
Start gate	A stage/phase gate review which applies at the early stages of the policy-to-delivery life-cycle. It offers departments the opportunity to gain independent assurance on how well practical delivery issues are being addressed in preparing for implementation (OGC MoP, 2011).
Strategic alignment	The result of selecting and adjusting portfolio components to contribute to accomplish an organisation's strategic objectives (BS ISO 21504:2015).
Strategic objectives	The measurable outcomes that demonstrate progress in relation to organisation's mission and to which the portfolio should contribute. According to Peter Drucker they fall into eight types: • Market standing. Desired share of the present and new markets. • Innovation. Development of new goods and services, and of skill and methods required to supply them. • Human resources. Selection and development of employees. • Financial resources. Identification of the sources of capital and their use. • Physical resources. Equipment and facilities and their use. • Productivity. Efficient use of the resources relative to the output. • Social responsibility. Awareness and responsiveness to the effects on the wider community of the stakeholders. • Profit requirements. Achievement of measurable financial well-being and growth. (OGC MoP, 2011).
Stakeholder	An individual, group or organisation who may affect, be

	affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, program or portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Stakeholder analysis	A technique of systematically gathering and analysing quantitative and qualitative information to determine whose interests should be taken into account throughout the project (PMI Standard for Portfolio Management Ed 3, 2013).
Strategic change	Any change in the strategic intentions and plans of the organisation that can impact on the contents of component definition, categories, filters, key indicators, and other decision-making parameters used for portfolio management (PMI Standard for Portfolio Management Ed 3, 2013).
Strategic plan	A high-level document that explains the organisation's vision and mission, plus the approach that will be adopted to achieve this vision and mission, including the specific goals and objectives to be achieved during the period covered in the document (PMI Standard for Portfolio Management Ed 3, 2013).
Strategy	The approach of line to take, designed to achieve a long term aim. Strategies can exist at different levels in an organisation (OGC MoP, 2011).
Strategy and objectives	The definition of an organisation's intended achievements in terms of business results interpreted from various perspectives – financial, customer, infrastructure, products and services, or by cultural outcomes that are measurable (PMI Standard for Portfolio Management Ed 3, 2013).
Sub-portfolio	A collection of components which includes programs, projects, portfolios, and other work grouped together within a larger portfolio (PMI Standard for Portfolio Management Ed 3, 2013).
Three-point estimating	A technique whereby project estimates are prepared on three bases: best-case scenario; worst case; and most likely. Estimates can then be calculated by multiplying the most likely estimate by 4, adding the best and worst case estimate,, and dividing the total by 6 (OGC MoP, 2011).
Technique	A defined systematic procedure employed by a human resource to perform an activity to produce a product or result or deliver a service, and that may employ one or more tools. (PMBOK® Guide Ed 5, 2013).
Template	A partially complete document in a predefined format that provides a defined structure for collecting, organising, and presenting information and data. Templates are often based upon documents created during or prior projects. Templates can reduce the effort needed to perform work and increase the consistency of results (PMI PMBOK® Guide Ed 5, 2013).
Tool	Something tangible, such as a template or software program, used in performing and activity to produce a product or result (PMI PMBOK® Guide Ed 5, 2013).
Weighted ranking and scoring techniques	Techniques using a multiplication factor to rank and score portfolio components to convey the importance of criteria used

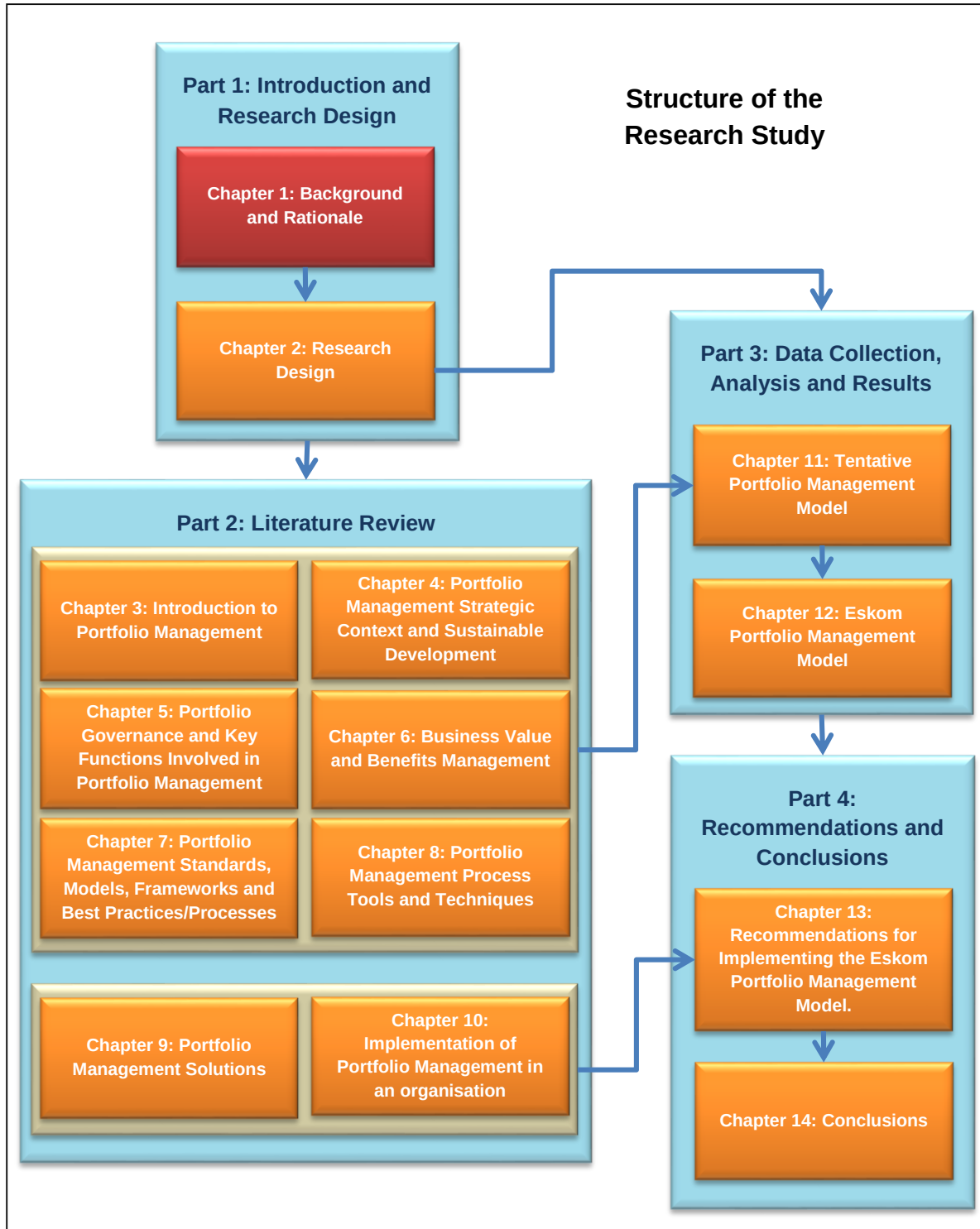
(PMI Standard for Portfolio Management Ed 3, 2013).

Zero-based budgeting

A technique for determining the next period's budget, rather than adjusting the previous year's funding, all material activities are examined to justify the scale of funding for each, "bottom-up" from a zero base (OGC MoP, 2011).

PART 1: INTRODUCTION AND RESEARCH DESIGN

CHAPTER 1: BACKGROUND AND RATIONALE



1.1 INTRODUCTION

1.1.1 Background

Business strategies and strategic objectives are often set in organisations without putting practices in place to ensure successful implementation. In the current economic conditions, companies are leaning toward portfolio management (also regularly referred to as project portfolio management in the literature) to manage the multitude of simultaneous projects and programmes ongoing in the organisation. Understanding the value, implementing and embedding portfolio management best practices are vital to deliver maximum business value in an organisation. Portfolio management is critically important because it ensures that the right projects and programmes are started and the “wrong” ones are stopped if already underway. The right projects and programmes are those that collectively make the greatest contribution to an organisation’s strategic objectives. The development of a portfolio management model for an organisation can provide a blue-print for successful implementation and embedment of portfolio management best practices in order to successfully execute organisational strategies and achieve the strategic objectives.

1.1.2 Aim

This chapter serves as an introduction and provides a synopsis of the research challenge and the rationale for the study.

1.2 KEY FOCUS OF THE RESEARCH STUDY

The key focus of the study is to develop a portfolio management model that can be applied to implement and embed portfolio management best practices in Eskom, the South African National Electricity Utility. Proper implementation and embedment of portfolio management best practices will enhance effective decision-making in Eskom to select, categorise, prioritise, optimise and balance, authorise, plan and manage the right projects and programmes and allocate the limited resources (e.g. funds and manpower) available to deliver strategic results effectively and maximise business value.

1.3 BACKGROUND SETTING OF THE RESEARCH PROBLEM

Various research studies show that organisations are not effectively implementing and applying portfolio management best practices to achieve their strategic objectives. According to the *Project Management Institute (PMI) Pulse of the Profession In-Depth Report: The High Cost of Low Performance* (PMI, 2014a) 88% of executives believe that strategy implementation is important to their organisations. Sixty one percent acknowledge that their firms struggle to bridge the gap between strategy formulation and its day-by-day implementation. PMI (2014a) states that this gap demonstrates a lack of understanding among organisation executives that all strategic changes happen through projects and programmes which inevitably

“change the business”. The PMI (2014a) report demonstrates the significant implications of the following chasm:

- Very few organisations (9%) rate themselves as excellent on successfully executing initiatives to deliver strategic results. Consequently, only 56% of strategic initiatives meet their original goals and business intent.
- This poor performance results in organisations losing US\$109 million for every US\$1 billion invested in projects and programmes. The *PMI Pulse of the Profession In-Depth Report: The High Cost of Low Performance* (PMI, 2016) shows that this situation has worsened and mentions that US\$122 million is wasted for every US\$1 billion invested due to poor project performance.
- High-performing organisations successfully complete 89% of their projects, while low performers complete only 36% successfully.
- Projects and programmes that are aligned to an organisation’s strategy are completed successfully more often than projects that are misaligned (71% versus 48%). PMI’s earlier research reported that aligning projects with strategic objectives has the greatest potential to add value to an organisation. But on average organisations report that three of five projects are not aligned to strategy.
- Organisations that are highly agile, nimble and able to respond quickly to changing market dynamics complete more of their strategic initiatives successfully than slower, less agile organisations (69% versus 45%). But only 15% of organisations report high organisational agility.

PMI’s (2014a) research confirms that organisations can clearly benefit from maturing their project, programme and portfolio management processes. Their research reveals that project, programme and portfolio management practices in many organisations are not yet mature. Less than one in five organisations reports high maturity of project, programme or portfolio management. This failure to take the necessary actions to mature their processes results in less success. This is clear when comparing high-performing organisations with low-performing organisations. Along with the high maturity of project, programme and portfolio management, high-performing organisations are significantly more likely to fully understand the value of project management, have a Project Management Office (PMO), and use standardised practices throughout the organisation. PMI’s (2014a) research also reveals that the benefits of process maturity are evident. Table 1 shows the extent of the success of strategic initiatives from each of these practices. Organisations realise significantly more successful strategic initiatives when these practices are in place.

Table 1: Process maturity and successful strategic initiatives (PMI, 2014a)

	Process maturity %		Successful strategic initiatives %	
	High performing organisation	Low performing organisation	High performing organisation	Low performing organisation
Organisation understands value of project management	77%	40%	63%	47%
Has a PMO	74%	64%	58%	50%
Standardised practices used throughout organisation	45%	25%	66%	41%
Project management maturity	35%	8%	70%	44%
Program management maturity	32%	5%	72%	45%
Portfolio management maturity	31%	6%	72%	46%

Langley the PMI President and CEO remarks the following in the *PMI Pulse of the Profession In-Depth Report: The High Cost of Low Performance* (PMI, 2016):

“Until leaders throughout organisation hierarchies trust that projects deliver strategy, I fear we will continue to see stagnant progress. And that means organisations will be less successful than they should be. It will take some work, but it can happen if we take a collective approach to help shift the thinking.”

1.4 CURRENT LEVEL OF KNOWLEDGE ABOUT THE PROBLEM

1.4.1 Literature review

Morris and Jamieson (2004) mention that much of the management writing around strategy tends to cover the practices at the corporate and business level and that not much is written about how corporate strategy gets implemented by projects and programmes and translating it into project and programme strategies. Sull, Homkes, and Sull (2015) confirm that while many studies were done on strategy since Porter’s seminal work in the 1980s a lot less is known about translating strategy into results.

The information from the PMI (2014a) research as discussed in section 1.3 clearly indicates that organisations struggle to bridge the gap between strategy formulation and its day-by-day implementation. According to *Implementing the Project Portfolio: A Vital C-Suite Focus Report* from PMI (2015b) executives indicate that portfolio management for strategy implementation is a high priority, but to date, this has infrequently translated into skilled performance. Only 10% of companies tightly align

portfolio management with strategy implementation and only an additional 10% broadly align it. Far more common is no use of portfolio management at all (19%) or an inconsistent application of it to strategy implementation (34%). Companies, especially large ones, may have a project management office, but its role is often just to make reports to senior management which is seen as doing something of low value. Only a minority attempt to balance key attributes of strategy implementation across the portfolio, such as alignment to different strategic priorities (47%) and risk and reward (35%). Worse still, a large number of firms that do seek such balance fail: only 32% of respondents believe their organisations balance the relevant portfolios against strategic priorities; just 22% say the same of risk. The failure of companies at balancing their portfolios is part of a more widespread inability to execute portfolio management. Respondents frequently admit that their organisations do not meet even their own intentions on managing high-level strategic projects. Forty-five percent say that, in theory, their firms aim to treat such projects as a completely or largely integrated portfolio, but only 24% succeed in practice. More broadly, 47% treat their projects in a less integrated way in practice than they do in intention.

The PMI (2015b) report indicates that the net results of such weak efforts are apparent. Just 17% say the strategically relevant projects at their companies are very well aligned with strategy overall. Sixty-one percent say they are only somewhat aligned. More striking, only around 10% believe their formal processes used to manage strategic projects strongly enhance strategic adaptability, agility, speed, or success in implementation. About half the time, the impact is negligible or even negative. This disparity between aspiration and outcomes is no accident. Successful portfolio management is difficult to achieve.

Currently not much research has been done on portfolio management models that can be applied by organisations to implement and embed portfolio management best practices successfully. The international portfolio management standards provide some limited guidance on the steps to be followed to implement portfolio management. *BS ISO 21504:2015 Project, programme and portfolio management Guidance on portfolio management* does not provide any guidance. The *PMI Standard for Portfolio Management* (2013a) briefly discusses four high level steps for implementing portfolio management. While the *Office of Government Commerce in the United Kingdom and other countries, Management of Portfolios Guide* (OGC MoP Guide) (2011) provides some information on portfolio management misconceptions, approaches, lessons learned, organisational energy and portfolio management health check assessment, there is little detail on how to implement and embed portfolio management. Mochal's (2014) *PortfolioStep Portfolio Management Framework™* provides techniques for implementing portfolio management in an organisation. Mochal (2014) states that the processes in the *PortfolioStep Portfolio Management Framework™* are consistent with the *PMI Standard for Portfolio*

Management (2013a) general recommendations but are more comprehensive than the ground covered by the PMI standard.

1.4.2 The Eskom case

The information that follows was obtained from Eskom's Corporate Plan (Financial years 2017/18 to 2021/22).

1.4.2.1 Overview of Eskom

Eskom Holdings state-owned company (SOC) Ltd, Registration Number 2002/015527/30, is South Africa's primary electricity supplier and is wholly owned by the South African Government. Eskom generates and distributes approximately 95% of the electricity used in South Africa and approximately 40% of the electricity used on the African continent. Eskom aims to comply with the policies, conditions and requirements of key government stakeholders such as the Department of Public Enterprises, National Treasury, the Department of Energy (DoE), the Department of Environmental Affairs (DEA) and the Department of Water and Sanitation (DWS), National Energy Regulator of South Africa (NERSA), among others.

Eskom's vision, mission and values are set out Table 2.

Table 2: Eskom's vision, mission and values

Vision	
Sustainable power for a better future.	
Mission	
To provide sustainable electricity solutions to grow the economy and improve the quality of life of the people in South Africa and in the region.	
Values	
Zero harm	Eskom will strive to ensure that zero harm befalls its employees, contractors, the public and the natural environment.
Integrity	Honesty of purpose, conduct and discipline in actions, and respect for people.
Innovation	Value-adding creativity and results oriented. Lead through excellence and innovation.
Sinobuntu	Caring.
Customer satisfaction	A commitment to meet and strive to exceed the needs of the receivers of products and services.
Excellence	Acknowledged by all for exceptional standards, performance and professionalism.

1.4.2.2 Global trends in the power industry

Eskom must consider the following trends in the broader power industry:

- A challenging macroeconomic landscape with pockets of real opportunity.
- Continued volatility in commodities with signs of improvement in a few commodities.

- Pressure on sources and cost of funding.
- Rapidly changing dynamics in the global power sector energy mix that is creating a challenging environment for traditional coal fossil fuels.
- Customer experience and satisfaction moving to the centre stage.
- Discontinuities in technology.
- Data and analytics as a new source of value creation and competitive advantage.

1.4.2.3 Statement of shareholder's strategic intent

As a state-owned entity, Eskom must implement government policy and strategy. The shareholder's Strategic Intent Statement (SIS) lays out Eskom's short-to-medium-term and long-term objectives to:

- Achieve and ensure a secure and reliable electricity supply.
- Achieve and ensure business and financial sustainability.
- Reduce Eskom's carbon footprint.
- Implement cost-containment measures.
- Adhere to operating licences and other legislative requirements.
- Ensure that the company structure is responsive to the changing energy landscape.
- Support and align with the Government's strategic initiatives.
- Conduct reporting at divisional levels (Generation, Transmission and Distribution) as of 1 April 2017, in line with regulatory methodology.

In addition, the shareholder has provided guidance to Eskom on a number of long-term objectives that the Plan takes steps to address:

- Develop a clear role for Eskom in the South African power sector by developing long-term capacity, e.g. renewables, nuclear, gas and coal.
- Consider Eskom's role of single buyer in the light of increasing market liberalisation and the introduction of IPPs.
- Given the growth of the green economy and the potential impact of carbon taxes on the electricity price, consider opportunities to shift away from dependence on coal and diversify the primary-energy mix for power generation.
- Account for the accelerated use of new technologies and innovation in a mature and stable industry.
- Explore regional-integration opportunities, focusing on finding synergies within the SADC region.
- Improve business, environmental and social sustainability.
- Align with global protocols as well as regional and national agendas such as the National Development Plan, the Integrated Resource Plan and the Integrated Energy Plan.

1.4.2.4 Eskom strategy

Eskom has developed a Design to Cost (DTC 2) strategy by which it aims to maintain moderate tariff increases and catalyse South Africa's development, while achieving a stand-alone investment-grade credit rating. Eskom will achieve these objectives by driving a number of strategic objectives across seven pillars as shown in see Figure 1.

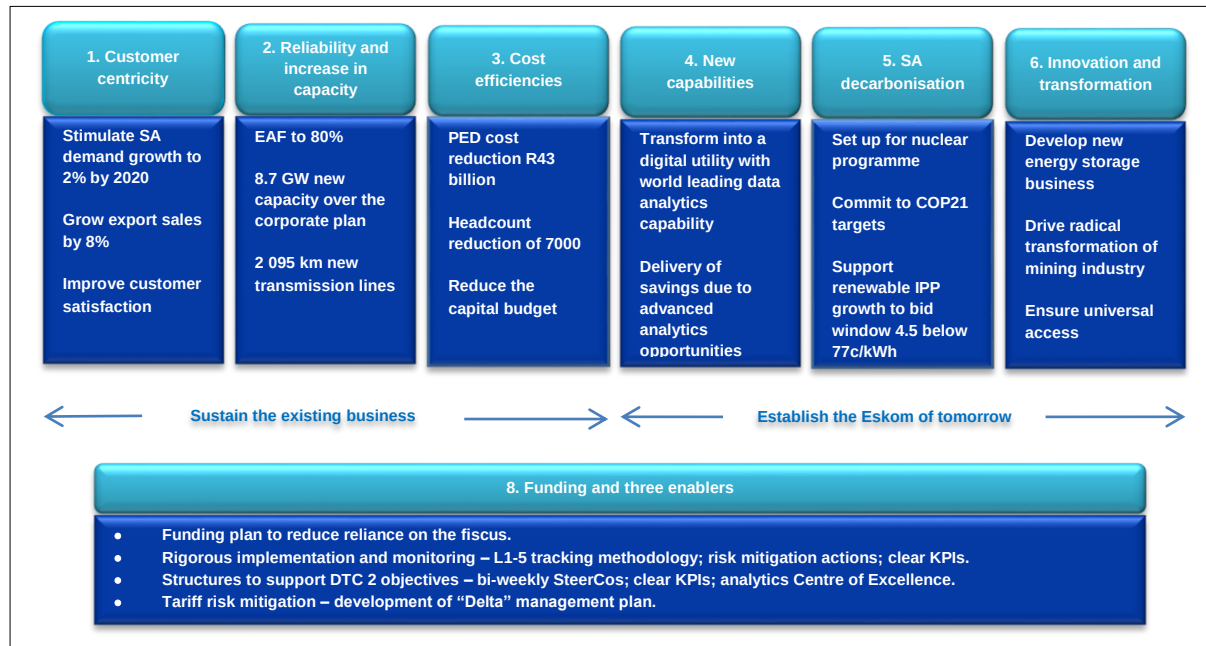


Figure 1: Seven Areas of Eskom's Strategy (Source: Eskom's Corporate Plan for the Financial Years 2017/18 to 2021/22)

1.4.2.5 Eskom's Back2Basics programme

The information in this section was obtained from the Eskom Holdings Integrated Reports ending 31 March 2011 and 31 March 2012. Eskom initiated a Back2Basics programme in 2010 to improve overall business performance across Eskom by standardising, simplifying and optimising all processes and systems. The programme aimed to drive efficiencies by applying standard business processes and using uniform systems across Eskom to ensure that management information is complete, accurate, reliable, accessible and timely. The Back2Basics processes were documented in detailed Process Control Manuals (PCMs) which were a major step towards achieving an Eskom that follows one process across the organisation. PCMs were also developed for portfolio management and authorised during the second half of 2011. The portfolio management PCMs were however not rolled out and embedded in Eskom. During 2015 a decision was taken to revise the portfolio management PCMs by aligning them with international best practices. These PCMs were authorised early in 2016 but must still be rolled out and embedded.

1.5 DEFINITION OF THE RESEARCH PROBLEM

The massive capacity expansion programme that Eskom started in 2006 imposes significant funding and resourcing requirements. The lack of adequate funds poses major challenges on Eskom's liquidity, plant performance, dealing with environmental compliance and regulatory and license conditions, etc. It is thus critical that the available funding be spent where it makes the biggest contribution towards Eskom's strategic objectives. The implementation and embedment of standardised portfolio management best practices across the organisation will contribute to successfully execute Eskom's strategies and strategic objectives as outlined in the Corporate Plan.

1.5.1 Current state of portfolio management in Eskom

The results of a survey conducted to establish the current state of portfolio management in Eskom is discussed in section 12.3.2.2. This information was collected during the one-to-one and group interviews. The results of this survey clearly shows that Eskom has not yet properly implemented and embedded standardised portfolio management best practices to successfully execute the Eskom strategies as outlined in Eskom's Corporate Plan. As shown in Table 1 in section 1.3 a higher portfolio management maturity percentage leads to a higher successful strategic initiatives percentage. Other than the portfolio management PCMs developed Eskom does not possess a portfolio management model that can be applied to successfully implement and embed portfolio management best practices in Eskom. The successful implementation and embedment of portfolio management best practices will help Eskom to select the right projects and programmes that collectively make the greatest contribution to the organisation's strategic results and also improve Eskom's capability to make very challenging funding decisions towards a sustainable business.

1.5.2 Research question

According to Creswell (2007) research questions provide an opportunity to encode and foreshadow an approach to inquiry. Creswell (2007) likes the conceptualisation of Marshall and Rossman (2006) of research questions into four types: exploratory (e.g. to investigate a phenomenon little understood), explanatory (e.g. to explain patterns related to a phenomenon), descriptive (e.g. to describe the phenomenon), and emancipatory (e.g. to engage in social action about the phenomenon). Creswell (2007) explains that qualitative research questions are open-ended, evolving, and non-directional; restate the purpose of the study in more specific terms; start with a word such as "what" or "how" rather than "why"; and are few in number (five to seven); and recommends that a researcher reduce the entire study to a single, overarching question and several sub-questions. To reach the overarching question, researchers must state the broadest question they could possibly pose about the research problem. Sub-questions follow the central question and can either be issue

questions or topical questions. Issue orientated sub-questions address the major concerns and perplexities to be resolved and take the phenomenon in the central research questions and break it down into subtopics for examination. Topical sub-questions, on the other hand, cover the anticipated needs for information. These questions call for information needed for description of the case. Creswell (2007) views topical sub-questions as questions that advance the procedural steps in the process of research.

Research question: What steps (activities, processes, roles and responsibilities, tools and techniques, etc.) should be followed to implement and embed portfolio management best practices in Eskom to successfully execute the strategies as outlined in Eskom's Corporate Plan?

Answering the research question resulted in the development of a detailed portfolio management model for Eskom and key recommendations and steps to successfully implement and embed portfolio management best practices and solution/system to successfully execute Eskom's strategic objectives.

Yin (2003) proposes that literature should be reviewed on the topic in formulating research questions that are most significant for the research study. The researcher performed a detailed literature review which covered the following elements:

- Introduction to portfolio management.
- Portfolio management strategic context and sustainable development.
- Portfolio governance, portfolio management, key roles and responsibilities.
- Business value and benefits management.
- Portfolio management standards, models, frameworks and related best practices/processes.
- Portfolio management process tools and techniques.
- Portfolio management solutions.
- Implementation of portfolio management in an organisation.

1.5.3 Aim and objectives of the study

Buys (2014) believes that the purpose of research is to generate new knowledge that not only enables us to better understand nature and our environment, including our interactions with others, but also to enable us to better manipulate, use and manage the environment to our advantage. Buys (2014) clarifies that the purpose of science of engineering and technology management is to provide theoretical knowledge and practical techniques to better manage technology-based organisations. Buys (2014) further believes that engineering and technology management links the engineering, science, and management disciplines. Buys (2014) mentions that it provides an interface between technology and other corporate functions and addresses the issues involved in the planning, development, and implementation of technological capabilities to shape and accomplish strategic and operational objectives of an organisation which covers the entire spectrum of managerial concerns in technology-

based organisations. According to Buys (2014) it includes issues relating to human resource management, innovation process management, project management, technological fusion, marketing, technological forecasting and strategic planning. Buys (2014) explains that there are three possible aspects to a research project in the science of engineering and technology management:

- Application of existing theories, models and methods to a “new” problem.
- Testing of existing theories, models and methods.
- Building of new or improved theories, models and methods.

Creswell (2007) talks about a purpose statement and says that it is the interrelationship between the research design and approach that provides the major objective or intent, or "road map," to the study. Creswell (2007) says that it needs to be carefully constructed and written in clear and concise language.

The research objectives are divided into a general objective and specific objectives.

1.5.3.1 General objective (main objective)

The main objective of this research study is to:

- Develop a portfolio management model for Eskom that can be applied to implement and embed portfolio management best practices that will contribute towards the successful delivery of Eskom’s strategies as outlined in Eskom’s Corporate Plan.
- Expand and/or enhance the theory/body of knowledge on the steps to be followed to successfully implement and embed portfolio management best practices in an organisation.

1.5.3.2 Specific objectives (sub-objectives)

The sub-objectives of this research are to:

- Review the theory/body of knowledge of existing portfolio management international standards, related research studies and articles and develop a tentative portfolio management model (i.e. preparing a proposal).
- Develop a tentative portfolio management model for Eskom (i.e. proposal) by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, etc. related to portfolio management into the tentative portfolio management model.
- Review the tentative portfolio management model for Eskom (i.e. proposal) and develop a final portfolio management model for Eskom (i.e. assessing the proposal and developing a final proposal).
- Develop key recommendations, an implementation approach, and detailed steps to implement and embed the portfolio management model for Eskom

to successfully deliver the strategies and strategic objectives as outlined in Eskom's Corporate Plan.

1.6 MOTIVATION (RATIONALE) FOR THE STUDY AND ANTICIPATED CONTRIBUTION OF THE STUDY

The development of a portfolio management model and detailed recommendations to implement and embed portfolio management in Eskom will contribute towards Eskom becoming a high agile organisation by ensuring that projects and programmes align to and deliver the required strategic results as outlined in Eskom's Corporate Plan. The implementation and embedment of portfolio management best practices will improve the success rate of completing projects and programmes to meet their original goals and deliver strategic results. It will also consolidate the monitoring and reporting of portfolio component performance.

The effective application of portfolio management best practices in Eskom will ultimately result in a more reliable security of electricity supply to meet the electricity demand in South Africa and grow the economy. The development of a portfolio management model can also serve as a blueprint for other State Owned Companies. The study will also contribute towards the theory/body of knowledge on developing portfolio management models that can be used as a blueprint for implementing and embedding portfolio management in other organisations in order to achieve their strategic results. According to Thomas and Mullaly (2008) that researched the value of project management it is envisaged that some or most of the following benefits can be experienced if the portfolio management model is implemented in an organisation:

Tangible benefits:

- Cost savings.
- Revenue increases.
- Customer retention.
- Increased customer share.
- Reduced write-offs and rework.
- Greater market share.

Intangible benefits:

- Attainment of strategic objectives.
- More effective use of human resources.
- Improved reputation.
- Improved corporate culture.
- Staff retention.
- Improved competitiveness.
- Improved regulatory compliance.

- New product/service stream.
- Improved quality of life.
- Greater social good.
- Improved product/service stream.

1.7 RESEARCH DESIGN

The research design is detailed in Chapter 2 and is summarised as follows:

- **Research model/type of research.** Research on the basis of expanding/refining an earlier model i.e. a normative study.
- **Philosophy.** Phenomenology.
- **Approach.** Qualitative, applied, deductive and inductive.
- **Strategy and methodology.** Normative case study and participative enquiry.
- **Data collection methods.** Literature analysis, survey questionnaire (closed questions and comments), one-to-one and group semi-structured interviews, and complete participant.
- **Sampling strategy.** Non-probability purposive sampling.

1.8 RESEARCH ETHICS

Eskom's conditions of employment require employees to protect proprietary information and intellectual property. Unauthorised disclosure of Eskom's confidential information to other persons without obtaining prior written permission is unethical. This includes information about Eskom that is restricted, proprietary or is regarded as sensitive. Approval will be obtained from the Eskom Portfolio Management Office (EPMO) Senior Manager to conduct the research as outlined in this research proposal. On completion of the research study an ethics clearance letter will be obtained from the Chief Consultant Talent and Skills Management, after consent from the EPMO Senior Manager, before publishing the results of the thesis. No personal information about the respondents (e.g. names or personnel numbers) will be included in the thesis and the respondents will be reassured by the interviewer about the confidentiality.

1.9 THESIS OUTLINE AND DELIVERABLES

The thesis is outlined as follows:

PART 1: INTRODUCTION AND RESEARCH DESIGN

Chapter 1: Background and rationale. This chapter serves as an introduction and provides a synopsis of the research challenge and the rational for the study.

Chapter 2: Research design. This chapter discusses the research design and includes the research model, philosophy, approach, strategy and methodology, and ethics.

PART 2: LITERATURE REVIEW

The purpose of the literature review is to identify related research and to set the current research study within a conceptual and theoretical context.

Chapter 3: Introduction to portfolio management. This section gives an overview of portfolio management and discusses the key principles and the prerequisites for portfolio management.

Chapter 4: Portfolio management strategic context and sustainable development. The purpose of this section is to get a detailed understanding of the strategic context within which project portfolio management takes place. The concepts of strategic management, the relationship between organisational strategy and portfolio management, the link between corporate and project strategy, business analysis, and sustainable development are discussed.

Chapter 5: Portfolio governance, management and roles of key functions involved in portfolio management. This section investigates and clarifies the function of governance and management as well as the structures and key roles within the broader framework of organisational governance within which portfolio management operates.

Chapter 6: Business value and benefits management. This section describes the concepts of business value and benefits management and how it relates to portfolio management. It further outlines the benefits management processes and strategies for implementing benefits management as part of portfolio management implementation.

Chapter 7: Portfolio management standards, frameworks/models and related best practices/processes. The aim of this section is to review and compare various internationally accepted portfolio management standards, frameworks/models and their associated best practices/processes.

Chapter 8: Portfolio management process tools and techniques. The aim of this section is to document the various methods by which inputs are processed or analysed to create outputs when applying portfolio management processes.

Chapter 9: Portfolio management solutions. This section provides information about software vendor evaluation and identifies the most significant software providers in the market.

Chapter 10: Implementation of portfolio management in an organisation. The aim of this section is to establish how portfolio management best practices can be successfully implemented in an organisation.

PART 3: DATA COLLECTION, ANALYSIS AND RESULTS

Chapter 11: Tentative portfolio management model. In this chapter a tentative portfolio management model is developed (i.e. preparing a proposal) by integrating the elements as deduced from the summaries and conclusions from Chapters 3 to 8 in Part 2: Literature Review.

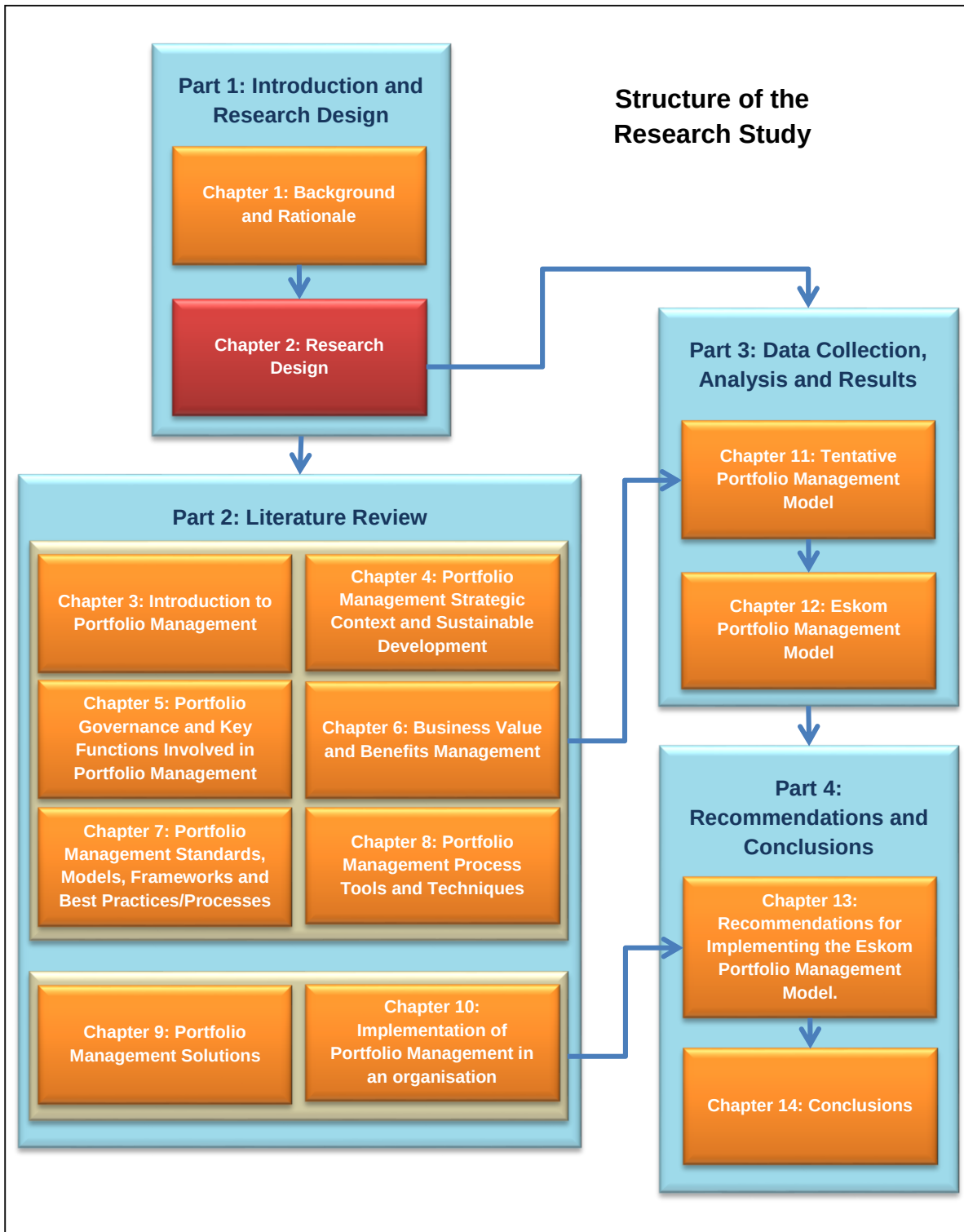
Chapter 12: Eskom portfolio management model. In this chapter a tentative portfolio management model for Eskom (i.e. proposal) is developed by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, and documents related to portfolio management into the tentative portfolio management model developed in Chapter 11. The tentative portfolio management model for Eskom (i.e. proposal) is then used as the reference document to collect and analyse data in Eskom by means of one-to-one and group interviews to develop a portfolio management model for Eskom (i.e. assessing the proposal and developing a final proposal).

PART 4: RECOMMENDATIONS AND CONCLUSIONS

Chapter 13: Recommendations for implementing the Eskom portfolio management model. This chapter proposes key recommendations, an implementation approach and detailed steps to successfully implement and embed the portfolio management best practices and solution/system in Eskom.

Chapter 14: Conclusion and recommendations. In this chapter the significance and limitations of the research study is discussed and a conclusion is made whether the research undertaken was successful or not. Recommendations are also made for further research to be undertaken.

CHAPTER 2: RESEARCH DESIGN



2.1 INTRODUCTION

2.1.1 Background

Creswell (2007) refers to research design as the entire process of research from conceptualising a problem to writing research questions, and on to data collection, analysis, interpretation, and report writing (i.e. problem, question, method, findings). Hence, Creswell (2007) includes in the specific design features from the broad philosophical and theoretical perspectives to the quality and validation of a study. Yin (2003) describes that a research design is the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of the study.

Buys (2014) mentions that many research processes (designs) have been used successfully in the past in all areas of scientific endeavour. According to Buys (2014) the science of engineering and technology management is a practical “applied” science. It deals with the “real world” problems of managing technology-based organisations in a competitive global market. For this reason, there is a preference for certain types of research designs. There is for example a bias towards “applied” (empirical) type of research versus “basic” (philosophical and theoretical) investigations. As management is a predominantly behavioural science, there is also a preference for the approaches used in the human sciences rather than in the natural sciences. The predominant research designs in the natural sciences are laboratory and field experiments. These are less appropriate in engineering and technology management science as it is difficult to obtain the highly controlled conditions required for this type of research.

According to Buys (2014) engineering and technology management science aims at understanding the processes involved in the management of technology-based organisations. The desired research output is new theoretical knowledge and practical techniques that can be applied by managers in their day-to-day management activities. What managers need are new and improved theories and models (tools) that can be applied in practice. Theories should be embodied in conceptual models (graphical, mathematical or schematic descriptions or analogies) or practical methods (procedures or techniques). These should however not only be of practical value, but should be based on observations and investigations of actual practice. As already stated, this implies an empirical approach. Practical methods should however not only be based on observations but also have a sound theoretical basis. What is needed is theory-based empirical research. Buys (2014) continues that a research project should therefore contain elements of concrete experience, reflective observation, abstract notions and active experimentation. The types of research designs that are preferred are therefore theory-, model- or method-building, -testing and -application empirical research. Studies must develop, test, or advance management theory and practice and should have well-articulated and strong theoretical foundations. All types of empirical methods - quantitative, qualitative, or combinations - are acceptable. Buys (2014) mentions that case studies and

well-considered observations of management experience, survey research, methodological studies, replications and extensions of past research are acceptable providing it provides new conceptual or theoretical insights.

From the literature that the researcher studied to understand research design the researcher concluded there are many different explanations and interpretations of research terms that cause confusion, terms such as research process, research design, study designs, nature of study, research paradigm, research philosophy, research model, research category, research approach, research type, type of research, research design format, research strategy, research methodology, research method, research tool, etc. In order to overcome the confusion on research terms the researcher decided develop a research design guidance table to inform the research design by using the three models in the research from Routio (2007) (see Annexure A) and a workbook from Neville (2007) on research and research methods (see Annexure B).

2.1.2 Aim

This chapter discusses the research design and includes the research model, philosophy, approach, strategy and methodology, and ethics.

2.2 RESEARCH MODEL/TYPE OF RESEARCH

Routio (2007) states that there are three alternative research models:

- Exploratory research (no model to start with).
- Expanding or refining an earlier model.
- Research for testing hypotheses.

The research model that is applied in this research study is to expand or refine an earlier model. Routio (2007) discusses two types of studies that can be applied to expand or refine an earlier model. In a descriptive study the project is often arranged as distinct phases. First the population about which you need knowledge is demarcated, then a sample is selected, empirical data gathered and analysed, and finally the findings are assessed. In a normative study a model is used for describing the existing problem(s) and defining the improvements to the object of study. If an existing descriptive model of the object can be found from an earlier study, it can be transformed into a normative model by adding an evaluative dimension to it. A normative study aims at finding out not only how things are, but above all how they should be.

The research model selected for this study is a normative study. The design for this normative study is shown in Figure 2 as adapted from Routio (2007).

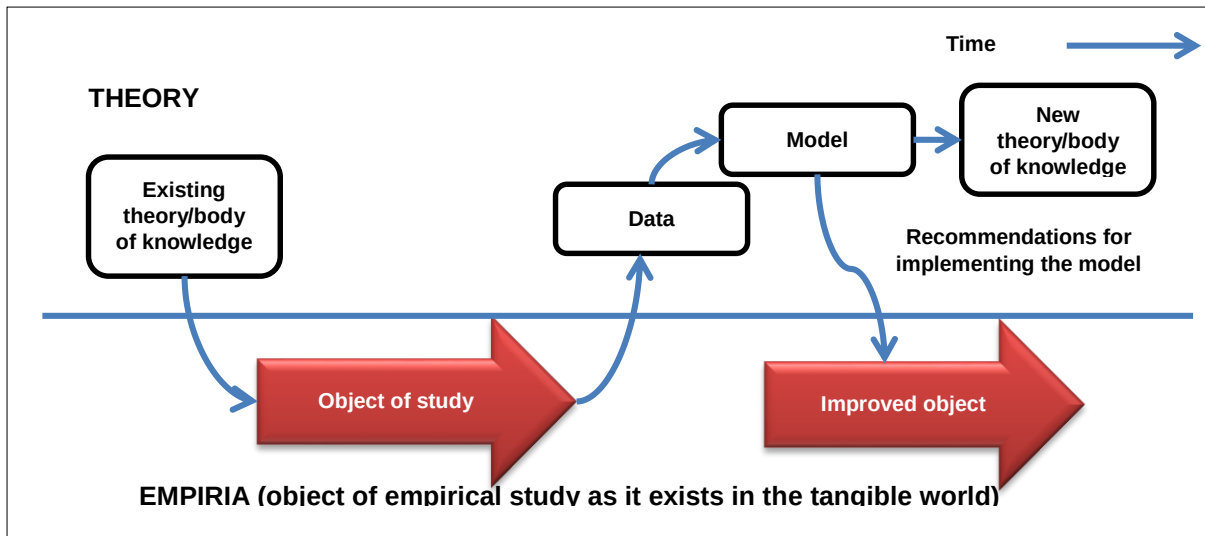


Figure 2: Normative study design (Source: Adapted from Routio, 2007)

Routio (2007) clarifies that in a normative study the study proceeds simply by enlarging an earlier model. A good rule to be followed in such a situation is: start from what is known, proceed by enlarging the mapped area, and connect the new intelligence to the known facts. Sometimes all that is needed is to adjust a few details in the existing model. The existence of a tentative model helps in selecting the logical structure of the entire research study and planning it. The model helps the researcher to decide which material has to be collected, from which cases or specimens and about which attributes or variables of these cases.

A tentative portfolio management model is developed from the existing theory/body of knowledge of portfolio management e.g. current portfolio management standards and portfolio management models/frameworks (i.e. preparing a proposal). The development of the tentative portfolio management also enhances the theory/body of knowledge on portfolio management models and can be used by other organisations to implement and embed portfolio management best practices. The tentative portfolio management model is then used as the basis for developing a tentative portfolio management model for Eskom (i.e. proposal) by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, etc. related to portfolio management into the tentative portfolio management model. The tentative portfolio management model for Eskom (i.e. proposal) is then reviewed and revised to develop a final portfolio management model for Eskom (i.e. assessing the proposal and developing a final proposal).

2.3 RESEARCH PHILOSOPHY

Neville (2007) describes the following two research philosophies (positions):

- **Positivistic.** Positivistic approaches are founded on a belief that the study of human behaviour should be conducted in the same way as studies conducted in the natural sciences (Collis and Hussey, 2003).

- **Phenomenological.** Phenomenological approaches are particularly concerned with understanding behaviour from the participants' own subjective frames of reference.

A phenomenological philosophy (position) is adopted for this research study. According to Creswell (2007) a phenomenological study describes the meaning for several individuals of their lived experiences of a concept or a phenomenon. Creswell (2007) continues that phenomenologists focus on describing what all participants have in common as they experience a phenomenon. The basic purpose of phenomenology is to reduce individual experiences with a phenomenon to a description of the universal essence (a "grasp of the very nature of the thing" (van Manen, 1990)). To this end, qualitative researchers identify a phenomenon (an "object" of human experience (van Manen, 1990)). The inquirer then collects data from persons who have experienced the phenomenon, and develops a composite description of the essence of the experience for all of the individuals. This description consists of "what" they experienced and "how" they experienced it (Moustakas, 1994). Neville (2007) mentions that phenomenological approaches are particularly concerned with understanding behaviour from the participants' own subjective frames of reference.

The phenomenon that is studied in this research case is portfolio management i.e. the development of a portfolio management model and the steps (i.e. activities, roles and responsibilities, processes, tools and techniques, etc.) that should be followed to implement and embed portfolio management best practices in Eskom in order to successfully execute the strategies as outlined in Eskom's Corporate Plan. The tentative portfolio management model developed from the existing theory/body of knowledge of portfolio management is then used as the starting point for developing a tentative portfolio management model for Eskom. The views and experience (subjective frames of reference) of the stakeholders (participants) of the various functions involved in portfolio management are used to review the tentative portfolio management model for Eskom in order to develop a final portfolio management model for Eskom.

2.4 RESEARCH APPROACH

Neville (2007) states that research can be approached in the following ways:

- Quantitative/qualitative.
- Basic/Applied.
- Deductive/inductive.

Neville (2007) clarifies the research approaches as follows:

- **Quantitative research.** The emphasis of quantitative research is on collecting and analysing numerical data; it concentrates on measuring the scale, range, frequency etc. of phenomena. This type of research,

although harder to design initially, is usually highly detailed and structured and results can be easily collated and presented statistically.

- **Qualitative research.** Qualitative research is more subjective in nature than quantitative research and involves examining and reflecting on the less tangible aspects of a research subject, e.g. values, attitudes, perceptions. Although this type of research can be easier to start, it can often be difficult to interpret and present the findings, and the findings can also be challenged more easily.
- **Basic research.** The primary aim of basic research is to improve knowledge generally, without any particular applied purpose in mind at the outset.
- **Applied research.** Applied research is designed from the start to apply its findings to a particular situation.
- **Deductive research.** Deductive research moves from general ideas/theories to specific particular and situations: the particular is deduced from the general, e.g. broad theories.
- **Inductive research.** Inductive research moves from particular situations to make or infer broad general ideas/theories.

Neville (2007) mentions that many research studies combine a number of approaches.

2.4.1 Choosing a qualitative, applied, deductive and inductive research approach

Creswell (2007) clarifies that qualitative research is conducted because a problem or issue needs to be explored. This exploration is needed, in turn, because of a need to study a group or population, identify variables that can then be measured, or hear silenced voices. These are all good reasons to explore a problem rather than to use predetermined information from the literature or rely on results from other research studies. Qualitative research is also conducted to get a detailed understanding of a complex issue. This detail can only be established by talking directly with people, going to their homes or places of work, and allowing them to tell the stories unencumbered by what we expect to find or what we have read in the literature.

Creswell (2007) believes that qualitative research is conducted to empower individuals to share their stories, hear their voices, and minimise the power relationships that often exist between a researcher and the participants in a study. To further de-emphasise a power relationship, the researcher may collaborate directly with participants by having them review the research questions, or by having them collaborate during the data analysis and interpretation phases of research. Qualitative research is conducted to understand the contexts or settings in which participants in a study address a problem or issue. Creswell (2007) continues that qualitative research is used to help explain the mechanisms or linkages in causal theories or models. These theories provide a general picture of trends, associations,

and relationships, but they do not tell us about why people responded as they did, the context in which they responded, and their deeper thoughts and behaviours that governed their responses. Qualitative research is used to develop theories when partial or inadequate theories exist for certain populations and samples or existing theories do not adequately capture the complexity of the problem being examined. Qualitative research is also used because quantitative measures and the statistical analyses simply do not fit the problem. Creswell (2007) adds that undertaking qualitative research requires a strong commitment to study a problem and demands time and resources. Qualitative inquiry is for the researcher who is willing to do the following:

- Commit to extensive time in the field.
- Engage in the complex, time-consuming process of data analysis through the ambitious task, of sorting through large amounts of data and reducing them to a few themes or categories.
- Write long passages, because the evidence must substantiate claims and the writer needs to show multiple perspectives.
- Participate in a form of social and human science research that does not have firm guidelines or specific procedures and is evolving and constantly changing.

A qualitative research approach is followed in this research case. A deductive approach is followed to develop a tentative portfolio management model from the current theory/body of knowledge on portfolio management (i.e. developing a proposal). The tentative portfolio management model is then be used as the basis for developing a tentative portfolio management model for Eskom (i.e. proposal) by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, etc. into the tentative portfolio management model. The tentative portfolio management model for Eskom is then discussed, reviewed and revised during one-to-one and group interviews to develop a final portfolio management model for Eskom following an applied inductive approach (i.e. assessing the proposal).

2.4.2 Qualitative research and its key features

Creswell (2007) cites Denzin and Lincoln (2005) that define qualitative research as follows:

Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

Creswell (2007) mentions that qualitative research begins with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is inductive and establishes patterns or themes. The final written report or presentation includes the voices of participants, the reflexivity of the researcher, and a complex description and interpretation of the problem, and it extends the literature or signals a call for action. Creswell (2007) places emphasis on the process of research as flowing from philosophical assumptions, to worldviews and through a theoretical lens, and on to the procedures involved in studying social or human problems. Then, a framework exists for the procedures – the approach to inquiry, such as grounded theory, or case study research. At a more micro level are the procedures that are common to all forms of qualitative research.

Creswell (2007) explains that qualitative research involves closer attention to the interpretive nature of inquiry and situating the study within the political, social, and cultural context of the researchers, the participants, and the readers of a study. Creswell (2007) discusses and presents the following common characteristics of qualitative research in no specific order of importance:

- **Natural setting.** Qualitative researchers tend to collect data in the field at the site where participants' experience the issue or problem under study. This up-close information gathered by actually talking directly to people and seeing them behave and act within their context is a major characteristic of qualitative research. In the natural setting, the researchers have face-to-face interaction over time.
- **Researcher as key instrument.** The qualitative researchers collect data themselves through examining documents, observing behaviour, and interviewing participants. They may use a protocol - an instrument for collecting data - but the researchers are the ones who actually gather the information. They do not tend to use or rely on questionnaires or instruments developed by other researchers.
- **Multiple sources of data.** Qualitative researchers typically gather multiple forms of data, such as interviews, observations, and documents, rather than rely on a single data source. Then the researchers review all of the data and make sense of them, organising them into categories or themes that cut across all of the data sources.
- **Inductive data analysis.** Qualitative researchers build their patterns, categories, and themes from the "bottom-up" by organising the data into increasingly more abstract units of information. This inductive process involves researchers working back and forth between the themes and the database until they establish a comprehensive set of themes. It may also

involve collaborating with the participants interactively, so that they have a chance to shape the themes or abstractions that emerge from the process.

- **Participants' meanings.** In the entire qualitative research process, the researchers keep a focus on learning the meaning that the participants hold about the problem or issue, not the meaning that the researchers bring to the research or writers from the literature.
- **Emergent design.** The research process for qualitative researchers is emergent. This means that the initial plan for research cannot be tightly prescribed, and that all phases of the process may change or shift after the researchers enter the field and begin to collect data. For example, the questions may change, the forms of data collection may shift, and the individuals studied and the sites visited may be modified. The key idea behind qualitative research is to learn about the problem or issue from participants and to address the research to obtain that information.
- **Theoretical lens.** Qualitative researchers often use a lens to view their studies, such as the concept of culture, central to ethnography, or gendered, racial, or class differences from theoretical orientations discussed. Sometimes, the study may be organised around identifying the social, political, or historical context of the problem under study.
- **Interpretive inquiry.** Qualitative research is a form of inquiry in which researchers make an interpretation of what they see, hear, and understand. The researchers' interpretations cannot be separated from their own background, history, context, and prior understandings. After a research report is issued, the readers make an interpretation as well as the participants, offering yet other interpretations of the study. With the readers, the participants, and the researchers all making an interpretation, we can see how multiple views of the problem can emerge.
- **Holistic account.** Qualitative researchers try to develop a complex picture of the problem or issue under study. This involves reporting multiple perspectives, identifying the many factors involved in a situation, and generally sketching the larger picture that emerges. Researchers are bound not by tight cause-and-effect relationships among factors, but rather by identifying the complex interactions of factors in any situation.

Creswell (2007) short list the following characteristics of a "good" qualitative study:

- The researcher employs rigorous data collection procedures.
- The researcher frames the study within the assumptions and characteristics of the qualitative approach to research.
- The researcher uses an approach to qualitative inquiry such as narrative, phenomenology, grounded theory, ethnographic (participant observation) or case study research.
- The researcher begins with a single focus.

- The study includes detailed methods, a rigorous approach to data collection, data analysis, and report writing.
- The researcher analyses data using multiple levels of abstraction.
- The researcher writes persuasively so that the reader experiences "being there".
- The study reflects the history, culture, and personal experiences of the researcher.
- The qualitative research in a good study is ethical.

2.4.3 Key scientific beliefs/philosophical assumptions

Creswell (2007) believes that the process of designing a qualitative study begins not with the methods but instead with the broad assumptions central to qualitative inquiry, a worldview consistent with it, and in many cases, a theoretical lens that shapes the study. Creswell (2007) further believes that the researcher arrives at the doorstep of qualitative research with a topic or substantive area of investigation, and perhaps has reviewed the literature about the topic and knows that a problem or issue exists that needs to be studied. This problem may be one in the "real world" or it may be a deficiency in the literature or past investigations on a topic. To study the topics, open-ended research questions are asked to the participants to "explore". The questions change during the process of research to reflect an increased understanding of the problem.

Creswell (2007) adds that the research design process in qualitative research begins with philosophical assumptions that the inquirers make in deciding to undertake a qualitative study. In addition, researchers bring their own worldviews, paradigms, or sets of beliefs to the research project, and these inform the conduct and writing of the qualitative study. Further, in many approaches to qualitative research, the researchers use interpretive and theoretical frameworks to further shape the study. Good research requires making these assumptions, paradigms, and frameworks explicit in the writing of a study, and, at a minimum, to be aware that they influence the conduct of inquiry. According to Creswell (2007) there are five philosophical assumptions that lead to an individual's choice of qualitative research. These philosophical assumptions consist of a stance toward the nature of reality (ontology), how the researcher knows what she or he knows (epistemology), the role of values in the research (axiology), the language of research (rhetoric), and the methods used in the process (methodology). The qualitative researcher chooses a stance on each of these assumptions that has practical implications for designing and conducting research.

2.4.3.1 Ontology

Creswell (2007) says that the ontological issue relates to the nature of reality and its characteristics. When researchers conduct qualitative research, they are embracing the idea of multiple realities. Different researchers embrace different realities, as do

also the individuals being studied and the readers of a qualitative study. When studying individuals, qualitative researchers conduct a study with the intent of reporting these multiple realities. Evidence of multiple realities includes the use of multiple quotes based on the actual words of different individuals and presenting different perspectives from individuals. When writers compile a phenomenology, they report how individuals participating in the study view their experiences differently (Moustakas, 1994).

The researcher regards himself as an organisational project management practitioner with more than 37 years of practical experience. As part of his studies for his MSc the researcher conducted a survey research on the adequacy of the Generation Division Project Life-Cycle Model (GD PLCM) in Eskom and the effective application thereof. The key conclusion from this research was that the GD PLCM is adequate but that it was mostly not effectively applied. The researcher has observed many times that organisations are finding it difficult to effectively implement and apply their strategies and organisational processes. The researcher believes that people are taught the “what” must be done and “how” it must be done in order to perform their work but they do not always understand “why” it must be done. This results in people not applying the organisational processes, or applying it incorrectly, or taking “short-cuts” when they have to execute their work. They are also not always realising the negative consequences of their “wrong” actions.

2.4.3.2 Epistemology

Creswell (2007) points out that with the epistemological assumption, conducting a qualitative study, means that researchers try to get as close as possible to the participants being studied. In practice, qualitative researchers conduct their studies in the “field”, where the participants live and work - these are important contexts for understanding what the participants are saying. The longer researchers stay in the “field” or get to know the participants, the more they “know what they know” from first-hand information. A good ethnography requires prolonged stay at the research site (Wolcott, 1999). In short, the researcher tries to minimise the “distance” or “objective separateness” (Guba & Lincoln, 1988) between himself or herself and those being researched.

The researcher is the subject matter expert for portfolio management in Eskom and serves as a member of the Eskom Portfolio Management Study Committee. The Portfolio Management Study Committee comprises of members that represent their respective Groups and Divisions. Through the relationships established with the study committee members the researcher was able to conduct the study in the “field” where the participants live and work. The researcher identified experienced persons from all the functions involved in portfolio management (e.g. strategic management, finance, portfolio management, Eskom project management office (EPMO), programme and project management, asset management, operations, etc.) to review the tentative portfolio management model for Eskom developed by the researcher.

The researcher facilitated one-to-one and group interviews to discuss, review and revise the tentative portfolio management model for Eskom in order to develop a final portfolio management model for Eskom.

2.4.3.3 Axiology assumptions

All researchers bring values to a study, but qualitative researchers like to make explicit those values (Creswell, 2007). Creswell mentions this is the axiological assumption that characterises qualitative research. To implement this assumption in practice, in a qualitative study, the inquirers admit the value-laden nature of the study and actively report their values and biases as well as the value-laden nature of information gathered from the field.

The theory/body of knowledge on project portfolio management is relatively new. The Project Management Institute (PMI) published the *Standard for Portfolio Management Edition 1* only in 2006 (the latest edition is Edition 3 published in 2013). The *BS ISO Standard - Guidance on portfolio management* was published for the first time in 2015. The researcher is probably the person in Eskom that has the most theoretical knowledge of portfolio management as he has been studying the portfolio management standards since they were published. Before 2010 each of the Divisions in Eskom had their own processes to identify, select and approve projects and programmes. These processes were based on internal divisional processes that evolved over many years. When Eskom embarked on the Back2Basics programme in 2010 (see section 1.4.2.5) to improve overall performance across Eskom by standardising, simplifying and optimising all processes and systems, Process Control Manuals (PCMs) for portfolio management were also developed. At that time the portfolio management PCMs were not developed taking into account international standards. The portfolio management PCMs were also not properly implemented and embedded in the organisation resulting in each Division still mostly applying the old processes used prior to 2010. In 2015 the portfolio management PCMs were revised using PMI's *Standard for Portfolio Management Edition 3*. These PCMs still need to be implemented and embedded in the organisation. The researcher is of the view that most of the functions and persons involved in portfolio management in Eskom do not have adequate knowledge and experience in the application of sound portfolio management best practices that are based on international standards (i.e. a researcher bias).

2.4.3.4 Rhetorical assumptions

(Creswell, 2007) clarifies that there is a rhetoric for the discourse of qualitative research that has evolved over time. Qualitative researchers tend to embrace the rhetorical assumption that the writing needs to be personal and literary in form. For example, they use metaphors, they refer to themselves using the first-person pronoun, "I", and they tell stories with a beginning, middle, and end, sometimes crafted chronologically, as in narrative research (Clandinin and Connelly, 2000).

Instead of using quantitative terms such as "internal validity", "external validity", "generalisability", and "objectivity", the qualitative researcher writing a case study may employ terms such as "credibility", "transferability", "dependability", and "confirmability" (Lincoln and Guba, 1985) or "validation" (Angen, 2000), as well as naturalistic generalisations (Stake, 1995). Words such as "understanding", "discover", and "meaning" form the glossary of emerging qualitative terms (Schwandt, 2001) are important rhetorical markers in writing purpose statements and research questions. The language of the qualitative researcher becomes personal, literary, and based on definitions that evolve during a study rather than being defined by the researcher. Seldom does one see an extensive "Definition of Terms" section in a qualitative study, because the terms as defined by participants are of primary importance.

In the past different project, programme and portfolio management terms and definitions were used in Eskom that were not always properly understood and/or interpreted the same way by everyone in the organisation. In order to overcome this problem a project, programme and portfolio management terms and definitions standard was developed by the researcher and approved in Eskom to ensure that all the persons involved in project, programme and portfolio management understand and use the same terms. The terms and definitions in the Eskom standard were adopted from the relevant ISO and PMI Standards and Practice Guides. The applicable terms and definitions from the Eskom standard are thus adopted and included in this research study to ensure that everyone that will read this research report can have a common understanding of the terms and definitions used. While the researcher has an "informal nature" he has decided to rather use a more formal writing style e.g. he will refer to himself as "the researcher" and employ the research terms from the relevant literature he studied to understand research.

2.4.3.5 Methodological assumptions

Creswell (2007) adds that the procedures of qualitative research, or its methodology, are characterised as inductive, emerging, and shaped by the researcher's experience in collecting and analysing the data. The logic that the qualitative researcher follows is inductive, from the ground up, rather than handed down entirely from a theory or from the perspectives of the inquirer. Sometimes the research questions change in the middle of the study to reflect better the types of questions needed to understand the research problem. In response, the data collection strategy, planned before the study, needs to be modified to accompany the new questions. During the data analysis, the researcher follows a path of analysing the data to develop an increasingly detailed knowledge of the topic being studied.

While Creswell (2007) proposes that quantitative researchers use inductive research approaches the researcher uses a deductive and inductive research approach. A deductive research approach is used to develop a tentative portfolio management model from the current international portfolio management standards and relevant

literature. The tentative portfolio management model is then used to develop a tentative portfolio management model for Eskom by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, etc. related to portfolio management into the tentative portfolio management model. An inductive iterative approach is then followed by discussing, reviewing and revising the tentative portfolio management model for Eskom during one-to-one and group interviews to develop a final portfolio management model for Eskom that can be applied to successfully implement and embed portfolio management best practices in Eskom.

2.4.3.6 Paradigms or worldviews

Creswell (2007) says that the assumptions discussed above reflect a particular philosophical stance that researchers make when they choose qualitative research and brings to the research their paradigms or worldviews. Creswell (2007) cites (Guba, 1990) stating that a paradigm or worldview is "a basic set of beliefs that guide action". Creswell (2007) focuses on four worldviews that inform qualitative research and identifies how these worldviews shape the practice of research. The four worldviews are *post-positivism*, *constructivism*, *advocacy/participatory*, and *pragmatism*. Creswell (2007) clarifies each of these paradigms or worldviews in the paragraphs that follow.

Those who engage in qualitative research using a belief system grounded in *post-positivism* will take a scientific approach to research. The approach has the elements of being reductionistic, logical, an emphasis on empirical data collection, cause-and-effect oriented, and deterministic based on a priori theories. In terms of practice, post-positivist researchers will likely view inquiry as a series of logically related steps, believe in multiple perspectives from participants rather than a single reality, and espouse rigorous methods of qualitative data collection and analysis. They will use multiple levels of data analysis for rigor, employ computer programs to assist in their analysis, encourage the use of validity approaches, and write their qualitative studies in the form of scientific reports, with a structure resembling quantitative approaches (e.g., problem, questions, data collection, results, conclusions).

In the social *constructivism* worldview individuals seek understanding of the world in which they live and work. They develop subjective meanings of their experiences - meanings directed toward certain objects or things. These meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrow the meanings into a few categories or ideas. The goal of research, then, is to rely as much as possible on the participants' views of the situation. Rather than starting with a theory (as in post-positivism), inquirers generate or inductively develop a theory or pattern of meaning. In terms of practice, the questions become broad and general so that the participants can construct the meaning of a situation, a meaning typically forged in discussions or interactions with

other persons. The more open-ended the questioning, the better, as the researcher listens carefully to what people say or do in their life setting.

Some researchers might use an *advocacy/participatory* worldview; because the post-positivist imposes structural laws and theories that do not fit marginalised individuals or groups and the constructivists do not go far enough in advocating for action to help individuals. The basic tenet of this worldview is that research should contain an action agenda for reform that may change the lives of participants, the institutions in which they live and work, or even the researchers' lives. The issues facing these marginalised groups are of paramount importance to study, issues such as oppression, domination, suppression, alienation, and hegemony. As these issues are studied and exposed, the researchers provide a voice for these participants. The key features of *advocacy/participatory* practice as summarised by Kemmis and Wilkinson (1998) are:

- Participatory action is recursive or dialectical and is focused on bringing about change in practices.
- It is focused on helping individuals free themselves from constraints found in the media, in language, in work procedures, and in the relationships of power in educational settings.
- It is emancipatory in that it helps unshackle people from the constraints of irrational and unjust structures that limit self-development and self-determination. The aim of advocacy/participatory studies is to create a political debate and discussion so that change will occur.
- It is practical and collaborative because it is inquiry completed "with" others rather than "on" or "to" others. In this spirit, advocacy/participatory authors engage the participants as active collaborators in their inquiries.

In the practice *advocacy/participatory* inquirers collaborate with research participants. They may ask participants to help with designing the questions, collecting the data, analysing it, and shaping the final report of the research. In this way, the "voice" of the participants becomes heard throughout the research process. The research also contains an action agenda for reform, a specific plan for addressing the research problem.

There are many forms of *pragmatism*. Individuals holding this worldview focus on the outcomes of the research - the actions, situations, and consequences of inquiry - rather than antecedent conditions (as in post-positivism). There is a concern with applications - "what works" - and solutions to problems (Patton, 1990). Thus, instead of a focus on methods, the important aspect of research is the problem being studied and the questions asked about this problem. In practice, the individual using this worldview will use multiple methods of data collection to best answer the research question, will employ both quantitative and qualitative sources of data collection, will focus on the practical implications of the research, and will emphasise the importance of conducting research that best addresses the research problem.

Individuals may also use multiple paradigms in their qualitative research that are compatible, such as *constructionist* and *participatory* worldviews.

The researcher is an organisational project management practitioner and professional with more than 37 years of “practical” experience and for this research study he embraces the *advocacy/participatory* and *pragmatism* worldviews. From the *advocacy/participatory* worldview the researcher has experienced that if people are not involved in organisational initiatives they are usually not committed (no or little buy-in) and therefore such initiatives usually fail or achieve low or moderate success.

From the *pragmatism* worldview the outcomes of the research is very important for the researcher and therefore the researcher will choose the methods, techniques, and procedures of research that will best meet the needs and purposes of the research. As the researcher is nearing retirement he wants to make a meaningful contribution before he retires. The development of a final portfolio management model for Eskom with associated activities and processes accepted by the key portfolio management stakeholders will provide a blueprint to successfully implement and embed portfolio management best practices in Eskom to execute Eskom’s strategies. Once retired the researcher plans to do consulting to assist other organisations to successfully implement and embed portfolio management best practices to successfully deliver projects and programmes to achieve strategic results.

The researcher is a practitioner and has an inclination towards detail. The thesis therefore contains a lot of detailed information that can be used by practitioners in portfolio management.

2.5 NORMATIVE CASE STUDY AS RESEARCH STRATEGY AND METHODOLOGY

Yin (2003) explains that there are three conditions to be considered when deciding on a research strategy namely (a) the type of research question posed (“who”, “what”, “where”, “how” and “why”), (b) the extent of control an investigator has over actual behavioural events, and (c) the degree of focus on contemporary as opposed to historical events. Yin (2003) mentions that “what” research questions are more exploratory and “how” and “why” questions are more explanatory. In this research case the steps (i.e. activities and processes) to be followed to implement and embed portfolio management best practices in Eskom to successfully execute Eskom’s strategies are explored (i.e. a “what” question). Neville (2007) references Collis and Hussey (2003) and states that the term methodology refers to the overall approaches and perspectives to the research process as a whole and is concerned with the following main issues:

- Why you collected certain data.
- What data you collected.
- Where you collected it.

- How you collected it.
- How you analysed it.

A case study is selected as research strategy and methodology for this research study. Yin (2003) clarifies that a case study as a research strategy comprises an all-encompassing method - covering the logic of design, data collection techniques, and specific approaches to data analysis. Yin (2003) says that there are five components of case study design that are especially important:

1. **Study's questions.** Questions provide the most important clue regarding the research strategy to be used.
2. **Its propositions (if any).** Something that should be examined in the scope of the study.
3. **Its unit(s) of analysis.** Defining what the "case" is. It may be an individual, some sort of event or entity that is less well defined (e.g. implementation process) and is related to the way the initial research question has been defined.
4. **The logic linking the data to its propositions.** Data analysis steps linking data to the propositions.
5. **The criteria for interpreting the findings.** Currently there is no precise way to select criteria.

Creswell (2007) says that a case study research involves the study of an issue explored through one or more cases within a bounded system (i.e. a setting, a context). Creswell (2007) says that although Stake (2005) states that case study research is not a methodology but a choice of what is to be studied (i.e. a case within a bounded system), others present it as a strategy of inquiry, a methodology, or a comprehensive research strategy (Denzin and Lincoln, 2005; Merriam, 1998; Yin, 2003). Creswell (2007) chooses to view it as a methodology, a type of design in qualitative research, or an object of study, as well as a product of the inquiry. Creswell (2007) continues that case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audio-visual material, documents and reports), and reports a case description and case-based themes. The characteristics of a case study according to Creswell (2007) are:

- **Focus.** Developing an in-depth description and analysis of a case or multiple cases.
- **Type of problem best suited for design.** Providing an in-depth understanding of a case or cases.
- **Discipline background.** Drawing from psychology, law, political science, medicine.
- **Unit of analysis.** Studying an event, a program, an activity, more than one individual.

- **Data collection forms.** Using multiple sources, such as interviews, observations, documents, artefacts.
- **Data analysis strategies.** Analysing data through description of the case and themes of the case as well as cross-case themes.
- **Written report.** Developing a detailed analysis of one or more cases.

Several features mark this study as a case study:

- A “case” for the study is identified i.e. the development of a portfolio management model and associated activities and processes that can be applied to successfully implement and embed portfolio management best practices in Eskom.
- This "case" is a bounded system, bounded by time (± 12 months of data collection to develop a portfolio management model) and place (Eskom organisation).
- Use of multiple sources of information in data collection (literature review, questionnaire survey, one-to-one and group interviews, and participant as observer).
- Considerable time was spent on describing the context or setting for the case that is based on research studies showing that organisations are not effectively implementing and applying portfolio management best practices to achieve strategic objectives. This is also the case in Eskom. While Eskom has developed detailed portfolio management processes that are documented in process control manuals (PCMs) (initially in 2010-2011 and revised in 2015-2016) these were not properly rolled out and embedded (see section 12.3.2.2 for the results of a survey to establish the current state of portfolio management in Eskom).

The procedure selected for this research study is a normative case study. Routio (2007) clarifies that a normative study aims at finding out not only “how things are”, but above all “how they should be”, which means that it will be necessary to define the subjective point of view that shall be used, in other words to select the people who shall evaluate the proposal(s) which aim at improving the object of study. Routio (2007) mentions that normative studies often deal with complex practical problems and says that optimally a normative research study proceeds through the following successive stages:

1. Evaluation of the initial state and defining the need for improvements.
2. Analysis of relationships and possibilities to change things.
3. Synthesis: proposal for improvement.
4. Evaluation of the final state.

Routio (2007) says that it is quite usual to repeat the above sequence several times before getting an acceptable result. According to Routio (2007) a case study is a usual approach in descriptive research projects, but it can easily be amplified with a

normative aspect in order to give grounds for later improvements in the object of study, be it an existing circumstance, product, or work routine. The process followed in this normative case study is shown in Figure 3.

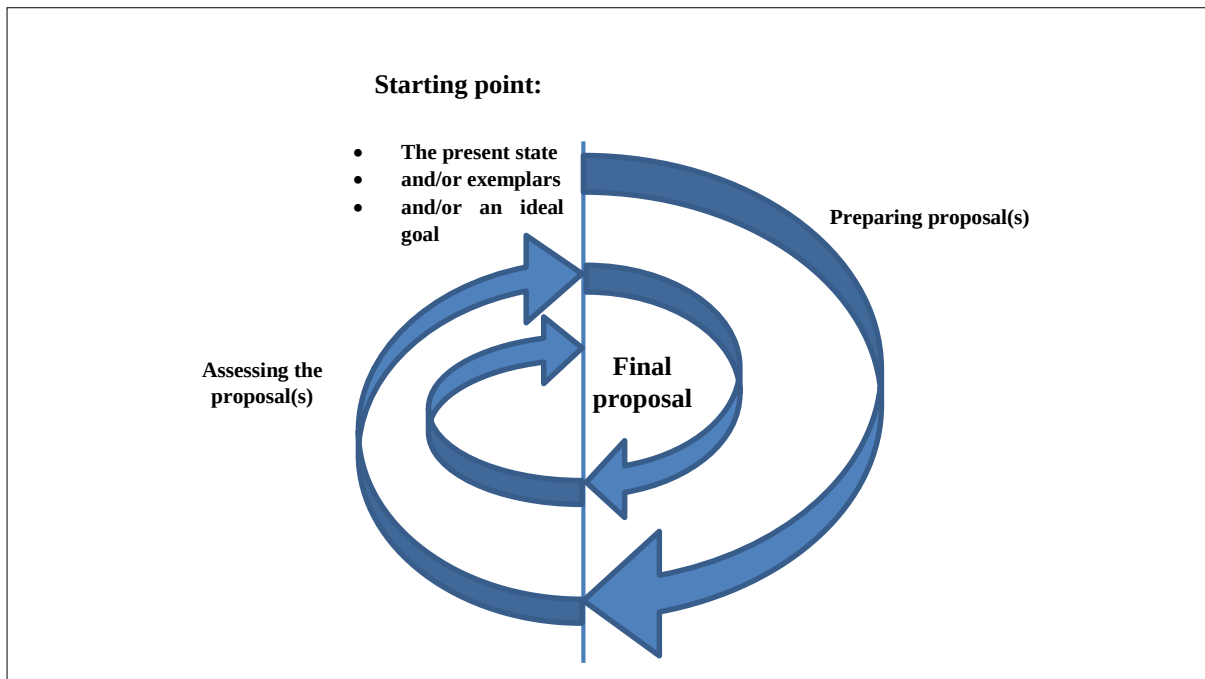


Figure 3: Process for normative case study (Source: Routio, 2007)

Routio (2007) discusses the logic of normative analysis and says that the most common use for a normative case study is to give a starting point for developing a new version of an existing product or procedure. Routio (2007) clarifies that there are several possible starting points: the present state, and/or exemplars, and/or an ideal goal. Routio (2007) says the existing state of the activity or product is normally selected as the starting-point exemplar and then the properties of the exemplar that require improvements are established, and in what degree. Routio (2007) mentions that the advantage of the exemplar-and-improvements method is that it is simple to use, concrete and realistic and that misunderstandings are not likely. From the designer's viewpoint an exemplar is an expedient point of departure, and it is often relatively easy to continue the design with the method of iteration. Routio (2007) points out that iteration is a process often seen in normative analysis. Small "incremental" modifications are made to the proposal by comparing the new proposal to the old one and continuing with whichever of them is best.

The starting point in this normative case study is the development of a tentative portfolio management model from the review of the literature (i.e. preparing a proposal). The tentative portfolio management model is then used to develop a tentative portfolio management model for Eskom (i.e. proposal) by integrating the current Eskom processes (PCMs) and roles and responsibilities of the current functions/disciplines involved in portfolio management into the tentative portfolio management model. The tentative portfolio management model for Eskom (i.e.

proposal) is discussed, reviewed and iteratively revised (i.e. assessing the proposal) by the stakeholders of all the functions involved in portfolio management (e.g. strategic management, finance, portfolio management, Eskom project management office (EPMO), project and programme management, operations, asset management, etc.) during one-to-one and group interviews till it is accepted by all (i.e. final proposal).

2.5.1 Research setting

The research will be conducted in Eskom Holdings State-Owned-Company (SOC) Ltd (Eskom), the South Africa's primary electricity supplier. Section 1.4.2 gives an overview of Eskom, global trends, the shareholder's Strategic Intent Statement, and Eskom's strategy. The completion of this research study will provide Eskom with a portfolio management model and recommendations that can be applied to successfully implement and embed portfolio management best practices in Eskom. The successful implementation and embedment of portfolio management processes will help Eskom to select the right projects and programmes that collectively make the greatest contribution to the organisation's strategic results and will also improve Eskom's capability to make very challenging funding decisions towards a sustainable business.

2.5.2 Entrée and establishing researcher roles

This section covers the important aspect of how the researcher planned to gain access to the research setting. The researcher obtained permission from the following persons to conduct the research:

- Senior Manager Eskom Project Management Office (EPMO).
- Chief Consultant Talent and Skills Management.

The researcher is a participant in the research study and is responsible for facilitating one-to-one and group interviews with stakeholders from all the functions involved in portfolio management (e.g. strategic management, finance, portfolio management, Eskom project management office (EPMO), project and programme management, operations, asset management, etc.).

2.5.3 Sampling

Creswell (2007) says that sampling is the process of selecting units (e.g., people, organisations) from a population of interest so that by studying the sample to fairly generalise the results back to the population from which they were chosen. Creswell (2007) also refers to Marshall and Rossman (2006) that notes that sampling may change during a study.

2.5.3.1 Non-probabilistic purposive sampling

As it is essential that all participants have experience of the phenomenon being studied a non-probabilistic purposive sampling strategy is selected. The researcher identified willing persons from the various functions involved in portfolio management with good experience to review the tentative portfolio management model for Eskom in order to develop a final portfolio management model for Eskom (i.e. final proposal).

2.5.4 Data collection methods

The methods that were used to collect the primary data included a literature review, semi-structured one-to-one and group interviews, and participant as observer.

2.5.4.1 Literature review

A literature analysis was conducted by the researcher to develop a tentative portfolio management model (i.e. preparing a proposal). The tentative portfolio management model served as exemplar and as the expedient point of departure for developing a tentative portfolio management model for Eskom (i.e. proposal).

2.5.4.2 Questionnaire survey (closed questions with comments)

A questionnaire survey with closed questions applying a Likert-scale (strongly agree, agree, unsure, disagree, strongly disagree) and allowing for comments was developed from the literature analysis to establish the current state of portfolio management in Eskom (see Annexure C). The analysis of the results of the survey was used to describe the current level of knowledge about the problem (see 12.3.2.2).

2.5.4.3 Semi-structured one-to-one and group interviews

According to the research proposal the researcher opted for a focus group as the key data collection method and semi-structured one-to-one interviews to collect data from stakeholders that were not readily available to participate in focus groups (e.g. executive and senior management). Due to various other initiatives and work challenges in Eskom the formation of a focus group to review the tentative portfolio management model for Eskom did not materialise. The researcher then decided to identify persons in the various Eskom Groups from the following functions involved in portfolio management to schedule and facilitate one-to-one and group interviews to review the tentative portfolio management model for Eskom in order to develop a final portfolio management model for Eskom:

- Strategic planning.
- Finance.
- EPMO.
- Portfolio management.

- Programme and project management.
- Operations.
- Asset management.
- Others.

2.5.4.4 Participant as observer

The researcher fully participated in the research study. The researcher firstly developed a tentative portfolio management model (i.e. developing a proposal) from the current theory/body of knowledge (e.g. international standards). The facilitator then developed a tentative portfolio management model for Eskom (i.e. preparing a proposal) by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, etc. related to portfolio management into the tentative portfolio management model. Finally the researcher scheduled, facilitated and participated in the one-to-one and group interviews to discuss, review and revise the tentative portfolio management model for Eskom (i.e. proposal) in order to develop a final portfolio management model for Eskom (i.e. final proposal).

2.5.5 Recording of data

Creswell (2007) shares the following principles about data storage and handling that are especially well suited for qualitative research:

- Always develop backup copies of computer files.
- Use high-quality tapes for audio-recording information during interviews. Also, make sure that the size of the tapes fits the transcriber's machine.
- Develop a master list of types of information gathered.
- Protect the anonymity of participants by masking their names in the data.
- Develop a data collection matrix as a visual means of locating and identifying information for a study.

The researcher developed and maintained a document master index in a spreadsheet to record and store the following information of each document:

- Document number. PFM001, PFM002, PFM003, etc.
- Document title/name. Format: Doc No Doc Title/Name.
- Document revision (if applicable). Rev 0, 1, 2, 3, etc.
- Document date. Format: yyyy/mm/dd.
- Storage medium. Electronic or hardcopy. Electronic documents stored on a personal computer and back-ups made at least monthly on external hard-drive and/or a memory stick. Hardcopies stored in a Lever Arch file in document number order.

The tentative portfolio management model for Eskom (i.e. proposal) acted as the key document for data recording. It was used as the starting model and was updated

iteratively during or after the one-to-one and group interviews. After each review session the tentative portfolio management model for Eskom (i.e. proposal) was dated, stored electronically and regular backups were made. The final portfolio management model for Eskom (i.e. final proposal) was converted into an official Eskom document (i.e. detailed spreadsheet document 240-129590275 Rev 1 Eskom Portfolio Management Model).

2.5.6 Data analysis

The researcher integrated two overlapping research phases: data collection and data analysis. The data was collected and analysed by following an inductive approach. The tentative portfolio management model for Eskom (i.e. proposal) served as exemplar and the expedient point of departure for developing a final portfolio management model for Eskom (i.e. final proposal). The tentative portfolio management model for Eskom (i.e. proposal) was continuously reviewed, revised and matured during one-to-one and group interviews following an iterative process till such time that the final portfolio management model for Eskom was agreed (i.e. iterative assessment of the proposal).

2.5.7 Strategies to ensure quality research

Creswell (2007) refers to standards of validation and evaluation and says that the following questions need to be answered:

- "Did we get it right?" (Stake, 1995).
- "Did we publish a 'wrong' or inaccurate account?" (Thomas, 1993).
- Is it possible to even have a right answer?

Creswell (2007) addresses two interrelated questions:

- Is the account valid, and by whose standards?
- How do we evaluate the quality of qualitative research?

2.5.7.1 Validation strategies

Creswell (2007) shares eight strategies that are frequently used by qualitative researchers and recommends that qualitative researchers engage in at least two of these eight strategies in any given study. The researcher engaged in the following validation strategies.

- Prolonged engagement and persistent observation in the field include building trust with participants, learning the culture, and checking for misinformation that stems from distortions introduced by the researcher or informants. The researcher engaged with the participants representing the key functions involved in portfolio management (e.g. strategic management, finance, portfolio management, EPMO, project and programme management, operations, asset management, etc.) during

one-to-one and group interviews to discuss each of the portfolio management model elements, activities, roles and responsibilities, processes, templates, etc. in detail.

- Clarifying researcher bias from the outset of the study is important so that the reader understands the researcher's position and any biases or assumptions that impact the inquiry. The researcher has clarified and commented on his past experiences, biases, prejudices, and orientations that can likely shape the interpretation and approach to this study in section 2.4.3 (i.e. key scientific beliefs/philosophical assumptions and paradigm/worldviews).
- In member checking, the researcher solicits participants' views of the credibility of the findings and interpretations. This technique is considered by Lincoln and Guba (1985) to be "the most critical technique for establishing credibility". During each interview concerns were elicited and documented and next steps were established to address the concerns. The researcher facilitated the completion of all the next steps to ensure that all concerns are resolved. All the persons that participated in the one-to-one and group interviews were requested to accept the final portfolio management model for Eskom (i.e. final proposal).
- Rich, thick description allows readers to make decisions regarding transferability because the writer describes in detail the participants or setting under study. The tentative portfolio management (i.e. developing a proposal) in section 11.2 can be used as an exemplar for other organisations to develop portfolio management models to suit them (i.e. transferability).
- External audits allow an external consultant, the auditor, to examine both the process and the product of the account, assessing their accuracy. The final portfolio management model for Eskom (i.e. final proposal) was converted into an official Eskom document (240-129590275 Rev 1 Eskom Portfolio Management Model) and authorised according to the processes outlined in the Eskom documentation management procedure.

2.5.7.2 Evaluation criteria

Routio (2007) discusses three methods for evaluating normative proposals:

- Collective evaluation.
- Theoretical evaluation.
- Testing.

Routio (2007) says that when the purpose of the study is normative, i.e. defining how the state of the study object or other similar objects could be improved in the future, the end product of the study will be one or more proposals which explain in detail the desired improvements and how they are best achieved. The proposal is published in the final report of the study, after which the work sometimes continues as a

development project which takes care of the practical execution of the proposal. Routio (2007) mentions that because the proposals are the most important content of a normative research project, especially when the study leads to practical operations of development, the researcher should try to make them as effective and optimised as possible. In most normative studies the proposals receive their content gradually and each of their successive drafts are evaluated in their turn, which often reveals a new need to revise and adjust the proposal, as is shown in Figure 3: Process for normative case study (Source: Routio, 2007). According to Routio (2007) the final and best possibility for assessing and fine-tuning the proposal is just before the report will be printed in its final version. In this draft the proposal, the starting point, practical possibilities to the achievement and other related factors are summed up, the benefits and expenditures are precise and their mutual relationships are definite, all of which facilitates giving a total judgment of them. Routio (2007) states that the key question when assessing a normative proposal is: Is it an effective, practical and economically optimised instrument for attaining the desired improvement?

The method that was used in evaluating the final portfolio management model for Eskom (i.e. final proposal) is collective evaluation. The researcher ensured that all relevant interest groups were heard in the evaluation by engaging with the participants representing the key functions involved in portfolio management during one-to-one and group interviews.

The implementation and testing of the final portfolio management model for Eskom is not be part of this research study. The researcher has however developed key recommendations, an implementation approach and detailed steps in Chapter 13 for implementing the final portfolio management model in Eskom. The researcher is also a member of a team responsible for implementing and embedding portfolio management best practices in Eskom.

2.5.7.3 Assessing the findings (reliability)

Routio (2007) mentions that once the results are obtained, before reporting them, the researcher should assess the results: are they what he wanted them to be; is it possible to improve something in the report; should something be left out or is the report worth publishing at all? The normal method when assessing a study is to compare the results to the initial objectives. Routio (2007) says that in a normative research evaluation of the final report is often relatively simple. The researcher and the other stakeholders in the study read the final proposal and then everyone declares whether they agree, or not. The final portfolio management model for Eskom (i.e. final proposal) was converted into an official Eskom document (240-129590275 Eskom Portfolio Management Model) and sent to each of the persons that participated in the one-to-one and group interviews for final review/comments.

2.5.8 Reporting

Routio (2007) says that it is normally easy to report a normative study because a normative research study is usually made for a known practical purpose and for the benefit of people that mostly are known. The author will usually find a suitable logical structure and content for the report simply by recalling the purpose of the study. Similarly, he can find right expressions for the facts and proposals by considering how the text will be understood by the people for whom it is addressed. The research study resulted in the publication of the following Eskom documents:

- 240-102758470 Project Portfolio Management Research Report/Knowledge Document). This report/knowledge document serves as a portfolio management “handbook” to be used by portfolio management practitioners.
- 240-129590275 Eskom Portfolio Management Model. The detail of this spreadsheet document is recorded in section 12.4.
- 240-129589639 Recommendations and High Level Steps to Implement and Embed Portfolio Management in Eskom Report. This document serves as input for the project team responsible to implement and embed portfolio management best practices in Eskom.

The following writing style that was adopted in this research study:

- **Scientific tales.** Scientific explanations aim to be formal, logical and, where possible mathematical. A definition of terms/glossary has been included in this research report in order to explain the portfolio management terms and definitions.

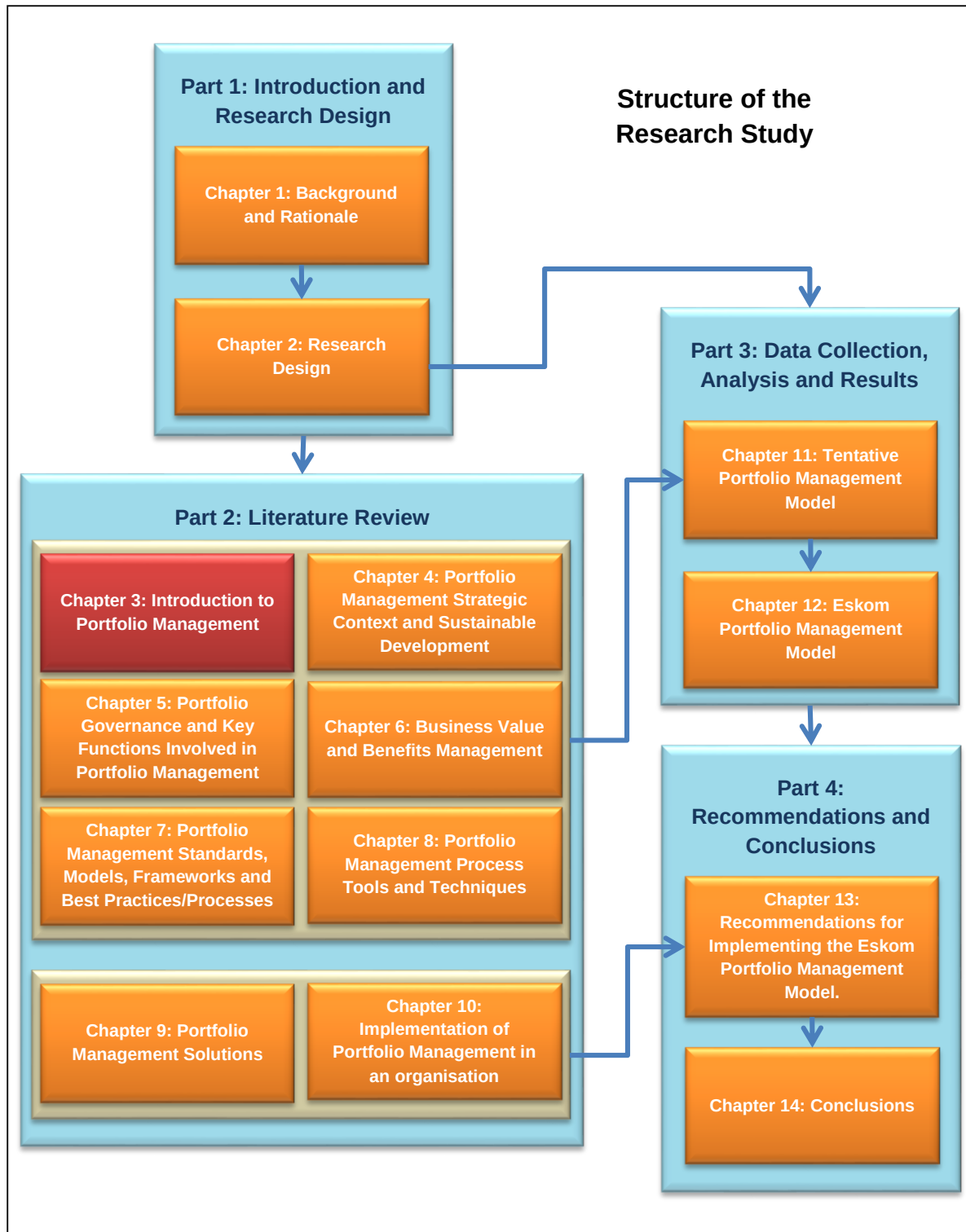
2.6 SUMMARY

The research design is summarised as follows:

- **Research model/type of research.** Research on the basis of expanding/refining an earlier model i.e. a normative study.
- **Philosophy.** Phenomenology.
- **Approach.** Qualitative, applied, deductive and inductive.
- **Strategy and methodology.** Normative case study and participative enquiry.
- **Data collection methods.** Literature analysis, survey questionnaire (closed questions and comments), one-to-one and group interviews, and complete participant.
- **Sampling strategy.** Non-probability purposive sampling.

PART 2: LITERATURE REVIEW

CHAPTER 3: INTRODUCTION TO PORTFOLIO MANAGEMENT



3.1 INTRODUCTION

3.1.1 Background

Effective portfolio management (also regularly referred to as project portfolio management (PPM) in the literature) helps organisations to successfully implement their business strategies and strategic objectives to deliver business value and remain competitive. Understanding the benefits/value of good portfolio management is vital to delivering maximum business value in an organisation. In the current economic conditions, organisations are leaning toward successful portfolio management practices to ensure cost reduction with higher returns on investments. Portfolio management is critically important because it ensures that the right programmes and projects are started and the “wrong” ones are stopped if already underway. The right programmes and projects are those that collectively make the greatest contribution to an organisation’s strategic objectives.

3.1.2 Aim

The aim of this chapter is to introduce portfolio management. It gives an overview of portfolio management; portfolio management principles; benefits of portfolio management; integrates and presents the high level elements of a portfolio management model as derived from the concepts described.

3.2 OVERVIEW OF PORTFOLIO MANAGEMENT

3.2.1 What is a portfolio?

According to the *Project Management Institute (PMI) Standard for Portfolio Management* (2013a), a portfolio is a component collection of programmes, projects or operations managed as a group to achieve strategic objectives. The portfolio components are quantifiable, that is, they can be measured, ranked, and prioritised. A portfolio exists to achieve one or more organisational strategies and objectives. An organisation may have more than one portfolio, each addressing unique organisational strategies and objectives. Portfolios may contain sub-portfolios. According to *BS ISO 21504:2015 Project, programme and portfolio management - Guidance on portfolio management* a portfolio may be structured as a hierarchy in which higher-level portfolio components are made up of several lower-level portfolio components. The portfolio structure in *BS ISO 21504:2015* is similar to the portfolio structure shown in the *PMI Standard for Portfolio Management* (2013a) and is illustrated in Figure 4. The portfolio structure represents a “snapshot” of portfolio components and is reflective of the strategic objectives of the organisation to which it is aligned.

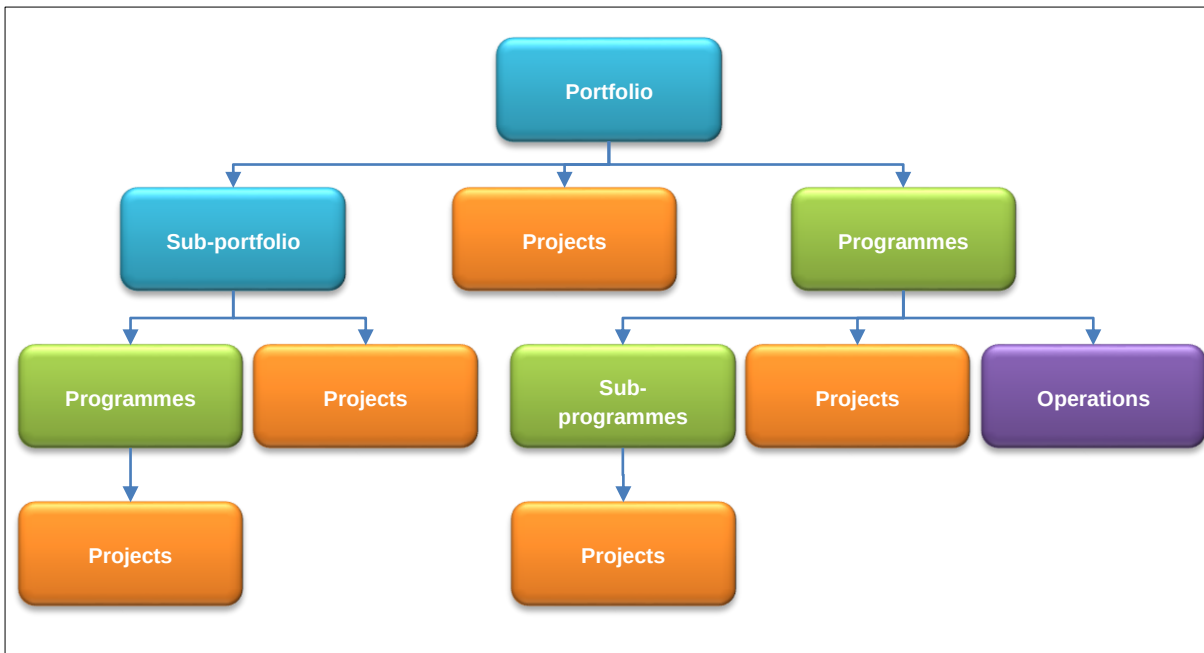


Figure 4: Example of a portfolio structure (Source: PMI Standard for Portfolio Management, 2013a)

The structure within the portfolio may include a minimum of two portfolio components.

The *PMI Standard for Portfolio Management* (2013a) mentions that at any given moment, a portfolio represents a view of its selected portfolio components and reflects the organisational strategy and objectives. By reflecting upon the investments made or planned by an organisation, portfolio management includes the activities for identifying and aligning the organisational priorities; determining governance and performance management frameworks; measuring value/benefits; making investment decisions; and managing risk, communication, and resources. The portfolio is thus a representation of an organisation's intent, direction and progress. The *PMI Standard for Portfolio Management* (2013a) further states that the relationship among portfolios, programmes, and projects is such that a portfolio refers to a collection of projects, programmes, sub-portfolios, and operations grouped together in order to facilitate the effective management of that work to meet strategic business objectives. Organisational strategies and priorities are linked to have relationships between portfolios and programmes, and between programmes and individual projects.

3.2.2 What is portfolio management?

According to *BS ISO 21504:2015*, portfolio management should include a set of interrelated organisational processes and methods by which an organisation allocates resources to implement its strategic objectives. Portfolio management aligns the portfolio components with an organisation's strategic objectives, stakeholder priorities, and values such as sustainable practices and ethical

principles. As shown in Figure 5, portfolio management may also be described as a continuous decision-making process, whereby an organisation's list of portfolio components is subject to periodic review for alignment with the organisation's strategy.

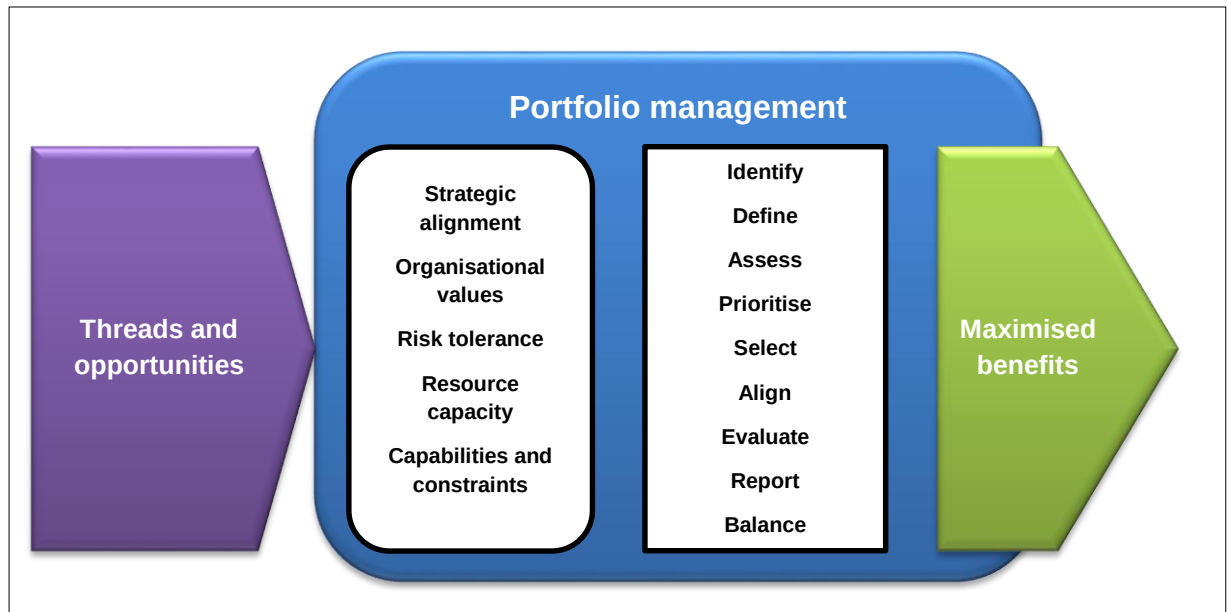


Figure 5: A view of portfolio management in context (Source: BS ISO 21504:2015)

In this approach, new opportunities or threats are evaluated, selected, prioritised and authorised. Portfolio components may be modified, accelerated, postponed or terminated. According to the *PMI Standard for Portfolio Management* (2013a), portfolio management is the coordinated management of one or more portfolios to achieve organisational strategies and objectives. It includes interrelated organisational processes by which an organisation evaluates, selects, prioritises, and allocates its limited resources to best accomplish organisational strategies consistent with its vision, mission and values. It provides valuable information to support or alter organisational strategies and investment decisions. Portfolio management provides an opportunity for a governing body to make decisions that control or influence the direction of a group of portfolio components as they work to achieve specific outcomes. The Office of Government Commerce (OGC) in the United Kingdom and other countries *Management of Portfolios (MoP) Guide* (2011), states that portfolio management is a co-ordinated collection of strategic processes and decisions that together enable the most effective balance of organisational *change* and *business as usual*.

Mochal (2014a) says that portfolio management is a process that provides a way to select, prioritise, authorise and manage the totality of work in the organisation to ensure that it spends its scarce resources on the work that is of the most value across the entire enterprise. According to Mochal (2014a), portfolio management

helps an organisation answer questions regarding work performed and value provided e.g.:

- Are resources allocated to the most important work?
- Are the right amount of resources allocated in new business investments versus keeping the older, mission-critical processes up and running?
- Does the organisation have the capacity to do all the work planned for the coming year?
- When new work comes up during the year, can the previously approved work be identified that will no longer be completed?
- When should organisations stop supporting old stuff and make the investment in new stuff?

3.2.3 Context and need for portfolio management

According to the PMI *Organisational Project Management Maturity Model (2008)* the aim of portfolio management is to:

- Guide investment decisions and their appropriate mix.
- Provide decision-making transparency.
- Increase the likelihood of realising desired return on investment.

Enveloping all investments within a single portfolio, an organisation can consider its investments to ensure that together they address strategic business objectives that best support achievement of their goals.

BS ISO 21504:2015 states that an organisation's strategic objectives, as well as other organisational considerations such as market or financial, guide the decision to implement portfolio management. When deciding whether to adopt portfolio management, each organisation's context will depend on considerations such as:

- An evaluation of the impact of introducing portfolio management into the organisation, including the organisation's capability to absorb changes in terms of structure, responsibilities and culture.
- An assessment of the threats and opportunities associated with the implementation of portfolio management.

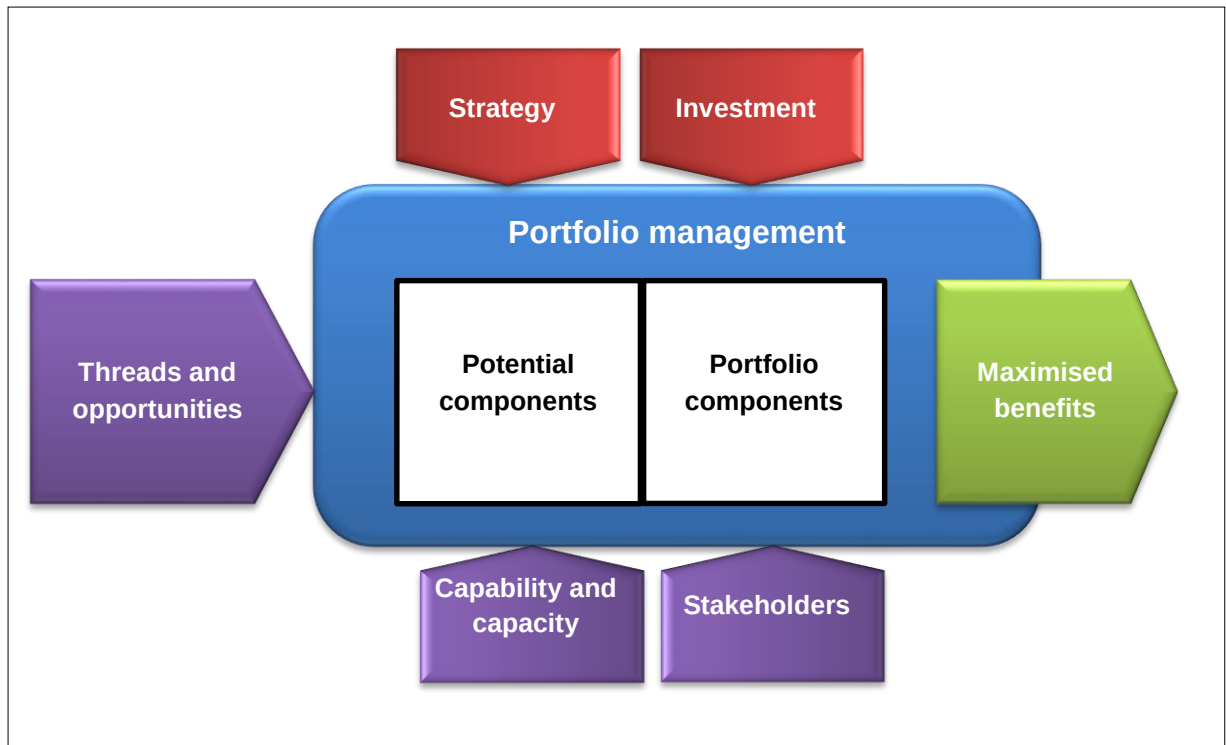


Figure 6: A view of portfolio management (Source: BS ISO 21504:2015)

As Figure 6 above illustrates, portfolio management addresses the need for a consistent approach to manage strategically aligned projects, programmes, portfolios and other related work within an organisational environment of varying complexity and uncertainty so as to:

- Enable investment in portfolio components to be aligned with the organisation's strategy.
- Optimise organisational capability and capacity.
- Maximise benefits from investment.
- Identify and manage stakeholders' expectations.
- Provide visibility of portfolio component activity and status.

The principles described should be applied regardless of the organisational environment. In addition, for portfolio management to maximise benefits aligned to the organisation's strategy there are prerequisites that should be in place to support portfolio management.

3.2.4 Relationship between portfolio management, programme management, project management and organisational project management

According to the *PMI Standard for Portfolio Management* (2013a) it is important to understand the differences between portfolio, programme, and project management disciplines and how it relates to organisational project management (OPM). OPM is a strategy executing framework utilising project, programme, and portfolio management as well as organisational enabling practices to consistently and

predictably deliver organisational strategy producing better performance, better results, and sustainable competitive advantage. Portfolio, programme, and project management are aligned with or driven by organisational strategies. Portfolio management selects the right programmes and/or projects, prioritising the work, and provides the needed resources. Programme management harmonises its projects and programme components and controls interdependencies in order to realise specific benefits. Project management develops and implements plans to achieve a specific scope that is driven by the objectives of the programme or portfolio it is subjected to, and, ultimately, to organisational strategies. OPM advances organisational capability by linking, project, programme, and portfolio management principles and practices with organisational enablers (e.g. structural, cultural, technological, and human resource practices) to support strategic objectives. A comparative overview of project, programme and portfolio management is given in Table 3.

Table 3: Comparative overview of project, programme and portfolio management (Source: PMI Standard for Portfolio Management, 2013a)

Organisational Project Management			
	Projects	Programmes	Portfolios
Scope	Projects have defined objectives. Scope is progressively elaborated throughout the project life cycle.	Programmes have larger scope and provide more significant benefits.	Portfolios have a business scope that changes with the strategic goals of the organisation.
Change	The project managers expect change and implement processes to keep change managed and controlled.	The programme manager must expect change from both inside and outside the programme and be prepared to manage it.	Portfolio managers continually monitor changes in the broad environment.
Planning	Project managers progressively elaborate high-level information into detailed plans throughout the project life cycle.	Programme managers develop the overall programme plan and create high-level plans to guide detailed planning at the component level.	Portfolio managers create and maintain necessary processes and communication relative to the aggregate portfolio.
Management	Project managers manage the project team to meet the project objectives.	Programme managers manage the programme staff and the project managers; they provide vision and overall leadership.	Portfolio managers may manage or coordinate portfolio management staff.
Success	Success is managed by product and project quality, timeliness, budget compliance, and degree of customer satisfaction.	Success is measured by the degree to which the programme satisfies the needs and benefits for which it was undertaken.	Success is measured in terms of aggregate performance of portfolio components.
Monitoring	Project managers monitor and control the work of producing the products, services or results that the project was undertaken to	Programme managers monitor the progress of programme components to ensure the overall goals, budget, and benefits of the programme	Portfolio managers monitor aggregate performance and value indicators.

Organisational Project Management			
	Projects	Programmes	Portfolios
	produce.	will be met.	

The *OGC MoP Guide (2011)* outlines the key differences between portfolios, programmes, and projects as shown in Table 4.

Table 4: Key difference between portfolios, programmes and projects (Source: OGC MoP Guide, 2011)

Portfolio	Programme	Project
An organisation's total investment (or a segment thereof) in the <i>changes</i> to meet the strategic objectives.	A single vision of <i>change</i> leading to specific outcomes aligned to one or more strategic objective/benefits.	A focused delivery of a single output or multiple outputs contributing to a programme vision or directly to a strategic benefit.
Permanent (continually changing and aligned to the strategic planning process).	Temporary (can last for many years).	Temporary (relatively short-term in comparison).
Ongoing process of prioritising and aligning the portfolio to meet strategic objectives.	High-level plans supported by detailed plans.	Project-level plans with focus on detailed delivery using stage plans.
Overall strategic perspective of the whole organisation.	Wide scope that changes over time as requirements and solutions are clarified.	Narrow defined scope with (ideally) no change.
Office should sit in a Business Change Department, strategy or finance, reporting directly to Management Board.	Office should sit in business area affected or in corporate services.	Office should sit in business area affected.

Mochal (2014a) explains the difference between projects, programmes and portfolios as follows:

- **Projects.** Projects, by their definition, have a defined start and end date. There is a point in time when the work did not exist (before the project), when it does exist (the project), and when it does not exist again (after the project). This is the key determinant of whether a piece of work is a project. Projects also include a defined scope, finite budget and assigned resources. Another characteristic of a project is that they always build something. Projects always create one or more deliverables. Projects should be managed proactively using solid project management processes and techniques.
- **Programmes.** Some initiatives are so large that it makes sense to break them up into a set of smaller projects. These smaller projects are easier to plan, manage and finish successfully. However, the problem with breaking up work into smaller projects is that each project may start to make independent decisions that will be good for that project, but detrimental to the initiative as a whole. The purpose of a programme is to provide central management and control over a set of underlying projects that are all trying to deliver a common solution. The programme allows the projects to achieve a common benefit that would be difficult for each project to achieve independently.

- **Portfolios.** Portfolios are collections of work. In most cases the portfolio is not a formal organisation but is a logical way to group, organise and manage a collection of work. The work may be related or it may not be. A portfolio typically contains projects, but they can also include support, operations and other types of work as well. Portfolio management is generally performed by senior managers. Projects are initiated, approved and prioritised at the portfolio level. The collection of active projects is then staffed, monitored and supported at the portfolio level.

3.2.5 Capabilities and constraints

BS ISO 21504:2015 clarifies that portfolio capability is the ability of the organisation to apply resources to achieve strategic objectives. Decision makers should determine if the work within the portfolio can be accomplished. An organisation should provide and maintain the capabilities it needs to run the organisation in its current state and to implement the necessary changes to move it towards its strategic objectives. *BS ISO 21504:2015* further mentions that a portfolio constraint may keep the portfolio from achieving the envisioned strategic objectives or cause the strategic objective to be modified or reprioritised. Constraints can originate from internal or external sources. The organisation should have direct control over internal constraints, however, the organisation may only be able to influence, comply with or react to external constraints. Constraints may include factors such as governance, resources, social responsibility, culture, risk tolerance, sustainability and legal or regulatory requirements.

3.2.6 Opportunities and threats

BS ISO 21504:2015 points out that opportunities and threats can come from the strategy, customer requests, evolution of offerings, or internal improvements. In some cases the identification of opportunities and threats may be part of portfolio management. The response to opportunities or threats may lead to one or more new portfolio components or may modify one or more existing portfolio components. An organisation should define the boundaries between strategy and portfolio management, so that it is clear how they influence each other. The strategic objectives should determine what opportunities and threats should be addressed and prioritised. Opportunities or threats may redefine the strategy.

3.2.7 Stakeholder engagement and management

BS ISO 21504:2015 remarks that stakeholder engagement and management should be performed. Stakeholders may include those involved in strategic and business planning, project and programme management and project or programme management offices. Other stakeholders should be identified through an agreed stakeholder identification and analysis process.

3.3 PORTFOLIO MANAGEMENT PRINCIPLES

The *OGC MoP Guide* (2011) identifies five portfolio management principles in their portfolio management model (see Figure 7).

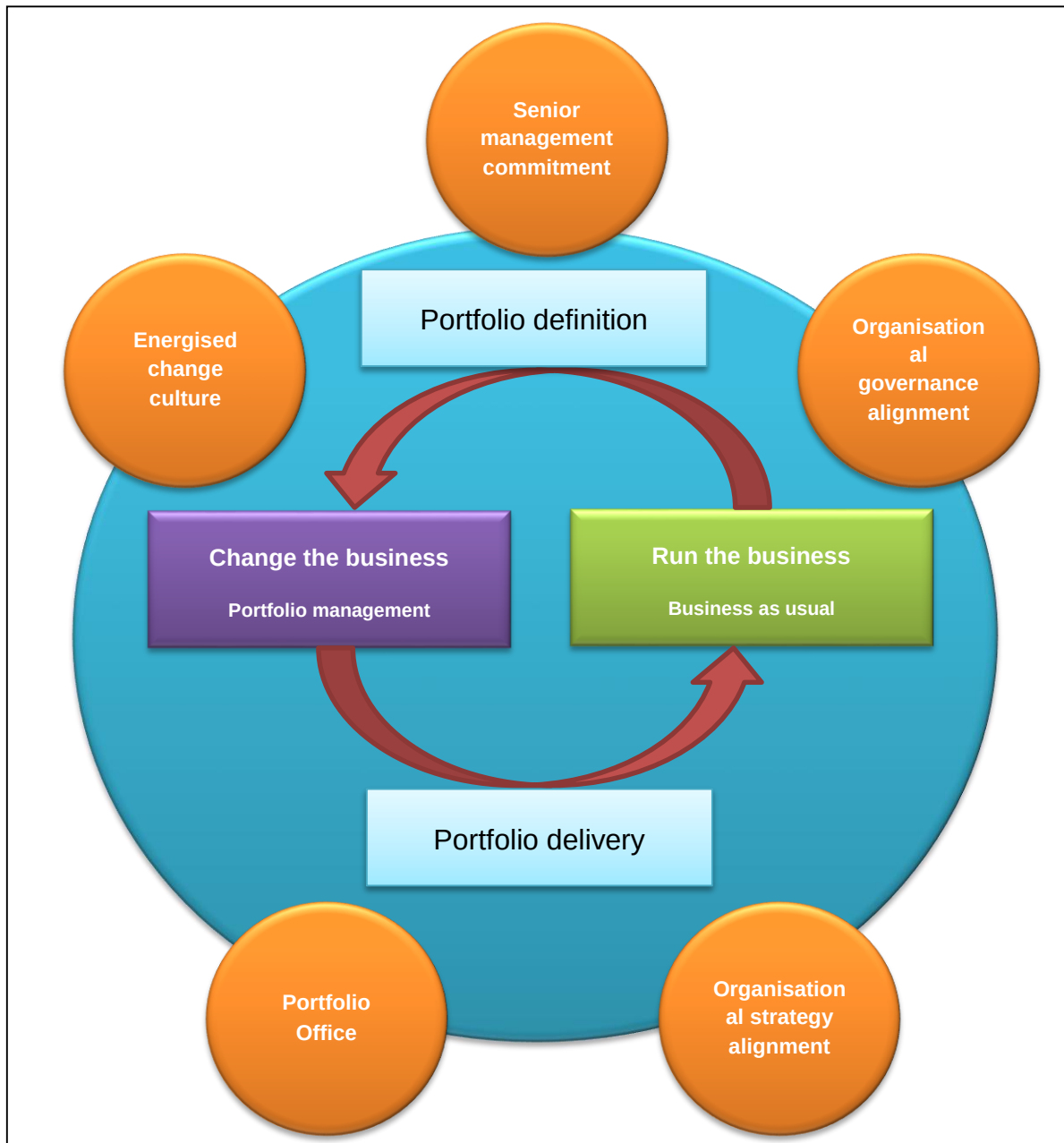


Figure 7: OGC portfolio management model (Source: OGC MoP Guide, 2011)

These principles are generic and represent the foundation upon which effective portfolio management is built and provide the organisational environment in which portfolio practices can operate effectively.

3.3.1 Senior management commitment

Proactive and visible senior management commitment is absolutely essential to effective portfolio management. Senior management commitment is crucial in three ways. It:

- Provides a mechanism to prioritise the programme and project portfolio in line with business objectives.
- Creates a clear decision-making structure with agreed line of accountability so that decisions are made swiftly and in line with business strategy.
- Demonstrates that senior management is committed to the change.

Senior management should support portfolio management in the following ways:

- Publically champion and positively communicate the value of portfolio management within their areas of command.
- Participate in decision-making about the composition of the portfolio in a personal, active and positive way.
- Contribute their expertise to the development of portfolio management across the organisation.
- Take effective steps to ensure compliance with portfolio governance and prevent pet projects from being progressed.
- Explain the rationale to their staff.
- Personally demonstrate the behaviours essential to success of portfolio management.

Senior management commitment key to success are:

- **A senior management champion.** A management board member must champion the implementation of portfolio management.
- **Clearly defined roles, responsibilities and accountabilities.** The roles of management board members and other key positions with regard to portfolio management should be clearly defined and understood. Management should define all decision points and accountabilities and portfolio governance should be built into the wider organisational governance framework.
- **Active engagement.** A management board (or sub-board) must make decisions regarding the prioritisation of change initiatives within the portfolio, and subsequently decide what action is required in response to shifts in business priorities and slippage of initiatives. This in turn requires that they are actively engaged in the process - using decision-conferencing techniques can be very effective in this regard.
- **A compelling vision.** The portfolio strategy should include a compelling vision for the portfolio so that senior management can see how it relates to the organisation's strategic objectives.

- **Alignment with reward and recognition strategies.** New ways of working and required behaviours should be reflected in the organisation's reward and recognition strategies - including senior managers' personal objectives.

3.3.2 Governance alignment

A key factor behind successful implementation of portfolio management is effective governance i.e. clarity about what decisions are made, where and by whom, and what criteria is used in reaching these decisions. Effective portfolio governance also means that the governance of the portfolio needs to reflect and be consistent with the wider organisational governance model. Portfolio management decision-making should therefore be aligned with the wider organisational governance structure. Governance alignment keys to success include:

- **Clearly defined roles, responsibilities and accountabilities.** The roles of the management board and other key positions with regard to portfolio management should be clearly defined and included in the portfolio management framework - particularly in relation to what decisions are made, where and who is involved.
- **Portfolio governance is consistent with the wider organisational governance structure.** Portfolio governance should reflect the wider organisational governance framework including for financial, risk and performance management.
- **Shared understanding.** There should be a shared understanding of the portfolio governance framework - and stakeholders should be able to describe how and where decisions are made.
- **An agreed escalation process.** The change delivery committee (or equivalent) escalates issues where required to the investment committee or management board. There is also an agreed escalation process for sub-portfolios to report exceptions beyond tolerance to the corporate/organisational-level portfolio governance bodies.
- **Agreed meeting schedules.** Key meetings of portfolio boards are scheduled as close together as possible. This facilitates more effective, coordinated decision-making resulting from the consideration of consistent data.
- **Sub-portfolios are periodically reviewed by the organisational portfolio governance body.** The portfolio governance body periodically reviews sub-portfolios to ensure that they are consistent with the organisational portfolio and that initiatives are not being deliberately disaggregated to avoid portfolio governance.

3.3.3 Strategy alignment

The ultimate objective of portfolio management is to facilitate the achievement of strategic objectives. Strategic alignment means that the allocation of funds to different types of initiatives reflects the relative importance of the organisation's

strategic objectives and the anticipated contribution of initiatives to those objectives. Aligning change initiatives to strategic objectives can best be achieved via benefits. Strategy alignment keys to success include:

- **Strategic objectives are supported by driver-base analysis.** An organisational strategy exists, containing well-defined and agreed strategic objectives with associated targets and measures. Driver-based models and analysis are used to make the implicit value/logic chain explicit.
- **Benefits are clearly and explicitly identified.** The benefits and strategic contribution of each change initiative are defined in a business case on a consistent basis. This will help the performance contribution to be understood and initiatives to be appraised and prioritised on a level playing field.
- **Collaborative working.** Portfolio office works closely with strategic planning and performance management departments/functions in linking the forecast impact of the portfolio with the strategic objectives and performance targets - and validating performance claims in business cases.
- **Regularly review at a portfolio level.** A full review of the portfolio should take place on a regular basis (six-monthly works well in many organisations depending on the scale of environmental changes and the stability of the strategic objectives) and at least annually, to ensure the portfolio remains aligned with the strategic objectives.
- **Regular review at an initiative level.** Use of a business change life-cycle helps ensure that the strategic alignment of individual initiatives is reviewed at key points in the programme and project life-cycle via regular stage/phase gates.
- **Early involvement improves quality.** Involvement of key departments/functions that will appraise potential investments early in the development of the business case enhances collaborative working and quality of business cases.

3.3.4 Portfolio Office

Portfolio management enables the relevant portfolio governance bodies to make better and more informed investment decisions. A function is therefore required to provide timely and accurate information to facilitate that decision-making process. The key services provided by this function include:

- Defining portfolio wide standards, processes and templates to ensure consistent approaches are applied and to provide clear line of sight across the portfolio.
- Providing an assurance to senior management on effective and efficient management and delivery of change initiatives.
- Providing a challenge of or critical-friend role for individual initiatives.
- Providing support, advice, guidance to initial change initiatives.
- Preparing the portfolio strategy and delivery plan.

- Coordinating and participating in stage/phase gate, investment appraisal, portfolio-level prioritisation and progress reviews.
- Preparing the portfolio dash-board.
- Improving the links and feedback loop between policy and strategy formulation and portfolio delivery.

Project office keys to success include:

- **Organisational status.** The portfolio office management role must report directly to the management board champion to help overcome silo-based interests and to demonstrate the importance of effective portfolio management to the organisation. It should also be independent of any portfolio delivery responsibility to ensure analyses are objective.
- **An agreed mandate.** The management board agree the portfolio office terms and blueprint, which will support the implementation across the organisation.
- **Collaborative working.** The portfolio office focuses on collaborative working with functions such as strategic/business planning; budgeting and resource allocation; project and programme management; performance management; corporate governance; and with those in other functions such as commercial, IT, and HR with a role in delivery of the organisation's strategic objectives.
- **Regular measurement of progress.** The portfolio office regularly reviews progress and adapts its activities, and the portfolio management process, accordingly.

3.3.5 Energised change culture

Effective portfolio management is more than a series of principles and practices - success can only truly be realised if the people working for the organisation are engaged, focussed on the appropriate goals and feel a sense of working together as one team. Energised change culture keys to success include:

- **Collaborative working.** View the organisation as one team and focus on creating a collaborative environment including adapting the performance management and reward and recognition systems to reflect and encourage the desired behaviours.
- **Proactive communications.** Ensure that regular, proactive and compelling communication is published about the objectives of the portfolio and progress made.
- **A learning organisation.** Create an environment in which lessons learned are captured, disseminated and acted upon - using post-implementation reviews, online learning centres and lessons-learned workshops.
- **Clarity about expectations.** Train people in the business change life-cycle so that they can understand what is expected from them.
- **Effective processes.** Portfolio management processes must add value and are perceived as consistent, transparent, accurate, objective and fair. In

addition, align these processes with those related to strategic planning and finance management. Use the champion-challenger model and encourage all stakeholders to suggest advancements

- **Roles and relationships agreed with a clear line of sight from strategic to personal objectives.** Document roles and relationships. Ensure that role descriptions focus on performance and help people to understand their contribution to the strategic objectives.
- **Demonstrate senior management commitment.** Senior management should actually do what they say and consistently demonstrate commitment to the new way of working.
- **Listening and engagement.** Involve people, listen to them and encourage them to contribute. Ensure that they can see how their contribution has been incorporated into the portfolio. Include feedback from key stakeholders in the portfolio performance metrics.

3.4 BENEFITS OF APPLYING PORTFOLIO MANAGEMENT

The *OGC MoP Guide* (2011) assesses that portfolio management can be a source of real value to an organisation in terms of:

- Doing the “right projects” - optimising the contribution to strategic objectives subject to the considerations of risks/achievability.
- Doing project right - delivery (on time and budget) and realisation of the anticipated benefits.
- It can help to demonstrate a compelling case for investment in portfolio management.
- By helping to identify what is working and what is not working, it helps in the ongoing development of more effective portfolio management practices.
- The process of measurement can help to ensure success - reflecting the management adage, “what gets measured, gets done”.
- Trend in balance of spend by portfolio category/segment.
- Saving in business case production - cost and time.
- Stage/phase gate and ratings (red, amber, green) on delivery confidence. Post implementation review ratings for benefits realisation against forecast and achievement of value for money (actual benefits compared to actual cost).
- Proposition of initiatives rejected/stopped at each stage/phase gate and portfolio-level review.
- Speed with which initiatives progress through the development pipeline and the shape of this pipeline (“funnel” not a “tunnel”).
- Proposition of portfolio in value terms (and by cost) invested in modular programmes and projects.
- Length of projects from inception to closure, e.g. % less than 6 months, 6 months to 1 year, 1 year to 18 months, 18 months and longer.

- Scale (and trend) of reliance on external resources (contractors and consultants).
- Scale of unplanned delays, due to ineffective dependency management.
- Key resource utilisation rates.
- Amount of investment written off.
- Improved reputation for effective change management.
- Quantitative data on:
 - Percentage of initiatives delivered on time compared with initial forecast.
 - Percentage of initiatives delivered on budget compared with initial forecast.
 - Percentage of benefits realised compare with initial forecast.
- Process maturity assessment.
- Number of portfolio process improvements recommended under the champion-challenger model and from post-implementation reviews.
- Stakeholder survey of views on the efficiency and effectiveness of the portfolio definition practices.
- Stakeholder survey of views of the efficiency and effectiveness of the portfolio delivery practices.

According to Mochal (2014b) the value of utilising a portfolio management approach to manage an organisation's investments is as follows:

- **Improved resource allocation.** Portfolio management requires the prioritisation of work across the organisation and the effective allocation of resources such as human resources, equipment, software, outsourced work, etc.
- **Improved scrutiny of work.** Portfolio management requires work to be approved by all the key stakeholders which is open to more scrutiny. Senior management has a responsibility to approve the work that has the highest priority and provides the highest value.
- **More openness of the authorisation process.** A portfolio management process ensures that people in the organisation know the process that was followed to ultimately authorise work.
- **Less ambiguity in work authorisation.** The portfolio management planning process provides criteria for evaluating work more consistently which makes it easier to compare work on an apples-to-apples basis. It ensures that the authorised work is valuable, aligned and balanced.
- **Improved alignment of the work.** Portfolio management also results in the work being aligned to the organisation's strategy and goals.
- **Improved balance of work.** Portfolio management looks to achieve a proper balance of work. As it provides the perspective to categorise where organisations are spending resources and give organisations a way to adjust the balance within the portfolio as needed.

- **Changed focus from cost to investment.** Portfolio management focuses on value delivered – not just on the cost of the products and services.
- **Increased collaboration.** Portfolio management force collaboration between the various functions within an organisation.
- **Enhanced communication.** Portfolio management requires an ongoing dialog between the functions within an organisation which enhances the communication between the functions in the organisation. It also provides opportunities to communicate the value of the portfolio. Portfolio metrics should be captured and shared with the rest of the organisation. The business value of portfolio projects should also be measured and shared.
- **Increased focus on when to stop a project.** Investments that no longer meet the organisation's overall goals or no longer are profitable needs to be stopped.

3.5 SUMMARY, INTEGRATION AND CONCLUSIONS

A portfolio is a component collection of projects, programmes or operations managed as a group to achieve strategic objectives. Portfolio, programme, and project management are aligned with or driven by organisational strategies. Portfolio management selects the right projects and programmes, prioritises the work, and provides the needed resources. Programme management harmonises its projects and programme components and controls interdependencies in order to realise specific benefits. Project management develops and implements plans to achieve a specific scope that is driven by the objectives of the programme or portfolio it is subjected to, and, ultimately, to organisational strategies.

Portfolio management is a continuous decision-making process by which an organisation identifies, evaluates, selects, and prioritises the work that is of the most value to ensure that it spends its scarce resources to best accomplish organisational strategies consistent with its vision, mission and values. Figure 8 provides an integrated view of the context of portfolio management as derived by the researcher from this chapter.

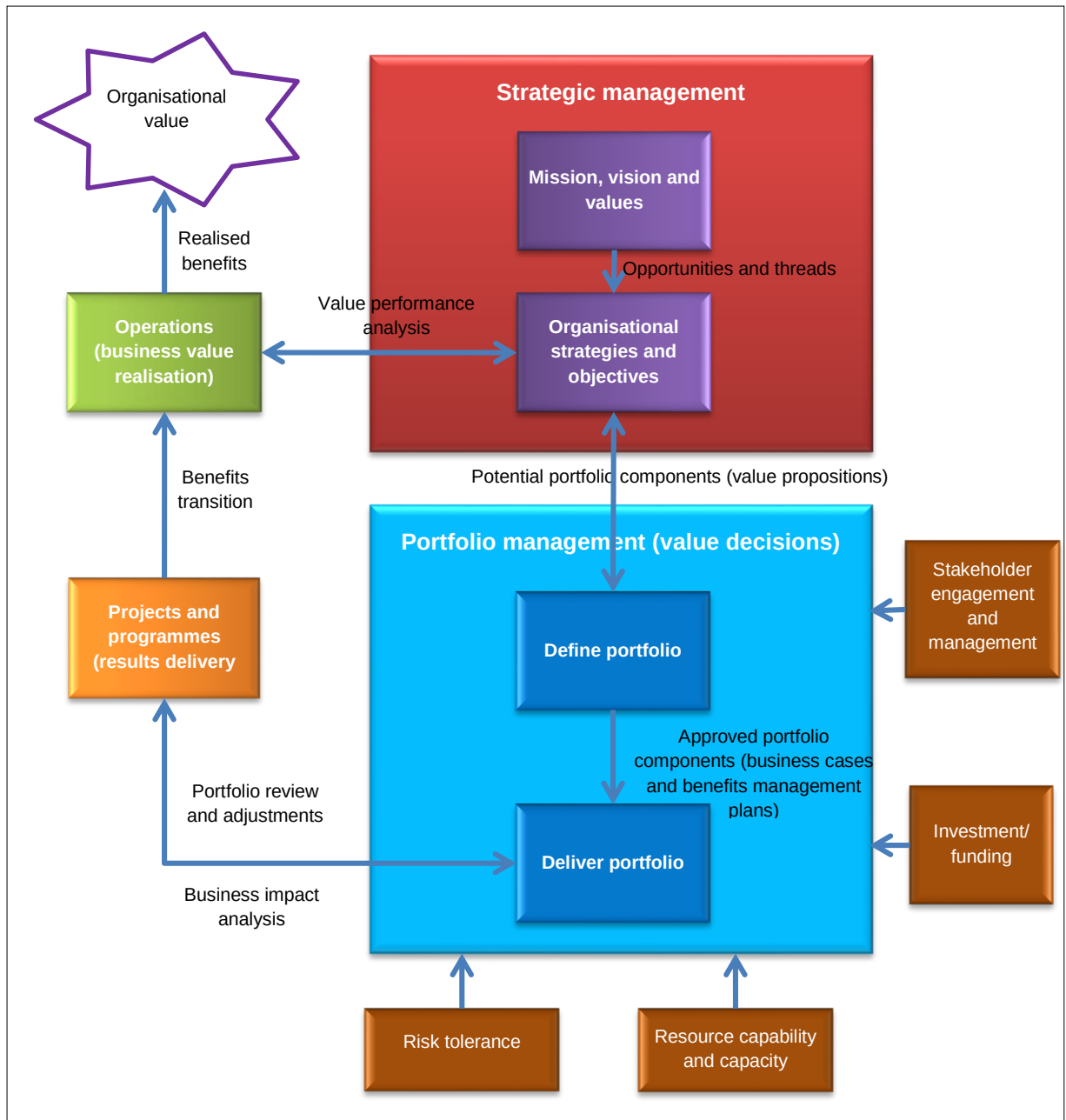


Figure 8: Integrated view of the context of portfolio management

Organisational strategies and objectives determine the potential portfolio components that should be addressed and prioritised to deliver value/benefits for the organisation (value propositions). Stakeholders involved in portfolio management should be identified and engaged in portfolio management. Stakeholders may include those involved in executive management; strategic and business planning; investment and finance management; portfolio office; portfolio, programme and project management; operations, etc. Business cases are used as the basis for selecting, prioritising and approving portfolio components (programmes, projects and other work) that will provide the maximum value/benefits for the organisation taking into account the availability of investment/funding, resource capability and capacity, and the organisation's risk tolerance.

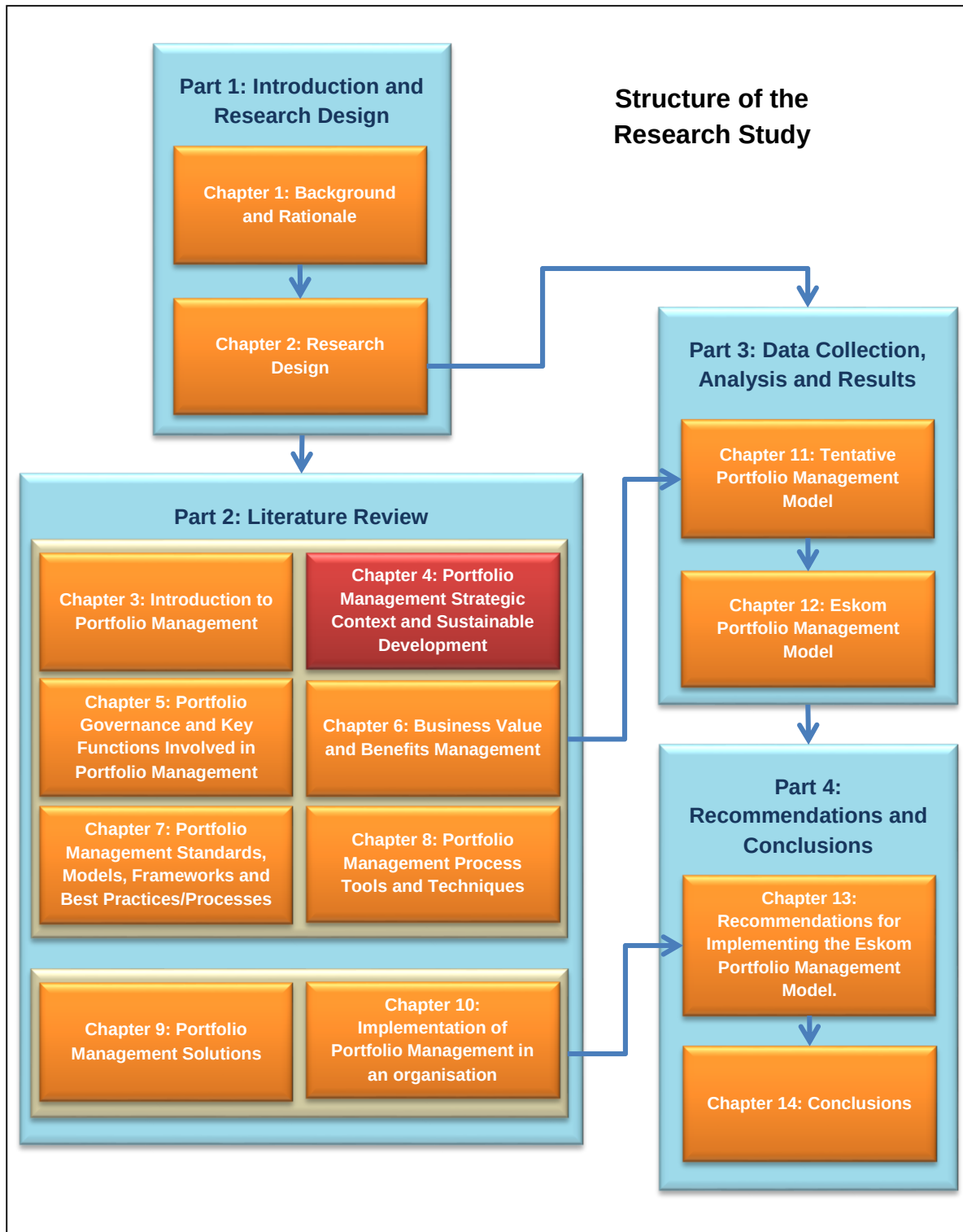
Generic principles for portfolio practices to operate effectively are:

- Senior management commitment.
- Governance alignment.
- Strategic alignment.
- Portfolio office.
- Energised change culture.

The benefits/value of applying portfolio management:

- Provide effective portfolio management practices to ensure that investment in projects and programmes is aligned with the organisation's strategy to best accomplish its vision, mission and values.
- Maximise business value from its investments to ensure a sustainable business.
- Provide an opportunity for a governing body to make decisions that control or influence the direction of a group of portfolio components as they work to achieve specific outcomes.
- Optimise organisational capability and capacity.

CHAPTER 4: PORTFOLIO MANAGEMENT STRATEGIC CONTEXT AND SUSTAINABLE DEVELOPMENT



4.1 INTRODUCTION

4.1.1 Background

As portfolio managers are responsible for the management of portfolios they need to understand the strategic context within which portfolio management takes place. Strategic management is very important for an organisation to achieve its strategic goals and objectives. In order for organisations to be sustainable they need to develop and implement strategies (i.e. a plan of goals, policies, and actions) to provide overall direction and focus to the organisation to achieve its vision.

Portfolio management is an integral part of an organisation's overall strategic plan. Portfolio management aligns the portfolio components with an organisation's strategic objectives, stakeholder priorities, and organisational values. Linking portfolio management to strategy balances the use of resources to maximise the value delivered in executing projects, programmes, and operational activities. Organisations increasingly apply portfolio management to implement organisational strategies and objectives in order to create maximum business value. So, organisations cluster their strategic initiatives into portfolios to manage the multitude of simultaneous projects and programmes ongoing in the organisation.

As organisations are accountable for the impacts on society, the environment and economy when implementing business initiatives they need to include the objectives of sustainable development during the management of portfolios.

4.1.2 Aim

The purpose of this chapter is to get a detailed understanding of the strategic and operational context within which project portfolio management takes place. In this chapter the concepts of strategic management, the relationship between organisational strategy and portfolio management, the link between corporate and project strategy, strategic execution, and sustainable development are discussed.

4.2 STRATEGIC MANAGEMENT

4.2.1 Overview of business strategy and strategic management process

4.2.1.1 Definition, nature, scope and importance of strategy and strategic management

Arora (2015) quotes Henderson (1989) who defines strategy as follows: *"Strategy is a deliberate search for a plan of action that will develop a business's competitive advantage and compound it."* Shenhar, Milosevic, Dvir, and Thamhain (2007) refer to Porter that describes strategy as *"the creation of a unique and valuable position involving a different set of activities"* (1996). Strategy refers to ideas, plans, and support that an organisation employs to compete successfully against their rivals.

Arora (2015) clarifies that strategy is designed to help an organisation achieve competitive advantage. The nature and scope of strategy includes:

- A plan that an organisation adopt in order to get something done.
- The art of planning the best way to achieve something or to be successful in a particular field.

Arora (2015) says that strategy is important for an organisation because it:

- Serves as a road map.
- Enables long term decisions.
- Ensures optimum utilisation of resources.
- Prepares the organisation for the future.
- Helps acquiring a competitive advantage.

Arora (2015) concludes that strategy is a necessity to start, grow and sustain. The essence of strategy is to match strengths and distinctive competence within the environmental setting in which an engagement with an adversary takes place in such a way that the organisation enjoys a competitive advantage over rivals competing on the same terrain. The six ingredients of strategy include the following strategic competencies:

- **Vision competency.** Vision, mission, goals and objectives.
- **Value creation competency.** Customer focus, competitor focus.
- **Planning and administration competency.** Activity fit, corporate fit, alliance fit, people fit, reward system fit, communication fit.
- **Global awareness competency.** Opportunities/threats existence awareness, different business practices, and cultural awareness.
- **Leveraging technology competency.** Faster innovation; big companies act small, small companies act big.
- **Stakeholder competency.** Shareholders, customers, employees, communities, senior managers.

4.2.1.2 Strategic management process

Arora (2015) presents that strategic management is a process designed to satisfy strategic imperatives for building a competitive advantage. It consists of four major steps:

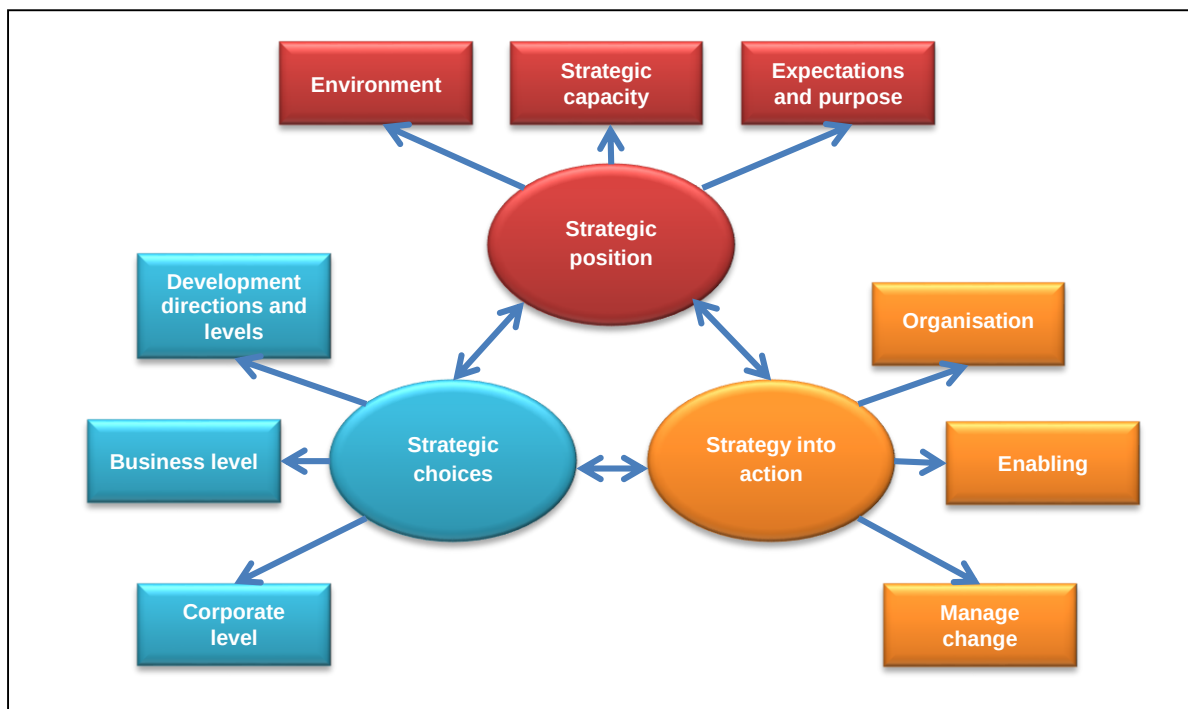
- Analysis.
- Formulation.
- Implementation.
- Adjustment/evaluation.

The four major steps of the strategic management process are shown in Table 5.

Table 5: Four major steps of the strategic management process (Source: Arora, 2015)

Step .1 Analysis	External environment. Internal environment.	Opportunities, threats.
Step 2. Formulation	Mission.	Customers to be served. Capabilities to be developed.
	Policies.	Goals, guidelines for major activities.
Step 3. Implementation		Organisational structure, systems, culture, etc.
Step 4. Adjustments/evaluation		(Cycle to earlier steps).

Figure 9 outlines the business strategy process as shared by Visser (2015) during a presentation at a PMISA Pretoria Branch meeting.

**Figure 9: Strategy process (Source: Visser, 2015)**

Visser (2015) clarifies that strategic position is the vision to ensure competitive advantage. Strategic choices include the strategic goals and objectives to achieve the vision. Strategy into action is the application of portfolio management to select and oversee the execution of projects and programmes and to allocate resources to deliver business value (benefits). Mochal (2015) mentions that corporate strategy is usually expressed as high-level statements that describe what an organisation is trying to achieve (through goals and objectives) and how the organisation plans to achieve it (strategies and tactics). The right approach is to develop a corporate strategy that looks at where you are today and where you want to be in the future, then determining how best to get there.

4.2.1.3 Strategic management principles and phases

Figure 10 outlines the strategic management principles/phases as shared by Visser (2015).

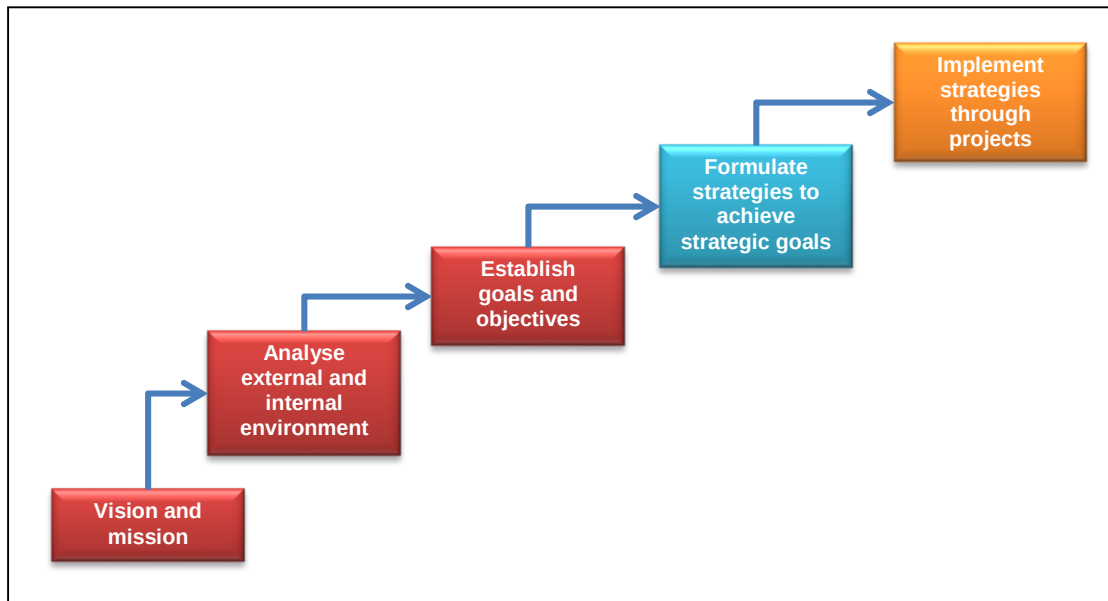


Figure 10: Strategic management principles/phases (Source: Adopted from Visser, 2015)

Visser (2015) gives the following overview of strategy. In customer/client driven organisations, vision, mission, and goals are set to meet the needs of the customers/clients. The vision states *“what we want to become”* and must be communicated throughout the organisation. Everyone in the organisation must also be aware of the organisation’s mission *“what our business is and how we do it to achieve our vision”*. Visser (2015) mentions that it is important to note that business goals translate the vision and the mission into broad long-term, measurable, and tangible terms. Objectives answer in detail where the organisation is heading, when it is going to get there and set targets for all levels of the organisation. Each level of the organisational objectives should support the higher-level objectives in more detail. The development of strategies to meet these needs and goals answers the question of *“what we need to do to achieve these goals”*. It requires an extensive analysis of the internal and external environments. The deliverable of this analysis is a set of strategies designed to best meet the needs of the customers. The implementation of these strategies requires actions and completing tasks which answers the question of *“how are we going to realise these strategies”*. Implementation must include attention to the following key points:

- Executing the work requires allocation of resources such as funds, people, and equipment.
- Implementation requires an organisational structure that supports projects.

- Project management processes for planning, executing, and controlling are essential to ensure that organisations are able to implement strategies effectively and efficiently.
- Organisations need a project selection and priority system to ensure strong linkages between projects and the strategic plan.

4.2.1.4 Strategic decision-making

Arora (2015) points out that strategic decision-making is a process of strategic management and the levels at which strategy operates e.g. a multi business organisation often operate across several industries or markets, each with a separate set of customers and competitive requirements. Business strategy is plans and actions that an organisation devises to compete in a given product/market scope or setting to address the question “*how do we compete within an industry?*” Corporate strategy is plans and actions that an organisation needs to formulate and implement when managing a portfolio of business, especially when an organisation seeks to diversify initial activities or operations into new areas. Corporate strategy issues are important to extend the organisation’s competitive advantage from one business to another. Levels of strategy are shown in Figure 11.

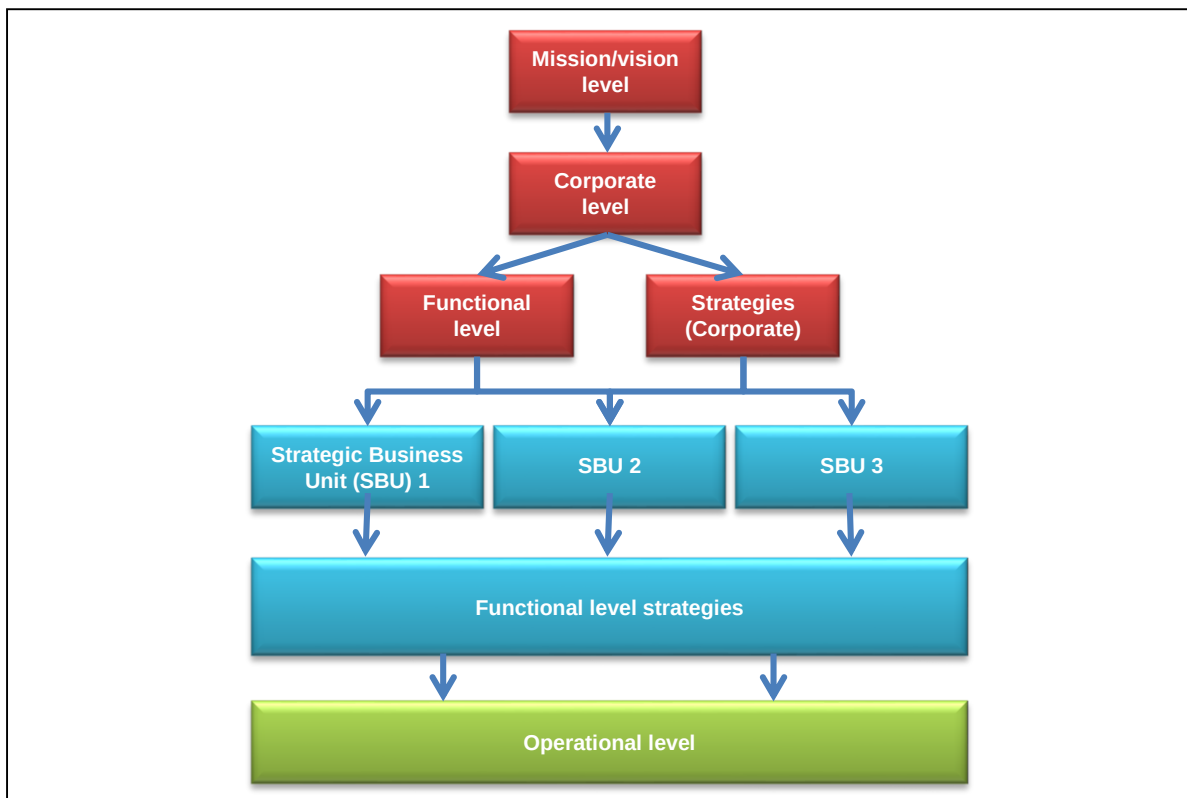


Figure 11: Levels of strategy (Source: Arora, 2015)

4.2.1.5 Role of strategists

Arora (2015) mentions that the executives mostly responsible for strategic decisions are:

- **Business managers.** People in charge of managing and operating a single line of business.
- **Corporate managers.** People responsible for overseeing and managing a portfolio of business within the organisation.

Competitive advantage is the most important criterion by which to assess strategic decisions. Strategic decisions must also satisfy the numerous and often conflicting needs of various stakeholders such as shareholders, customers, employees, communities and top managers.

4.2.1.6 Defining strategic intent (vision, mission, business definition, goals and objectives)

Arora (2015) clarifies that a vision describes the highest aspirations and ideals of where an organisation wants to be. The vision is how an organisation wants to be perceived in the future i.e. what success looks like. It is an expression of the desired end state and challenges to achieve something significant. It inspires a compelling future and provides a long-term focus for the entire organisation.

Arora (2015) continues that a mission describes the organisation in terms of its business and answers the following questions:

- What business are we in?
- What do we intend to do to succeed?

According to Arora (2015) mission statements are more concrete than vision statements but still do not specify the goals and objectives necessary to translate the mission into reality. Corporate mission is the essential purpose that differentiates one organisation from others. It clearly defines the priorities and purpose of existence of the organisation. It focusses on a limited number of goals and stresses the organisation's major policies and values as well as the major competitive spheres within which the company will operate.

Arora (2015) says that goals are the specific results to be achieved within a given time period. Objectives are the specific results to be achieved within a given time period (also known as goals). Objectives guide the organisation in achieving its mission. Effective goals should be formulated so that they are arranged hierarchically from broader to more specific objectives, stated in quantitative terms, realistic and consistent with each other and the company mission. An organisation may need several objectives to meet a goal. Objectives must be:

- Relevant.

- Specific enough to quantify and measure the results.
- Simple and easy to understand.
- Realistic and attainable.
- Acceptable to those who must execute.

Objectives must compel an organisation into action and convey responsibility and ownership. Table 6 outlines the difference between goals and objectives.

Table 6: Goals versus objectives (Source: Arora, 2015)

Goals	Objectives
Very short statement, few words.	Longer statements, more descriptive.
Broad in scope.	Narrow in scope.
Directly relates to the mission statement.	Indirectly relates to the mission statement.
Covers a long time period (such as 10 years).	Covers short time period (such as one year budget cycle).

The difference between strategies and tactics are outlined in Table 7.

Table 7: Strategies versus tactics (Source: Arora, 2015)

Strategies	Tactics
Developed by management; these decisions are never delegated below a certain level in management hierarchy.	Employed and related to lower levels of management.
Generally the focus is on long-term.	The focus is on short-term.
The uncertainty level is quite high; lots of information to be obtained from diverse sources.	Decisions are more certain and are taken within the framework of strategies.
Affect various parts of an organisation in a significant way.	The reach is limited to only specific segments of an organisation.

According to Visser (2015) a well-worded objective must be specific, measurable, attainable, realistic and time-bound (SMART). Visser (2015) mentions that an objective measure should at least include a date, a number and/or a percentage (%), for example, increase sales volume by 20% in 12 months. Visser (2015) states that the quantitative value of these particular goals is an increase in revenues and profits and also may include enhancing a firm's standing within its industry and increasing customer awareness of company brands.

Visser (2015) states that project sponsors must be accountable for the achievement of business objectives and proposes a strategic map to be used for setting objectives (see Table 8). Visser (2015) also mentions that the value chain must start at the bottom of the strategic area. The lower level strategic areas must be in place first before the next level.

Table 8: Strategic map (Source: Visser, 2015)

Strategic area	Objectives
Shareholder value (external)	
Financial management (external)	
Customers (external)	
Processes (internal)	
Resources (internal)	(e.g. competent people)

4.2.2 Environmental analysis

According to Arora (2015) an organisation's environment represents all external forces, factors or conditions that exert some degree of impact on the strategies, decisions, and actions taken by an organisation. The components of the environment include: economic, social, political and technological. The specific type of environmental forces and conditions vary from industry to industry. A number of broad environmental forces exert an impact on the strategies of every organisation. Arora (2015) there are broadly two types of external environments; the broader macro-environment and industry specific competitive environment. The environment offers both opportunities and threats to an organisation. The macro-environment includes the demographic, economic, political, social/cultural, technological and global environments. Environmental scanning techniques such as SWOT (strengths, weaknesses, opportunities, threats) are used to:

- Increase managerial awareness of environmental change.
- Increase understanding of the context in which industries and markets function.
- Increase understanding of multi-national settings.
- Facilitate risk management.
- Improve resource allocation decisions.
- Focus attention on primary influences on strategic change.
- Act as an early warning system.

Arora (2015) says that internal analysis is many times done by doing a SWOT analysis. It is used for working out a survival and success strategy in a competitive environment by identifying strengths, weaknesses, opportunities and threads. It helps an organisation to focus on its strengths, minimise threats, and to take the greatest possible advantage of opportunities available. What makes SWOT particularly powerful is that it helps to uncover opportunities that can be exploited. By understanding the weaknesses of the organisation, threats can be eliminated. One tool that is often used to do external analysis is PEST/PESTEL/PESTLE (i.e. political, economic, socio-cultural, technological, legal and environmental). This analysis looks at the external business environment and is an appropriate strategic tool for understanding the "big picture" of the environment in which a business operates. It enables an organisation to take advantage of the opportunities and minimise the threats faced by the organisation's business activities. When strategic planning is done correctly, it provides a solid plan for an organisation to grow into the

future. The ABCDE Strategic Planning Model as shown in Table 9 is a scanning technique mentioned by Arora (2015).

Table 9: Strategic Planning Model ABCDE (Source: Arora, 2015)

Where we are		Where we want to be	How we will do it	How are we doing
Assessment (A)	Baseline (B)	Components (C)	Down to specifics (D)	Evaluate (E)
Environmental scan.	Situation - past, present, future.	Mission and vision.	Performance measurement.	Performance measurement.
Background information.	Significant issues.	Values/guiding.	Targets/standards of performance.	Review progress - balanced scorecard.
Situational analysis.	Align/fit with capabilities.	Major goals.	Initiatives and projects.	Take corrective action.
SWOT.	Gaps.	Specific objectives.	Action plans.	Feedback upstream - revise plans.

4.2.3 Corporate level and business level strategies

Arora (2015) clarifies that corporate level strategies include strategies for stability, expansion, retrenchment and combination strategy, corporate restructuring, concept of synergy, mergers and acquisitions, corporate restructuring. Business level strategies include strategies for Porter's framework of competitive strategies: conditions, risks and benefits of cost leadership, differentiation and focus strategies, concept, importance, building and use of core competence. Awareness of these forces help an organisation understand the structure of its industry and stake out a position that is more profitable and less vulnerable to attack.

4.2.4 Resource allocation, projects and procedural issues

Arora (2015) says that while implementing strategies, the scarce resources of an organisation (financial, physical, human, technological) need to be allocated carefully, according to plan. The means or resource allocation includes:

- Strategic budget for SBU level.
- Capital budget for long term profitability.
- Performance budget to carry out functions.
- Zero based budget.

4.2.5 Organisation structure and system in strategy implementation

Arora (2015) remarks that strategy implementation is a crucial issue because any strategy is as good as the effort behind it to move forward. Successful strategy implementation requires support, discipline, motivation and hard work from all managers and employees. More importantly, it requires a suitable organisation structure to translate ideas into corporate action plans. An organisation structure and system for strategy implementation is shown in Figure 12.

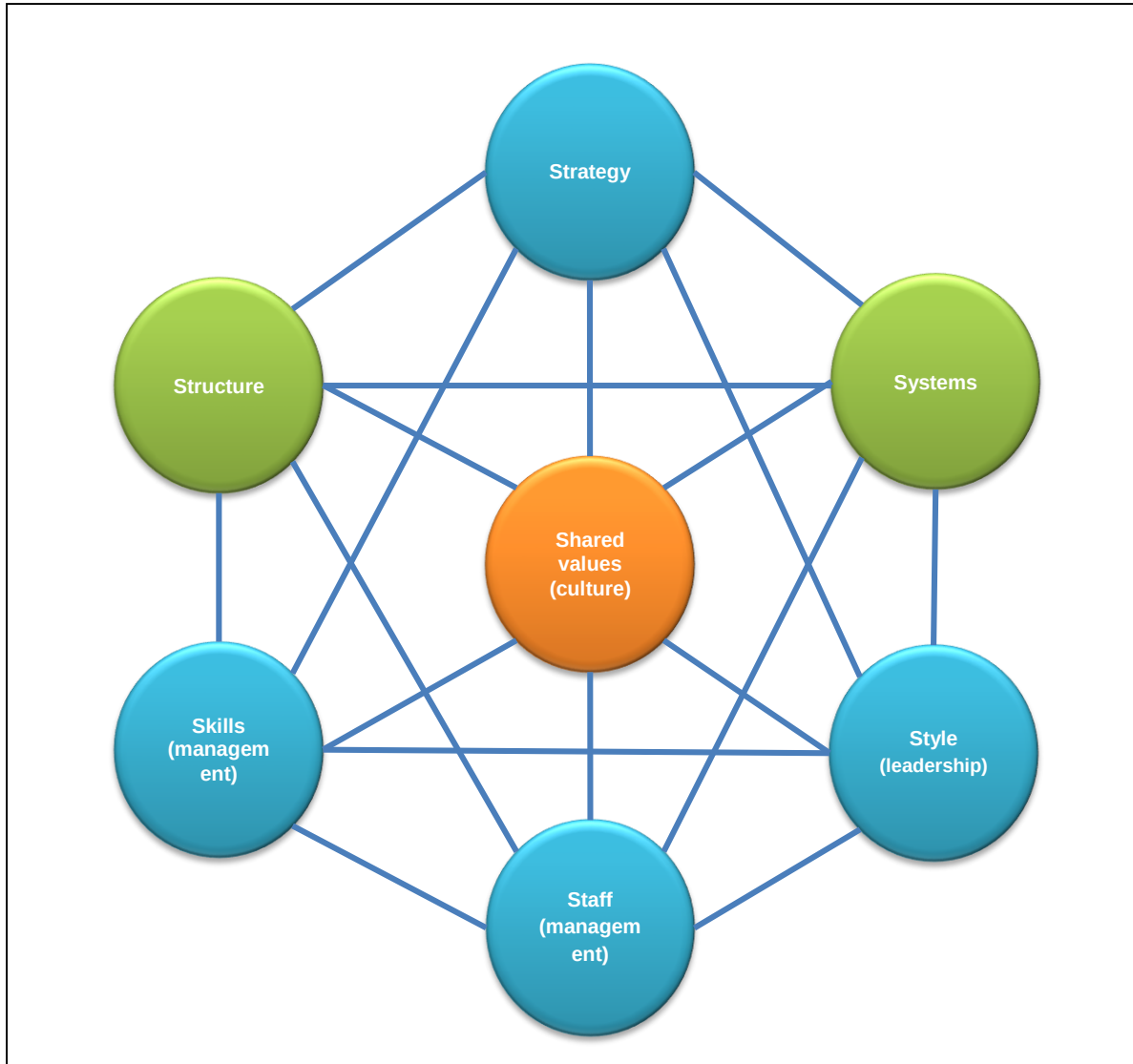


**Figure 12: Organisation structure and system for strategy implementation
(Source: Arora, 2015)**

4.2.6 Strategic control and operational control, organisational system and techniques of strategic evaluation

Arora (2015) mentions that strategic control is concerned with tracking a strategy as it is being implemented, detecting problems or changes in its underlying premises, and making adjustments. There are four types of strategic control namely premise control, implementation control, strategic surveillance and strategic alert control. Operational controls provide post-action evaluation and control over short periods. Evaluation techniques include value chain analysis, quantitative performance measurement, benchmarking, balanced score card and key factor rating. Strategy evaluation and control is the final phase of strategic management. The purpose of strategy evaluation and control is to:

- Determine the effectiveness of a given strategy.
- Achieve the organisational objectives.

- Take appropriate corrective action whenever required.

Strategy evaluation and control generally operates at two levels:

- **Strategic.** Examine the consistency of strategy with environment.
- **Operational.** Finding how a given strategy is effectively pursued.

Strategy evaluation and control helps an organisation in feedback, establishing if they are moving in the right direction, how they are performing, reward, and future planning.

4.2.7 Difference between strategic management, operations management and portfolio management

The difference between strategy management (corporate strategy) and operations management is clarified by Visser (2015) in Table 10.

Table 10: Difference between strategy and operations management (Source: Visser, 2015)

Strategy management	Operation management
A tool to manage, communicate and follow-up the company's strategic and transformational plan.	A tool to improve the performance and monitoring of the day-to-day business.
It is focused on "turning of the boat" rather than "the speed of the boat".	It is focused on "the speed of the boat" rather than "turning of the boat".
Measures have stretch targets that are difficult to achieve with the day-to-day operations.	Measures have range targets (not stretch targets) in order to measure the company's performance.
To achieve the stretch targets, a strategic initiatives portfolio needs to be implemented.	If there is an under performance, causes are analysed and short term action plans are defined.
Very helpful to link with the personal scorecards of the EXCO members.	Very helpful to link with the personal scorecards of the middle to low levels of the organisation.

Visser (2015) continues and clarifies the difference between strategic management and portfolio management. Corporate strategy identifies the goals of a company and defines ways of achieving those goals. Portfolio management takes one of the goals and manages costs, schedules and resources to give the desired result. While both corporate strategy and portfolio management share planning and control characteristics, the details of their implementation and execution are not the same. Visser (2015) further explains that portfolio managers need to understand the strategic management process and business strategy as organisational project management is rapidly becoming a standard way of implementing the business strategy of an organisation. As every project in an organisation should contribute to its strategic plan, organisations need to make sure that they integrate projects within the strategic plan. This integration requires a process for prioritising projects by their contribution to the plan. In customer driven organisations, vision, mission, and goals are set to meet the needs of the customers. Visser (2015) further mentions that a systematic approach is required to select projects and allocate resources to these projects in order to maximise value added. The benefits of carefully selected criteria are as follows:

- More effective planning of organisational resources.
- More efficient utilisation of organisational resources.
- A portfolio of projects that balance opportunities and threats given available resources.
- Keeping the organisation's stakeholders focused on the most critical projects.
- Obtaining consensus as to which projects have the highest priority.

Implementation of strategies requires actions and completing tasks. It answers the question of *"how are we going to realise these strategies"*. Implementation must include attention to the following key points:

- Executing the work requires allocation of resources such as funds, people, and equipment.
- Organisational resources are limited.
- Multiple goals frequently impose conflicting demands on resources.
- Implementation requires an organisational structure that supports projects.
- Project management processes for planning, executing, and controlling are essential to implement strategies effectively and efficiently.
- There need to be a project selection and priority system to ensure strong linkages between projects and the strategic plan.

Visser (2015) points out that the need for a project selection and priority system stems from the following observations:

- Organisations frequently pursue many projects simultaneously.
- Projects are taking place in organisations. Politics exist in every organisation and can have a significant impact on project selection.
- Many projects within companies are associated with the term "sacred cow". This term describes a project sponsored by a high ranking official.
- Without an effective project selection and priority system, the capacity overload coupled with project politics will lead to frustration, confusion, and inefficient use of resources.

Visser (2015) also warns that the implementation of a project selection and priority system in an organisation can be met with enormous scepticism and resistance. Some of the questions that need to be addressed when considering a project selection and priority system are:

- How can we minimise the power of politics?
- How can we consistently prioritise projects to support the organisational strategy?
- How can we use the prioritised list of projects to allocate organisational scarce resources?
- How can the process encourage bottom-up initiation of projects that support organisational goals and strategies?

4.3 RELATIONSHIP BETWEEN ORGANISATIONAL STRATEGY, PORTFOLIO, PROGRAMME AND PROJECT MANAGEMENT

The *PMI Standard for Portfolio Management* (2013a) states that an organisational strategy in part is a plan of goals, policies, and actions that provides the overall direction and focus of the organisation. Portfolio management is an integral part of the organisation's overall strategic plan. Organisational governance occurs at different decision-making levels of the organisation to support specific goals, objectives, and strategies defined through the organisation's strategic planning process. Organisational strategy and objectives define the means of attaining the goals either through operations (on-going organisational activities) or programmes and projects. Portfolio management is a bridge between organisational strategy, programme, and project management and operations. As such, all governance levels are linked together to ensure that each organisational action is ultimately aligned with the defined organisational strategy. Portfolio management ensures that an organisation is able to leverage its projects' selection and execution success and supports a strong and profitable organisation within a competitive and rapidly changing organisational environment. Portfolio management, programme management, and project management are disciplines for managing the capacity to deliver business value. It is in operations management where delivery of value is realised through day-to-day processes. An organisation establishes goals that will move it towards its vision. These goals will have objectives that are measures of goal achievement. Strategies are developed of how the goals will be achieved. These strategies direct the execution of work intended to achieve the goals. The *PMI Standard for Portfolio Management* (2013a) further states that an organisational strategy is a plan that describes how the organisation's strengths and core competencies will be used to:

- Manage resources effectively.
- Manage stakeholder value.
- Capitalise on opportunities.
- Minimise the impacts of threats.
- Respond to changes in the market, legal and regulatory environments.
- Reinforce focus on critical operational activities.

Linking portfolio management to strategy balances the use of resources to maximise the value delivered in executing projects, programmes, and operational activities. The organisational strategy and objectives are translated into a set of initiatives that establish portfolios of programmes, projects, and operations components to be executed in the planned period. Figure 13 depicts a general relationship between organisational strategy, portfolio, programme, and project management.

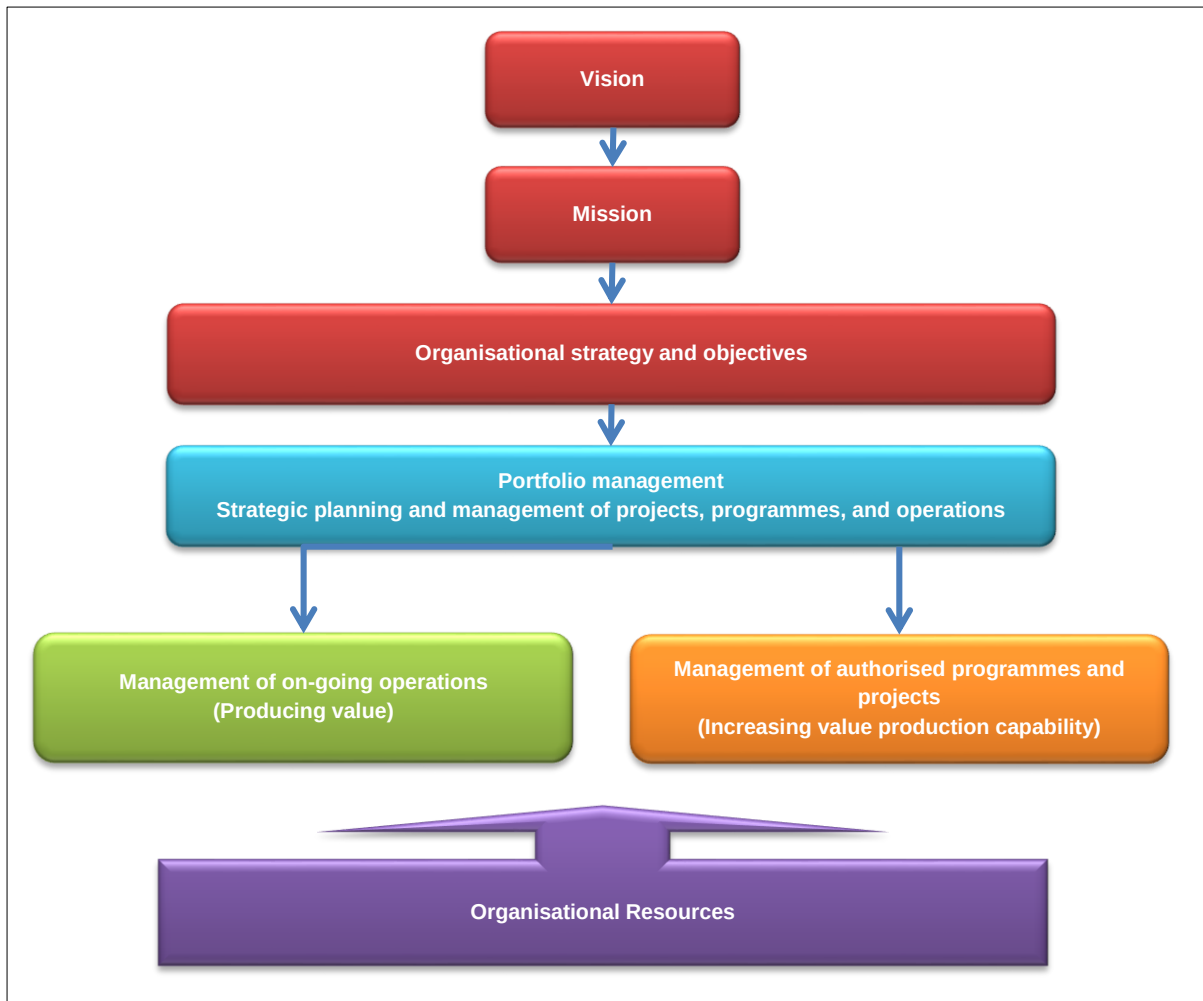


Figure 13: Relationship between organisational strategy, portfolio, programme and project management (PMI Standard for Portfolio Management, 2013a)

4.4 LINKING PORTFOLIO, PROGRAMME AND PROJECT MANAGEMENT TO BUSINESS STRATEGY

In research on Linking Project Management to Business Strategy, Shenhar, Milosevic, Dvir, and Thamhain (2007) mention that too many times organisations spend money on projects only to get a small piece of the potential revenues or savings that could have been extracted from the project had it been executed with a strategic focus in mind. Shenhar *et al.* (2007) further mention that organisations will have to treat projects in a more strategic way, and will have to seek new guidelines for aligning their projects with their business strategy. Reference is made to Shenhar, Poli and Lechler (2001) that describe four possible strategic focusses for a project:

- **Cost advantage.** This strategy involves projects that create competitive advantage through low cost to customers.

- **Customer focus.** This strategy involves projects that create competitive advantage through a focus on a specific customer or small group of customers with specific needs.
- **Product advantage.** This strategy involves projects that create competitive advantage through the creation of products and services with superior quality, performance, functionality, design, elegance, or new technology.
- **Time advantage.** This is the least prevalent strategy. These projects create competitive advantage by being first to the market or by meeting a customer imposed constraint.

Project strategy is used at the project level to focus the project team on the strategic value of the project; to get them to make decisions that support the strategic focus; and to help the team answer the questions that will fill the gaps in their implementation strategies. Shenhar *et al.* (2007) mention that projects must be selected based on their strategic impact. To make the selection as rational as possible and to avoid much of the conflict about project selection, they propose a three-step process. First, divide the collection of projects into groups based on their strategic impact. Second, allocate resources to each group based on the organisation's strategic direction. Third, select the individual projects in each group according to a set of criteria that was selected ahead of time and carefully discussed. Shenhar *et al.* (2007) have identified two dimensions to divide projects for strategic portfolio management - the strategic goal dimension which include operational and strategic projects, and the customer dimension which involve external and internal customers. Four main groups of projects according to this categorisation are as follows:

- **Operational projects.** Projects that deal with existing business. They involve improvement in products, line extension, and cash cow projects to gain more revenue from existing businesses.
- **Strategic projects.** Projects that deal with new business. These are prime efforts that are made to create or sustain strategic positions in markets and businesses. Typically strategic projects are created with a long-term perspective in mind.
- **External projects.** Projects for external customers which may be contracted or non-contracted.
- **Internal customers.** Projects that are performed within the organisation, for example, doing work for departments or units.

The policy for resource allocation among groups is based on expected impact from each group in the business, current strategy, infrastructure needs, etc. The criteria for individual project selection are based among other things on risk and opportunity, difficulty and existing resources and skills.

Shenhar *et al.* (2007) indicate that there are very few formal ways to deal with business strategy in project management and, therefore, project management and

project planning must learn to focus on business results, since results are all that matters. The research from Shenhar *et al.* (2007) focuses on developing a better understanding of the strategic approach to project management. They define project management strategic alignment as follows: “*Alignment of project and business strategy is an internal collaborative state where project activities continually support the achievement of the enterprise strategic goals.*” Shenhar *et al.* (2007) mention that the missing link between business strategy and the project plan is project strategy as shown in Figure 14.



Figure 14: Project strategy – the missing link (Source: Shenhar *et al.*, 2007)

Shenhar *et al.* (2007) suggest that a new formal document, the individual project strategy, be developed for each project prior to developing the project management plan. The project strategy is at a higher level than the project management plan and is the specific project’s way of creating competitive advantage. The project strategy involves the following seven elements:

- **Business perspective.** Why do we do the project? Define the market, the customer, the need, the business opportunity, and how this opportunity will be addressed.
- **Objective.** The major long-term objective the project has to achieve.
- **Product definition.** What is the product? What will it do?
- **Competitive advantage/value.** Why will customers buy this product?
- **Success and failure criteria.** The expected results on several success dimensions, including expected business results and meeting the business plan goals, which also include the major possible failures and risks.
- **Project definition.** This includes the traditional project scope as well as the specific project type, the designation of the project manager and team, and the major resources expected in terms of time and budget.
- **Strategic focus.** The policy, the behaviour, and the desired process that when followed, will create the best competitive advantage.

Morris and Jamieson (2004) states that much of the management writing around strategy tends to cover the practices at the corporate and business level and that not much is written about how corporate strategy gets implemented by projects and programmes and translating it into programme and project strategies. Morris and Jamieson (2004) however say that evidence from four case studies of the research they conducted show that processes, practices, and people issues involved in moving from corporate strategy to programmes and projects is done in a much more systematic way than is generally recognised. Morris and Jamieson (2004) refer to Turner (1999) that illustrates how organisations undertake programmes and projects to achieve their development objectives. Morris and Jamieson (2004) have adapted Turner's model to include business strategy and portfolios, as shown in Figure 15, and indicate that a portfolio may comprise groups of programmes and/or groups of projects.

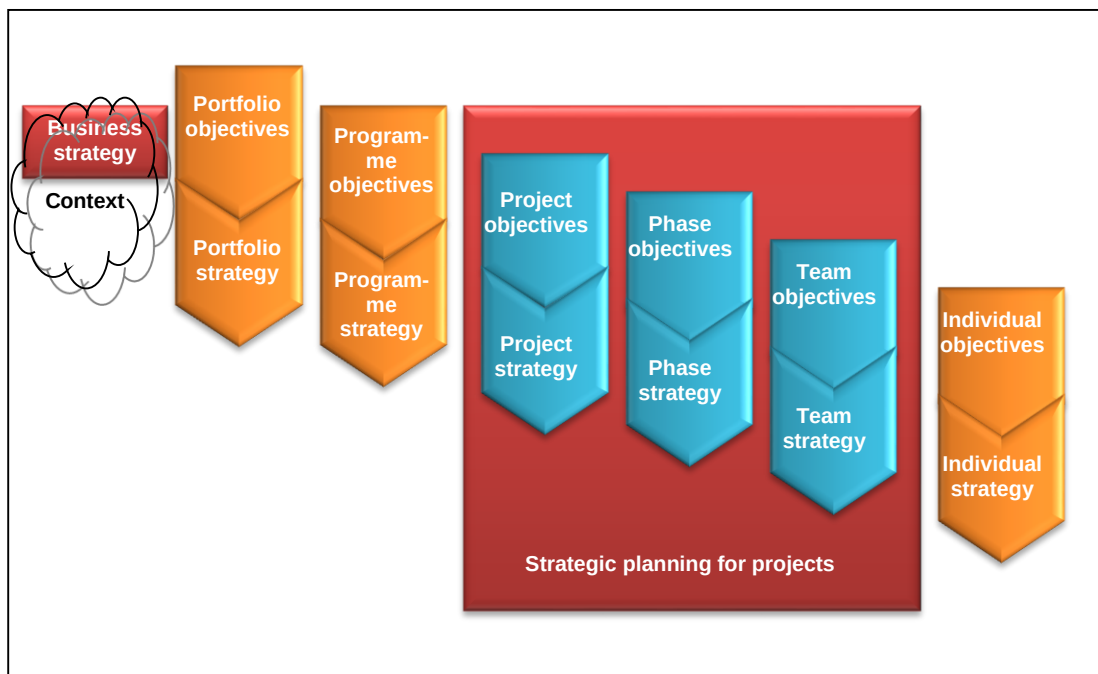


Figure 15: Linking corporate and project strategy (Source: Turner, adapted by Morris & Jamieson, 2004)

The findings of the survey from Morris and Jamieson (2004) cover the following areas:

- **Business management and strategy.** The use of hierarchies of objectives and strategies underscores the systematic way organisations cascade strategy. Project strategy is developed and maintained by project leadership teams and governance through business case processes and not inclusively through project management processes, accordingly, project strategy is maintained within the context of business strategy.
- **Portfolio and programme management.** Portfolio management is mainly used as a process for selecting and prioritising the right projects. Programme

management includes the management of groups of projects using integrated project teams, managing resources in an integrated manner, and the management of benefits and of integrated risk.

- **Project management and project strategy.** Integrated project management and business case processes, using specific strategy inputs from corporate and business levels, are widely deployed to dynamically manage project strategy. Project strategy is developed, implemented, and maintained for the life-cycle of the project using a highly structured approach. A combination of programme and project plans and other management plans are most commonly used to manage programmes and projects, parts of which describe how the project is to be undertaken - in other words the strategy. Reviewing project plans, including project strategy, mostly by peers at project gates, is widely practised.
- **Value management.** The value of programme/project strategy is optimised in a substantial number of organisations using value management processes integrated with the risk management processes.
- **Project management competencies.** Formally defined project management skills and knowledge competencies required to manage programmes or projects and develop programme and project strategy are used widely.

Morris and Jamieson (2004) conclude that if project managers better understand how business strategy can be translated into project strategy, their overall performance would be improved significantly, and project management would have a higher profile in business management in general.

Patanakul and Shenhar (2012) refer to strategic project management and say that it is gradually becoming a popular and growing trend within the discipline of project management. The general idea is that project management teams must learn how to deal with the business aspects of projects, as well as better support their organisation's business strategy and sustainability, rather than focus on meeting traditional time, budget and performance objectives. Patanakul and Shenhar (2012) mention that one of the concepts that is an important concept is project strategy. Patanakul and Shenhar (2012) developed a framework to be used in developing a project strategy that can be used to update project plans and be used during the rest of the project execution. The major elements of the strategy are shown in Table 11.

Table 11: Elements of project strategy (Source: Patanakul and Shenhar, 2012)

	Project strategy components	Questions	Details
Perspective – “why”	Business background	Why should we do the project?	Who is the customer/user?
		What is the business perspective and motivation?	What is the need? How we will address this need? What is the business opportunity?
	Business objective	What do we want to achieve?	What is the ultimate goal to be achieved after project completion?
	Strategic concept	Why will the project support the organisation's business strategy? What is the general strategic competitive idea?	What is the guiding strategic principle that would dominate the project's plan and execution, and will it support the organisation's strategy?
Position – “what”	Product definition	What is the product that will be created or produced by the project?	What are we producing? What kind of a product is it? What is the concept of operation and its major product characteristics?
	Competitive advantage/value	How good is it? Why is it better? Why would the customer buy it? What is the value for us?	What is the advantage to customer/user over: • Competitors. • Previous products. • Alternative solutions? Product cost effectiveness - how would we benefit?
	Success and failure criteria	What are the expectations? How do we assess success? What can go wrong?	What are the success dimensions and measures? What are the major risks and their consequences?
Guidelines – “how”	Project definition	How do we do it? What is the project?	• Project scope. • Project deliverables. • Project type - classification? • Project leader, project team? • Resources.
	Strategic focus	How to behave? What to do to achieve competitive advantage/value? How to create a	Guidelines for behaviour. Policy for managing and leveraging: • Company

	Project strategy components	Questions	Details
		relentless pursuit of competitive advantage/value? How to encourage learning for improving strategy and making it sustainable? How to integrate economic, ecological and social aspects to project management?	competencies. • Professional expertise. • Internal synergy. • External alliances. • Ongoing learning.

Patanakul and Shenhar (2012) mention that while the concept of project strategy has still not become an integral piece of most project plans and execution practices, project teams that have applied this framework were able to apply it and work with it throughout the remainder of their projects.

This paragraph describes how to align corporate strategy with project execution as described by Kiisel (2010). The biggest challenge for business leaders today is making sure initiatives that are undertaken at the project level are aligned with the strategic and financial goals of their organisations. Business leaders need reliable and up-to-date information to make data-driven decisions. The first step is creating a formalised process for evaluating potential and current projects based on alignment to corporate strategic and financial goals. Every potential project must meet pre-determined criteria to evaluate the business value and give executives confidence that they are making data-driven decisions. Some common questions that should be asked about every potential project are:

- What are the high level objectives of the project?
- What are the estimated costs of the project and what are the anticipated rewards?
- Does the proposed project align with the mission, vision, and values of the organisation?
- What risks are associated with pursuing the project under consideration?

Establishing a formalised evaluation process for potential projects makes it possible for business leaders to prioritise and weight initiatives to determine if they are worth pursuing. This process is characterised by creating a business case and evaluating the proposed demands on the organisation. After the goals, costs, alignment, and risks of a proposed project have been assessed, management can objectively evaluate whether or not sufficient resources are available to execute the project taking into account other potential and previously approved initiatives. The limits of available resources force executives to make the hard decisions regarding which projects to take on and which to postpone or abandon. Understanding the value of potential initiatives measured against available resources makes it possible to prioritise projects and optimise the value of an organisation's portfolio of projects. By

weighting proposed projects, organisations can take a strategic approach to project implementation. Executives must consider risk tolerance, the importance of return, total costs, and each project's alignment to the mission, vision, and values of their organisation, and make a comparison to the data provided in the business case. Giving each potential project a comparative ranking based upon those metrics is the final step when evaluating one project against another, and ultimately determining which projects are worth pursuing.

4.5 STRATEGY EXECUTION

4.5.1 Strategy execution trends

According to an article by Wasserman (2015) smart, high-performing organisations are structured to react more quickly to external and internal shifts. Wasserman (2015) elaborates on ten strategic forward leaning execution approaches to strategic execution that better enable real-time adjustments in an organisation to an ever-changing marketplace:

- **Real-time strategic execution.** Planning in advance for projects will never stop being important; however, building in the flexibility to adjust strategic execution in real-time is taking on greater importance.
- **Leading indicators take greater prominence.** Organisations seek a more forward-looking perspective and better data to enable effective, real-time strategic execution adjustments.
- **Leveraging the enterprise perspective of the EPMO.** Businesses are evolving their perspective on Enterprise Project Management Offices (EPMOs) from cumbersome and bloated to real-time tool. EPMOs have the ability to provide an enterprise perspective as well as deliver detailed lines of sight into specific parts of the business. Perspectives and insights are empowering companies to make better real-time decisions.
- **Cultural adaption enables better real-time decisions.** Cultural differences can affect productivity and add challenges to strategic execution. More companies are executing strategies to bridge these cultural divides, increasing collaboration and making it much easier for teams to adjust course in real-time.
- **Aligning IT to the business.** The role of IT is transforming to a more consultative role with a focus on enabling flexibility and accelerating the rate of strategic execution while increasing the business's ability to adjust to change.
- **Adaptive execution of strategy.** Agile software development is a current trend that is gathering steam and spreading to other functions in many organisations. This approach to providing only high level goals and letting teams decide who, what, when, and how much to do responds to two trends. First, decentralising decisions is attractive to millennials who have become accustomed to creating, reviewing and editing communications across all

kinds of media. Second, technologies, markets and economies are changing ever more rapidly, so firms need to develop short-cycle product releases to cope with the velocity of change. The most sophisticated firms are now developing adaptive sets of processes, tools and leaders who can assess each project and programme and successfully execute it in a more or less agile versus traditional management style.

- **Unleashing the organisational surfer.** Forward-thinking companies are unleashing the power of the experienced with the introduction of the “organisational surfer”. Surfers move throughout the organisation as needs dictate to bring their deep knowledge of the company, as well as their professional expertise, to trouble shoot problems as well as spur innovation and bring new perspectives.
- **Design thinking.** Design thinking increases the speed of strategic execution, which in turn enables faster reactions to changes in the market. Organisations are increasingly leveraging this powerful set of tools to accelerate strategy development.
- **The shift toward value-driven structure.** More organisations are evolving from a functional problem-solving structure to a value-driven structure designed to explore possibilities and look to the future. The forward thinking focus of value-driven structures helps organisations to be better prepared to react to external changes more quickly and effectively.
- **Righting the balance between strategy and execution.** While strategy making is still essential, successful organisations are increasing their emphasis on ensuring the strategies aren't over thought, are well-executed and are constructed to provide maximum flexibility.

Wasserman (2015) concludes that as business continues to accelerate, flexibility and speed of strategic execution becomes more important. Smart, high-performing organisations have already structured themselves to react more quickly to external and internal shifts. They view the future as a possibility, change as an opportunity, and their strategy as the tool to get them there.

4.5.2 Strategy execution problems

According to Sull, Homkes, and Sull (2015) there is a clear and widely accepted definition of what strategy is since Porter's seminal work in the 1980s but that a lot less is known about translating strategy into results. They say that articles on strategy outnumber those on execution by an order of magnitude. Sull, Homkes, and Sull (2015) refer to a recent survey of more than 400 global CEOs that found that executional excellence was the number one challenge facing corporate leaders in Asia, Europe, and the United States. Studies have found that two-thirds to three-quarters of large organisations struggle to implement their strategies. In 2006 Sull, D. began a large scale project to understand how complex organisations can execute their strategies more effectively. A survey was administered with nearly 8,000 managers in more than 250 companies that produced valuable insights. The

most important one is that several widely beliefs about how to implement strategy is plain wrong. Sull, Homkes, and Sull (2015) debunk five of the most pernicious myths and replace them with a more accurate perspective that will help managers effectively execute strategy.

Myth 1 – Execution equals alignment.

During a survey over many years in hundreds of companies Sull, Homkes, and Sull (2015) found that companies have effective processes for cascading goals downward in the organisation but that the systems for managing horizontal performance commitments lacks. Eighty four percent of managers say that they can rely on their boss and direct reports all or most of the time, but only 9% of managers say they can rely on colleagues in other functions and units all the time, and just half say they can rely on them most of the time. The failure to coordinate also leads to conflicts between functions and units, and these are handled badly two times out of three - resolved after significant delay (38% of the time), resolved quickly but poorly (14%), or simply left to fester (12%).

Myth 2 – Execution means sticking to the plan.

The strategic planning process along with the budgeting process remains the backbone of execution in many organisations. After investing enormous amounts of time and energy formulating a plan and associated budget, executives view deviations as a lack of discipline that undercuts execution. However market conditions change and organisations need to adapt to take advantage of fleeting opportunities and come up with creative solutions to unforeseen problems. The research from Sull, Homkes, and Sull (2015) shows that the lack of agility is a major obstacle of effective execution among organisations studied. Nearly one-third of managers cite difficulties adapting to changing market conditions. Most organisations either react too slowly that they can't seize fleeting opportunities or mitigate emerging threats (29%), or react quickly but lose sight of company strategy (24%). According to study by McKinsey, firms that actively reallocate capital expenditures across business units achieve an average stakeholder return 30% higher than the average return of companies that were slow to shift funds. Sull, Homkes, and Sull (2015) have found that resources are often trapped in unproductive uses. Less than one-third of managers believe that their organisations reallocate funds to the right place quickly enough to be effective. Only 20% of managers say that their organisations do a good job of shifting people across units to support strategic priorities. Companies also struggle to disinvest. Eight in ten managers say their companies fail to exit declining businesses to kill unsuccessful initiatives quickly enough. Only 11% of the managers believe that their company's strategic priorities have the financial and human resources needed for success. Agility is thus critical to execution but it must fit within the strategic boundaries i.e. it must be balanced with alignment.

Myth 3 – Communications means understanding.

Many executives believe that relentlessly communicating strategy is a key to success. Sull, Homkes, and Sull (2015) indicate that not only are strategic objectives poorly understood, but they often seem unrelated to one another and disconnected from the overall strategy. Just over half of the top team members say they have a clear sense of how major priorities and initiatives fit together. When asked about obstacles to understand the strategy, middle managers are four times more likely to cite a large number of corporate priorities and strategic initiatives than to mention a lack of communication. Top executives add to the confusion when they change their messages frequently - a problem flagged by nearly one-quarter of middle managers.

Myth 4 – A performance culture drives execution.

When their companies fail to translate strategy into results, many executives point to a weak performance culture as the root cause. The data tells a different story. The companies studied have robust performance cultures and yet they struggle to execute strategy. Sull, Homkes, and Sull (2015) state that the reason for this is that a culture that supports execution must recognise and reward other things as well, such as agility, teamwork, and ambition. Many companies fall short in this respect. Agility requires a willingness to experiment, and many managers avoid experimentation because they fear the consequences of failure. An excessive emphasis on performance can impair execution in a subtle but important way. If managers believe that hitting their number trumps all else, they tend to make conservative performance commitments. The most pressing problem with many corporate cultures is that they fail to foster the coordination that is essential to execution. Performance is critical but it comes at the expense of coordination that undermines execution.

Myth 5 – Execution should be driven from the top.

Execution should be driven from the middle and needs to be guided from the top. The data from the research of Sull, Homkes, and Sull (2015) suggests that many top executive teams could provide much more support. Distributed leaders are hamstrung in their efforts to translate overall company strategy into terms meaningful for their teams or units when top executives fail to ensure that they clearly understand the strategy. Conflicts inevitably arise in any organisation when different units pursue their own objectives. Distributed leaders are asked to shoulder much of the burden of working across silos, and many appear to be buckling under the load. A minority of middle managers consistently anticipate and avoid problems (15%) or resolve conflicts quickly and well (26%). Most resolve issues only after significant delay (37%), try but fail to resolve them (10%), or do not address them at all (12%). Top executives could help by addressing structured processes to facilitate coordination and model teamwork. One-third of distributed leaders believe that factions exist between the C-suite and that executives there focus on their own agendas rather than what is best for the company.

4.6 SUSTAINABLE DEVELOPMENT

According to Labuscagne and Brent (2005), the World Commission on Environment and Development in 1987 officially defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Since then the influence of the concept has increased rapidly, and it features more often as a core element of policy documents of governments and international agencies. The pressure is therefore mounting for businesses to align organisational processes with the three objectives of sustainable development, which are economic efficiency, social equity and environmental performance. Adopting sustainable practices at corporate level influences portfolio management, as organisations are accountable for the impacts of implemented initiatives/projects on society, the environment and economy, even long after implementation. In order to achieve sustainable development objectives, the concepts of sustainable development must be integrated in portfolio management. In a study done by Labuscagne and Brent (2005) in the South African process industry, it is evident that economic aspects are efficiently addressed while the social and environmental aspects are not directly stated. Labuscagne and Brent (2005) propose a framework of social and environmental criteria that should be incorporated and considered in appraising business initiatives/projects (see Figure 16).

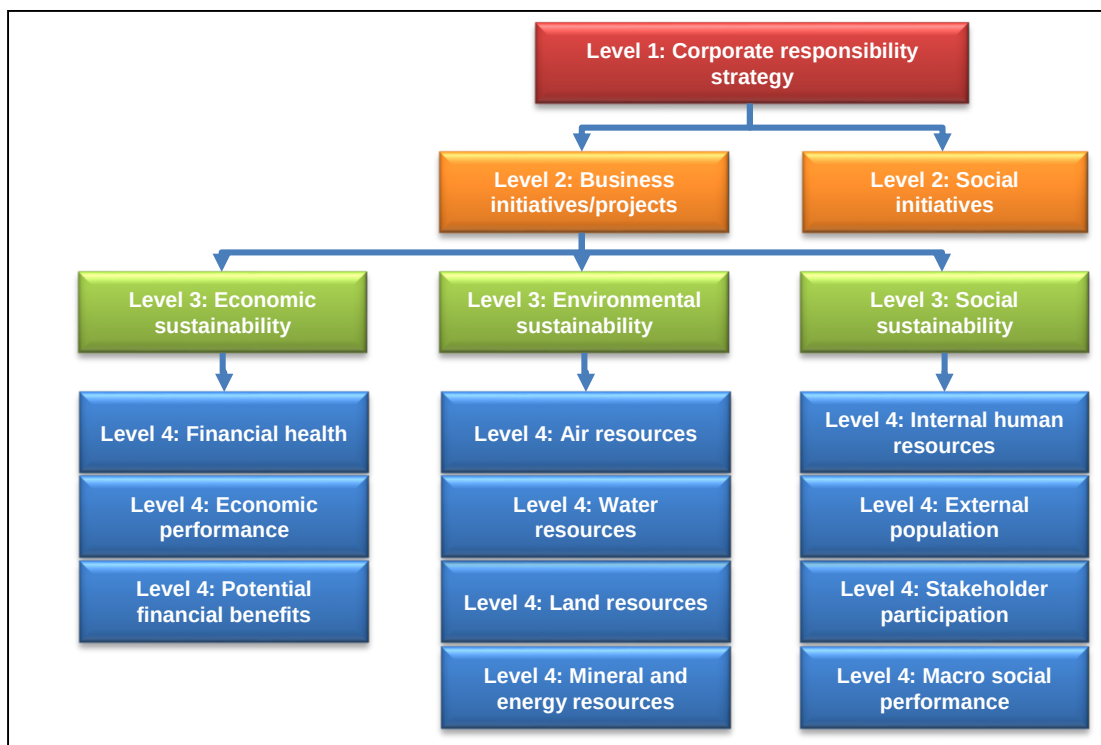


Figure 16: Proposed framework to assess the sustainability of business initiatives/projects (Source: Labuscagne & Brent, 2005)

Definitions for the main criteria of the **environmental aspects** of the sustainability framework are summarised in Table 12.

Table 12: Main criteria for the environmental dimension (Source: Labuscagne & Brent, 2005)

Category/criteria	Definition
Environmental sustainability.	The environmental dimension concerns an organisation's impacts on the environment due to an introduced technology. It has an external focus and addresses impacts on air, water, land and mined abiotic resources.
Air resources.	Air resources assess a technology's contribution to regional air quality effects (e.g. visibility, smell, noise levels, etc.) as well as to global effects such as global warming and stratospheric ozone depletion.
Water resources.	Water resources assess the availability of clean and safe water by focusing on a technology's impacts on the quantity and quality of water.
Land resources.	Land resources assess a technology's impacts on the quantity and quality of land resources, including aspects such as biodiversity, erosion, transformation and rehabilitation ability, etc.
Mineral and energy resources.	Mined abiotic resources assess a technology's contribution to the depletion of non-renewable mineral and energy resources.

The **social dimension** of the proposed framework is concerned with the organisation's impacts on the social systems in which it operates, as well as the organisation's relationship with its various stakeholders. Definitions for the main criteria of the social aspects of the sustainability framework are provided in Table 13.

Table 13: Definitions for the main criteria for the social dimension (Source: Labuscagne & Brent, 2005)

Category/criteria	Definition
Social sustainability.	The social dimension concerns the technology's impact on the social systems in which it operates, as well as the organisation's relationships with its various stakeholders during the development, operation and decommissioning of a technology.
Internal human resources.	Internal human resources focus on the social responsibility of the organisation towards its workforce and include all aspects of employment (e.g. employment practices, work conditions, workforce development, etc.).
External population.	External population focuses on the impact of the technology on a society, e.g. impact on availability of services, community cohesion, economic welfare, etc.
Stakeholder participation.	Stakeholder participation focuses on the relationships between the organisation and all its stakeholders (internally and externally) by assessing the standard of information sharing and the degree of stakeholder influence on decision-making.
Macro social performance.	Macro social performance focuses on the contribution of an organisation (and its technology) to the environmental and financial performance of a region or nation (e.g. contribution to exports).

4.7 SUMMARY, INTEGRATION AND CONCLUSIONS

Figure 17 provides an integrated view of the strategic management context in which portfolio management takes place as derived by the researcher from this chapter.

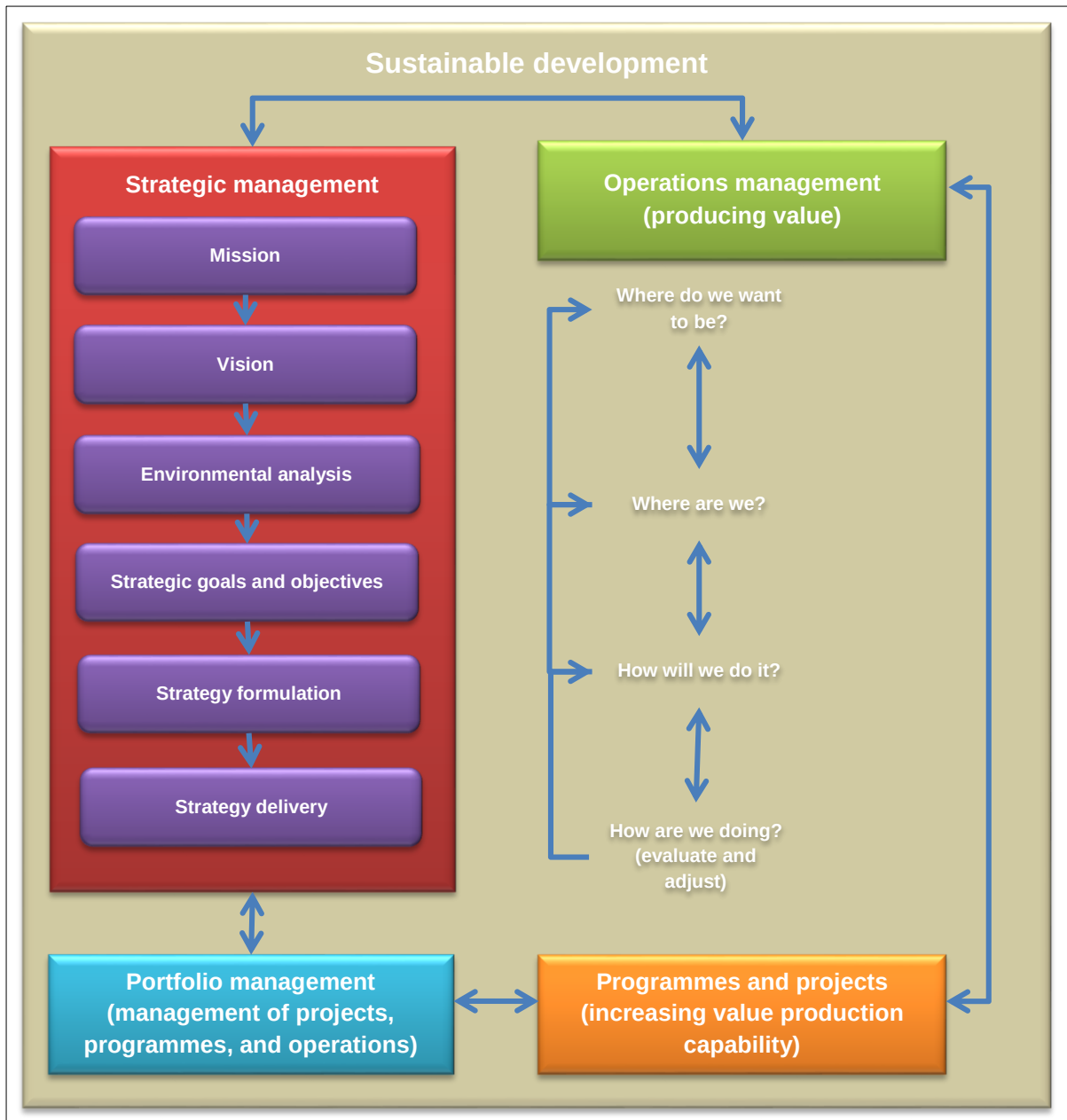


Figure 17: Strategic management context in which portfolio management takes place

Mission is the purpose and priorities of an organisation to compete in a competitive business environment. The vision is an organisation's highest aspiration and ideals for success. A key criterion for vision is to achieve a competitive advantage with the focus on customers and competitors. Organisations perform environmental analysis (internal and external) to establish strategic goals and objectives. Strategic goals set direction to obtain competitive advantage. Strategic objectives are specific results to be achieved in a given time period and includes targets and measures. Strategic objectives must be written in a way that they are understandable by all organisational stakeholders and worded according to the SMART technique (specific, measurable, attainable, realistic and time-bound) to facilitate the development of project

objectives that align to organisational goals and strategies. Strategy formulation establishes a roadmap to enable long term organisational decisions and includes policies, directives, plans and actions for achieving strategic goals and objectives, either through operations (on-going organisational activities) or projects and programmes. Effective strategy delivery requires a suitable organisational structure and system to react more quickly to external and internal shifts and supports the implementation of projects and programmes. Adequate strategic and operational controls must be in place to track strategy implementation, detecting problems or changes and making adjustments.

Portfolio management is the bridge between organisational strategy, programme and project management, and operations. Portfolio management ensures that an organisation is able to leverage its projects' selection and execution success and supports a strong and profitable organisation within a competitive and rapidly changing organisational environment. Project and Programme management are disciplines for managing the capacity to deliver business value. It is in operations management where delivery of value is realised through day-to day processes. A systematic portfolio management approach must be followed to select and authorise projects and programmes for implementation taking into consideration the allocation of scarce resources (financial, physical, human, technological). Only projects and programmes that are aligned to strategic goals and objectives should be authorised for implementation. Effective portfolio management is a major success driver for delivering more projects on-time, on-budget, and meeting their original business intent and forecasted ROI. Portfolio management thus should be elevated to a strategic level.

Projects must be treated in a strategic way to ensure strategic alignment with business strategy and sustainability. There are four possible strategic focusses for linking portfolio management, programme and project management to business strategy: cost advantage, customer focus, product advantage, and time advantage. Project strategies must be developed to focus project teams on the strategic value of their projects and to get them to make decisions that support the strategic objectives. Projects must be selected based on their strategic impact and categorised according to four main groups: operational projects, strategic projects, external projects, and projects for internal customers. Resource allocation among the four groups must be based on expected impact from each group in the business, current strategy, infrastructure needs, etc. The criteria for individual project selection must be based among other things on risk and opportunity, difficulty, and existing resources and skills. To create a competitive advantage a project strategy must be developed prior to developing the project management plan. A project strategy involves the following elements: business perspective, business objective, strategic concept, product definition, competitive advantage/value, success and failure criteria, project definition and strategic focus.

Ten strategic forward leaning execution approaches to strategic execution that better enable real-time adjustments in an organisation to an ever-changing marketplace are:

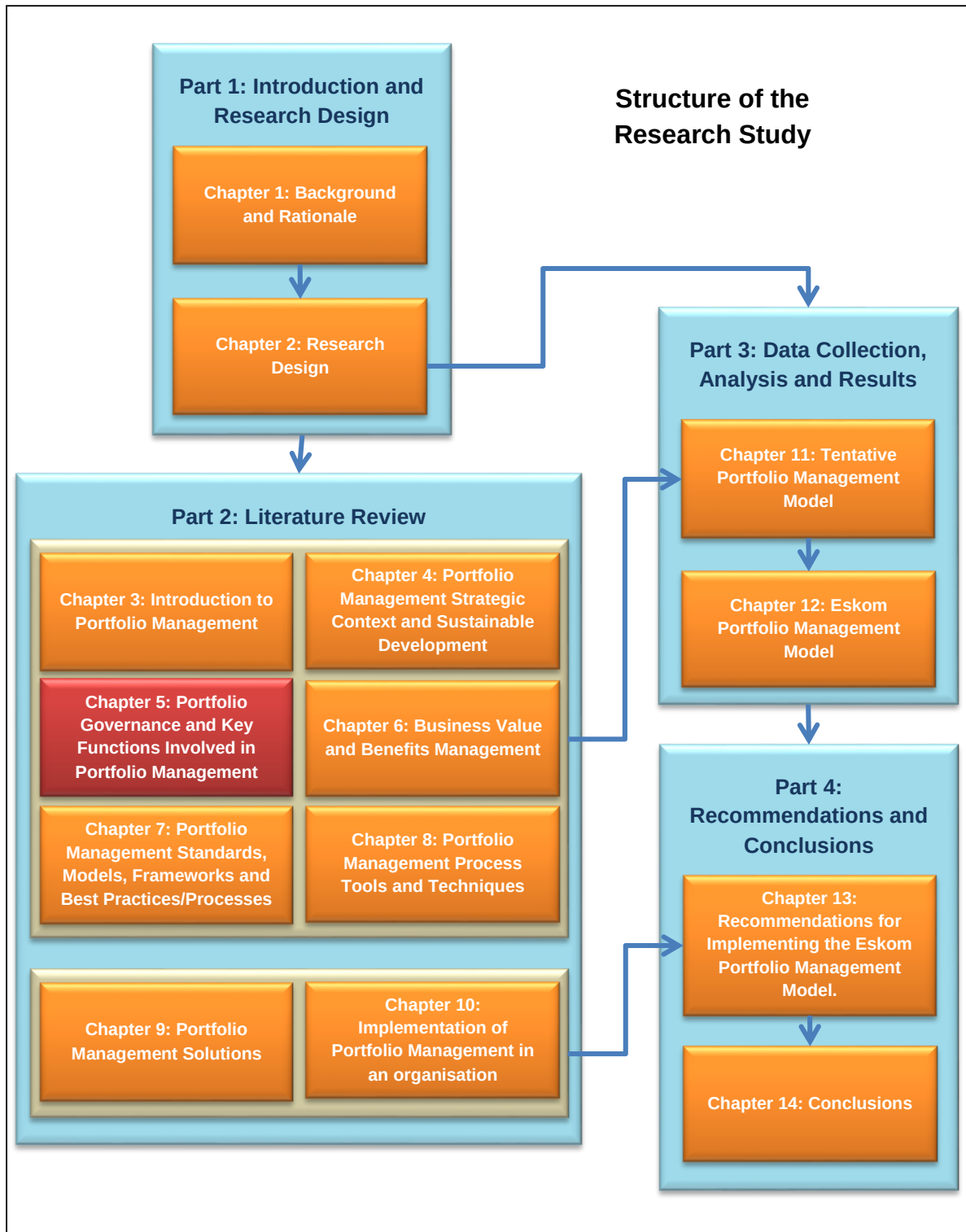
- Real-time strategic execution.
- Leading indicators take greater prominence.
- Leveraging the enterprise perspective of the EPMO.
- Cultural adaption enables better real-time decisions.
- Aligning IT to the business.
- Adaptive execution of strategy.
- Unleashing the organisational surfer.
- Design thinking.
- The shift toward value-driven structure.
- Righting the balance between strategy and execution.

Key challenges to be overcome with strategy execution include:

- Failure to coordinate between functions and units.
- Lack of systems for managing horizontal performance commitments.
- Lack of good communication to understand the strategy.
- Lack of agility to changing market conditions.
- Execution to be driven from the middle and guided from the top.

In order to achieve sustainable development objectives, organisations must align strategic management and portfolio management with the three objectives of sustainable development: economic efficiency, social equity and environmental performance.

CHAPTER 5: PORTFOLIO GOVERNANCE AND ROLES OF KEY FUNCTIONS INVOLVED IN PORTFOLIO MANAGEMENT



5.1 INTRODUCTION

5.1.1 Background

MetricStream (2015) issued a white paper stating that organisations are entering an era of greater risk and stricter regulatory enforcements. Therefore, organisations are putting in place the policies, procedures, controls, and systems needed to create a pervasive culture of governance, risk and compliance (GRC). The paper mentions that governance, when well-understood, carefully planned, and thoughtfully executed, can be one of the most crucial drivers of growth. It serves not just as a guide for corporate strategy, but also as a competitive differentiator in an increasingly competitive business environment. In an article by Bourne (2014a) on *The Functions of Governance* it is stated that in many situations, particularly associated with the governance of projects and programmes, the governing of organisations is far from effective. The amount of time and effort devoted by the governing body to compliance and accountability, and the amount of resources wasted by ineffective and competing management groups, can be significantly reduced if the organisation's objectives, ethics and culture are sound. Portfolio management is a key driver for managing organisational change and implementing organisational strategies to deliver maximum business value. It is thus important to understand the roles and interaction between organisational governance, management and portfolio management. Effective governance will optimise the management of portfolios, programmes and projects.

5.1.2 Aim

The aim of this chapter is to investigate and clarify the function of governance and management in portfolio management. The key roles and responsibilities of the various functions involved within the broader framework of portfolio management are also investigated and clarified.

5.2 A FUNCTIONAL PERSPECTIVE OF GOVERNANCE VERSUS MANAGEMENT

5.2.1 Three basic layers of functionality within an organisation

An article by Bourne (2012) explains that there are three basic layers of functionality within any organisation:

- The producers of goods and/or services, the production workers and/or knowledge workers.
- The various layers of management who oversee and direct the production/knowledge workers.
- The “governors” of the organisation who oversee and direct the managers.

Figure 18 outlines these three basic layers.

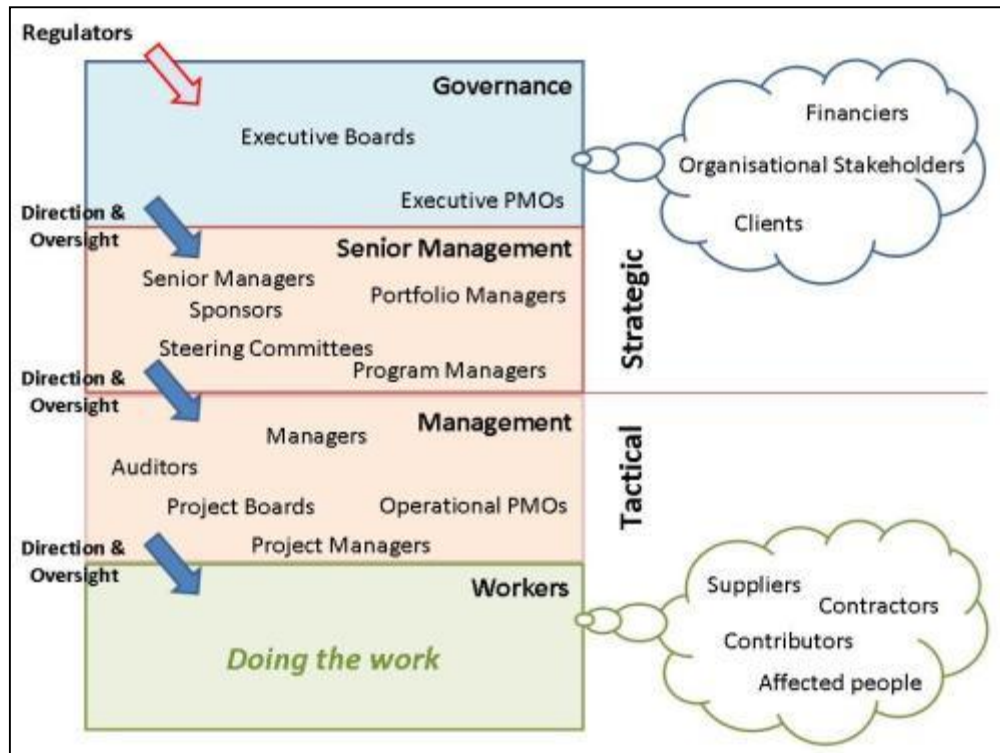


Figure 18: Three basic layers of functionality within any organisation (Source: Bourne, 2012)

Bourne (2012) clarifies these three functions as follows. The functions of workers are to produce goods, services or other outputs as efficiently as possible. The core purpose of management is to make the optimal decisions to make the work of the organisation as efficient and sustainable as practical. The function of governance is to provide oversight and direction to the management of the organisation.

5.2.2 Management overview

Bourne (2014b) states that many people in the project management domain confuse management with governance. Bourne (2014b) clarifies the role of management by referring to the early work of Henri Fayol (1841 to 1925) that is still widely accepted today. Fayol defined the five functions of management in his 1916 book *Administration Industrielle et Generale*, as follow:

- M1 - To forecast and plan.
- M2 - To organise.
- M3 - To command or direct (lead).
- M4 - To coordinate.
- M5 - To control (in the sense that a manager must receive feedback about a process in order to make necessary adjustments and must analyse the deviations).

Bourne (2014b) states that management undertakes these functions through management structures and committees such as project control boards.

5.2.3 Governance overview

Bourne (2014b) gives an overview of governance and mentions that governance is the action of governing an organisation by using and regulating influence to direct and control the actions and affairs of management and others. It is the exclusive responsibility of the “governing body”, the person, or group accountable for the performance and conformance of the organisation (in a commercial organisation, the Board of Directors). The objective of good governance adapted by Bourne from the definition by Sir Adrian Cadbury (2002) is “...*holding the balance between economic and social goals and between individual and communal goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, the organisation and society*”.

Bourne (2014b) mentions that stewardship is an important governance concept. It includes:

- **Faith.** A propensity to view the assets at ones command as trust for future generations rather than available for selfish exploitation.
- **Charity.** A willingness to put the interests of others ahead of one’s own.
- **Prudence.** A commitment to safeguard the future even as one takes advantage of the present.
- **Accountability.** A sense of responsibility for the systemic consequences of ones actions.
- **Equity.** A desire to see that rewards are distributed fairly, based on contribution rather than power.

5.2.4 The six functions of governance

Bourne (2014b) says that good governance is achieved by integrating, coordinating and balancing the following six functions:

- **G1 - Determining the objectives of the organisation.** This is expressed through its vision and mission statements and implemented through its strategic plan. The objectives define the purpose of the organisation, and describe how the purpose will be fulfilled. The strategic plan is a key interface between management and the governing body with shared responsibility to develop an effective strategy for management to implement.
- **G2 - Determining the ethics of the organisation.** Defining what aspects of behaviour are really important. How much importance is genuinely given to factors such a sustainability, corporate social responsibility and stakeholder engagement over profits and short term movements in the share prices. Ethics are based on morals and values and define the rules or standards governing the conduct of people within the organisation. The ethical standards of any organisation are set by the behaviours of people at the top and cascade down the hierarchy.
- **G3 - Creating the culture of the organisation.** This is a more subtle process and deals with the way people interact with each other. The

governing body decides on the culture it wants and influences the operating culture of the organisation through the people it appoints to executive positions. The willingness of people to be governed and to support the governance system is at the centre of an effective culture. Other aspects include: how supportive the organisation is, how innovative, how risk seeking/averse, how open and transparent, how mature and professional, and how tolerant is it.

- **G4 - Designing and implementing the governance framework for the organisation.** The governing body is accountable for the performance of the organisation, and retains overall responsibility for the organisation it governs; however, in most organisations the governing body cannot undertake all of the work of governance itself. To ensure the efficient governance of the organisation various responsibilities need to be delegated to people within the organisation's management. The governance framework defines the principles, structures, enabling factors and interfaces through which the organisation's governance arrangements will operate by delegating appropriate levels of authority and responsibility to managers and other entities, and ensuring accountability.
- **G5 - Ensuring accountability by management:**
 - For the ethical and cultural environment they develop and maintain within the organisation.
 - For the stewardship of the resources entrusted to their care.
 - For the accomplishment of the strategic plan and fulfilment of the organisation's objectives.
- **G6 - Ensuring compliance by the organisation.** With its regulatory, statutory and legal obligations, as well as ensuring its management and staff work towards achieving the organisation's objectives, whilst working within the compliance framework defined by the governing body.

Bourne (2014b) summarises that the governing body appoints, provides direction and oversees the functioning of the organisation's management and makes the rules the organisation's management and staff are expected to conform to. Management's job is to achieve the objectives of the organisation; working within its ethical and cultural framework, whilst complying with the rules and providing assurance back to the governing body that this is being accomplished. Bourne (2014a) maps the relationship between the functions of management and the functions of governance which is shown in Figure 19.

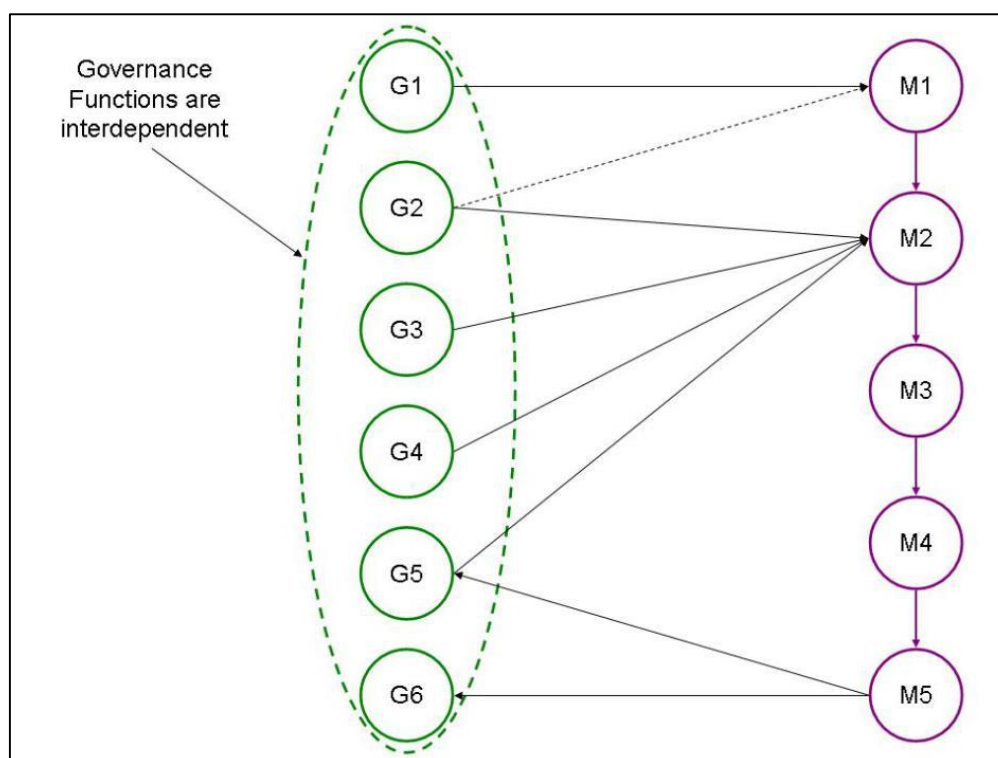


Figure 19: Mapping of the functions of governance and management (Source: Bourne, 2014a)

5.2.5 The implementation of governance

Bourne (2014b) continues that the governing body needs to implement the six functions of governance through an effective framework. Bourne states that the aspect of governance has been the focus of pragmatic consideration by a range of organisations including the Organisation for Economic Co-operation and Development. The primary elements necessary to achieve this objective are outlined in Figure 20.



Figure 20: Governance of the organisation (Source: Bourne, 2014b)

In this model governance is a single process with different facets. The “petals” represent the five main themes of governance: governing relationships, governing change, governing the organisation’s people, financial governance, and viability and sustainability. The centre highlights the core values of a well-governed organisation incorporating the six functions of governance discussed above. Radiating out from the centre, each petal focuses on an area of governance requiring particular skills or knowledge. How governance is applied in each of these areas is based on the six functions augmented by specific capabilities, knowledge and skills. The petals do not operate in isolation; a governance failure in any petal will impact other areas and the organisation as a whole. Governing any part of the overall structure of an organisation requires specialist skills and knowledge whilst at the same time every aspect of the organisation is linked and any failure in any specialist area will affect other areas and the organisation as a whole. The art of governance is to develop systems that can simultaneously provide the specialist skills and knowledge needed by each aspect of the organisation whilst remaining an integrated part of the overall governance structure. This model of governance is supported by the approaches taken by various governments in legislating liability for corporate and governance failures. Through such legislation, directors of corporations are made personally responsible for governance and management failures of the areas for which they have accountability and responsibility.

Bourne (2014b) mentions that the governance of portfolios, programmes and projects is an integral part of the *governing strategic change* petal. It requires the creation and implementation of the framework and principles by which the

organisation's portfolios, programmes and projects activities are directed, supported, monitored and controlled, where:

- Framework = portfolios, programmes and projects structures.
- Principles = stewardship, sustainability, stakeholders, etc.
- Direction = alignment with strategic objectives, etc.
- Support = organisational systems, human resources, finance, etc.
- Monitoring = surveillance, PMOs, etc.
- Control = tie-back to organisational objectives.

5.2.6 Governance of portfolios, programmes and projects

Bourne (2014b) remarks that the governance of portfolios, programmes and projects involves setting the right objectives, and then asking the right questions so that the governing body can be confident the organisation's management is making the best use of the resources assigned to undertake projects and programmes. The questions asked by the governing body need firstly to seek assurance that the management structures providing answers to their questions is capable, effective and honest; then seek assurance that the resources as deployed by management are generating the optimum value to support the long, medium and short term objectives defined in the organisation's strategy. The governance of portfolios, programmes and projects is focused on ensuring management develop and implement systems that are capable of ensuring the right projects and programmes are selected by the organisation to support its objectives, and that the selected few are accomplished as efficiently as possible. Management's role is to understand the board's strategy and objectives and develop systems that are capable of offering effective answers to both sets of questions as well as providing advice and recommendations for improvements.

An article by Jaques (no date) states that governance is a set of practices that enable transparent executive decision-making. Jaques (no date) continues that governance establishes the overall direction and approval authority to execute projects. The scope of governance can be expansive to include operations, and budget, as well as projects. It also provides a forum for stakeholder input. From a project perspective, governance involves prioritising, selecting and allocating the limited resources needed to accomplish strategic and organisational objectives. Jaques (no date) mentions that portfolio management is a process within the larger governance structure. Portfolio managers maintain the right inventory of projects to ensure that the work being done will achieve the organisation's objectives. Jaques (no date) continues that portfolio management operates within the confines and rules of engagement as determined by the governance committee. Governance is concerned with the life-cycle ownership of the products produced by the project and can include two types of reviews namely governance review or portfolio review. A governance committee may request to review the status of a project to establish if a project still supports the organisational strategy and if it merits continued investment.

The portfolio review focuses on more tactical project considerations like detailed deliverable progress, issue review, performance measures and resource utilisation.

Bourne (2012) refers to the 6th edition of the *Association for Project Management (APM) Body of Knowledge (BoK)*. The *APMBoK* sees the governance of portfolios, programmes and projects as a necessary part of organisational governance. The *APMBoK* defines governance as “*The set of policies, regulations, functions, processes, procedures and responsibilities that define the establishment, management and control of portfolios, programmes and projects*”. Accountability for the governance of the organisation remains with the board of the host organisation. Part of the governing board’s responsibility is to ensure that appropriate delegation of authority is made to management so they can develop an effective system of management that meets the governance needs of the organisation. However, delegating authority and responsibility to management does not remove the ultimate accountability for ensuring “good governance” from the board. The delegated responsibility for governance of projects, programmes and portfolios is outlined Figure 21.

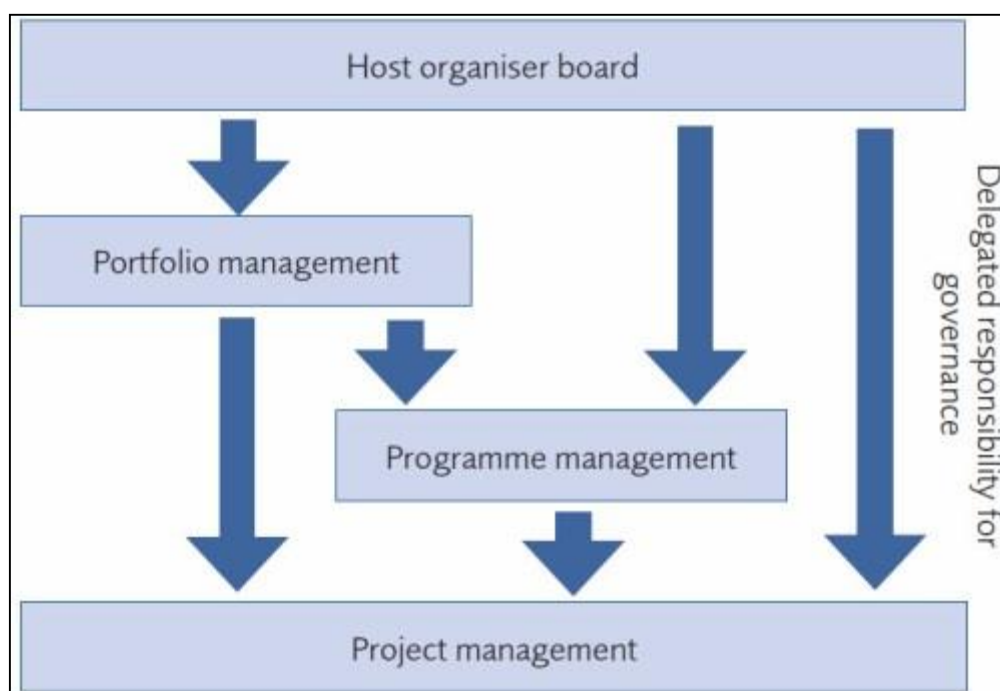


Figure 21: Delegated responsibility for governance of projects, programmes and portfolios (Source: APM)

Bourne (2014b) concludes that the governance system and the management system are symbiotic, but whilst being mutually interdependent, the two systems fulfil very different functions. A well governed organisation is designed to allow these two systems to work together to the benefit of the organisation’s overall stakeholder community.

5.2.7 Conceptual framework for project governance

Too and Weaver (2014) supports the relationship between governance and management as described by Bourne and propose the relationship between governance, organisational management and project management as a series of nested systems, described in detail in Figure 22 below.

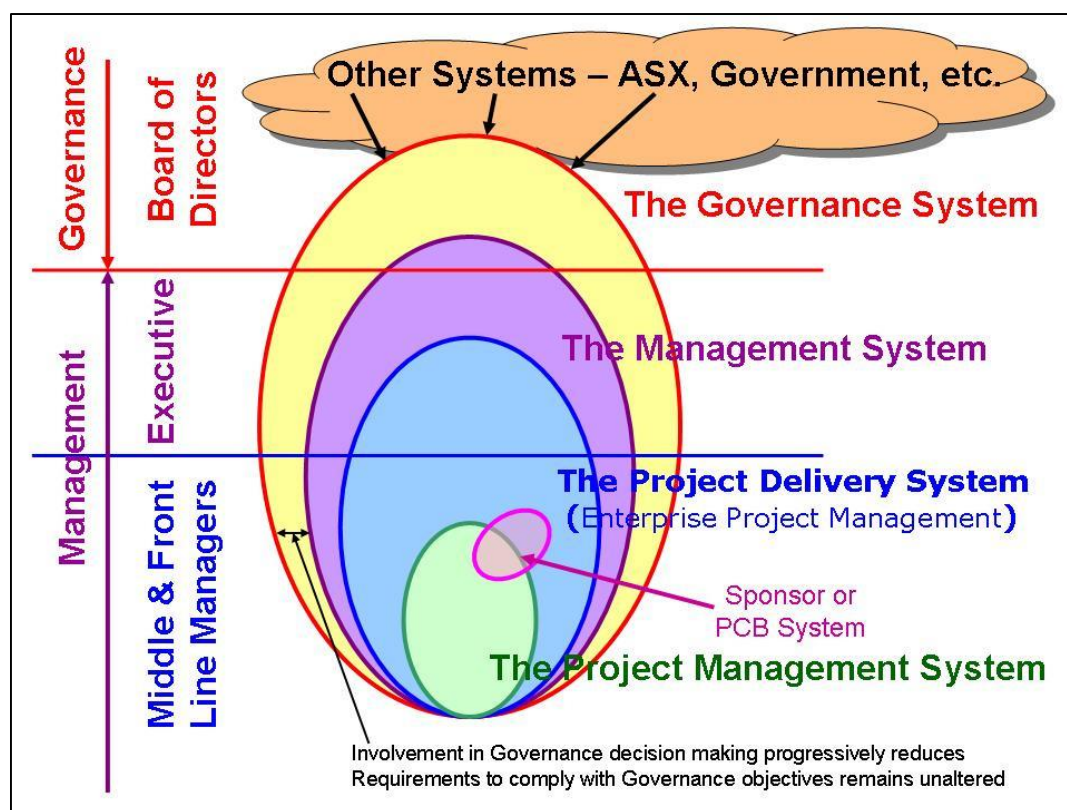


Figure 22: Nested governance and management systems (Source: Too and Weaver, 2014)

Too and Weaver (2014) state that the degree of involvement in the creation of each system and system decision-making generally reduces at lower levels of management, however each of the lower systems is a part of the higher systems and managers operating in the lower level systems are required to conform to the objectives and requirements of each higher system. The governance system is responsible for setting strategy and ensuring resources are used effectively. Success is heavily reliant on the organisation's management system: the board may have some involvement in the management processes, such as approving very large projects. The management system manages the entire organisation within the governance framework. Executive management is responsible for creating an organisation capable of achieving the objectives defined by the governance system. They also have responsibility for providing assurances to the governance system that resources of all types are being effectively and ethically used. Middle and front line managers are responsible for implementing the work. The project delivery system is a sub-set of the overall management system. This specialised area of

enterprise project management is responsible for all aspects of the management of project management and the organisation's capability to deliver projects successfully including the portfolio management sub-system and the organisational change sub-system. A core component of the project delivery system is the individual project and programme management systems, where each of the individual systems are responsible for creating the deliverables the project or programme was initiated to deliver, thus enabling the organisation's management to make effective use of, and generate value as it has been defined in each instance.

Too and Weaver (2014) developed and propose a project governance framework as shown in Figure 23.

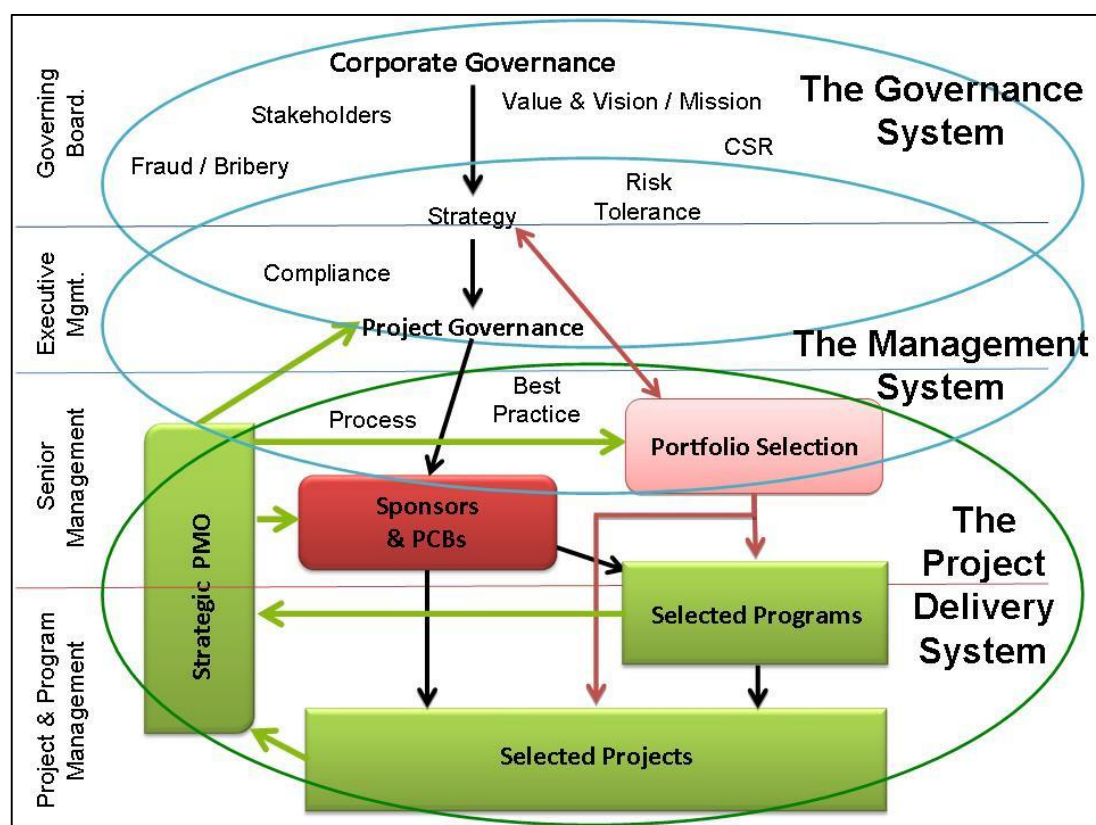


Figure 23: Project governance framework (Source: Too and Weaver, 2014)

The shaded boxes in Figure 23 illustrate four key interrelated elements to support effective governance of projects and programmes. The elements are portfolio management, project sponsors, strategic PMO, and effective projects and programmes management. The following sub-sections discuss each of these four elements.

5.2.7.1 Portfolio management

Portfolio management focuses on selecting the right projects and programmes to maintain or start, and which to defer or cancel. Too and Weaver (2014) refers to

Elonen and Artto (2003) who identified the following major types of problems that could occur in portfolio management:

- Projects overlapping both within one portfolio and between portfolios.
- Results of the projects are not integrated into each other.
- Decisions made about projects often do not consider available resources.
- Roles and the responsibilities of decision-makers are not clear or fully understood.
- Feedback from the portfolio-level to the project-level is often missing or minimal.
- A reluctance to stop projects.

Too and Weaver (2014) say that portfolio management must support the overall governance processes by balancing the workload against the organisation's capability and capacity to undertake the work; ensuring an appropriate mix of high-risk high-return projects. Some governance processes may be delegated to the portfolio management team including: developing processes to ensure decisions are in alignment with the organisation's strategy and overall governance framework; providing feedback to the strategic decision-makers and governing body based on the special knowledge gained through effective portfolio management activities; and determining the criteria and methods to be used in the selection, oversight and termination of projects and programmes. In summary, as part of the total governance system, the portfolio management functions consist of gathering and validation of capability and resource availability data; applying the policies, procedures, methods and criteria to make and implement effective decisions; and the continuous review and learning associated with a continuous improvement philosophy in the portfolio domain.

5.2.7.2 Project sponsors

Too and Weaver (2014) mention that effective project management includes clearly defined objectives and goals, as well as agreement between the client (organisation) and project manager on how they will achieve these goals and objectives. The success or failure of projects is, therefore, dependent on the top management support. Too and Weaver (2014) refer to the work of Miller and Hobbs (2002) that showed that the capabilities of the project sponsor has an important impact on project performance. As such, the project sponsor is a critical link between the executive and strategic levels of the organisation and the effective delivery of the benefits the project/programme was created to facilitate. The project sponsor can support project governance in two broad perspectives. The first is an external focus, concentrating on the project from the viewpoint of the client in defining the business benefits, monitoring the business environment and benefits realisation. The second role is more internal focus, providing the project manager and the project team with support to fulfil their role effectively. The sponsor role in this instance is to act as providing top management support and requires looking at the parent organisation

from the perspective of the project support (i.e. bridging governance and support functions). In summary, the governance processes that may be delegated to a project sponsor include firstly, developing processes to ensure decisions are in alignment with the organisation's strategy and overall governance framework. Secondly, providing feedback to the strategic decision-makers and governing body based on the special knowledge gained through effective sponsorship activities. Thirdly, determining the criteria and methods to be used in the directing and supporting of the projects and programmes being sponsored.

5.2.7.3 Strategic project management office

Too and Weaver (2014) refer to the work of various authors. Marsh (2000) states that the emerging importance of the Project Management Office (PMO) is associated with the increasing number and complexity of projects and the attempts at efficiency through centralisation of support and control of the projects. Aubry *et al.* (2007) point out that the responsibilities of the PMO can range from providing project management support functions to actually being responsible for the direct management of a project. The contribution of the PMO is linked to provision of internal consulting experience, project management knowledge, and application of a clear set of project process performance standards for project and programme work. Views from Unger *et al.* (2012) are that the understanding of PMOs' roles and the impact of these roles on value contribution and creation remains unclear. Kerzner (2003) reviewed the roles and benefits of the PMOs over several decades concluding that expectations of PMOs have shifted towards multi-project management, standardisation of operations, emphasis on organisation; providing efficiencies through faster and more consistent access to higher quality information, more realistic prioritisation of work, fewer meetings, and more efficient and effective operations. Specifically, Hobbs and Aubry (2010) emphasise the importance of the PMOs monitoring and controlling of project performance.

Too and Weaver (2014) further states that PMOs have a critical governance support role to ensure that accurate information is available to executive management, thus maintaining visibility and control on the performance and trends of the projects and programmes for which they are responsible. A successful PMO includes sufficient discipline and rigor in their processes to achieve the reporting accuracy needed; but at the same time supports the level of development and innovation that allows the organisation to achieve its strategic goals and objectives. An effective PMO supports good project governance by firstly, ensuring the information in their reports is useful, relevant, accurate and complete; and secondly providing interpretive and predictive assessments to senior management to support the portfolio management decision-making process.

5.2.7.4 Effectiveness of project and program management

Too and Weaver (2014) states that the obligation of project and programme managers is to create the outputs and deliverables as efficiently as possible, while working ethically and in accord with the organisation's practices and procedures to achieve the organisation's strategic and tactical objectives. Too and Weaver (2014) refer to Patel (2007) that mentions that project governance defines the space in which day-to-day project activities occur. Three key areas need to be considered, firstly, to ensure that the appropriate project organisation is in place and formally documented to undertake the project (Marnewick and Labuschagne, 2011). The second consideration is for decision-makers at each level to be accountable to higher-level management for key decisions relating to the project. The third consideration refers to regulation of the quality of any outputs, including the application of any organisational constraints, such as standards and components to be used and supported by an appropriate assurance system. In short, if the governance system is working effectively the organisation's projects and programmes will be managed effectively.

Too and Weaver (2014) concludes and assert that systemic project failure is a failure of organisational governance. The art of good governance is striking the right balance between restrictive processes to prevent malfeasance, and allowing management the freedom to support effective growth and innovation thus facilitating the achievement of strategic goals of the organisation.

5.2.8 Organisational leverage points

The PMI *Organisational Project Management Maturity Model* (2008) identifies key leverage points that represent interactions between organisational governance; strategy execution; and portfolio, programme and project delivery. By understanding these leverage points an organisation can methodically pursue its strategic goals through portfolios, programmes, and projects and achieve the desired organisational outcomes. Figure 24 illustrates that organisational governance is a force that drives the attainment of organisational level goals and realisation of strategies through portfolios, programmes and projects. These efforts are enabled through overarching organisational structures, policies, procedures, and other governance mechanisms.

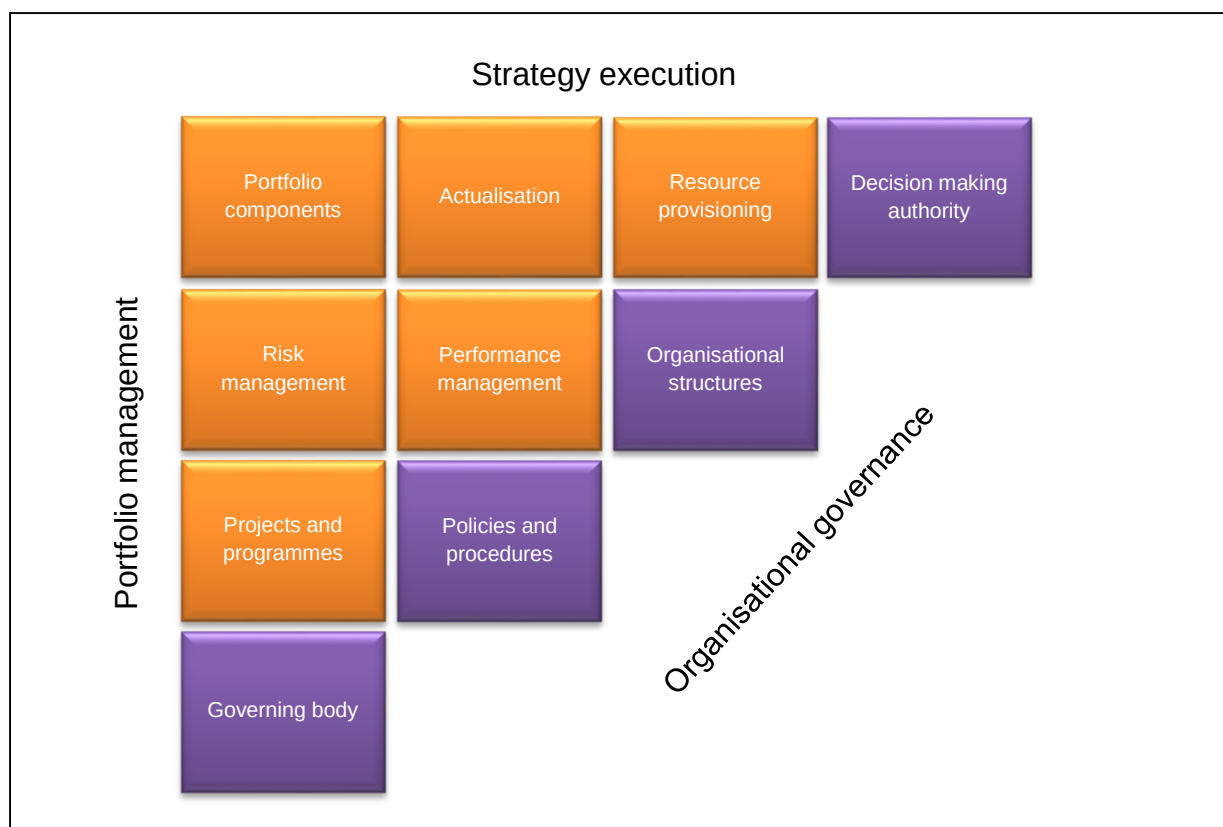


Figure 24: Organisational leverage points (Source: PMI, 2008)

5.3 GOVERNANCE OF CAPITAL INVESTMENTS

Garland (2013) compiled a white paper to demonstrate how the logic behind the concept of programme and project accountability can be used to ensure a consistent approach to governance across an organisation. Garland (2013) mentions that accountability means being answerable to one's superior and is at the core of governance. The accountabilities of the key decision-makers determine how programme and project boards operate and their relationship with portfolio management or senior executive teams. If these accountabilities and relationships are not clear and understood, the implementation of project methodologies will always run the risk of being flawed. Capital investment is the commitment of money to purchase assets. Capital investment governance is the organisational framework that enables effective capital investment decision-making. Therefore clarity of accountability is a prerequisite for effective programme and project decision-making. The white paper discusses the following fundamental problems of accountability:

- Lack of understanding of the true purpose of programme and project committees.** Large committees are usually indicative of a committee functioning more as a stakeholder group than a decision-making group. These committees should be fundamentally concerned with effective investment decision-making since this supports the accountability of the senior responsible owner (SRO) or project executive.

- **Insufficient understanding of programme and project accountability.** The project executive or senior responsible owner (SRO) represents the business and is accountable for the success of the project or programme.
- **Lack of clarity around the integration of project, programme and portfolio governance.** The accountabilities and associated decision rights at each governance level (portfolio, programme and project) must be consistent and logical for the overall governance arrangements to be effective.

5.3.1 Accountability

Garland (2013) remarks that the single point of accountability for the success of a project is the project executive and must be supported by a project board consisting of senior users and senior suppliers. In the case of a programme the senior responsible owner (SRO) represents the sponsoring group or corporate portfolio board and is supported by the programme governance board consisting of the programme manager, business change manager, representatives of corporate functions, lead suppliers, project executives, etc. The accountable person should be the person that is clearly best placed to define the exact outcomes for the project or programme and is accountable for:

- Defining and focusing on the outcome throughout the project's or programme's life.
- Owning and approving the business case and changes to it.
- The project or programme budget and the tolerances set.

The responsibility of the project or programme manager is to deliver the project or programme within the constraints of the business case, i.e. on schedule, budget to the required level of quality, etc.

5.3.2 Decision rights

Garland (2013) remarks that the clarity around decision rights at the project, programme and portfolio levels within an organisation are critical to effective governance. If the governance framework is to be effectively integrated, it is essential to ensure the decision rights are internally consistent and logical. The business case provides the ongoing justification for the project and is therefore central to decision-making. Most large organisations have some form of executive management team that takes the strategic decisions in respect of the organisation. Often such a group, or a subset of it, is constituted as an investment committee with the purpose to make decisions about inclusion of initiatives in the portfolio. The investment committee is supported by analysis provided by the portfolio office. Inclusion of an initiative is on the basis of its business case compared with the business cases of other initiatives and the extent to which it contributes to the achievement of the organisation's objectives. The investment committee can make key investment decisions throughout the investment life-cycle using the mechanism of an investment gating process. This decision-making process provides the

committee with visibility and control over the organisation's major programmes and projects. An investment gating process is different from an assurance gating process that is scheduled to occur ahead of an investment gate. Typical investment decisions made at each gate are:

- **Initiation gate.** Occurs during the strategic assessment stage. At this gate the investment committee's decision is whether to approve the initiation of the project or programme.
- **Strategic gate.** The investment committee's decision is whether to release funds for the development of a preliminary business case.
- **Preliminary gate.** The investment committee's decision is whether to release funds for the development of a final business case.
- **Procurement gate.** The investment committee's decisions are whether to commit to funding the build stage (since once tenders are called there is a certain obligation to proceed given the costs that tenderers will incur), to approve the procurement strategy, and release funds for the procurement stage.
- **Contract award gate.** The investment committee's decision is whether to proceed with the award of any external contract and whether to release funds for the build stage.
- **Readiness-for-service gate.** The investment committee's decision is whether to approve the outputs of the investment entering service at the specified time.

Garland (2013) continues that each organisation adjusts the investment life-cycle and investment gating process to best suit its needs. It must be noted that the investment decision is separate from the decision to approve the business case. The latter is made by the project or programme board on the basis of whether the project or programme is justified. The investment decision is not about project justification, but whether it is in the strategic interests of the organisation to invest in that project as opposed to channelling those funds to a different purpose. Accountability for the success of the portfolio normally lie with the chief executive officer (CEO) or another member of the investment committee delegated.

5.4 BS ISO 21504:2015 PROJECT, PROGRAMME AND PORTFOLIO MANAGEMENT - GUIDANCE ON PORTFOLIO MANAGEMENT

BS ISO 21504:2015 Project, programme and portfolio management - Guidance on portfolio management states that governance of portfolios consists of the principles by which a portfolio is authorised and directed. Governance provides the policies, authorities, processes, procedures, standards and accountability necessary to conduct the management and leadership of the portfolio. Portfolio management is undertaken within the boundaries established by the governance. Governance of portfolios should be aligned with organisational governance. Governance may be developed, provided, issued and maintained through several possible structures,

including, but not limited to: portfolio management office, project portfolio board of review, senior staff board or any other effective structure adaptable to the needs of organisations and portfolios. Governance may vary depending upon the nature of the organisation but the overall purpose of the selected structure should be to provide the necessary governance mechanism to enable successful portfolio management. This structure should have defined membership consisting of executive and senior management of both decision-making and advisory capacity within the organisation. The portfolio governance body is granted its authority by the owners or legal entity controlling the organisation or by the executives with overall responsibility for the organisation. The authority is generally granted for specific actions and decisions and is limited to portfolio management. The authorities and responsibilities of the portfolio governance body should be defined.

5.5 PMI STANDARD FOR PORTFOLIO MANAGEMENT - GOVERNANCE OF PORTFOLIOS, STRUCTURES, ROLES AND RESPONSIBILITIES

5.5.1 Portfolio governance

The *PMI Standard for Portfolio Management* (2013a) mentions that portfolio governance is established by a governing body to make decisions about investments and priorities for the portfolio and ensures that portfolio management processes are followed to sustain the organisation. The governing body is made up of one or more individuals with the requisite authority, knowledge, and experience to ensure the alignment of portfolio components with organisational strategy. The governing body has the authority to evaluate the portfolio performance and to make resourcing, investment, and priority decisions as needed. Recommendations may include new portfolio components, the suspension or change of existing portfolio components, and the re-allocation of resources among portfolio components. The recommendations may be complex with significant constraints especially concerning re-allocation of resources.

The *PMI Standard for Portfolio Management* (2013a) further mentions that organisational governance occurs at different decision-making levels in the organisation to support specific goals, objectives and strategies defined through the organisation's strategic planning process. As such, all governance levels are linked together to ensure that each organisational action is ultimately aligned with the defined organisational strategy. As portfolio management aligns components (programmes, projects, or operations) to the organisational strategy, it allows the organisation to have an overall view of how the strategic goals are reflected in the portfolio, institute proper governance management, and authorise human, financial, or material resources to be allocated based on expected performance and benefits. Through structured oversight and governance, programme management enables appropriate planning, control, delivery, transition, and benefits sustainment across components within the programme to achieve the programme's intended strategic benefits.

5.5.2 Roles and responsibilities

5.5.2.1 Role of the portfolio manager

The *PMI Standard for Portfolio Management* (2013a) states that portfolio managers are responsible for the execution of the portfolio management process with the focus on “doing the right work”. The portfolio manager may be an individual, a group, or a governing body, and is responsible for establishing, monitoring, and managing all assigned portfolios. Specific responsibilities may include:

- Establishing and maintaining a framework (a conceptual and communicable structure of ideas) and methodology (a body of policies and procedures) for portfolio management within the organisation.
- Establishing and maintaining relevant portfolio management processes (strategic management, governance management, communication management, performance management, and risk management).
- Guiding the selection, prioritisation, balancing, and termination of portfolio components to ensure alignment with strategic goals and organisational priorities.
- Establishing and maintaining appropriate infrastructure and systems to support portfolio management processes.
- Continuously reviewing, reallocating, reprioritising, and optimising the portfolio to ensure on-going alignment with evolving organisational goals and market opportunities and threads.
- Providing key stakeholders with timely assessment of portfolio component selection, prioritisation, and performance, as well as early identification (and intervention in) portfolio-level issues and risks that are impacting performance.
- Measuring and monitoring the value to the organisation through portfolio performance metrics and targets, such as benefits ratios, return on investment (ROI), net present value (NPV), payback period (PP), internal rate of return (IRR), and scorecards.
- Meeting legal and regulatory requirements.
- Achieving the information needs of current and future stakeholders.
- Supporting senior-level decision-making by ensuring timely and consistent information to stakeholders on progress, changes, and impact on portfolio components.
- Influencing active executive sponsorship engagement for the portfolio and each portfolio component.
- Participating in programme and project reviews to reflect senior-level support, leadership, and involvement in key decisions.

The portfolio manager needs to be aware of how the portfolio is related to the organisational strategy and assess and measure the benefits the portfolio is adding to the organisation’s objectives. The portfolio manager must be able to manage risks, monitor and prioritise portfolio components, resolve issues, develop and improve processes, and apply organisational knowledge and management skills as well as be able to effectively manage the organisation’s resources and provide timely

information for stakeholder communication purposes. The portfolio manager should have expertise in the following areas:

- Portfolio strategic management and alignment.
- Portfolio management methods and techniques.
- Stakeholder engagement.
- Leadership and management skills.
- Risk management.

5.5.2.2 The role of the PMO in portfolio management

The *PMI Standard for Portfolio Management* (2013a) remarks that PMO refers to project, programme, and portfolio management office and supports project, programme, and portfolio management functions respectively. The PMO in an organisation is the entity that defines and maintains the process standards related to project, programme and portfolio management. The PMO may handle communication in the form of progress reporting. The PMO provides guidance on the practice of project, programme, and portfolio management and may be involved in execution such as facilitation, process management, and supporting implementation of project management methodologies. Depending on the organisational structure, the PMO either functions on an enterprise-wide level, or as one of many departmental PMOs that manage different projects from different departments or divisions within an organisation. The specific form, function, and structure of a PMO are dependent upon the needs of the organisation and the stakeholders. The PMO may support portfolio management in the following ways:

- Manages portfolio components, supports component proposals and evaluations, facilitates prioritisation and authorisation, and allocates resources in alignment with organisational strategy and objectives.
- Develops and maintains portfolio, programme, and project frameworks and methodologies.
- Provides project and programme progress information and metric reporting (e.g. expenditure, defects, resources) to the portfolio governance process.
- Negotiates and co-ordinates resources between various components and portfolios.
- Assist with risk identification, and risk strategy development and communicates risks and issues related to portfolio components.
- Co-ordinates communication across portfolio components.
- Develops and approves templates and checklists.
- Monitors compliance to policies.
- Provides knowledge management including lessons learned.
- Develops and conducts training and mentors human resources in portfolio management skills, tools, and techniques.

5.5.2.3 Sponsors

The *PMI Standard for Portfolio Management* (2013a) points out that a sponsor is a person or group who provides resources and support the project, programme, or portfolio, and is accountable for enabling success. Sponsors champion the approval of portfolio components (projects, programmes, and operations). To ensure approval, a sponsor assists by supplying a viable component proposal to the portfolio management governing body, other oversight group, or individual. Once the portfolio component is approved, the sponsor helps ensure that the components perform according to the organisational strategy and objectives. Sponsors also recommend portfolio component changes or closure to align with organisational strategic changes.

5.6 OFFICE OF GOVERNMENT COMMERCE MANAGEMENT OF PORTFOLIOS GUIDE - PORTFOLIO MANAGEMENT AND CORPORATE GOVERNANCE AND ROLE DESCRIPTIONS

The *Office of Government Commerce in the United Kingdom and other countries, Management of Portfolios Guide (OGC MoP Guide)* (2011) sees portfolio management and corporate governance as part of the strategic and organisational context. The *OGC MoP Guide* (2011) defines corporate governance as the ongoing activity of maintaining a sound system of internal control by which the directors and officers of an organisation ensure effective management systems, including financial monitoring and control systems to protect the assets, earning capacity and reputation of the organisation.

5.6.1 Portfolio governance structure

Figure 25 provides an example of a portfolio management governance structure.

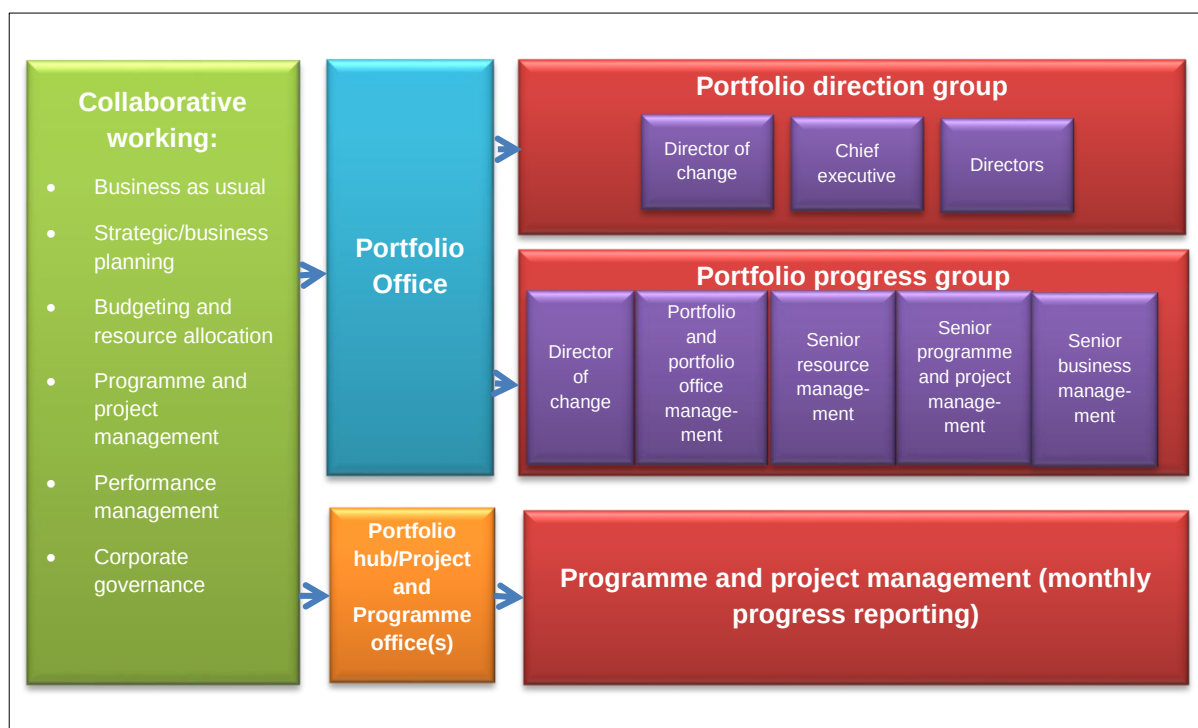


Figure 25: Example of a portfolio management governance structure (Source: OGC MoP Guide, 2011)

The business change (or portfolio director), assisted by the portfolio office, should lead the design and implementation of the portfolio governance structure and ensure that the relevant processes are implemented successfully. This will ensure that the right portfolio information gets to the right stakeholders and at the right time, enabling them to make effective decisions.

5.6.2 Functions involved in portfolio management in pursuit of strategic objectives

The *OGC MoP Guide* (2011) provides an understanding of the functions with which portfolio management must effectively coordinate its activities in pursuit of strategic objectives. The six functions are discussed in the sections that follow.

5.6.2.1 Portfolio management and business as usual

The relationship between portfolio management and *business as usual* is considered in many organisations when implementing portfolio management. This relationship is represented in a simple concept (see Figure 26).



Figure 26: Run the business; change the business (Source: OGC MoP Guide, 2011)

This figure illustrates how portfolio management and *business as usual* combine to realise strategic objectives. Portfolio management controls the major changes to *business as usual*. When change initiatives are successfully implemented, benefits are realised and operational performance improves. In order to successfully realise benefits from the portfolio, the following two critical prerequisites must be satisfied:

- A strategy must exist that contains well-defined and agreed strategic objectives with associated targets and measures.
- Every *change* must have a justifiable business case that clearly defines the benefits in sufficient detail to enable alignment to one or more strategic objectives.

Figure 27 contains a simplified example of the how benefits from *changes* align to strategic objectives.

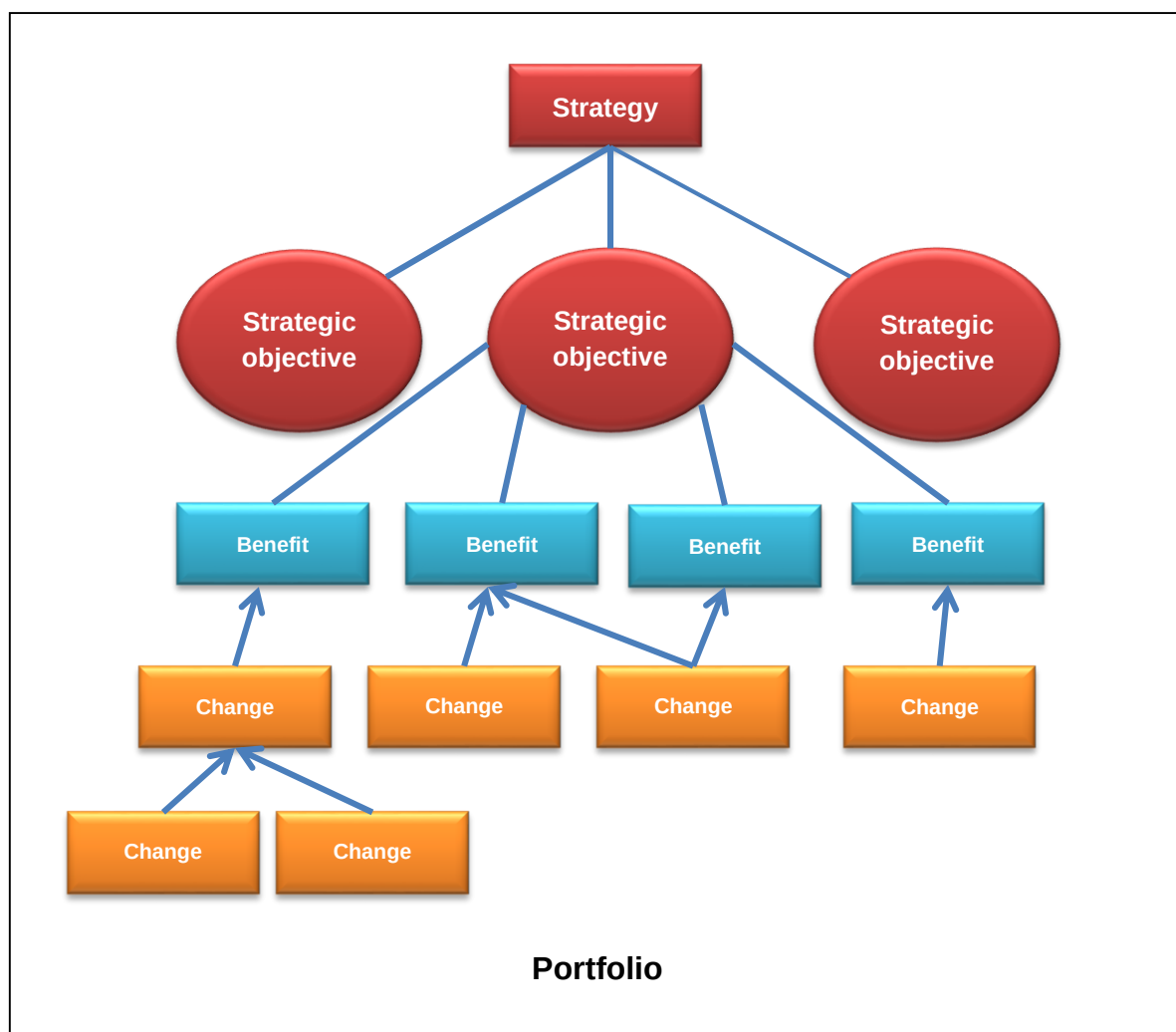


Figure 27: Alignment of benefits to strategic objectives (Source: OGC MoP Guide, 2011)

5.6.2.2 Portfolio management and strategic and business planning

Portfolio management seeks to ensure that the organisation's change initiatives represent the optimum allocation of limited funds in the context of the organisation's strategic objectives, and that this is maintained in the light of changing environmental conditions. Strategic planning therefore sets the context within which portfolio management operates by providing:

- The basis for determining the scope of the portfolio and the prioritisation of individual initiatives. As part of strategic planning, portfolio management addresses four fundamental questions:
 - Are the programmes and projects in our portfolio necessary in the context of our strategic objectives?
 - Is the portfolio together with *business as usual* activities sufficient to achieve the strategic objectives?
 - Is the overall level of risk acceptable and is the portfolio of initiatives achievable?

- Is the portfolio affordable - and if not, which initiatives should be dropped or re-scheduled?
- The measure against which portfolio management will ultimately be assessed.

The relationship between strategic planning and portfolio management is two-way. Whilst the former provides the context within which the latter operates, portfolio management also provides information on the contribution that programmes and projects are making to the strategic objectives, and can also lead to a change in strategy, based on achievement of unplanned benefits or failure to realise planned benefits. Portfolio management can also generate momentum and energy for strategy development. An overview of the relationship between strategic planning and portfolio management is illustrated in Figure 28.

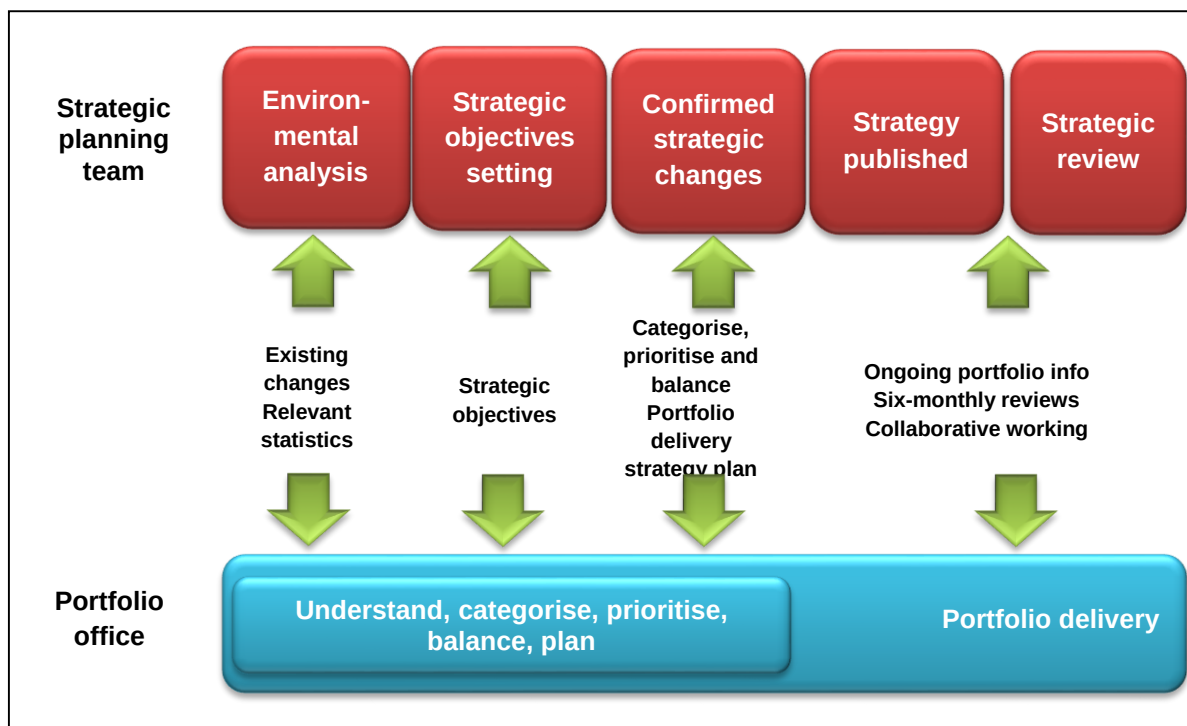


Figure 28: Strategic planning and portfolio management (Source: OGC MoP Guide, 2011)

5.6.2.3 Portfolio management and budget and resource allocation

Strategy is little more than intent until it is backed up by the allocation of resources (money, people, equipment, facilities, etc.). Portfolio management provides the means by which the link between strategy and resource allocation can be maintained. Various approaches to budgeting can be adopted in practice. For example, the budget for programmes and projects is separated from operational budgets and is controlled by a central portfolio governance body.

5.6.2.4 Portfolio management and programme and project management

Whilst programme and project management are mechanisms for delivering change, portfolio management encompasses:

- The development of delivery capability organisation-wide via standards, processes, and staff development.
- Management of the change initiatives at a collective level including:
 - The management of limited resources and ensuring where there is any shortage they are assigned to the highest priority initiatives and/or effective action is taken to increase the supply of these resources.
 - Overall risk management, including over reliance on a single supplier, and the risks of cost escalation and benefits shortfall.
 - Dependency management, ensuring that key dependencies are effectively managed across the portfolio.

5.6.2.5 Portfolio management and performance management

Portfolio management should align with the organisation's performance management system. This encompasses:

- Utilising the expertise of the organisation's performance management function in designing and implementing new portfolio performance metrics and driver-based models linking change initiatives, and their benefits, to the organisation's strategic objectives.
- Ensuring that the performance management function is engaged at an early point in the development of business cases and that it validates claimed impacts on organisational performance in the context of planned impact of the existing portfolio.
- Incorporating the anticipated impact of the portfolio on strategic objectives in the organisation's performance targets.
- Making appropriate use of the existing management information system in designing the content and format of portfolio reporting.
- Aligning performance and portfolio reporting, in terms of both timing and content, to ensure consistent messages and effective decision-making.

Portfolio management can also imply changes to the performance management system.

5.6.2.6 Portfolio management and corporate governance

Portfolio management supports effective corporate governance because it:

- Links the delivery of the organisation's strategic objectives with investment in change - and in demonstrable and transparent way that enhances effective accountability.

- Provides a framework of rules and practices for managing the delivery of the portfolio that are consistent with best management practice.
- Provides clarity on progress against plan.
- Provides a basis for integrated assurance.
- Clarifies responsibility and accountability for making decisions on which programmes and projects will be funded and on what basis - including where and when such decisions are made.
- Provides an audit trail demonstrating the rationale behind investment decisions.

5.6.2.7 Portfolio management and corporate functions

The implementation of portfolio management can be a catalyst for more effective engagement between corporate functions and change initiatives as all involved can see the contribution to improved performance and their role in supporting this. Table 14 contains a selection of extracts from conversations with people describing how their work links to that of the portfolio office within their organisations.

Table 14: Description of collaborative working between portfolio office and key departments/functions (Source: OGC MoP, 2011)

Management board	The portfolio office needs to engage with the members of the management board, both individually and as a team. The management board's involvement is critical as it ensures that the new ways of working are supported from the very top of the organisation, which leads to departments' understanding that portfolio management is a serious change. The board also approves the communications that are published to the organisation. It is important to ensure that the management board understands how they must be involved with portfolio management before it is implemented. Once the management board is satisfied the portfolio office will provide them with the relevant and reliable information, portfolio management becomes a specific agenda item at board meetings to ensure that collective decisions are made.
Finance	Collaborative working with the finance department is critical in relation to: • Determining consistent financial guidance for business case preparation. • Developing the annual portfolio financial plan showing the profiled budget. • Tracking spend in year. • Ensuring the realisation of financial benefits by adjusting budgets where appropriate.
Information technology (IT)	A key challenge for the portfolio is to ensure that technology-enabled change initiatives are resourced appropriately. This can only be achieved by working closely with the IT programme office to ensure that resources are prioritised in line with the organisational portfolio priorities and that the mechanism to start technology initiatives are aligned with the wider business change life-cycle. It is also crucial that action be taken to manage down the percentage of the IT spend on infrastructure as this enables more resources to be directed to business value-enhancing initiatives without increasing the overall budget.

Procurement/commercial	A significant proportion of the organisation's change initiatives require procurement and commercial advice to follow mandated procurement processes. An investment board must be integrated into the portfolio management governance framework. This ensures key personnel, such as the commercial director can have early sight of proposed new initiatives. This also facilitates early commercial input to business case development, so ensuring more reliable scheduling to realistic commercial timescales.
Strategic planning	During the creation of the organisational strategy, the strategic planning team must work closely with the portfolio office, primarily because the portfolio office has the most up-to-date information on all programmes and projects and understands how these contribute to the strategic objectives. The strategic planning function produces the annual plan which contains a snapshot of information on the portfolio. The strategic planning function and portfolio office can participate in horizon-scanning exercises to assess emerging opportunities and ensure these are reflected adequately in the portfolio development pipeline.
Performance management	Without the expertise of the performance management function, the portfolio office will struggle to identify how each initiative adds value to the overall organisational performance measures. The performance team also benefits from working with the portfolio office because they are able to integrate the information from the portfolio into the organisation's balanced scorecard - in this way benefits are linked the <i>business as usual</i> KPIs. Additionally, business case writers consider the impact of performance from day one - and discuss this with performance management colleagues, resulting in more business-led initiative planning and reliable business cases. Potential initiatives can be cancelled at an early stage if it becomes apparent that no significant operational performance impact is likely.
Programme and project management community	Close working between portfolio office and programme and project management community is crucial. The portfolio office provides: • The standards for delivering programmes and projects (including business case and reporting templates). • Assistance with initiative planning and scheduling. • Help with preparation for stage/phase reviews. From a portfolio management perspective, strong relationships with programme and project management are essential, particularly with regard to open and honest reporting on progress. This helps the programmes and projects as they know that the portfolio office is in a position to facilitate resolution of issues by the relevant portfolio governance body.
Human resources (HR)	Business change initiatives almost always impact the structures and working practices of staff. The portfolio office engages at an early stage with the HR team so they have a view of the anticipated impact of the change initiatives on staff. This is then fed into workforce planning. Close working between HR and the portfolio office is also of value in ensuring that training is focussed on contributing to a closer match between resource demand and supply. Consequently, increased training investment can be justified on the basis of a reduced reliance on bought-in skills.
Business architecture planning	The business architecture team (sometimes called design authority and situated in strategic planning, finance or IT departments) manages the overall organisational blueprint (sometimes referred to as the future or target operating model). This defines the current and the future organisational design in terms of working practices and processes, information requirements and the technology that supports its operations. Because each of the programmes created a blueprint during the initiation, it is possible to align it to them with

	the organisational blueprint. The business architecture team is involved in creating programme blueprints, and assists with the analysis of proposed modifications via the change control process. The team also plays a valuable role in providing the mechanism for assessing the net business impact of change initiatives which informs portfolio scheduling.
Centre of Excellence (CoE)	The centre of excellence forms part of the portfolio office and is involved in the design and implementation of the business change life-cycle, supporting standards and templates and training staff so that everyone understands the system and what is required of them. The CoE is involved in the resource capacity planning due to its responsibility for training across the portfolio which helps reduce reliance on contractors and consultants.
Real estate and property services	The optimal real estate flexes with the shape and functions of the organisation. Major changes to staff numbers (up or down) or to working practices require changes to property estate. Equally, there are additional opportunities in terms of relocation to other areas, which help maximise the use and availability of staff and other resources.
Communications	Close working between the portfolio office and corporate communications is required to: • Ensure management and staff have a clear and consistent understanding of the organisational strategy and their role in delivering it. • Engage staff in considering how best to implement the changed ways of working. • Improve the ability of management and staff to make aligned and consistent decisions. • Improve understanding of decisions made elsewhere in the organisation. • Ensure consistency in messages. Facilitate effective ongoing staff engagement.

5.6.3 Role descriptions

Table 15, Table 16, Table 17, Table 18, and Table 19 provide role descriptions for the portfolio direction group, portfolio progress group, business change director (or portfolio director), portfolio manager and portfolio benefits manager (*OGC MoP Guide*, 2011).

Table 15: Role description for portfolio direction group (Source: OGC MoP Guide, 2011)

Role name: Portfolio direction group (PDG)
Role purpose. This is the governance body where decisions about inclusion of initiatives in the portfolio are made. No initiatives should be included within the portfolio or funded without the PDG approval.
Responsibilities: • Agrees the portfolio management framework. • Agrees the processes contained within the portfolio definition cycle and ensures that they operate effectively. • Approves changes to the practices within the portfolio definition cycle. • Approves the portfolio strategy and delivery plan. • Receives investment appraisal and portfolio prioritisation reports and decides on the scope and content of the portfolio. • Ensures that the portfolio is suitably balanced. • Ensures that resources are allocated appropriately.

- Ensures that the portfolio development pipeline contains sufficient initiatives at the feasibility/concept stage and that initiatives progress through the pipeline at an adequate speed.
- Undertakes regular portfolio-level reviews to assess progress and confirms that the portfolio remains on course to deliver the desired strategic benefits and outcomes.
- Reviews recommendations from the portfolio progress group/change delivery committee and makes decisions accordingly.
- Ensures that conflicts between portfolio delivery and *business as usual* that cannot be resolved by the portfolio progress group/change delivery committee are addressed effectively.
- Promotes collaborative working across the organisation. Undertakes periodic reviews of the effectiveness of portfolio management within the organisation - and takes appropriate action when required.

Table 16: Role description for portfolio progress group (Source: OGC MoP Guide, 2011)

Role name: Portfolio progress group (PPG) or change delivery committee (CDC)
Role purpose. This is the governance body responsible for monitoring portfolio progress and resolving issues that may comprise delivery and benefits realisation.
Responsibilities: • Agrees the processes contained within the portfolio delivery cycle and ensures that they work effectively. • Approves changes to the practices within the portfolio delivery cycle. • Ensures that all programmes and projects comply with agreed delivery standards - e.g. use of the business change life-cycle. • Monitors delivery of the portfolio delivery plan (via the portfolio dash-board) including: ○ Monitors spend against profiled budget and revised forecast outturn: ▪ Ensures effective action is taken to address overspends. ▪ Where underspends occur, takes prompt action to consider reallocation of funds to other initiatives including those in the portfolio development pipeline by referring the issue to the PDG. ○ Reviews and resolves key portfolio-level issues. ○ Ensures that risks and dependencies are effectively managed. ○ Ensures that limited resources are managed effectively and efficiently. ○ Monitors and approves changes to the benefits forecast. • Approves communications on portfolio progress. • Where justified, makes recommendations to the PDG and/or management board. • Undertakes periodic reviews of the effectiveness of portfolio delivery within the organisation - and takes appropriate action where required.

Table 17: Role description for business change director or portfolio director (Source: OGC MoP Guide, 2011)

Role name: Business change director or portfolio director (PD)
Role purpose. The business change director or portfolio director is the management board member responsible for the portfolio strategy and provides clear leadership and direction through its life-cycle.
Responsibilities: • Champions the implementation of portfolio management across the organisation. • Secures the investment to implement portfolio management, including portfolio office where required. • Provides overall direction and leadership for the implementation and delivery of the portfolio. • Gains relevant management board approval for the portfolio strategy and delivery plan. • Promotes an energised culture that is focussed on collaborative working in the interests of the organisation as a whole. • Ensures that the portfolio evolves to reflect changed strategic objectives and business priorities and that resources are reallocated where necessary.

- Ensures that the portfolio management practices are documented in a portfolio management framework and that they are amended in light of lessons learned.

Table 18: Role description for portfolio manager (Source: OGC MoP Guide, 2011)

Role name: Portfolio manager
Role purpose. The portfolio manager co-ordinates the effective and efficient operation of the portfolio management practices and provides support to the business change/portfolio director, and portfolio process group/change delivery committee - including ensuring that they receive the information they require to enable them to discharge their responsibilities.
Responsibilities: • Drafts the portfolio strategy and delivery plan for the business change/portfolio director. • Keeps the portfolio management framework up to date. • Prepares the regular portfolio dash-board for the PDG and PPG/CDC. • Ensures that business case data (particularly costs, benefits and risks) is prepared on a consistent and reliable basis across the portfolio. • Undertakes investment appraisals and reports accordingly to the PDG. • Coordinates portfolio prioritisation exercises and reports accordingly to the PDG. • Ensures that dependencies are effectively managed and where required escalates issues to the PPG/CDC for resolution. • Leads the preparation and implementation of the portfolio stakeholder engagement and communication plan. • Identifies constraints within the portfolio and works to overcome them. • Identifies improvements to the portfolio management practices, e.g. via membership of appropriate professional groups, post-implementation reviews, submissions under the champion-challenger model, and forms periodic portfolio effectiveness and maturity reviews (e.g. health check assessment).

Table 19: Role description for portfolio benefits manager (Source: OGC MoP Guide, 2011)

Role name: Portfolio benefits manager
Role purpose. The portfolio benefits manager ensures that a consistent “fit for purpose” approach to benefits management is applied across the portfolio and that benefits realisation is optimised from the organisation’s investment in change.
Responsibilities: • Develops and maintains the organisation’s portfolio benefits management framework. • Considers and advises the portfolio manager or director on changes to the portfolio management framework. • Provides training and awareness-building sessions on the application of the portfolio benefits management framework. • Participates in investment appraisals, ensuring that business case forecasts are consistent with the organisation’s benefits eligibility rules. • Works with the organisation’s (and programme based) business change managers to promote more effective benefits management practices. • Facilitates benefits mapping workshops. • Provides advice and support to programme and project management and <i>business as usual</i> colleagues on the development of initiative-level benefits forecasts and benefits management practices. • Provides assurance on the effectiveness of benefits management practices at programme and project level. • Maintains the portfolio-level benefits forecast and ensures that double counting is minimised. Updates the forecast to reflect approved initiative-level changes at stage/phase gates and portfolio-level reviews. • Coordinates the production of the annual portfolio-level benefits realisation plan. • Consolidates progress reports for the portfolio dash-board and for periodic portfolio-level

reviews.

- Escalates any benefits-related issues via the portfolio manager to either the PDG or PPG/CDC.
- Sets the standards for, and monitors, post-implementation reviews to compare benefits realised with benefits forecast and identifies lessons learned in relation to benefits management for wider dissemination.

5.7 TENSTEP PORTFOLIOSTEP™

5.7.1 Governance

Mochal (2014b) says that people need a common organisational framework to work within. The framework is used to guide what people work on and how they do the work. The framework consists of a commonly accepted set of processes, policies and standards. Regardless of the type of organisation, the effectiveness of these processes, standards and policies depends on the role of management and the management governance process. Governance is the term used to describe the formal and informal set of processes that allows organisations to resolve conflict, make decisions, and ensures management decisions and policies are enforced through the management hierarchy. Governance is a top-down management process and works through accountability, rewards and consequences. For example, if an organisation implements a policy, the head of the organisation needs to hold the managers in the organisation accountable to make sure the policy is followed. Each manager then makes sure that his/her direct reports adhere to the policy. Governance also needs to include mechanisms to ensure that the policies are being followed and that rewards or consequences exist for following or not following the rules. Companies with strong governance cultures have higher return on investments than their weak-governance peers. They are more disciplined in how they allocate and manage work. They are also able to respond to changing times more quickly because they are more capable of implementing culture change within their organisations.

Governance is needed to enforce policies and standards. Standards are a required way of doing something. There are two reasons why standards in an organisation are not followed. First, everyone in the organisation is not always aware of the standards. The second reason is that people think they have a better way of doing things than the standard. Management governance is required to force organisational change. The effectiveness of management governance is based on two competing factors. First is how well the organisation enforces current standards, policies and processes. The second, and perhaps more important area, is how well the organisation implements change. Organisations must change to remain relevant, implement strategy and achieve goals. Managers, especially middle managers, are the people who will make or break change initiatives. If senior management wants to move an organisation in a certain way, but the middle managers ignore the directives, the initiative will not be successful. Governance means that executive managers ensure that the senior managers carry out their directives, and that senior managers are checking on middle managers, and that middle managers are

checking on project managers. Governance starts at the top of the organisation and moves down. Ineffective management governance at the top dooms the chance for success on the way down. According to Mochal (2014b) strong governance is needed to make portfolio management work. If the governance processes are ineffective and weak, a governance policy for the portfolio must be defined.

5.7.2 Portfolio roles

The following roles and responsibilities are described in Mochal's (2014b) *PortfolioStep™ Portfolio Management Framework*:

5.7.2.1 Portfolio management sponsor

The portfolio management process needs to be sponsored by some manager in the organisation. The size and organisational span of the portfolio determines who must be the sponsor. For instance, if the process is sponsored by the CEO the portfolio management process can be implemented within the entire company. The portfolio management sponsor needs to set the overall direction and vision for portfolio management to the entire organisation, champion its use, and continually follow up to make sure the process is implemented successfully.

5.7.2.2 Portfolio management team

This is the group of managers who are responsible for managing the portfolio of work. The exact makeup of this group is dependent on exactly how the portfolio is defined. If the portfolio only includes projects, there may be a number of managers who are responsible for all of the projects. If support and operations are included in the portfolio, then the group managers from these areas must be included as well. The portfolio management team is responsible for the efficiency and effectiveness of the internal running of the portfolio.

5.7.2.3 Project managers

The project managers are the persons with the authority to manage the projects. This includes leading the planning and the development of all project deliverables. The project managers are responsible for managing the budgets, work plans and all project management procedures (scope management, issues management, risk management, etc.). In general, project managers are stakeholders in the portfolio management process, but they do not have a formal role. They may, for instance, help to put together value propositions and/or business cases. However, they do not have a formal role in the selection, prioritisation or authorisation processes.

5.7.2.4 Project sponsor (executive sponsor and project sponsor)

The sponsor is the person who has ultimate authority over a project. The executive sponsor provides project funding, resolves issues and scope changes, approves major deliverables and provides high-level direction. He or she also champions the

project within his/her organisation. Depending on the project and the organisational level of the executive sponsor, he or she may delegate day-to-day tactical management to a project sponsor. If assigned, the project sponsor represents the executive sponsor on a day-to-day basis and makes most of the decisions requiring sponsor approval. If the decision is large enough, the project sponsor will take it to the executive sponsor. The executive sponsor or project sponsor is the person who puts forward project work during the portfolio selection process.

5.7.2.5 Steering committee

The steering committee is a group of high-level clients and stakeholders who are responsible for prioritising work and providing strategic guidance to the portfolio. This is the group of people who prioritise work for the portfolio and then monitor the work during the year. If new work comes up or if changes occur in the authorised work load, the steering committee determines the impact on the portfolio. If the portfolio is an internal organisation such as Finance, the internal portfolio management team might be the same as the steering committee. The steering committee should be made up of the highest-level people possible.

5.8 ASSOCIATION FOR PROJECT MANAGEMENT

The Association for Project Management (APM) (2011a) compiled a report on *Directing change: A guide to governance of project management* that explains how good governance requirements apply to the direction and management an organisation's project portfolio. The guide lists principles which directors or their equivalents should adopt and questions they should ask. It will help improve corporate performance, reduce shocks at boardroom level and avoid hardship to stakeholders. The purpose of the guide is to influence directors and others with corporate governance roles to adopt optimal practices regarding the governance of programme and project management activities. This involves aligning the interests of directors, programme and project teams and wider stakeholders. Adherence to this guide will help boards of directors to:

- Assure themselves and others that robust governance requirements are applied across the projects managed in their organisation.
- Optimise their portfolio of projects.
- Avoid many of the common failures in project and programme performance.
- Improve relationships with staff, customers and suppliers.
- Minimise risks to the organisation arising from projects.
- Maximise the benefits realised from projects.
- Assure the continued development of the organisation.

This guide subscribes to the definition of governance compiled by Organisation for Economic Co-operation and Development (OECD) Principles of Corporate Governance (2004):

“Corporate governance involves a set of relationships between a company’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined.”

The guide states that the governance of project management concerns those areas of corporate governance that are specifically related to project activities. Effective governance of project management ensures that an organisation’s project portfolio is aligned to the organisation’s objectives, is delivered efficiently and is sustainable. Governance of project management also supports the means by which the board and other major project stakeholders exchange timely, relevant and reliable information. Figure 29 illustrates that the governance of project management is a subset of the activities involved with corporate governance.



Figure 29: Governance of project management (GoPM) in context (Source: APM, 2011a)

5.8.1 Governance of project management principles

Directing Change: A guide to governance of project management (APM, (2011a) seeks to help a board of directors check their organisation against four main components of the governance of project management:

- Portfolio direction.
- Project sponsorship.
- Project management capability.
- Disclosure and reporting.

Based on governance requirements and on the discipline of project management, the 13 principles shown in Table 20 have been identified for governance of project management.

Table 20: Governance of project management principles (Source: APM, 2011a)

1	The board has overall responsibility for the governance of project management.
2	The organisation differentiates between projects and non-project-based activities.
3	Roles and responsibilities for the governance of project management are defined clearly.
4	Disciplined governance arrangements, supported by appropriate methods, resources and controls are applied throughout the project life-cycle. Every project has a sponsor.
5	There is a demonstrably coherent and supporting relationship between the overall business strategy and the project portfolio.
6	All projects have an approved plan containing authorisation points at which the business case, inclusive of cost, benefits and risk is reviewed. Decisions made at authorisation points are recorded and communicated.
7	Members of delegated authorisation bodies have sufficient representation, competence, authority and resources to enable them to make appropriate decisions.
8	Project business cases are supported by relevant and realistic information that provides a reliable basis for making authorisation decisions.
9	The board or its delegated agents decide when independent scrutiny of projects or project management systems is required and implement such assurance accordingly.
10	There are clearly defined criteria for reporting project status and for the escalation of risks and issues to the levels required by the organisation.
11	The organisation fosters a culture of improvement and of frank internal disclosure of project management information.
12	Project stakeholders are engaged at a level that is commensurate with their importance to the organisation and in a manner that fosters trust.
13	Projects are closed when they are no longer justified as part of the organisation's portfolio.

Applying these principles would help avoid common causes of project failure, such as:

- Lack of a clear link with key strategic priorities.
- Lack of clear senior management ownership and leadership.
- Lack of effective engagement with stakeholders.
- Lack of skills and proven approach to project and risk management.
- Lack of understanding of, or contact with, supply industry at senior levels.
- Evaluation of projects driven by initial price, rather than long-term value for money.
- Too little attention to breaking down development and implementation into manageable steps.

5.8.2 Core competencies

Governance of project management is not the rigid application of a complex methodology. The best results will come from the intelligent application of principles combined with proportionate delegation of responsibility and the monitoring of internal control systems. The sections that follow list questions relevant to the four components of governance of project management. The answers indicate the extent to which practice fulfils the principles and meets the requirements of governance of project management.

5.8.2.1 Portfolio direction

This component seeks to ensure that all projects are identified within the one, sustainable portfolio. This portfolio should be evaluated and directed mindful of the organisation's aims, constraints, resources and capacity for change. See Table 21 for the key questions that relate to portfolio direction (PD).

Table 21: Key questions related to portfolio direction (Source: APM, 2011a)

PD1	Is the organisation's project portfolio aligned with its key business and organisational objectives, such as those of profitability, customer service, reputation, attitude to risk, corporate responsibility, sustainability and growth?
PD2	Are the organisation's financial controls, financial planning and expenditure review processes applied to both individual projects, and to the portfolio as a whole?
PD3	Is the project portfolio prioritised, refreshed, maintained and pruned in such a way that the mix of projects continues to support strategy and take account of external factors?
PD4	Does the organisation discriminate effectively between activities that should be managed as projects and other activities that should be managed as non-project operations?
PD5	Does the organisation assess and address the risks associated with the project portfolio, including the risk of corporate failure?
PD6	Is the project portfolio consistent with the organisation's capacity?
PD7	Does the organisation's engagement with project suppliers encourage a sustainable portfolio by ensuring their early involvement and by a shared understanding of the risks and rewards with due protection of commercial confidentiality?
PD8	Does the organisation's engagement with its customers encourage a sustainable portfolio?
PD9	Does the organisation's engagement with the sources of finance for its projects encourage a sustainable portfolio?
PD10	Has the organisation assured itself that the impact of implementing its project portfolio is acceptable to its ongoing operations?

5.8.2.2 Project sponsorship

This component seeks to ensure that project sponsorship is the effective link between the organisation's senior executive body and the management of each project. The sponsoring role has decision-making, directing and representational accountabilities. Project sponsors are variously titled, for example senior responsible owner (SRO), and may be located at different levels in organisations. Project

sponsors are the route through which project managers directly report and from which project managers obtain their formal authority, remit and decisions. Sponsors own the project business case. Competent project sponsorship is of great benefit to even the best project managers. See Table 22 for the key questions that relate to project sponsorship (PS).

Table 22: Key questions related to project sponsorship (Source: APM, 2011a)

PS1	Do all projects have competent sponsors at all times?
PS2	Do sponsors devote enough time to their projects?
PS3	Do sponsors continue in their roles for periods of time sufficient to ensure accountability?
PS4	Do project sponsors engage regularly with project managers and are they sufficiently aware of the project status?
PS5	Do project sponsors provide clear and timely directions and decisions?
PS6	Do project sponsors have sufficient influence with which to ensure that project managers have adequate resources with the right skills to deliver projects?
PS7	Are projects closed at the appropriate time and outcomes tested against their business cases?
PS8	Is independent advice used for appraisal of projects?
PS9	Are sponsors accountable for and do they own and maintain the business case; is accountability identified for key project documents?
PS10	Are sponsors accountable for the realisation of benefits?
PS11	Do sponsors adequately represent the project throughout the organisation?
PS12	Are the interests of key project stakeholders, including suppliers, regulators and providers of finance, aligned with project success?
PS13	Is project learning from experience recorded and shared?

5.8.2.3 Project management capability

This component seeks to ensure that the teams responsible for projects are capable of achieving the objectives that are defined at project approval points and use that capability to improve governance and outcomes. Maturity of project management capability is determined by a number of factors, including the skills and experience of project leaders, the commitment to continual learning and developing competence, the resources available to them, and the tools and processes they are able to deploy. The board and project sponsors should take these factors into account when assessing the effectiveness of their project teams and identifying improvement priorities and capability maturity targets. Efficient project management requires effective delegation that allows decisions to be made at a level that is consistent with the organisation's system for internal control. See Table 23 for the key questions that relate to project management capability (PM).

Table 23: Key questions related to project management capability (Source: APM, 2011a)

PM1	Do all projects have clearly defined outcomes with clear critical success criteria that are tracked to inform decision-making?
PM2	Is the board assured that the organisation's project management processes incorporate review points, are subject to continual

	improvement and maturity and that project management tools are appropriate for the projects that it sponsors?
PM3	Is the board assured that the people responsible for project delivery, especially the project managers, are clearly mandated, sufficiently competent, and have the capacity to achieve satisfactory project outcomes?
PM4	Are project managers encouraged to identify and exploit opportunities for improving project outcomes?
PM5	Are key roles and responsibilities for governance of project management clear and in place?
PM6	Are service departments and suppliers able and willing to provide key resources tailored to the varying needs of different projects and to provide an efficient and responsive service?
PM7	Is the management of issues, changes, risks and opportunities integrated into the decision-making process and in line with adopted policies?
PM8	Is authority delegated to the right levels, balancing efficiency and control?
PM9	Are project contingencies and other risk responses estimated and controlled in accordance with delegated powers?

5.8.2.4 Disclosure and reporting

This component seeks to ensure that the content of project reports will provide timely, relevant and reliable information that supports the organisation's decision-making processes, without fostering a culture of micro-management. It is important for the organisation to distinguish between key drivers of success and key indicators of success. An efficient reporting process will minimise the reporting burden throughout the organisation without compromising effectiveness. Reporting requirements should be commensurate with each project's complexity, risk and significance. A culture of open and honest disclosure is a key requirement for effective reporting and where internal or external pressures pose threats to this, the value of independent verification of information will be increased. As such threats often present themselves prior to major project approvals or when projects start, there is an opportunity for independent oversight and verification to help avoid serious difficulties. An internal risk and assurance function should plan checks even in the absence of specific threats. There is an opportunity for independent oversight and verification to improve project outcomes and learn lessons. External assurance can often reduce risks further and provide a check on internal risk and assurance functions. Disclosure should be extended to all stakeholders to the extent that they have a legitimate interest in project information. See Table 24 for the key questions that relate to disclosure and reporting (DR).

Table 24: Key questions related to disclosure and reporting (Source: APM, 2011a)

DR1	Does the board receive timely, relevant and reliable project forecasts, including those produced for the business case at project authorisation points?
DR2	Does the board receive timely, relevant and reliable information, which compares progress against objectives?
DR3	Does the board have sufficient information on significant project-related

	risks and their management?
DR4	Are there threshold criteria that are used to escalate significant issues, risks and opportunities through the organisation to the board?
DR5	Does the organisation use measures for both key success drivers and key success indicators?
DR6	Is the organisation able to distinguish between project forecasts based on targets, commitments and expected outcomes?
DR7	Does the board seek independent verification of reported project and portfolio information as appropriate?
DR8	Does the board reflect the project portfolio status in communications with key stakeholders?
DR9	Does the business culture encourage open and honest reporting?
DR10	Where responsibility for disclosure and reporting is delegated or shared, does the board ensure that the quality of information that it receives is not compromised?
DR11	Is a policy supportive of whistle-blowers effective in the management of projects?
DR12	Do project processes reduce reporting requirements to the minimum necessary?

5.8.3 Promoting a culture of value

According to AGM (2011b) effective governance must promote and support a culture of value, such that the organisation has:

- A shared understanding what constitutes value for the organisation, how value is created and sustained; and how different capabilities contribute, or can contribute to creating and sustaining value.
- Clearly defined roles, responsibilities and accountabilities of the board, executive management, business unit and delivery function management in the realisation of benefits and business value from investments.
- Implementing or improving governance processes and practices around value management, including business case development and use, investment evaluation and selection, programme and project execution, asset management, with active benefits and change management.
- Relevant metrics integrated into the business which monitor the effectiveness of the governance approach and encourage continual improvement of the relevant processes and practices.

5.9 ROLE OF BUSINESS ANALYSIS

The *Project Management Institute (PMI) Business Analysis for Practitioners: A Practice Guide* (2015d) states that business analysis is the set of activities performed to identify business needs and recommend relevant solutions; and to elicit, document, and manage requirements. The role of business analysis and its associated roles continue to evolve. Some of the most significant drivers of this evolution are increased business focus on the ability to accommodate rapid change, increased project focus on delivering value as efficiently as possible, and new and evolving approaches for stakeholder and project team members to collaborate with

each other to deliver successful projects and programmes, which drive business value.

According to the *PMI Business Analysis for Practitioners: A Practice Guide* (2015d), effective business analysis is not an integral part of portfolio work in many organisations. As a result projects and programmes are not delivering the intended business value. In 2014 PMI reported that effective business analysis over a year period resulted in that 64% of completed projects successfully met their original goals and business intent. “Inaccurate requirements gathering” was reported by 37% of organisations as a primary cause of project failure, second only to changing organisation priorities. This research clearly shows that organisations continue to experience project issues associated with poor performance of the requirements-related activities. Requirements management accounts for a significant portion of the work performed within business analysis. Organisations that have mature business analysis practices in place are dramatically improving the probability of project success.

The *PMI Business Analysis for Practitioners: A Practice Guide* (2015d) mentions that the responsibility for defining requirements should be assigned to the resources with sufficient business analysis skills and decision-making authority. The persons involved in business analysis and portfolio management thus need to work in partnership and collaborate effectively together to ensure that projects and programmes deliver the required business value. The work of business analysis is organised into five domains that is briefly discussed in the sections that follows.

5.9.1 Needs assessment

A needs assessment consists of the work that is conducted in order to analyse a current business problem or opportunity and is undertaken before initiating a project or programme. It is used to assess the current internal and external environments of the organisation in order to determine current capabilities of the organisation in order to determine viable solution options that, when pursued, would help the organisation meet the desired future state. Needs assessment involves the completion of a gap analysis that is used to analyse and compare actual performance of the organisation against the expected or desired performance. Much of the analysis completed during the needs assessment is then used for the development of a business case. It is the needs analysis and business case that build the foundation for determining the programme and project objectives and serves as inputs to the project charter. When a needs assessment is bypassed there is often insufficient analysis to actually understand the business need.

5.9.2 Business analysis planning

Business analysis planning is the work that is conducted to define the business analysis approach and plan for the completion of the requirements-related activities necessary to meet the needs of the projects and programmes. Planning the business

analysis work is critical for project success. When business analysis planning is bypassed, it is difficult to understand the scope of work, stakeholders' expectations, and the appropriate amount and level of business analysis required for the project. This in turn makes the estimation process difficult and can result in unrealistic expectations from those involved in the requirements-related activities.

5.9.3 Requirements elicitation and analysis

Requirements elicitation and analysis is the iterative work to plan, prepare and conduct the elicitation of information from stakeholders, to analyse and document the results of that work, and to eventually define a set of requirements in sufficient detail to enable the definition and selection of the preferred solution. Requirements elicitation is the activity of drawing out information from stakeholders and other sources. In business analysis it involves eliciting information about the causes of the business problem or the reasons for addressing the current opportunity, as well as the information that will eventually be used to derive a sufficient level of requirements to enable solution development and implementation. The elicitation process is more than collecting or gathering requirements. Part of the business analyst's job is to help stakeholders define the problem or opportunity and determine what should be done to address it. Failing to elicit enough information can result in erroneous conclusions and an increased number of assumptions.

5.9.4 Traceability and monitoring

Traceability and monitoring consists of the activities completed to ensure that requirements are approved and managed throughout the project life-cycle. A traceability matrix and associated attributes are created and applied to help monitor and control the product scope. Approved requirements are base-lined and tracked. As new requirements surface these are documented, added to the traceability matrix, assessed for their impacts on product and project, and presented to stakeholders for approval. Throughout traceability and monitoring, the status of all requirements is communicated using the communication methods defined and approved within the business analysis plan. Traceability provides the ability to track product requirements from their origin to the deliverables that satisfies them.

Tracing requirements helps to ensure that each requirement adds business value, to meet customer expectations, and to manage scope. The traceability matrix is a tool that supports dependency analysis and impact analysis. Requirements are sometimes related to other requirements to satisfy a solution. Relationships and dependencies dependency analysis is a technique used to discover these dependent relationships.

5.9.5 Solution evaluation

Solution valuation consists of business analysis activities performed to validate a full solution, or a segment of a solution, that is about to be or has already been

implemented. Evaluation determines how well a solution meets the business needs expressed by stakeholders, including delivering value to the customer. Solution evaluation activities provide the ability to assess whether or not a solution has achieved the desired business result. Evaluation provides input to go/no-go business and technical decisions when releasing an entire solution or segment of it. Evaluation of an implemented solution may also be used to identify new or changed requirements, which may lead to new or changed requirements, which may lead to solution refinement or new solutions.

5.10 SUMMARY, INTEGRATION AND CONCLUSIONS

There are three basic layers of functionality within any organisation namely the production and/or knowledge workers, the various layers of managers, and the governors. The functions of the workers are to produce goods/services or other outputs as efficiently as possible. The core purpose of the managers is to make optimal decisions to make the work of the organisation as efficient and sustainable as practical. The function of the governors is to provide oversight and direction to the management of the organisation.

There is often confusion about the difference between the functions of governance and management. The five functions of management are to: forecast and plan; organise; command or direct (lead); coordinate; and control. Good governance is achieved by integrating, coordinating and balancing the following six functions: determining the objectives of the organisation; determining the ethics of the organisation; creating the culture of the organisation; designing and implementing the governance framework for the organisation; ensuring accountability by management; and ensuring compliance by the organisation.

Strategic planning sets the context within which portfolio management operates. The strategic plan is a key interface between the governing body and the management with shared responsibility to develop an effective strategy for management to implement. The governing body appoints management, provides direction to and oversees the functioning of the organisation's management, and makes the rules the organisation's management and staff are expected to conform to. Management's job is to achieve the objectives of the organisation, working within its ethical and cultural framework whilst complying with the rules, and providing assurance back to the governing body that this is being accomplished.

The implementation of the governance framework in an organisation consists of five main themes: governing relationships; governing change; governing the organisation's people; financial governance; and viability and sustainability. The governance of portfolios, programmes and projects is an integral part of the governing change theme. Portfolio governance is established by a governing body to make decisions about investments and priorities for the portfolio and ensures that portfolio management processes are followed to sustain the organisation. The

governance of portfolios is a set of policies, regulations, functions, processes, procedures and responsibilities that defines the establishment, management and control of portfolios, programmes and projects and enables transparent executive decision-making to optimise the management of portfolios, programmes and projects. It establishes the overall direction and approval authority to execute projects and involves the selection, prioritisation and authorisation of initiatives, as well as the allocation of limited resources needed to generate the optimum value to support the long, medium and short term objectives. It requires the creation and implementation of the framework and principles by which the organisation's portfolios, programmes and projects activities are directed, supported, monitored and controlled.

Governance, when well-understood, carefully planned, and thoughtfully executed, can be one of the most crucial drivers of growth. In many situations, particularly associated with the governance of projects and programmes, the governing of organisations is far from effective. The amount of resources wasted by ineffective and competing management groups can be significantly reduced if the organisation's objectives, ethics and culture are sound. Strong governance is thus needed to make portfolio management work.

The effectiveness of management governance is based on two competing factors, firstly, how well the organisation enforces current standards, policies and processes, and secondly, how well the organisation implements change. Effective governance must promote and support a culture of value, such that the organisation has a shared understanding what constitutes value for the organisation, clearly defined roles, responsibilities and accountabilities, processes and practices around value management, with active benefits and change management, and relevant metrics. Companies with strong governance cultures have higher return on investments than their weak-governance peers. They are more disciplined in how they allocate and manage work and are also able to respond to changing times more quickly because they are more capable of implementing cultural change within their organisations.

Executive management is responsible for creating an organisation capable of achieving the objectives defined by the governance system. They also have responsibility for providing assurances to the governance system that resources of all types are being effectively and ethically used. The project delivery system has the capability to deliver projects successfully including the portfolio management sub-system and the organisational change sub-system. Four interrelated elements are required to support governance of projects and programmes. The elements are portfolio management; project sponsors; strategic PMO, and effective project and programme management.

Portfolio management focuses on selecting the right projects and programmes to start or maintain, and which to defer or cancel. Portfolio management supports the overall governance processes by balancing the workload against the organisation's

capability and capacity to undertake the work, and ensures an appropriate mix of high risk high return projects. The portfolio management functions gathers and validates the capability and resource availability data; apply the policies, procedures, methods and criteria to make and implement effective decisions; and continuously review, learn and improve portfolio management.

The project sponsor is a critical link between the executive and strategic levels to ensure that business benefits are identified and realised and also provides support to project managers and the project teams to fulfil their roles effectively.

The contribution of the strategic PMO ranges from providing internal consulting experience, project management knowledge, and application of a clear set of project process performance standards for project and programme work; monitoring and controlling of project performance; and ensuring that accurate interpretive and predictive assessment information is available to senior and executive management to support the portfolio management decision-making process.

Effective project and programme management requires that project and programme managers create the outputs and deliverables as efficiently as possible, while working ethically and in accord with the organisation's practices and procedures to achieve the organisation's strategic and tactical objectives.

Project governance must ensure that the appropriate project organisation is in place to undertake projects; decision makers at each level are accountable to higher-level management for key decisions; and that the application of any organisational constraints, such as standards and components to be used are supported by an appropriate assurance system.

Business analysis is a set of activities performed to identify business needs and recommend relevant solutions; and to elicit, document, and manage requirements. Organisations that have mature business analysis practices in place are dramatically improving the probability of project success. Business analysis and project portfolio management need to work in partnership and collaborate effectively to ensure that projects and programmes deliver the required business value. The work of business analysis is organised into the following five domains:

- Needs assessment.
- Business analysis planning.
- Requirements elicitation and analysis.
- Traceability and monitoring.
- Solution evaluation.

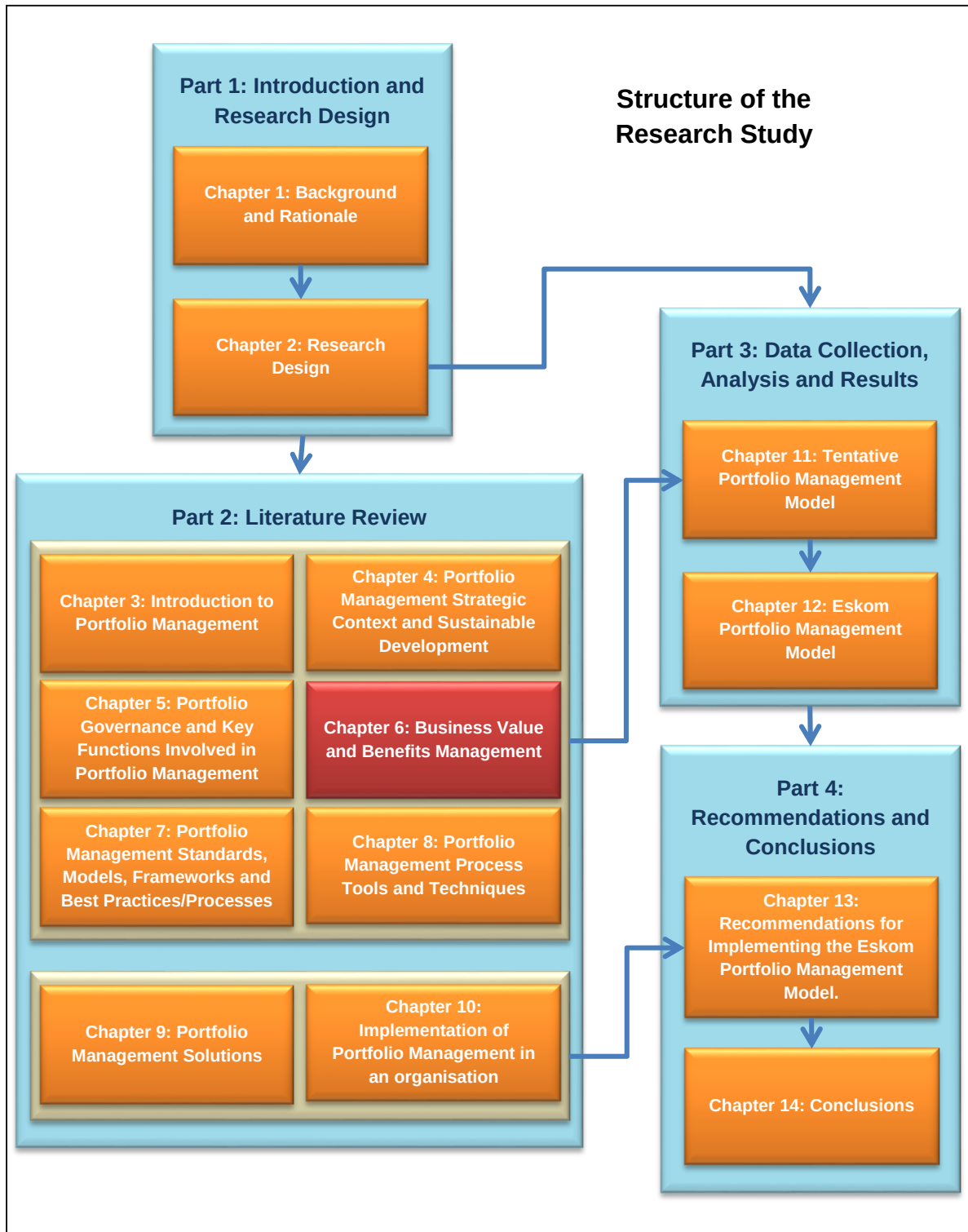
Table 25 provides a summary of the key roles and the purpose of each role of the various stakeholders and functions involved in portfolio management as derived by the researcher from this chapter.

Table 25: Key roles of stakeholders and functions involved in portfolio management

Key role	Purpose of each role (responsibility)
Management board.	Accountable for the governance of the organisation. Part of the board's responsibility is to ensure appropriate delegations of authority are made to management so they can develop an effective system of management that meets the governance needs of the organisation. Responsible for the approval of the corporate plan, annual financial plan and portfolio budget.
Business change/portfolio director.	Management board member responsible for the portfolio strategy and provides clear leadership and direction through its life-cycle. Leads the design and implementation of the portfolio governance structure with the assistance of the portfolio office.
Portfolio direction group.	Governance body where decisions about inclusion of initiatives in the portfolio are made. Ensures that portfolio initiatives are linked to the strategic objectives and benefits outlined in the business cases.
Portfolio progress group/change delivery committee.	Governance body responsible for monitoring portfolio progress and resolving issues that may comprise delivery and benefits realisation.
Portfolio management sponsor.	Person or group responsible for the implementation of portfolio management and for enabling success. Provides resources and supports the project, programme, or portfolio. Champions the approval of portfolio components (projects, programmes, and operations). Once approved the sponsor helps ensure that the components perform according to the organisational strategy and objectives.
Strategic and business planning.	Function responsible for producing the annual corporate plan, strategies, strategic goals and objectives. Sets the context within which portfolio management operates by providing the basis for determining the scope of the portfolio and the prioritisation of individual initiatives and the measures against which portfolio management will ultimately be assessed.
Strategic portfolio management office/portfolio office.	Works closely with strategic and business planning and other functions involved in portfolio management to achieve the strategic goals and objectives. Responsible for centralisation of support for portfolios, programmes and projects, maintains visibility and control on the performance and trends of the projects and programmes and provides interpretive and predictive assessments and accurate information to executive and senior management and stakeholders at the right time, enabling them to make effective decisions. Guardian of the portfolio process – monitoring their operation, reporting any non-compliance and providing an assurance on their effective operation.
Business analysis.	Function responsible to identify business needs, elicit and manage requirements, and recommend relevant solutions to meet organisational needs. Need to focus on the ability to accommodate rapid change and work in partnership and collaborate with portfolio management to ensure that projects and programmes deliver the required business value.
Portfolio/programme/project management office (PMO).	Entity that defines and maintains the process standards related to project, programme and portfolio management and may handle communication in the form of progress reporting. The PMO provides guidance on the practice of project, programme, and portfolio management and may be involved in execution such as facilitation, process management, and supporting implementation of project management methodologies. The

	PMO can function on an enterprise-wide level, or as one of many departmental PMOs.
Portfolio manager.	Person responsible for the execution of the portfolio management process with the focus on “doing the right work”. Coordinates the effective and efficient operation of the portfolio management practices, provides support to the business change/portfolio director and the portfolio process group/change delivery committee – including ensuring that they receive the information they require to enable them to discharge their responsibilities. The portfolio manager may be an individual, a group, or a governing body.
Portfolio management team.	Team responsible for the efficiency and effectiveness of the internal running of the portfolio.
Portfolio benefits manager.	Person responsible for ensuring that a consistent approach to benefits management is applied across the portfolio and that benefits realisation is optimised from the organisation’s investment in change.
Finance/capital allocation.	Function responsible for providing guidance for business case preparation, development of the annual portfolio financial plan and budget, tracking the actual spend in a year, and ensuring the realisation of financial benefits by adjusting budgets where appropriate.
Project sponsor/senior responsible owner (SRO).	Person owns the project business case and is responsible for agreeing the project objectives with the relevant stakeholders. Responsible for ensuring decisions are in line with the organisation’s strategy and governance framework, providing feedback to strategic decision makers, and directing and supporting the projects and programmes being sponsored. The project sponsor/SRO is the route through which a project manager directly reports and from which a project manager obtains his/her formal authority, remit and decisions.
Programme and project management.	Function responsible for the management delivery of change initiatives (e.g. programmes and projects).
Performance management.	Function responsible for designing and implementing portfolio performance metrics and driver-based models linking change initiatives and their benefits to the organisation’s strategic objectives. Validating performance against business cases and designing the content and format of portfolio reporting for effective decision-making.
Procurement/commercial.	Function must have an early sight of proposed new initiatives and is responsible for providing procurement and commercial advice and early commercial input to business case development, so ensuring more reliable scheduling to realistic commercial timescales.
Human resources (HR).	Function must have a view of the anticipated impact of the change initiatives on staff. Function is responsible to provide assistance with workforce planning, recruitment and training.
Communications.	Function must ensure management and staff has a clear and consistent understanding of the organisational strategy and their role in delivering it, engage staff in considering how best to implement the changed ways of working, improve the ability of management and staff to make aligned and consistent decisions, improve understanding of decisions made elsewhere in the organisation, ensure consistency in messages and facilitate effective ongoing staff engagement.

CHAPTER 6: BUSINESS VALUE AND BENEFITS MANAGEMENT



6.1 INTRODUCTION

6.1.1 Background

A report from the Association of Project Management (APM) Benefits Management Special Interest Group (SIG) (2012) states that the uncertainty in financial markets and public sector spending cuts means that organisations can no longer continue to invest in change without a greater level of certainty that the benefits will be realised. Organisations that do not invest adequate effort in benefits management activities run the risk of not achieving adequate value from their investments in projects and programmes. The Project Management (PMI) *Pulse of the Profession In-depth Report: The Strategic Impact of Projects: Identify Benefits to Drive Business Results* (2016) confirms that if benefits are managed well, organisations realise the greatest possible return on their investments. Benefits ultimately justify the expenditure on projects and therefore organisations must focus on truly embedding benefits management across their entire organisation so that it becomes part of the everyday business activity. This takes time and there will be challenges to overcome, many of them related to behaviours and culture. Benefits management is not optional; it is an absolute necessity for organisations to survive.

6.1.2 Aim

This chapter describes the concepts of business value and benefits management and how it relates to portfolio management. It further outlines the benefits management processes and strategies for implementing benefits management as part of portfolio management implementation.

6.2 BUSINESS VALUE

According to the *PMI Standard for Program Management* (2013b), business value is a concept that is unique to each organisation and is defined as “*the entire value of the business - the total sum of all tangible and intangible elements*”. Value is created through the effective management of on-going operations. Through the effective use of portfolio, programme, and project management, organisations will possess the ability to employ reliable, established processes to meet strategic objectives and obtain greater value from their project investments. Portfolio management aligns components (programmes, projects, or operations) to the organisational strategy, organised into portfolios or sub-portfolios to optimise project or programme objectives, dependencies, costs, timelines, benefits, resources, and risks. Using programme management, organisations have the ability to align multiple projects for optimised or integrated costs, schedules, effort, and benefits. Programme management focuses on project interdependencies and helps to determine the optimal approach for managing and realising the desired benefits.

APM (2013) clarifies the difference between value and benefits in a white paper and subscribes to the definition of value for project management by the OGC's

Management of Value publication (2010) where it is described as “the ratio of the satisfaction of needs (benefits) and the use of resources (money, people, time, energy and materials) which will normally boil down to cost”. The term *benefits* here is expanded to include stakeholder requirements, as the two are often related. As the units are often unrelated, the equation here is shown as a proportionality rather than equality.

$$V \text{ (value)} \propto (B \text{ (benefits)} + \text{requirements})/\text{cost or value} \propto \text{benefits}/\text{cost}$$

So the concepts of value and benefits are not the same thing, but they are clearly related. In addition to value and benefits being different concepts, there is in practice, a timing issue between them. Value is initially created in the concept phase of a project when the business case is first produced and the direction of a project is agreed. The reason for doing the project should be tested to ensure it will create value for the organisation and its stakeholders. In addition, the option chosen to deliver the benefits needs to be tested to ensure it gives the best value for money.

There are generally a number of different ways of delivering the benefits and one is likely to provide better value than another. Benefits should, at this early stage in the project, be stated with clarity and in a measureable form. On the other hand the benefits themselves are normally achieved after the project is completed, in the operational phase of the deliverables. By this time all the money has been spent, the product has been delivered and the creation of value depends entirely upon delivering the benefits. To have spent the money and then to fail to deliver, or only partially deliver, the benefits will almost certainly result in a significant loss of value. Benefits management is therefore a key aspect in the delivery of the value that was potentially created in the early phase of the project.

Value management is a technique that, if used correctly and at the right time in the life of a project, can greatly enhance the value for money that a project can deliver. It works through a facilitated process that initially concentrates on the problem to be solved or opportunity to be gained to ensure the project has a solid business case that will create value. Value management will consider the business drivers through “functional analysis” and thus confirm or otherwise the validity of the problem or opportunity in terms of their ability to deliver value to the organisation. It can also assist the description of benefits in the business case. Once the business case is established, then potential solutions can be considered through a creative process, and the best value option for project delivery can be selected, taking into account factors such as risk, technical capability and political acceptability. Value engineering can similarly improve designs to create further potential value for money later in the project life-cycle. Value can be retained throughout the project life-cycle using risk management (to stop the erosion of value through unmanaged threats), appropriate procurement strategy (concentrating on value rather than cost), and ensuring on-going costs and schedules are in line with the original plan (monitoring through earned value management).

According to a report from APM (2011b) on *Delivering benefits from investments in change: Winning hearts and minds*, organisations in the public and private sectors are making increasingly significant, high profile and complex investments. These investments involve the acquisition, creation, or enhancement of assets that provide capabilities, which if properly managed and utilised, have the potential to create and sustain business value. Yet, many investments fail to fully realise their expected benefits and, in many cases, have actually eroded or destroyed business value. If value is to be created and sustained, benefits need to be actively managed through the whole investment life-cycle. APM (2011b) refers to study by Cranfield that found that less than 30% of the largest UK companies actually have a formal benefits management process. It is hardly surprising therefore, that many boards are left rather uncertain of the value that their internal investments will add or are actually adding to their organisations. The report continues that strong leadership, engagement and involvement at every level of the organisation are required to change the organisation's culture, from one that focuses on delivering a capability to time, cost and quality, to a culture that focuses on delivery of value. The report states that this will not happen overnight and proposes a journey of iterative steps toward cultural transformation and the achievement of real and sustainable change.

6.3 BENEFITS MANAGEMENT

In this section benefits management is described within the perspective of programme management as per the *PMI Standard for Program Management* (2013b). PMI (2013b) states that programme benefits management includes processes to clarify the programme's planned benefits and intended outcomes and includes processes for monitoring the programme's ability to deliver against these benefits and outcomes. According to PMI (2013b), a benefit is an outcome of actions and behaviours that provide utility, value, or a positive change to the intended recipient. Some benefits are easily quantifiable (e.g. 20% increase in revenue) while others may be less easily quantifiable and may produce somewhat uncertain outcomes (e.g. improved customer satisfaction). The intended recipients of the benefits must be prepared for the resulting change to be able to sustain the incremental benefits through the completion of the programme and beyond. Figure 30 outlines the benefits management process as adapted from the *PMI Standard for Program Management* (2013b).

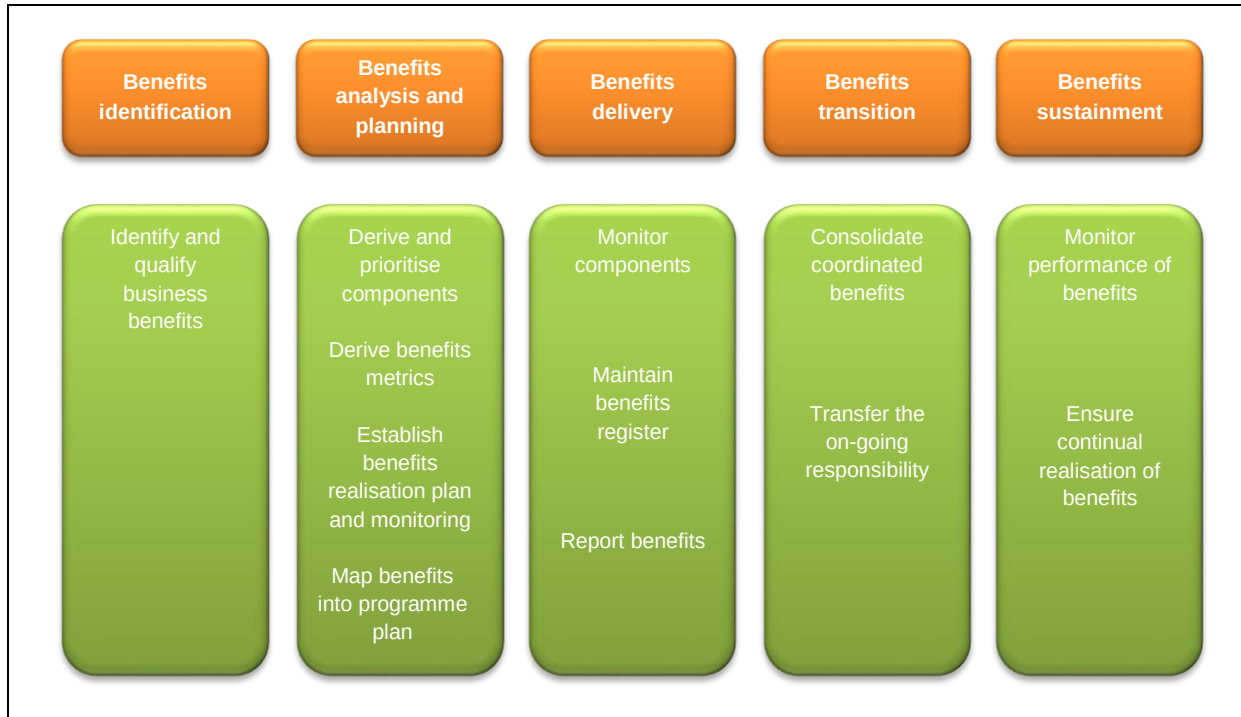


Figure 30: Benefits management process adapted from the PMI Standard for Programme Management (2013b)

6.3.1 Benefits identification

The purpose of benefits identification is to analyse the available information about organisational and business strategies, internal and external influences, and programme drivers to identify and qualify the benefits that programme stakeholders expect to realise. Activities that make up benefits identification include:

- Defining the objectives and critical success factors for the programme or project.
- Identifying and quantifying business benefits.
- Developing meaningful metrics and key performance indicators to measure the actual delivery of benefits and planned benefits.
- Establishing processes for measuring progress against the benefits plan.
- Creating and maintaining the communication processes necessary to record programme progress and report to stakeholders.

6.3.1.1 Business case

The business case establishes the authority, intent, philosophy of the business need and programme sponsorship, while providing direction for structure, guiding principles, and organisation of the programme.

6.3.1.2 Benefits register

The benefits register collects and lists the planned benefits for the programme and is used to measure and communicate the delivery of benefits throughout the duration of the programme.

6.3.2 Benefits analysis and planning

The purpose of benefits analysis and planning is to establish the programme benefits realisation plan and develop the benefits metrics and framework for monitoring and controlling both the projects and the measurements of the benefits within the programme.

6.3.2.1 Benefits realisation plan

The benefits realisation plan formality documents the activities necessary for achieving the programme's benefits. It identifies how and when benefits are expected to be delivered to the organisation and specifies mechanisms that should be in place to ensure that the benefits are fully realised over time. The benefits realisation plan is the baseline document that guides the delivery of benefits during the programme's performance.

6.3.2.2 Benefits management and programme roadmap

Programme benefits management establishes the programme architecture that maps how the component projects will deliver the capabilities and outcomes that are intended to achieve the programme benefits. The programme architecture defines the structure of the programme components by identifying the relationships among components and the rules that govern their inclusion.

6.3.2.3 Benefits register updates

The benefits register, initiated during benefits identification, is updated during benefits analysis and planning. The benefits register is reviewed with appropriate stakeholders to define and approve key performance indicators and other measures that will be used to monitor programme performance.

6.3.3 Benefits delivery

The purpose of benefits delivery is to ensure that the programme delivers the expected benefits, as defined in the benefits realisation plan. Activities that make up benefits delivery include:

- Monitoring the organisational environment, programme objectives, and benefits realisation to ensure that the programme remains aligned with the organisation's strategic objectives.
- Initiating, performing, transitioning, and closing component projects and sub-programmes, and managing the interdependencies between them.
- Evaluating programme risks and key performance indicators relating to programme financials, compliance, quality, safety, and stakeholder satisfaction in order to monitor the delivery of benefits.
- Recording programme progress in the benefits register and reporting to key stakeholders as directed in the programme communication plan.

The benefits delivery phase ensures that there is a defined set of reports or metrics reported to the programme management office, programme governance board, programme sponsors, and other programme stakeholders.

6.3.3.1 Programme benefits and programme components

A programme is comprised of multiple components, including component projects and sub-programmes. The initiation and closure of these programmes are significant milestones in the programme roadmap and schedule and signal the achievement and delivery of incremental benefits.

6.3.3.2 Programme benefits and programme governance

The actual benefits delivered by the programme components or programme itself should be regularly evaluated against the expected benefits, as defined in the benefits realisation plan. Effective governance helps ensure that the promised value is achieved as benefits are delivered. The following aspects should be analysed and addressed during the benefits delivery phase:

- Strategic alignment.
- Value delivery.

6.3.4 Benefits transition

The purpose of benefits transition is to ensure that the programme benefits are transitioned to operational areas and can be sustained once they are transferred. Benefits transition ensures that the scope of the transition is defined, the stakeholders in the receiving organisations or functions are identified and participate in the planning, the programme benefits are measured and sustainment plans are developed, and the transition is executed.

6.3.5 Benefits sustainment

The purpose of benefits sustainment is to ensure that on-going sustainment activities have been transitioned to the appropriate entities (e.g. operations and maintenance) or subsequent programmes to steward the on-going post-transition work. A benefits sustainment plan should be developed prior to programme closure to identify the risks, processes, measures, metrics, and tools necessary to ensure continued realisation of the benefits delivered.

6.4 BENEFITS REALISATION AND PROJECT OUTCOMES

According to the *PMI Pulse of the Profession In-Depth Report: Capturing the Value of Project Management* (2015e) benefits realisation illustrates and measures precisely how projects and programmes add true value to the organisation. Organisations that implement benefits realisation programmes understand this value, because they are capturing the hard facts needed to showcase the return on their project management investments. But far too few organisations have effective

benefits realisation programmes in place, in fact, many have no programme at all, so they are missing an opportunity to understand what would help them increase the rate of project success. The challenges of benefits realisation need to be studied to gain insight into ways organisations can meet those challenges. The PMI research report indicates that only one in five organisations reports having a high level of benefits realisation maturity. Organisations struggle to become adept at it. High performers are over four times more likely to report high benefits realisation maturity (39% compared to 9% of low performers), because they recognise it as a business imperative. In addition, organisations that report high benefits-realisation maturity have significantly better project outcomes, as noted in the Table 26.

Table 26: Benefits realisation and project outcomes (Source: PMI, 2015b)

	High maturity	Low maturity
Met original goals/business intent	76%	54%
Finished on time	66%	38%
Finished within budget	67%	43%

Benefits realisation is challenging, but when executed well, it helps ensure that the outcome of a project produces the desired benefits, as projected in the business case. This is achieved by establishing, measuring, and communicating the results of an organisation's initiatives. Such insight into performance is also an essential planning tool for future projects and resource allocation, including talent. Organisations with mature benefits realisation processes can benefit from:

- Clearly identifying the strategic rewards prior to starting a project.
- Effectively assessing and monitoring risks to project success.
- Proactively planning for making necessary changes in the organisation.
- Explicitly defining accountability for project success.
- Routinely extending responsibility for integration to the project team.

6.5 BEYOND BUSINESS AS USUAL TO VALUE AS USUAL

APM (2012a) published a report *Delivering benefits from investment in change: Beyond "business as usual" to "value as usual"*. According to this report organisations continue to struggle with realising value from their increasingly large and complex investments in organisational change and mentions that benefits management is a key discipline to address this challenge. If organisations are to address this challenge, they must take a holistic approach, ensuring that the benefits management discipline is embedded in all the relevant processes across the full life-cycle of the investment decision. APM (2012a) states that failing to extend value-governance to the full life-cycle view can often result in significant risk of value not being sustained, being eroded or, worse, being destroyed. This report describes the five actions that business leaders must take if they are to extend the incorporation of benefits management beyond investments to assets - to the on-going operational

management of the assets resulting from those investments. In describing these actions, the term “value” is used to represent the overarching goal, and the term “value-governance” is used to describe an approach to governance that is focused on value, supported by benefits management practices which ensure that benefits are realised from investments and resulting assets, and that those benefits contribute, both individually and collectively, to overall value. The five actions are described in the sections that follow.

6.5.1 Take an integrated view of value across investment and asset management

In many organisations investment and asset management are treated as two very distinct disciplines. Some of this is driven by accounting practices, where much of the investment cost is treated as capital cost, while *business as usual* management of assets is treated as an operational cost. It is also exacerbated by organisational structures, as the professional disciplines required to design and develop are normally quite different from those required to operate and maintain. In addition, while cross-disciplinary teams are often put in place to support new investments, these resources return to their organisational “silos” when the investment is “complete”, and the resulting assets become *business as usual*. Ultimately, the goals of investment and asset management should be the same - to create and sustain optimal value to the organisation by maximising benefits at an affordable cost with a known and acceptable level of risk. If value is to be optimised, there must be an integrated view across investment and asset management such that the future asset value is considered at the investment stage, and the original reasons for making the investment are considered throughout the asset stage.

To ensure that value is optimised, and avoid costly failures, the leadership team must be committed to continually promote an integrated view of value management across strategy, investment and operational asset management, incorporating proven benefits management, organisational change management and performance management practices. Examples of assets included in such a view go beyond physical and financial assets to include others such as human resources, business services, business processes, business relationships, intellectual property etc. Effective adoption of such an integrated view will also require changes to overall organisational governance, specifically the value aspects of governance.

6.5.2 Extend governance of value to encompass the full life-cycle of an investment decision

While there has been an increased focus on good practice in organisational governance, much of this focuses on delivery and cost, with limited attention given to value. Again, where value is considered, most of the focus is on new investments. Benefits management practices, if they exist, are all too often seen as discretionary processes. Without extending governance of value to *business as usual*,

organisations are not dealing with the full life-cycle of the investment decision, as illustrated in Figure 31.

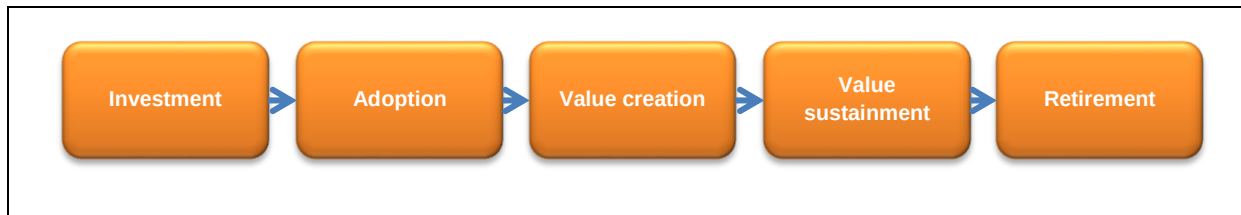


Figure 31: Full life-cycle of an investment decision (Source: APM, 2012a)

If organisations are to come near to maximising value from their investment decisions, the leadership team must be aware, understand, and be committed to accepting and driving ownership and accountability for benefits, and doing so throughout the full life-cycle of investment decisions. Ownership and accountability for benefits through the full life-cycle of investment decisions must be linked directly to an individual's performance framework and reward package -starting with the leadership team. Beyond the requisite leadership commitment, this will require changes to:

- Governance processes.
- Governance structures.
- Governance roles and responsibilities.
- Information requirements.
- Supporting tools.

Two other factors that will be key to success are: a comprehensive and effectively used business case; and much broader awareness of, and experience with, benefits management practices throughout the organisation.

6.5.3 Use the business case as a living, operational management tool to support the creation and sustainment of value

Business cases sow the seeds of success or failure of investments, and most enterprises spend a lot of time and effort creating business cases - yet research and practice show that little of this currently contributes to the creation or sustainment of value. Business cases must be promoted and used as the key management tool to guide investment decisions, manage investments through to successful implementation (or termination if necessary), and manage the resulting operational assets such that value is created and sustained. The business case should not be a static document supporting a one-time investment decision. It is the primary tool to monitor and manage the delivery of both required capabilities and the realisation of desired business outcomes. It should be used as a dynamic management tool - one that is continually updated to reflect the current status of the investment and its resulting assets. It must clearly and unambiguously identify how the performance of the investment and resulting assets will be monitored, the metrics to be used

(including delivery, operational and benefits metrics), and who will be accountable for the successful creation of optimal value throughout the full life-cycle of the investment decision.

6.5.4 Embed benefits management practices and competencies across the organisation

For benefits management practices, and specifically benefits realisation, to be effective, they must be embedded in all aspects of the investment decision-making process, from strategy through to asset retirement. Limited or separate instances of benefits management lead to inconsistent and disconnected investment and asset management approaches, creating significant risk of missing opportunities to increase value, and wasteful duplication of effort. The leadership team must be committed to embedding consistent benefits management practices and competencies across the organisation. Management programmes will also need to be broadened to include an understanding of value management, including benefits realisation, management of organisational change, and performance reporting.

6.5.5 Take an incremental approach, delivering demonstrable improvement, and building the foundations for a value culture

Experience has shown that full implementation of a value culture will take considerable time - measured in years. Leadership will need to balance achievement of the goal of a value culture with a pragmatic approach to getting there.

6.6 ALIGNING BENEFITS TO STRATEGIC GOALS

PMI's *Pulse of the Profession In-depth Report: The Strategic Impact of Projects: Identify Benefits to Drive Business Results* (2016a) research results show that when organisations make benefits management part of a formal and thoughtful project management approach, they achieve significantly better results than those that do not. Organisations with the best benefits realisation practices waste less money - 67% less on projects than others. According to PMI's *Pulse of the Profession In-depth Report: The High Cost of Low Performance: How will you improve business results?* (2016b) fewer projects meet original goals which leads to substantial monetary loss for organisations. PMI (2016b) suspects that this is the result because so few organisations monitor and measure the benefits that projects and programmes deliver across the business. To better understand how organisations identify project-driven benefits, as well as how they align those benefits with strategic goals, PMI (2016b) surveyed 1 189 project management practitioners, and conducted in-depth interviews with senior executives and PMO directors and directors of project management. From the results of the research, PMI (2016b) concluded that organisations that succeed in delivering the intended strategic impact from their projects do the things as discussed in the sections that follow.

6.6.1 Strengthen the conversation around project management and benefits realisation

Project management is how strategy is implemented successfully. Benefits identification is determining whether projects, programmes, and portfolios can produce the intended business results. When project benefits are frequently identified before the start of a project as part of the business case organisations experience better results: 74% of projects meet goals and business intent versus 48% in organisations that do not. And when organisations frequently use formal project management to address the benefits identification process, they experience greater gains: 80% of their projects meet goals and business intent versus 54% in organisations that do not.

The following reasons are given why benefits identification matters:

- Identifying project benefits lets the organisations gain focus and assign the resources to the best projects. It is the way organisations increase their value.
- Project benefits are the trigger to any project.
- Without properly identifying benefits, there is no measure for project success.
- It helps to identify the gaps in the organisation's understanding and it helps to make a better strategy for future projects.
- If a team does not understand why they are working on a project, it is hard to maintain the momentum to get the project completed on time and within budget.
- The success of the project is getting to the intended benefits.

6.6.2 Position benefits realisation as a shared responsibility between leadership and project teams

Executives typically focus on organisational strategy, whereas project managers focus more on project activities. But they both have a vested interest in ensuring projects deliver the benefits critical to achieving strategic objectives - the necessary change that will advance the business. As a result, benefits identification is ideally a shared responsibility, which should also extend to business owners and executive sponsors. PMI (2016a) refers to a case study done by McCalden, the PMO Manager for Environment Protection Authority (EPA) in South Australia that has changed their view from a deliverable focused organisation to one that looks at benefits. The first step was to ensure focus on the organisation's objectives. They are now starting to categorise the benefits into four basic groups focused on cost savings, overall efficiency gains, technical benefits, and support for intangible benefits. The distinction between deliverables and benefits has been critical for the EPA, because the executive group has worked hard to set the strategic direction to ensure focus on delivering the right projects to achieve those objectives.

6.6.3 Take a strategic view of benefits

Managing project benefits underpins all aspects of strategic success. When benefits are delivered, organisations achieve their desired outcomes: customers are satisfied, business owners realise the return on their investment, and project teams see that their job was done well. Yet, only half of organisations report that they frequently identify benefits that are measurable, concrete, or explicit to achieving strategic goals. Organisations must recognise that benefits realisation is a central component of project and programme management. It is the means to determine ROI as well as to identify the many intangible benefits that projects and programmes deliver, including risk reduction and issues of customer satisfaction. The following practices are central to the discipline:

- Identify benefits to determine whether projects, programmes, and portfolios can produce the intended business results.
- Execute benefits management to minimise risks to future benefits and maximise the opportunity to gain additional benefits.
- Sustain benefits realisation to ensure that whatever the project or programme produces continues to create value.

6.7 STRATEGIES FOR IMPLEMENTING BENEFITS MANAGEMENT

A report from APM (2012b) mentions that many organisations have repeatedly tried to implement benefits realisation practices and the feedback is that it didn't work or it is too challenging. This report outlines five essential strategies for success to embed a strong benefits management capability as an essential part of everyday business activity. These five strategies are discussed in the sections that follow.

6.7.1 Embed a strong focus on ownership and accountability through good governance, including proactive leadership at every level in the organisation

Establishing a culture of effective ownership and accountability for benefits realisation has had mixed results across most organisations mainly due to the following behavioural reasons:

- Fear of failure to realise the benefits and the resultant impact.
- Unwelcome media attention for the organisation or the individual manager.
- The “not wanting to stake my career on this” factor.
- Misalignment between ownership of benefits, organisational governance and/or governance of change.

APM (2012b) highlights the importance of effective governance in successful benefits realisation. The following actions are proven to increase the effectiveness of ownership and accountability for benefits realisation:

- Chief Executive or equivalent commitment to lead and own the benefits agenda across the organisation as an integrated element of the organisation's core governance.
- Senior management commitment to drive ownership and accountability for benefits within their own business areas.
- Utilise non-executive board members to provide appropriate challenge to the effectiveness of benefits realisation. Their independence should avoid any boardroom issues that impact transparency.
- Ensure ownership and accountability for benefits delivery is reflected in the relevant individuals' performance framework and total reward package; and management and leadership development programmes also need to focus on how to deliver benefits from investments in change.

6.7.2 Stop repeating the same mistakes

Many organisations have tried to implement benefits management and were not successful. Organisations can learn from their mistakes more through meaningful trend analysis over time than from a one-off process orientated post implementation review. Experience has proven that the following actions greatly increase the effectiveness of organisational learning in benefits realisation:

- Establish appropriate support channels to guide the organisation through the benefits journey e.g. communities of practice, change champions, coaches and mentors.
- Identify lessons learned on the approach to benefits realisation through meaningful trend analysis over a sufficient period of time. Look for common themes rather than one-off personal judgements; and implement an effective knowledge management strategy for benefits realisation and avoid simply pushing process around the organisation.

6.7.3 Seize the window of opportunity to embed benefits realisation - it doesn't last forever

The drive to embed successful benefits realisation across the organisation will run out of steam if it does not show sustainable value within a specific time-period. There is now an ever increasing focus within project and programme management, highlighting benefits must be at the forefront of delivery. The focus for embedding benefits realisation needs to be on publishing quick win results, and proving the value before key people lose confidence. It is critical to build strong relationships with key influencers across the organisation and have benefits understood as a fundamental element of organisational governance. The successes that result from embedding benefits management should be captured and used to further sell and reinforce the importance of benefits realisation.

6.7.4 Bring together the right people across the organisation

Benefits realisation is much more than just a part of project and programme management. It is closely related to strategy and business operations, requiring a specific role or function ideally, to provide oversight and coordination of benefits realisation, thereby supporting the governance of the organisation. Benefits realisation is a complex and emotive topic, requiring significant partnership working across the organisation. Successful benefits realisation depends on bringing together the key stakeholders and professionals across the organisation, at the appropriate points in the change journey. Effective stakeholder management and successful partnership working across the organisation are critical to success. Benefits realisation requires a strong focus on business context rather than the benefits management process itself:

- Get the senior management team to buy-in to partnership working on benefits realisation across the organisation, and see it as an integral part of governance.
- Integrate benefits realisation with *business as usual* operational performance management to ensure that benefits apply to new investments as well as existing assets.
- Focus on the priorities of the organisation's senior management team and structure the plan for embedding benefits realisation around it.
- Focus on continually developing the leadership skills of those leading benefits realisation.
- Respect professional boundaries and recognise where an approach might be overstepping the mark e.g. benefits realisation should not attempt to replace the role of the other functions across the organisation.
- When engaging stakeholders and developing professional relationships across the organisation, focus on the "what's in it for them" factor and find the synergies.

6.7.5 Focus on bottom line business results

Benefits realisation requires a strong focus on business context rather than the benefits management process itself. Evidence suggests that the majority of organisations have not yet grasped the opportunity to integrate operational performance management, change management and benefits realisation. Successful partnership working between those delivering change and those running *business as usual* is critical to achieving this. Experience has proven that the following actions greatly increase the effectiveness of the focus on bottom line results:

- Integrate benefits realisation and operational performance management into a common approach to avoid parallel or competing industries.

- Align the approach to benefits realisation with strategic planning and strategy execution to ensure that there is continuity from the start to the end of the change journey.
- Ensure that professionals involved in managing and leading benefits realisation also have significant experience outside of project and programme management, ideally operational experience within the organisation.

6.8 SUMMARY, INTEGRATION AND CONCLUSION

Business value is defined as the entire value of the business - the total sum of all tangible and intangible elements and is created through the effective management of on-going operations. Through the effective use of portfolio, programme, and project management, organisations will possess the ability to employ reliable, established processes to meet strategic objectives and obtain greater value from their project investments. Value is the ratio of the satisfaction of needs (benefits) and the use of resources (money, people, time, energy and materials) which will normally boil down to cost. The term benefits can be expanded to include stakeholder requirements, as the two are often related. As the units are often unrelated, the equation here is shown as a proportionality rather than equality.

$$V \text{ (value)} \propto B \text{ (benefits + requirements)}/\text{cost}$$

A benefit is an outcome of actions and behaviours that provide utility, value, or a positive change to the intended recipient. The intended recipients of the benefits must be prepared for the resulting change to be able to sustain the incremental benefits through the completion of projects and programmes and beyond.

Figure 32 outlines a benefits management process as adapted from PMI (2013b).

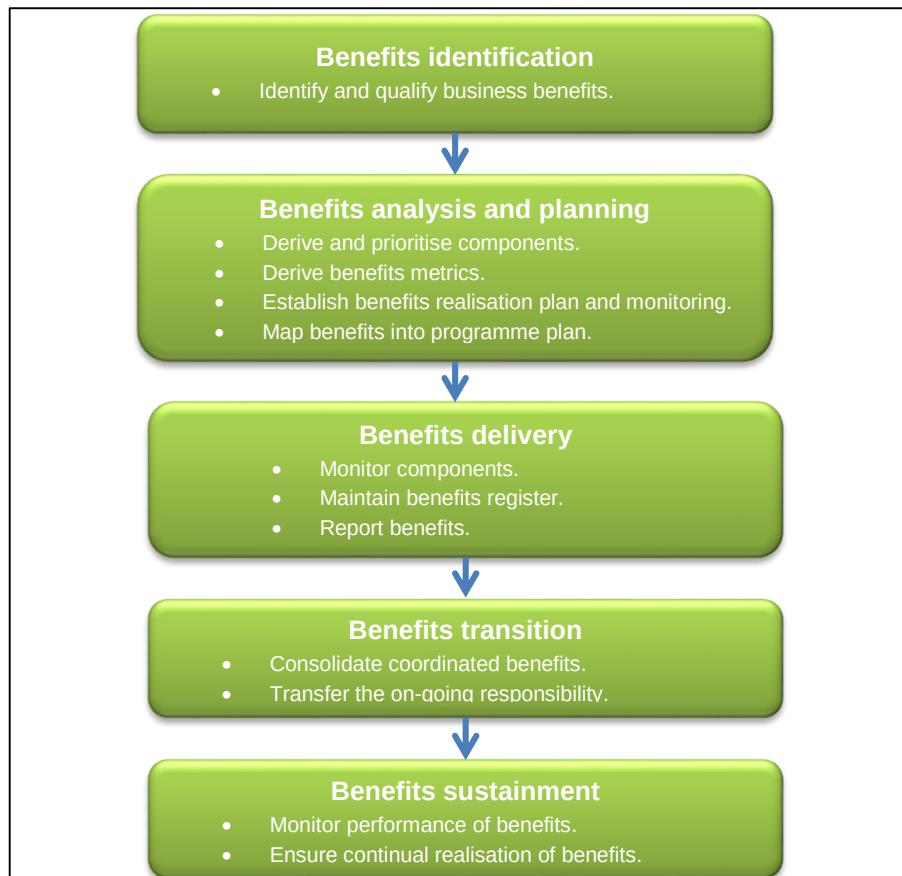


Figure 32: Benefits management process as adapted from PMI, 2013b)

The purpose of *benefits identification* is to analyse the available information about organisational and business strategies, internal and external influences, and drivers to identify and qualify the benefits that stakeholders expect to realise. The purpose of *benefits analysis and planning* is to establish a benefits realisation plan and develop a benefits metrics and framework for monitoring and controlling the benefits. The purpose of *benefits delivery* is to ensure that the expected benefits are delivered as defined in the benefits realisation plan. The purpose of *benefits transition* is to ensure that the benefits are transitioned to operational areas. The purpose of *benefits sustainment* is to ensure continued realisation of the benefits.

Benefits must be delivered to achieve value for the organisation. Value however must be created at the beginning of the project through the development of the business case and in the selection of the option to be delivered. Value must be maintained throughout the project using, for example, risk, procurement and cost and schedule management. Value management and value engineering are techniques that can help to create value early in the life of a project.

Far too few organisations have effective benefits realisation programmes in place to illustrate and measure how projects and programmes add true value to the organisation. Benefits realisation is challenging, but when executed well, it helps

ensure that the outcome of a project produces the desired benefits, as projected in the business case.

Value-governance is a term is used to describe an approach to governance that is focused on value and which ensures that benefits are realised from investments and resulting assets. The following five actions can be taken to extend the incorporation of benefits management beyond investments to assets:

- Take an integrated view of value across investment and asset management.
- Extend governance of value to encompass the full life-cycle of an investment decision.
- Use the business case as a living, operational management tool to support the creation and sustainment of value.
- Embed benefits management practices and competencies across the organisation.
- Take an incremental approach, delivering demonstrable improvement, and building the foundations for a value culture.

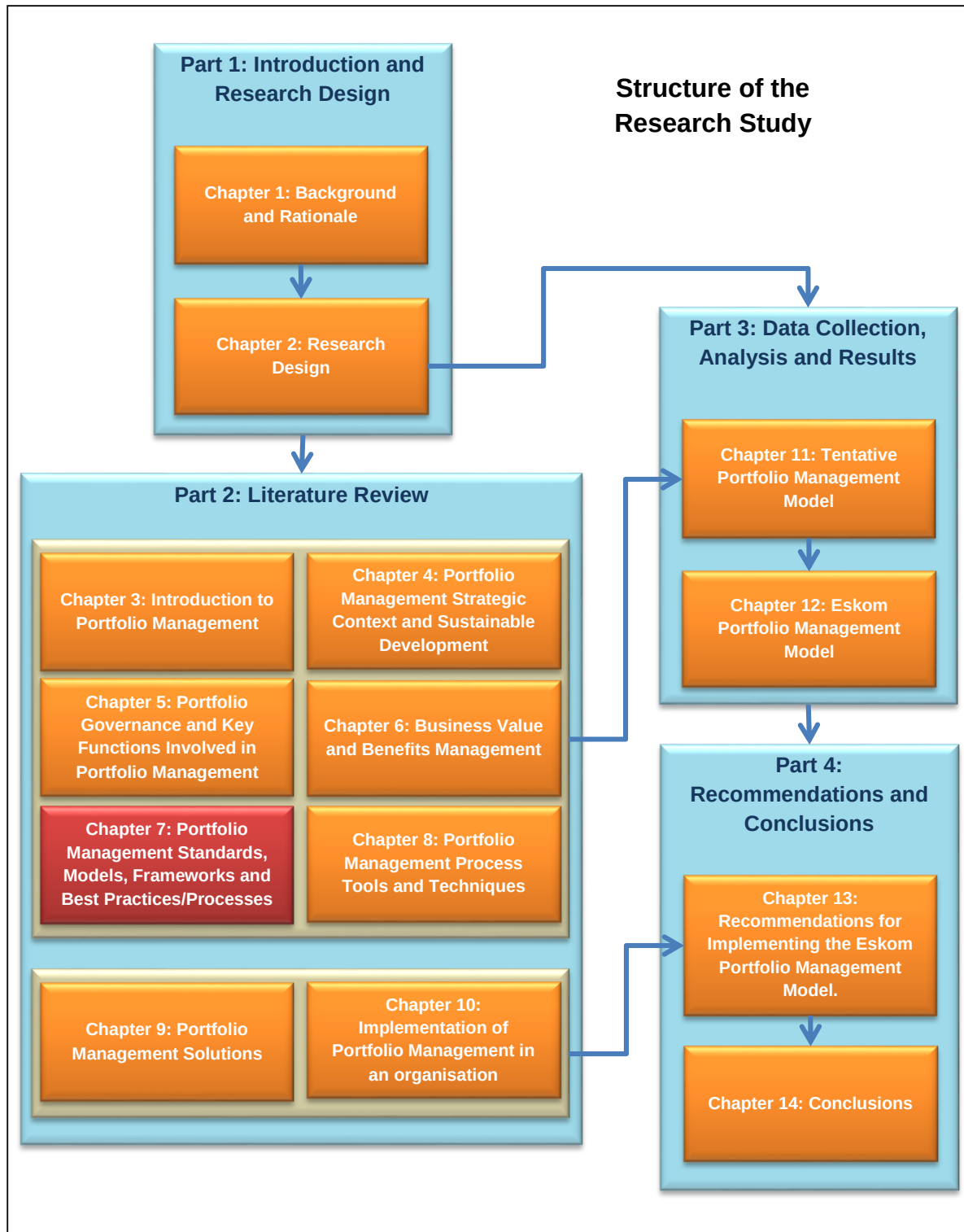
Organisations can do the following to align benefits to strategic goals:

- Strengthen the conversation around project management and benefits realisation.
- Position benefits realisation as a shared responsibility between leadership and project teams.
- Take a strategic view of benefits.

Strategies for implementing benefits management include:

- Embed a strong focus on ownership and accountability through good governance, including proactive leadership at every level in the organisation.
- Learn from the mistakes of implementing benefits management to increase the effectiveness of organisational learning in benefits realisation.
- Seize the window of opportunity to embed benefits realisation - it will run out of steam if it does not show sustainable value within a specific time-period.
- Bring together the right people across the organisation. Benefits realisation is a complex and emotive topic, requiring significant partnership working across the organisation with a strong focus on business context. Effective stakeholder management and successful partnership working across the organisation are critical to success.
- Focus on the bottom line business results rather than the benefits management process itself by ensuring a successful partnership between those delivering change and those running *business as usual*.

CHAPTER 7: PORTFOLIO MANAGEMENT STANDARDS, MODELS, FRAMEWORKS AND RELATED BEST PRACTICES/PROCESSES



7.1 INTRODUCTION

7.1.1 Background

International portfolio management standards provide guidance on the principles of portfolio management that typically support an organisation's strategies to deliver organisational value. There is widespread consensus about the value and usefulness of the knowledge and good practices of these international portfolio management standards. The increased acceptance of portfolio management indicates that the application of appropriate knowledge, processes, skills, tools, and techniques to select the right work have significant impact on project, programme and organisational success. These standards also provide a common vocabulary within the portfolio management profession for discussing, writing, and applying portfolio management concepts. Portfolio management models and frameworks provide portfolio management processes, tools and techniques to assist organisations to successfully implement portfolio management best practices. It outlines the repeatable processes for planning, prioritising, approving, and executing work as a portfolio by tracking, aligning projects and programmes with key initiatives to achieve desired business outcomes.

7.1.2 Aim

The aim of this chapter is to review and compare various internationally accepted portfolio management standards, models and frameworks and their associated steps/processes/practices/stages/domains and use these as input to develop a tentative portfolio management model (i.e. preparing a proposal).

7.2 BS ISO 21504:2015 PROJECT, PROGRAMME AND PORTFOLIO MANAGEMENT - GUIDANCE ON PORTFOLIO MANAGEMENT

BS ISO 21504:2015 Project, programme and portfolio management - Guidance on portfolio management describes what should be performed as portfolio management is undertaken on an ongoing basis. Portfolio management should serve as a continuous, seamless mechanism to align portfolios with strategic objectives, maximise benefits, fulfil commitments and make decisions based on timely and accurate data. *BS ISO 21504:2015* mentions that to build and manage a portfolio effectively, portfolio components should be continuously identified, evaluated, selected, and authorised; and the status and performance of the portfolio regularly reported. Further, continuous alignment of the portfolio with business strategies and objectives as well as evaluation and control of the balance of the portfolio against a number of criteria should be maintained. *BS ISO 21504:2015* sets out the process steps for managing portfolios in the sections that follow.

7.2.1 Defining the portfolio

Using past and current performance and future goals, the organisation should identify the objectives of the portfolio. Once agreed, these objectives should

be kept under change control. Objectives may be set for different time periods, ranging from immediate to longer term and should take into account constraints such as the organisation's risk tolerance.

7.2.2 Identifying potential portfolio components

The organisation should continually identify and map potential portfolio components by:

- *Conducting an overview of the selected and potential portfolio components.*
- *Mapping the selected and potential portfolio components to the organisation's strategic objectives.*

7.2.3 Defining the portfolio plan

A plan should be established for the portfolio and its development regarding:

- *The existing and potential portfolio components and their mapping to the strategic objectives.*
- *The targeted benefits of the portfolio components.*
- *What new benefits and capabilities are to be achieved or in place, by the costs and timescales.*
- *The interdependencies between portfolio components.*

The final selection of the portfolio components should be dependent upon the stated strategic objectives of the organisation, as well as other considerations. Following determination of the current state, the organisation should determine those portfolio components that will comprise the portfolio. This action may be done for more than one portfolio. The portfolio may exist for the purpose of organisational divisions, geographic distinction, or other purpose determined to be appropriate by the organisation. The frequency for updating the plan depends on the nature of the organisation and the speed with which the environment it operates within is changing. Validation of alignment of the portfolio components should be done whenever the plan is updated as well as when the strategic plan is reviewed or modified.

7.2.4 Assessing and selecting portfolio components

Potential portfolio components are categorised, evaluated, selected, aligned, authorised and prioritised. These steps require that criteria and methods be defined and captured. Selection and alignment of portfolio components should be done to enable a balanced portfolio that maximises the probability of achieving organisational objectives. Such actions will further optimise the organisation's return on investment and maintain risk exposure within the organisation's risk tolerance. Selection should match resource demand.

7.2.4.1 Assessing current state

To build and manage a portfolio, the current list and state of portfolio components should be assessed, including:

- *Documenting relevant information on portfolio components.*
- *Categorising portfolio components based on the defined criteria.*
- *Evaluating current resource allocation, availability and constraints.*
- *Identifying interdependencies among the portfolio components.*

7.2.4.2 Selecting portfolio components

Potential portfolio components should be selected for inclusion in the portfolio by the results of the evaluation of their contribution to strategic objectives, using the established selection criteria. This selection includes assigning a priority to each of the potential portfolio components and balancing the overall content by:

- *The contribution to achieve strategic objectives.*
- *The ranking of the contribution to strategic objectives.*
- *The exposure to inherent risk.*
- *The ranking of the exposure to inherent risk.*
- *The impact on available resources.*
- *The impact on the portfolio's risk exposure.*
- *The capacity and capability of the organisation to absorb the totality of the changes from all components.*

7.2.5 Validating portfolio alignment to strategic objectives

Organisations should establish strategies to accomplish their objectives, consistent with their vision, mission and values. Portfolio components should realise benefits related to the strategic objectives. Aligning between organisational strategy and the intended benefits should be a continuous activity (see Figure 33).

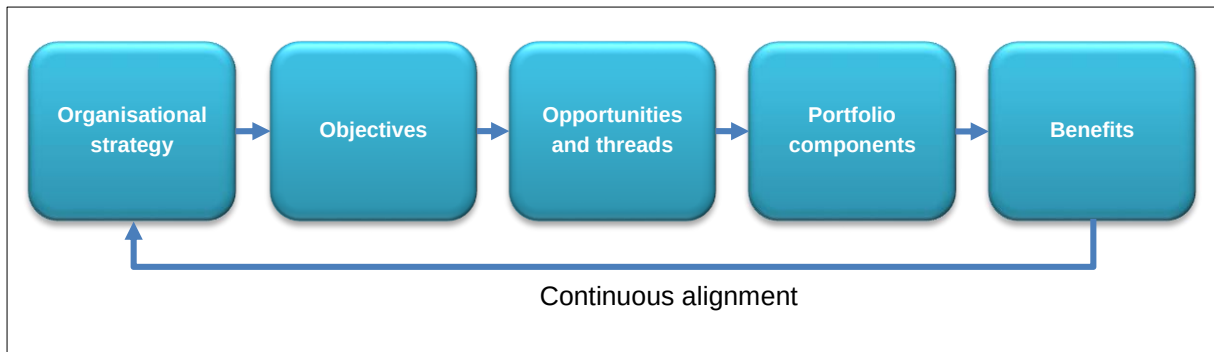


Figure 33: Continuous alignment of strategy and benefits (Source: BS ISO 21504:2015)

7.2.5.1 Alignment with strategic objectives

In order to enable continuous strategic alignment of the portfolio, the portfolio manager should:

- *Identify which strategic objectives are relevant to the portfolio.*
- *Take action to monitor and control the portfolio's alignment with the established strategic objectives.*

7.2.5.2 Maintaining alignment with risk tolerance and resource capacity and capability

In order to enable continuous alignment of the portfolio to the organisation's risk tolerance and resource capacity and capabilities, the portfolio manager should:

- *Identify the tolerated risk exposure level of the organisation.*
- *Evaluate to what extent the portfolio is in alignment with the tolerated risk exposure level.*
- *Align portfolio risk exposure with the tolerated organisational risk exposure.*
- *Maintain alignment of cumulative portfolio risk with the value created from the successful achievement of strategic objectives.*
- *Determine that sufficient resource capacity and capability exists to manage the portfolio within the tolerated risk exposure level.*

7.2.5.3 Documenting and evaluating results of alignment actions

In order to maintain portfolio change control, the portfolio manager should:

- *Document the alignment of the portfolio to strategic objectives.*
- *Document the alignment of the portfolio within risk tolerance.*
- *Document their decisions and the results of their actions.*
- *Evaluate the results and impacts of their actions.*

7.2.6 Evaluating and reporting portfolio performance

Performance measures should be relevant to the portfolio and the strategic objectives to which it is aligned. This action contributes to the reporting that will be

required in managing the portfolio. Reporting should be timely and valuable for the portfolio stakeholders. Attention should be paid to the quality of information on which portfolio performance is evaluated and reported.

7.2.6.1 Establishing the performance measurement baseline

In order to manage the performance of the portfolio, the portfolio manager should establish, use or integrate existing systems with metrics and performance baselines that measure both portfolio component specific and aggregate level portfolio performance. Portfolio performance measurements should be used to enable the portfolio manager to ensure that the total investments of all portfolio components are on track to achieve individual and aggregate level benefits and value to strategic objectives. Portfolio performance metrics are specific to the strategic objectives to which the portfolio is aligned and to the organisation and should include:

- *Portfolio component specific metrics addressing schedule, technical and financial performance.*
- *Aggregate level portfolio measures tracking the overall health of the portfolio, value creation and benefits realisation.*
- *Performance indicators alerting portfolio management of resources utilisation, issues and risks.*

7.2.6.2 Managing portfolio performance

In order to effectively manage the performance of the portfolio, the portfolio manager should undertake activities to:

- *Track portfolio component level performance.*
- *Track overall portfolio performance.*
- *Maintain a portfolio measurement baseline.*
- *Track contributions of portfolio benefits and compare them with the current strategic objectives.*
- *Provide forecasting, including but not limited to resource and capacity utilisation and strategy and risk.*

Further, to manage performance of the portfolio, the portfolio manager should also analyse:

- *Top-down and bottom-up portfolio component composition, alignment and performance.*
- *The impact of individual portfolio component performance on the performance of the entire portfolio and achievement of prioritised strategic objectives.*
- *The impact of the interaction among the portfolio components and the impact of these interactions on the performance of the portfolio.*

7.2.6.3 Reporting portfolio performance

In order to provide appropriate information to stakeholders, the portfolio manager should:

- *Perform portfolio reporting.*
- *Maintain a reporting cycle.*
- *Integrate the reporting cycle across the portfolio.*

7.2.6.4 Managing and integration of benefits

In order to improve the likelihood of the benefits realised by the portfolio components and to enable future actions of the portfolio or the general operations of the organisation, the portfolio manager should verify the following:

- *Identification of benefits.*
- *Identification of benefits realisation timeframe.*
- *The realisation and capture of benefits by the organisation.*
- *Integration of benefits.*
- *Forecasting of future investment gains or losses.*
- *Tracking of actual and forecast benefits.*
- *Identification of gaps where forecast benefits will not meet expectations.*

7.2.7 Balancing and optimising the portfolio

Working within defined roles, responsibilities and authorities, the portfolio manager should balance and control the portfolio, including but not limited to, maintaining the portfolio pipeline, optimising resources, managing portfolio risks and portfolio change and optimising the synergies among portfolio components.

7.2.7.1 Optimising portfolio components

In order to optimise the portfolio and its portfolio components, the portfolio manager should:

- *Manage the benefits to capture the full expected and stated value, such as using a defined assessment process and reviewing the benefits realisation plan for alignment with the strategic plan.*
- *Plan an approach that considers factors such as financial, the organisation's values, stakeholder needs and legal and regulatory requirements.*
- *Continuously analyse and improve the realisation of benefits from the portfolio components including reviewing success criteria.*

7.2.7.2 Maintain the portfolio

The portfolio manager should use the defined approaches, process and criteria to enable consideration of potential portfolio components for inclusion in the portfolio by:

- *Undertaking an analysis based upon standard selection criteria:*
 - *Identifying additional criteria to be considered.*
 - *Determining the prioritisation of potential portfolio components.*
 - *Providing a recommendation for which potential portfolio components should be selected for inclusion in the portfolio.*
- *Maintaining the portfolio by:*
 - *Continually evaluating potential portfolio components for inclusion in the portfolio.*
 - *Moving, modifying, closing or terminating portfolio components within the portfolio.*
 - *Balancing resources and other assets throughout the portfolio.*

7.2.7.3 Optimising resources

To optimise resources, the portfolio manager should:

- *Prioritise the portfolio components based on defined criteria.*
- *Capture resource demands of portfolio components.*
- *Achieve a balance between resource demand and supply.*
- *Track changes for resource demands.*
- *Review historic data from resource demands and map current trends.*
- *Provide monitoring and controlling methods to achieve resource optimisation within the portfolio and across the portfolio components.*
- *Balance the supply and demand for, and allocation of, resources using the defined approaches and criteria.*
- *Identify changes in resource demands over an identified and agreed upon time-line.*
- *Identify changes required to be made in regard to the portfolio components such as de-scoping, cancelling, rescheduling, or other related actions to achieve optimisation of required resources for portfolio performance.*
- *Develop agreement among stakeholders.*
- *Identify and resolve conflicts in resource utilisation.*

7.2.7.4 Manage portfolio risks

To manage portfolio risk, the portfolio manager should use the defined risk policy for the portfolio to:

- *Determine the level and tolerance of risk that is acceptable within the portfolio.*
- *Develop or adapt an analysis technique for risks held at the portfolio level.*
- *Identify risks at the portfolio level based on identified risks for each portfolio component.*
- *Analyse and prioritise the portfolio risks considering such items as priority of strategic objectives, goals, benefits and the relationships among components.*

- *Evaluate the risks over time including changes that should be monitored for risk impact and changes in portfolio composition.*

7.2.7.5 Controlling portfolio change

When controlling portfolio change, the portfolio manager should use a defined portfolio change control approach to:

- *Review portfolio component priority.*
- *Develop and implement recommendations for the portfolio, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment.*
- *Develop and implement recommendations regarding the adding, moving, modifying or removing of portfolio components.*
- *Provide communication to portfolio stakeholders. Decisions regarding changes to the portfolio baseline and plan should be made with reference to the defined decision-rights.*

7.3 PMI PORTFOLIO MANAGEMENT PROCESS GROUPS AND INTERACTIONS

According to the *PMI Standard for Portfolio Management* (2013a) the increasing acceptance of portfolio management indicates that the application of appropriate knowledge, processes, skills, tools, and techniques to select the right work may have a significant impact on project, programme and organisational success. The *PMI Standard for Portfolio Management* (2013a) identifies portfolio management processes generally recognised as good practices. Generally recognised means that the knowledge and practices described are applicable to most portfolios most of the time. Good practice means there is general agreement that the application of these skills, tools and techniques can enhance the chances of success over a wide range of portfolios. Portfolio management is intended for all types of organisations (e.g. profit, non-profit and government). The *PMI Standard for Portfolio Management* (2013a) describes the key elements of portfolio management. In order to implement the portfolio processes, the following conditions are needed:

- The organisation embraces the practice of portfolio management.
- Proposed projects and programmes need to be evaluated.
- Appropriate skilled staff members are available to manage the portfolio.
- The organisational roles and responsibilities are defined.
- Mechanisms are in place to communicate organisation decisions throughout the organisation.

7.3.1 Portfolio management process groups

The portfolio management process groups have clear dependencies and are typically performed in the same sequence for each portfolio. They are independent of application areas or industry focus. The portfolio manager may

repeat individual process groups and individual constituent processes prior to portfolio component authorisation. Table 27 reflects the mapping of the 16 portfolio management processes into the three portfolio management process groups and the five portfolio management knowledge areas. Each of the key portfolio management processes is shown in the process group in which most of the activity takes place.

Table 27: Portfolio management process groups and portfolio management knowledge areas (Source: PMI Standard for Portfolio Management, 2013a)

Knowledge area	Process group		
	Defining process group	Aligning process group	Authorising and controlling process group
Portfolio strategic management	5.3.1.1 Develop portfolio strategic plan. 5.3.1.2 Develop portfolio charter. 5.3.1.3 Develop portfolio roadmap.	5.3.1.4 Manage strategic change.	
Portfolio governance management	5.3.2.1 Develop portfolio management plan. 5.3.2.2 Define portfolio.	5.3.2.3 Optimise portfolio.	5.3.2.4 Authorise portfolio. 5.3.2.5 Provide portfolio oversight.
Portfolio performance management	5.3.3.1 Develop portfolio performance management plan.	5.3.3.2 Manage supply and demand. 5.3.3.3 Manage portfolio value.	
Portfolio communication management	5.3.4.1 Develop portfolio communication management plan.	5.3.4.2 Manage portfolio information.	
Portfolio risk management	5.3.5.1 Develop portfolio risk management plan.	5.3.5.2 Manage portfolio risks.	

7.3.1.1 Defining process group

The defining process group consist of those processes performed to establish how the organisational strategy and objectives will be implemented in a portfolio. The defining process group is most active at the time an organisation identifies and updates its strategic goals, near-term budgets, and plans which usually take place during the annual business review and budgeting process. The defining process group consists of the following processes:

- **Develop portfolio strategic plan.** *Evaluating the high-level organisation strategy/investment decisions and defining the strategy in portfolio-related strategic goals and objectives in the portfolio strategic plan.*

- **Develop portfolio charter.** *Creating the portfolio charter and identifying the portfolio structure and portfolio management team (if applicable) to align with the portfolio strategic plan.*
- **Define portfolio roadmap.** *Creating a high-level schedule showing the strategic plan for components to be implemented over time with any dependencies between them so that management may evaluate any conflicts or gaps between the roadmap and the organisational strategy and objectives.*
- **Develop portfolio management plan.** *Defining portfolio components, developing the portfolio organisation structure, and creating the portfolio management plan.*
- **Define portfolio.** *Creating qualified portfolio components and organising them for on-going evaluation, selection, and prioritisation.*
- **Develop portfolio performance management plan.** *Developing the portfolio performance management plan as to how portfolio value is defined and realised through the portfolio measurements and targets, alignment to organisational strategy and objectives, and roles and responsibilities in executing the plan.*
- **Develop portfolio communication management plan.** *Identification of portfolio stakeholders and planning effective solutions to satisfy the communication requirements.*
- **Develop portfolio risk management plan.** *Planning risk management, including the identification of portfolio risks, portfolio risk owners, risk tolerance, and the creation of risk management processes.*

7.3.1.2 Aligning process group

The aligning process group consists of the processes to manage and optimise the portfolio. This group determines how portfolio components will be categorised; evaluated; selected for inclusion, modification, or elimination; and managed in the portfolio. The aligning process group promotes and supports the portfolio based on the strategic goals of the portfolio through the operational rules for evaluating components and building the portfolio. The processes in this group enable the establishment of a structured method for aligning the mix of portfolio components to the organisational strategy. The aligning process group is most active after the portfolio organisation has been defined and developed its strategic goals, near-term budgets, and plans. These activities are used to manage ongoing portfolio activities. The aligning process group consists of the following processes:

- **Manage strategic change.** *Evaluating and determining the responses to ongoing changes in organisation strategy or portfolio*

components, and updating the portfolio management plan and subsidiary plans to reflect the impacts and response for portfolio management processes.

- **Optimise portfolio.** *Reviewing, analysing, and changing portfolio components to create the optimal balance to achieve the organisational strategy and objectives.*
- **Manage supply and demand.** *Identifying and allocating the required portfolio resources capacity and capabilities according to each components proposal or plan.*
- **Manage portfolio value.** *Measuring, capturing, validating, and reporting portfolio value at an aggregate level delivered by portfolio components with the goal of maximising return on investment (within an acceptable level of risk).*
- **Manage portfolio information.** *Executing the communication plan by collecting data, translating data into meaningful information, and supplying it to the identified stakeholders in a timely and effective manner.*
- **Manage portfolio risks.** *Executing the portfolio risk management plan, including assessing, responding to, and monitoring risks.*

7.3.1.3 Authorising and controlling process group

The authorising and controlling process group consists of the processes for determining how to authorise the portfolio and provide ongoing portfolio oversight. These processes are central to all the portfolio management processes. The authorising and controlling process group determines how to monitor strategic changes; tracks and reviews performance indicators for alignment; and authorises the portfolio components and verifies values that are delivered to the organisation from the portfolio. The authorising and controlling processes are the active part of the portfolio and are usually an ongoing function of the organisation's governing body. The authorising and controlling process group consists of the following processes:

- **Authorise portfolio.** *Allocating resources to develop component proposals, authorising components to expend resources and to communicate portfolio decisions.*
- **Provide portfolio oversight.** *Monitoring the portfolio to ensure alignment with organisational strategy and objectives; making governance decisions in response to portfolio performance, portfolio component changes, and issues and risks to ensure the delivery of the portfolio is in line with the portfolio roadmap, current progress and conditions (including resources).*

7.3.2 Portfolio management process interactions

There is a tight linkage between the portfolio management process groups and the ongoing organisational strategy, aligning all portfolio components to the strategy, and monitoring the results of these decisions. The portfolio management processes are the bridge between the organisation strategy and the projects and programmes that are part of the tactical work to deliver on the goals, objectives, and strategies of the organisation. Figure 34 illustrates the portfolio management process groups and the organisational strategy and objectives, the interactions between them, as well as the organisational processes that have an effect on the portfolio management context.

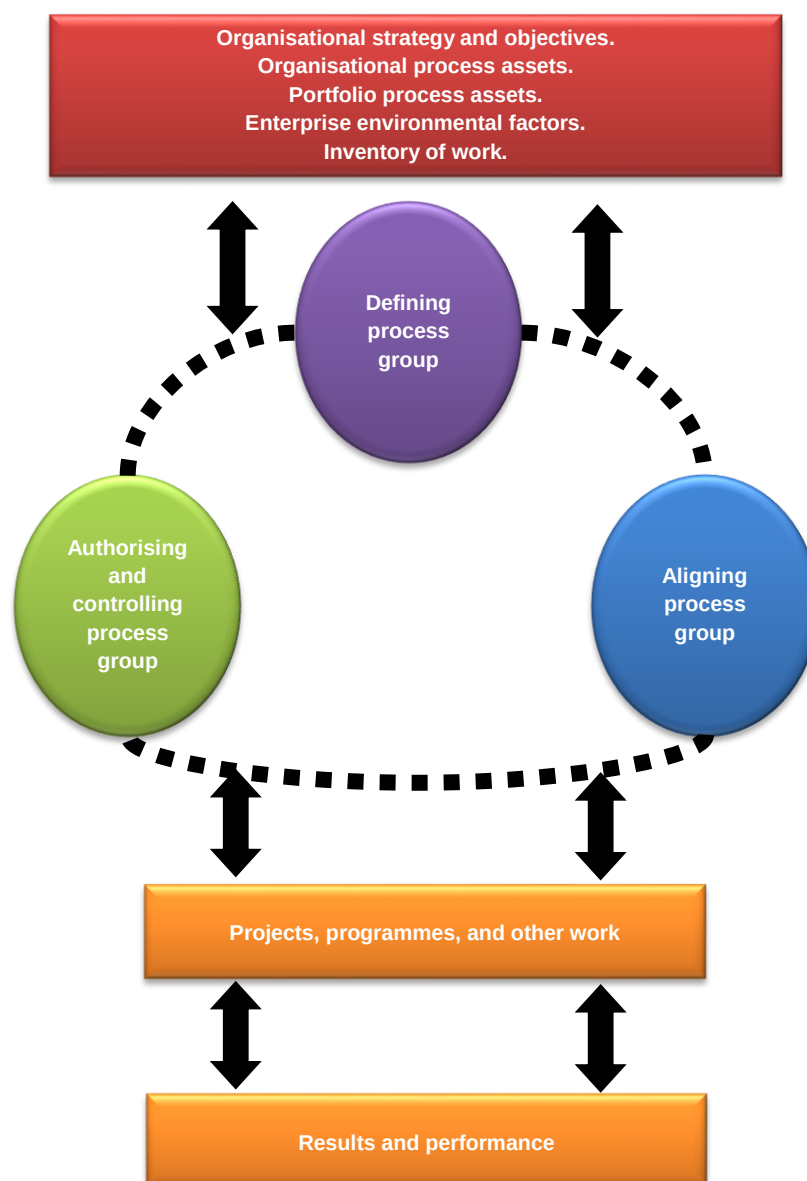


Figure 34: Portfolio management process group interactions (Source: PMI Standard for Portfolio Management, 2013a)

The process data flow diagram in Figure 35 provides an overall summary of the basic flow and interactions among process groups, organisational strategy and objectives, organisational process context and the programme and project management processes. The process flow diagram illustrates the portfolio management process interactions between process groups, the organisation, and the programmes, projects, and operations that make up the portfolio components.

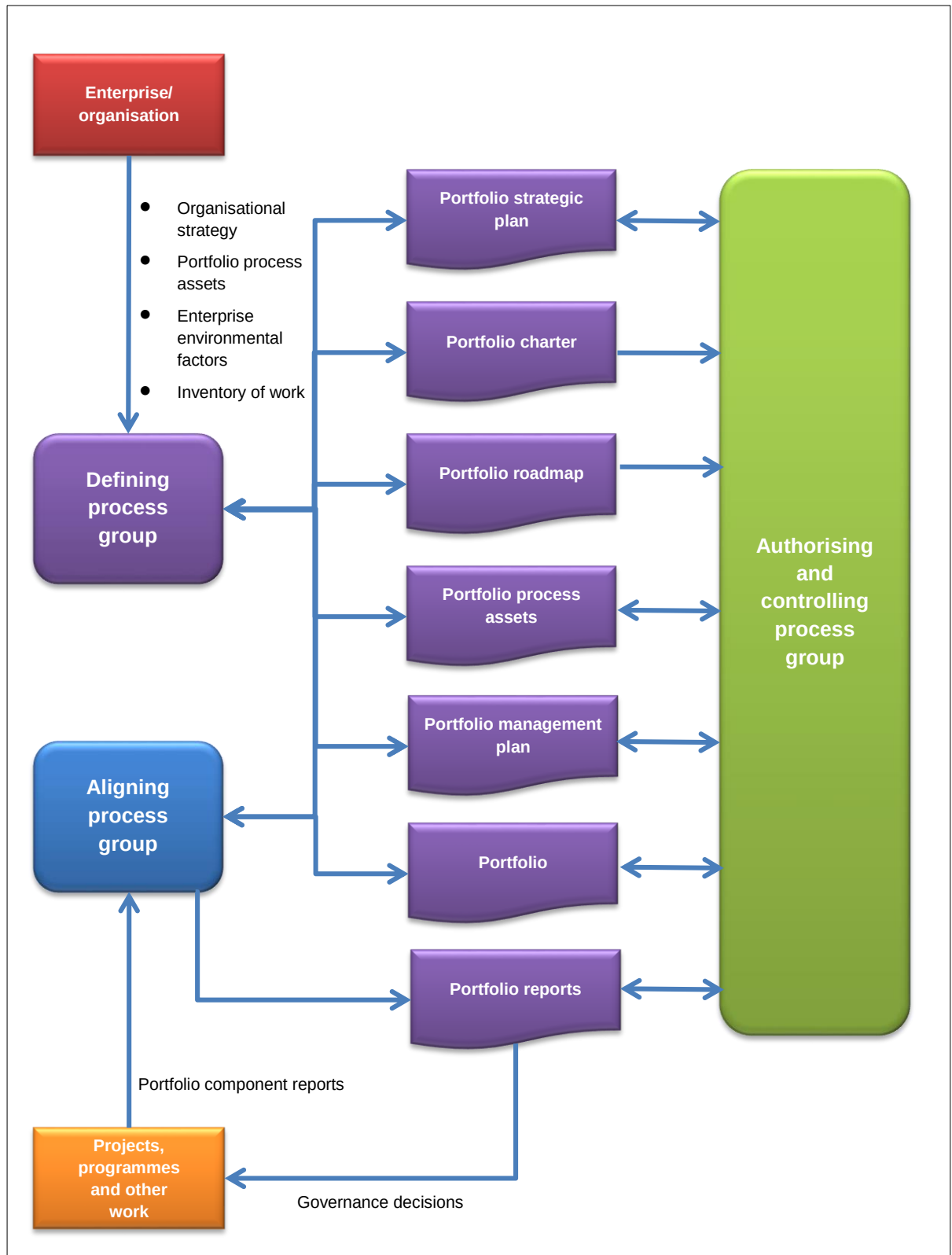


Figure 35: Basic flow and interactions among portfolio management process groups (Source: PMI Standard for Portfolio Management, 2013a)

The portfolio risk management practices are the fundamental underlying processes that occur in portfolio management. Risks that arise from the objectives of the

portfolio come from a number of areas. They arise in all three process groups and are shown in **Figure 36**.

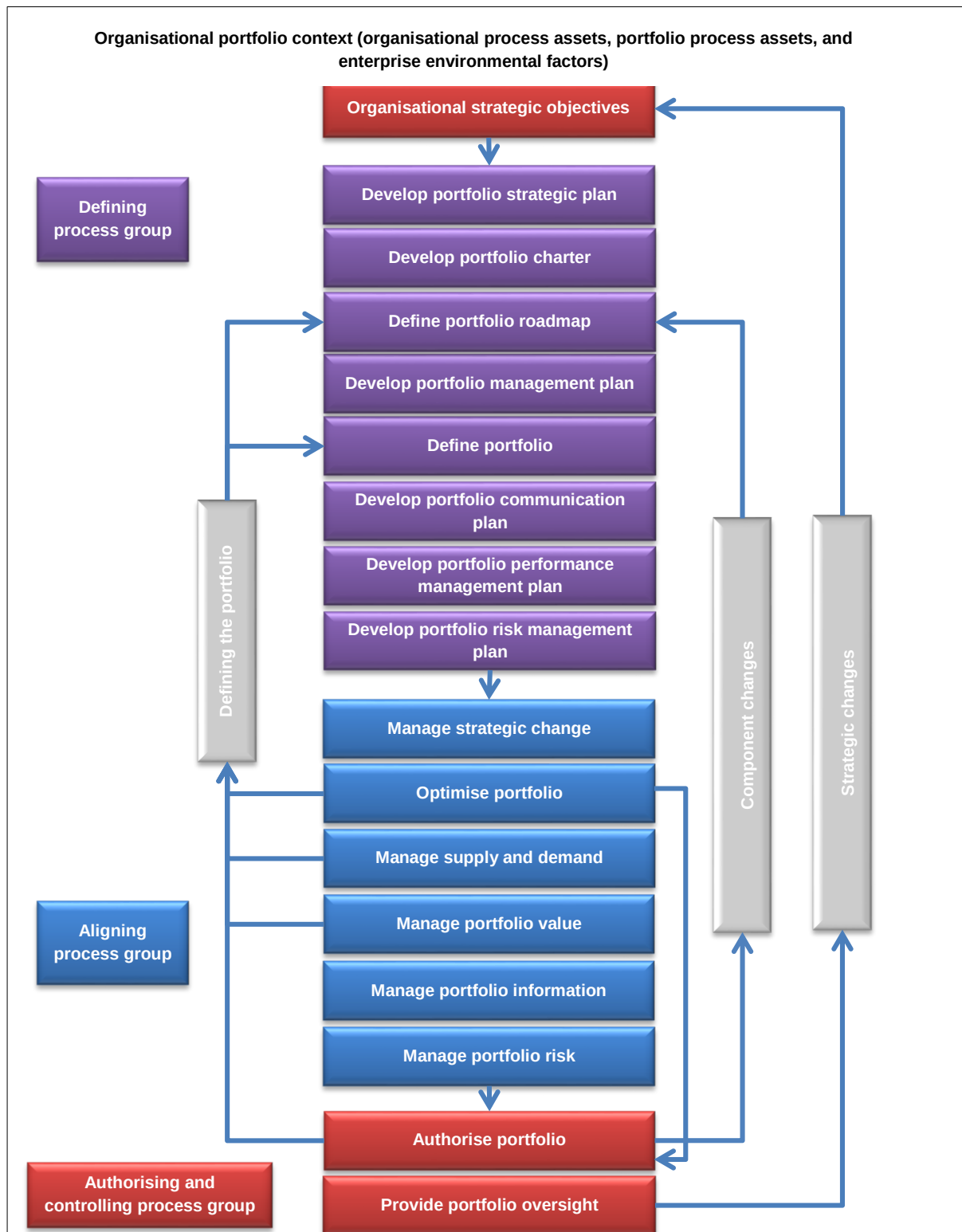


Figure 36: Risk management processes and the portfolio management processes groups (Source: PMI Standard for Portfolio Management, 2013a)

7.3.3 Common inputs and outputs

Common inputs and outputs are those inputs and outputs that are frequently used in multiple portfolio management processes.

7.3.3.1 Portfolio process assets

Portfolio process assets include any or all process-related assets, from any of the stakeholders and teams involved in the portfolio that can be used to influence the portfolio's success. These process assets include formal and informal plans, policies, procedures and guidelines. The process assets also include the portfolio related knowledge bases, such as lessons learned and historical information. Portfolio process assets may include information on tools, techniques, models, integrated schedules, and risk and performance data. Portfolio process assets can include the following:

- *Processes, guidelines, policies and procedures (e.g. strategic alignment, governance, change management, information distribution, optimisation, risk and performance management, etc.).*
- *Specifications, work instructions, proposal evaluation criteria, and performance measurement criteria.*
- *Templates (e.g. component proposals, lessons learned, and performance and risk management).*
- *Portfolio communication requirements (e.g. specific communication technology available, allowed communication media, record retention policies, and security requirements).*
- *Procedures for portfolio component work authorisation.*
- *Performance measurement databases used to collect and make available measurement data on portfolio components and track cash flow, including actual resources required.*
- *Portfolio component files (e.g. component proposals, investments, performance measurement baselines, calendars, risk registers).*
- *Historical information and lessons learned knowledge bases (e.g. portfolio records and documents, portfolio component closure information and documentation, information about both the results of previous portfolio selection decisions and previous portfolio performance information and information from the risk management effort).*

7.3.3.2 Portfolio reports

Portfolio reports may include, but are not limited to:

- *Performance reports, including scorecards and dash-boards.*
- *Feedback report to organisational strategy planning.*
- *Variance reports.*
- *Resource capability and capacity reports.*

- *Portfolio risks and issues.*
- *Governance recommendations.*
- *Governance decisions.*
- *Portfolio component recommendations.*

7.3.3.3 Organisational process assets

Organisational process assets are the plans, processes, policies, procedures, and knowledge bases, specific to and used by the performing organisation, that can be leveraged by the portfolio manager.

7.3.3.4 Enterprise environmental factors

Enterprise environmental factors refer to internal or external conditions, not under the control of the portfolio organisation, which influence, constrain, or direct a portfolio's success. These factors occur externally to the portfolio organisation and outside of its direct control, yet they impact the portfolio management decision processes. Enterprise environmental factors may constrain portfolio management options and may have a positive or negative influence on the outcome. Enterprise environmental factors include, but are not limited to:

- *Organisational governance processes, culture, and detailed hierarchical structure.*
- *Legal constraints.*
- *Governmental or industry standards.*
- *Infrastructure (e.g. existing facilities and capital equipment).*
- *Existing human resources (e.g. skills, disciplines, and knowledge).*
- *Personnel administration (e.g. hiring and firing guidelines, employee performance reviews, and training records).*
- *Marketplace conditions.*
- *Portfolio management information system (e.g. tools. manual or automated, for information collection and distribution to support the portfolio management processes).*
- *Commercial databases (e.g. standardised cost estimating data, industry risk study, and information and risk databases).*
- *Organisational project management.*
- *Stakeholder risks tolerances.*

7.4 OGC PORTFOLIO MANAGEMENT MODEL

The Office of Government Commerce in the United Kingdom and other countries, Management of Portfolios Guide (OGC MoP Guide) (2011) provides flexible principles and practices to ensure that the right projects and programmes are done that collectively make the greatest contribution to an organisation's strategic

objectives and targets. The *OGC MoP Guide* (2011) groups portfolio management activities into two cycles:

- Portfolio definition.
- Portfolio delivery.

The OGC model is illustrated in Figure 37 and encapsulates the cyclical and constant practices of portfolio definition and portfolio delivery.

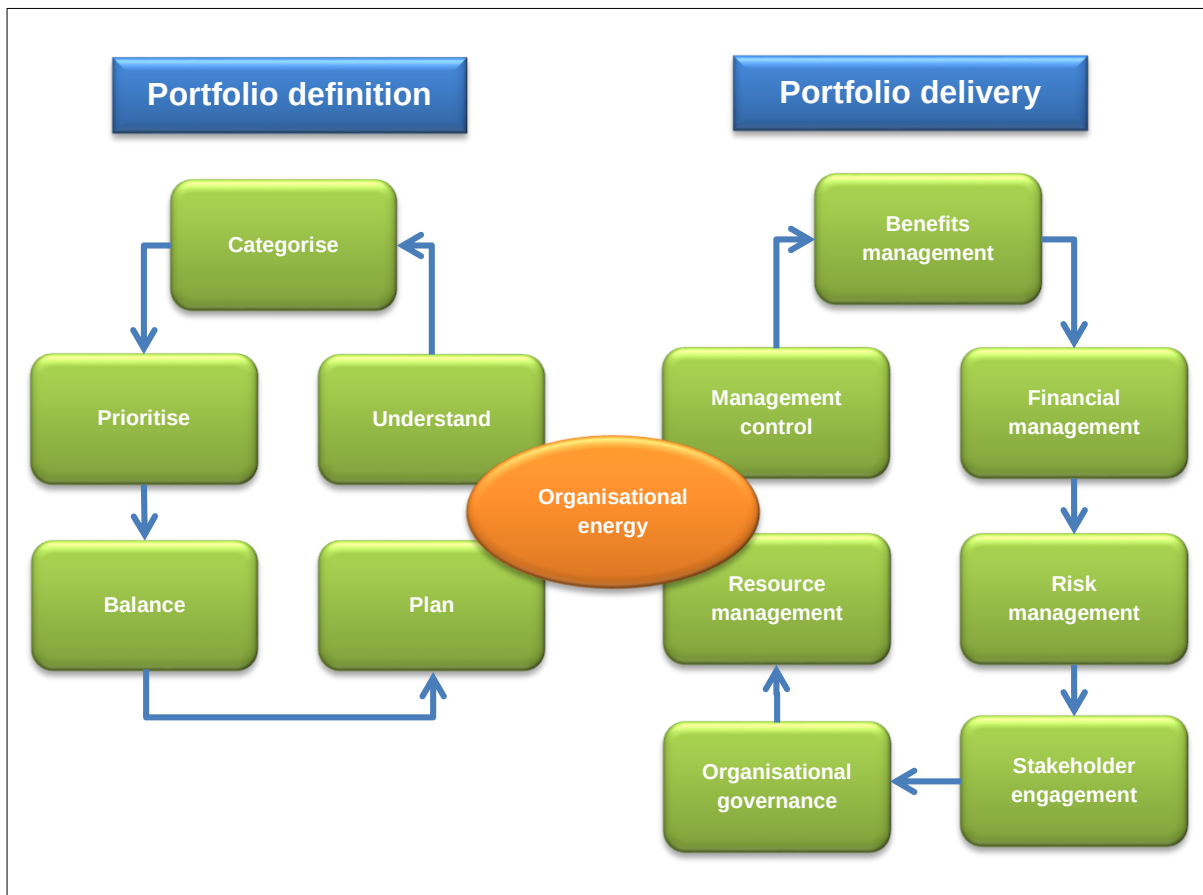


Figure 37: OGC Portfolio management cycles and practices (Source: OGC MoP Guide, 2011)

According to the *OGC MoP Guide* (2011) it is critical that an organisation must fully appreciate their existing processes before implementing it. The practices that are part of the portfolio definition cycle include: *understand*, *categorise*, *prioritise*, *balance* and *plan*. The practices that are part of the project delivery cycle include: *management control*, *financial management*, *benefits management*, *stakeholder management*, *organisational governance*, and *resource management*.

7.4.1 Portfolio definition cycle

The purpose of the portfolio definition cycle is to collate key information that will provide clarity to senior management on collection of change initiatives which will deliver the greatest contribution to the strategic objectives, subject

to consideration of risk/achievability, resource constraints and cost/affordability. The key output of the definition cycle is an understanding of what the portfolio is going to deliver - encapsulated in a portfolio strategy and a portfolio delivery plan which focuses on the forthcoming planning period. The overriding benefit of the portfolio definition cycle is its focus on providing clarity on the high-level scope, schedule, dependencies, risks, costs (and affordability) and benefits of potential initiatives - which in turn enables the portfolio governance body to make informed decisions on the composition of the portfolio to optimise strategic contribution. If the portfolio definition cycle is not managed well, there is a high risk that the portfolio will not represent the best use of available resources in the context of the organisation's strategic objectives and aggregate risk.

7.4.1.1 Understand

During the strategic planning process, strategic objectives will be developed and the changes needed to achieve those strategic objectives will be identified. During this process the management board will need to consider the existing change initiatives and those in the project development pipeline, together with their forecast impact on organisational performance. The collection of such information is usually coordinated by the portfolio office using some form of programme and project information. The purpose of the understand practice is to obtain a clear and transparent view of what is in the current portfolio and the project pipeline, performance to date and, looking forward, the forecast costs, benefits, and risks to delivery and benefits realisation. Understand keys to success include:

- **Clear portfolio scope.** *Collecting consistent data on the scope of the current portfolio is greatly aided where clear guidance exists about what constitutes a project or programme and what type of initiatives are to be included in the portfolio.*
- **Consistent data.** *A standard programme and projects information template can help to ensure that a consistent set of data is collected on all initiatives - and this aids categorisation and prioritisation in due course.*
- **Sufficient research.** *Time spent understanding the initiatives and populating the programme and project information template pays dividends during the remainder of the portfolio definition cycle.*
- **Collaborative working between portfolio office and strategic planning function.** *The portfolio office works closely with the strategic planning function to ensure that all initiatives relevant to the strategic objectives are identified, including those at the concept stage.*
- **Effective relationship with programme and project management professionals.** *Populating the programme and project Information*

templates should be used as an opportunity not only to validate the data collected but also to build effective working relationships with programme and project professionals.

- **Preparation of an interim status report.** *Collate the programme and project information template into an interim report for the management board, providing a clear view on the contents of the portfolio, any apparent overlaps and duplication, and the associated costs, dependencies, resource requirements, forecast benefits, and strategic contribution.*

7.4.1.2 Categorise

Categorisation organises change initiatives into groups, segments or sub-portfolios based on the strategic objectives or other groupings as required. The investment criteria used to appreciate and prioritise initiatives can be tailored to suit the specific category or segment. The purpose of the categorise practice is to make it easier for senior decision-makers to understand the make-up of their portfolio and thus to make decisions on balance and on the optimum use of available funding and other resources. It can also aid strategic alignment, as the allocation of available resources to individual segments should reflect their relative priorities. The number of categories can vary e.g. OGC in 2004 referred to the following seven categories: mandatory, strategic, business support, experimental, infrastructure, maintenance, and cross-functional. Sometimes it may be appropriate to break down the categories into sub-categories. Categorise keys to success include:

- **Use categorisation to assess strategic alignment.** *Data on spend by category provides a high-level check to ensure that resource allocation reflects the relative organisational priorities.*
- **Categories should suit the circumstances.** *The choice of categorisation will vary from organisation to organisation reflecting the strategic objectives, line of business, geographical area, types of initiatives undertaken, etc. Where strategic objectives are relatively independent, separate categories can be established as this provides a more granular basis for assessing strategic contribution.*
- **Be creative in presentation formats.** *The use of creative graphical representation helps to provide insight into the scope, balance and strategic contribution of the current portfolio.*
- **Tailor the investment criteria.** *Investment criteria that are used to prioritise initiatives should be tailored to suit each portfolio category or segment. For example, financial metrics are often used for revenue generation and cost-savings categories. In contrast service/product*

enhancement categories may use criteria based on scale of enhancement per R million invested.

- **Be sensitive how the analysis may be perceived.** *Ensure that relevant stakeholders are kept up to date with the work being carried out. Be aware where analysis indicates that some existing initiatives are not aligned to the strategic objectives (or the contribution is uncertain) this may be perceived as unwelcome news. On the other hand, there should be no nasty surprises when the results are reported to the portfolio governance body.*

7.4.1.3 Prioritise

Prioritising ranks the change initiatives within the portfolio (or portfolio segment) based on one or more agreed measures. The most common measures are financial metrics and/or some form of multi-criteria analysis. Where segmentation is used the criteria for prioritising initiatives can be tailored to suit particular portfolio segments. The purpose of prioritise practice is to help senior management and the portfolio governance body to answer the following questions:

- *Which initiatives should the organisation invest in?*
- *What are the most important initiatives?*
- *What initiatives must be resourced above others?*

Many organisations employ financial metrics to prioritise (rank) initiatives such as net present value (NPV), internal rate of return (IRR) or payback. While financial metrics are widely used, they do have a number of drawbacks - for example they can be of limited use where the immediate benefits are not financial in nature (e.g. the value of a life saved, more engaged staff). Empirical research has also shown that forecasts of cost, benefit and duration are often inaccurate which clearly compromises effective investment appraisal and portfolio prioritisation. One solution is to adjust forecasts for such optimum bias or to use reference class forecasting. Another solution adopted is to combine financial metrics with some form of multi-criteria analysis considering factors under two main headings:

- *The “return of attractiveness” of each initiative, including such factors as financial return on investment, political need, strategic impact, etc.*
- *The “risk of achievability” of each initiative including such factors as reputational risk, likelihood of product delivery, likelihood of benefits realisation, complexity, etc.*

A key decision will be to allocate funding to mandatory projects before prioritising the remaining spend or including them as part of the prioritisation exercise. A simple approach to prioritisation is as follows:

1. *Decide on the prioritisation criteria that represent the factors the organisation views as most important when considering investment.*
2. *Agree a rating system to apply to the initiative.*
3. *Rate each change initiative using the ratings and weightings identified above.*
4. *Collate all prioritisation information and analyse - including a portfolio map to communicate the findings.*

Prioritise keys to success include:

- ***Tailor the investment criteria.*** *The prioritisation criteria should be tailored to the portfolio or portfolio segment's objectives and should reflect both risk/attractiveness dimensions. Such criteria need to take into account the scale of the investment required.*
- ***Involve the management board.*** *The management board, portfolio governance board or investment committee must agree the prioritisation criteria (and any weighting) and are the key decision-makers regarding the final prioritised list of change initiatives. Approaches such as decision-conferencing have been found to be very effective not only in reaching consensus over prioritised portfolio, but also gaining shared commitment to the portfolio and portfolio management process itself.*
- ***Use multi-criteria analysis.*** *Work through the prioritisation criteria for each proposed change initiative - and ensure ratings are evidenced so that it is clear why certain assessments have been made and to provide confidence that all initiatives have been appraised on a level playing field. Use reference to forecasting if the data is available - and if not, start collecting the data.*
- ***Be creative in presenting the findings.*** *Be creative through the way findings are presented. Graphical representation, including portfolio maps, can be particularly useful in communicating key messages in a clear and sufficient manner.*

7.4.1.4 Balance

Prioritisation results in a ranked list of strategic changes. The purpose of the balance practice is to ensure that the resulting portfolio is balanced in terms of factors such as timing; coverage of all strategic objectives; impact across the business; stage of initiative development; overall risk; return profile; and available resources. Balancing is achieved by means of collaboration between all functions such as the portfolio office, strategy, human resources, project and programme management, operations, information technology etc. to determine the most appropriate portfolio. Once the consultation and analysis phase is completed the portfolio office should present the proposed balanced

portfolio, together with supporting recommendations, to the relevant portfolio governance body. Balance keys to success include:

- **Ensure that balance follows understanding, categorisation, and prioritisation.** *Some form of balancing occurs throughout the portfolio definition cycle. However, it is most powerful when the understand, categorise, and prioritise practices have been completed.*
- **Set the expectations of portfolio governance body.** *Ensure that the portfolio governance body (portfolio direction group or equivalent) understands its role in the balancing the portfolio, the information it will receive and the decisions it will be required to make.*
- **Consult widely.** *The portfolio office must ensure appropriate consultation with the relevant functions across the organisation when balancing the portfolio, including strategic planning, programme and project management, and performance management.*
- **Present findings creatively.** *Present findings and information in creative and easily understandable formats. The information should be summarised but enable drill-down of key information when required.*
- **Evidence findings.** *Ensure that recommendations such as stopping or re-scoping a programme or project are justified with facts so that everyone understands the rationale for such decisions.*
- **Use analysis to inform decision-making.** *Algorithms, decision rules and investment criteria can guide decision-making, but ultimately what initiatives are included in the portfolio rely on senior management judgement.*

7.4.1.5 Plan

The purpose of the plan practice is to collate information from the portfolio definition cycle and create a portfolio strategy and delivery plan which will be approved by the portfolio direction group. The portfolio strategy is a tool to help stakeholders understand what the portfolio is designed to achieve in the longer term and provides a high-level overview of how the strategic objectives will be achieved. The portfolio plan provides a more detailed understanding of the shorter term delivery schedule, cost and resource allocations, and the benefits to be realised. The delivery plan also provides the baseline against which performance will be tracked and reported in the year using the portfolio dash-board report. The portfolio delivery strategy and plan will normally be updated on an annual basis by the portfolio office working in close collaboration with strategy, finance and performance management functions to ensure they are consistent with the wider organisational strategic, business and financial plans. Plan keys to success include:

- **Summarise the results of the portfolio definition cycle in a portfolio strategy and delivery plan.** *The portfolio strategy and*

delivery plan are the main outputs from the portfolio definition. It is critical that everyone understands their purpose and importance.

- **Provide a clear line of sight.** *The size and format of the portfolio strategy and delivery plan are irrelevant - the value that it should provide to all stakeholders is not. They should provide a clear view on:*
 - *What initiatives are included in the portfolio?*
 - *Scheduling/timing of the initiatives.*
 - *Resource and financial requirements.*
 - *Key milestones.*
 - *Risks.*
 - *The benefits to be realised.*

Most significant of all, they should provide a clear view of the contribution of the portfolio will make to the strategic objectives and how this will be measured. The delivery plan also provides the baseline against which the portfolio progress can be monitored and managed in the year versus the portfolio dash-board report.

- **Portfolio office prepares the strategy and plan.** *The portfolio office should lead on the creation of the portfolio strategy and delivery plan, ensuring that colleagues in the functions such as strategy, performance management and finance are engaged in their development and understand the implications for their plans.*
- **Keep it simple.** *Although the portfolio strategy and delivery plan represent a complex planning and delivery environment, they need to be relatively simple, otherwise there is a risk of confusing and alienating stakeholders. So apply the 80:20 or Pareto rule and focus on the most important data, e.g. delivery of those milestones that can affect the portfolio delivery and the overall benefits to be realised.*

7.4.2 Portfolio delivery cycle

The purpose of the portfolio delivery cycle is to ensure the successful implementation of the planned change initiatives as agreed in the portfolio strategy and delivery plan. Resources, risks and dependencies will be efficiently and effectively managed, and senior management will gain greater control over the change portfolio if portfolio delivery is done well. If it is not done well many initiatives will not be delivered on time and to budget; demand and supply of resources will not be matched resulting in shortages and idle capacity; inadequate action will be taken to address poor performance slippage; initial scheduling will result in unnecessary operational disruption; the portfolio will not adjust to shifts in business priorities and consequently money will be spent unwisely; and the contribution to strategic objectives will not be optimised.

7.4.2.1 Management control

Once agreed, the portfolio strategy and delivery plan form the baseline for what is to be delivered. The purpose of the management control practice is to ensure progress, at an individual and portfolio level, is regularly monitored against this baseline. This helps to ensure that the delivery stays on track. Management control encompasses five main elements:

- *Defined processes including business change life-cycle.*
- *Guidance and templates for business case preparation, initiative planning, etc.*
- *Regular progress reporting, including via the portfolio dash-board.*
- *Stage or phase gates. These include end of tranche programme reviews and are in addition to external processes.*
- *Regular portfolio-level reviews.*

Management control keys to success include:

- **An effective business change life-cycle.** *Implement a standard business change life-cycle, encompassing regular stage/phase gates at key points in the programme or project life-cycle.*
- **Clearly understood processes.** *Ensure that key stakeholders are aware of what is expected of them:*
 - *Provide ongoing training and awareness sessions on the business change life-cycle, business case standards, etc.*
 - *Record the portfolio management processes and governance in the portfolio management framework, and make it all available via the corporate intranet.*
- **Reliable forecasting.** *Track initiative performance via robust post-implementation reviews and use reference class forecasting and optimum bias adjustments to improve the accuracy and reliability of initiative forecasts.*
- **A summary investment appraisal template.** *Implement a standard investment appraisal template to capture the salient data on attractiveness, achievability and affordability.*
- **Staged release of funding.** *Implement staged release of funding - linking continued funding for initiatives to assessment of performance and continued strategic alignment.*
- **Effective progress reporting.** *Ensure that regular progress reporting is effective - design a dash-board and apply the policies of “one version of the truth” and management by exception.*
- **Prompt progress reporting.** *Ensure that programme and project information is presented in a timely manner.*

- **Regular review of performance and continuous improvement.** Regularly review the performance of the portfolio as a whole in terms of spent against budget, progress against schedule, and benefits realised against plan. Also assess the performance of the portfolio management processes and whether risk and dependencies are being effectively managed.

7.4.2.2 Benefits management

The purpose of the benefits management practice is to clearly identify and manage the benefits being realised from the portfolio, so helping to ensure the best use of available resources and that the contribution to operation performance and strategic objectives is maximised. A portfolio should have a benefits management framework. A benefits management strategy at programme level should be consistent with the portfolio benefits management framework. The portfolio benefits management framework encompasses the following six main elements:

- **Benefits eligibility rules including a consistent approach to benefits categorisation.** Encompasses how benefits should be categorised, quantified, valued and validated in the preparation of relevant initiative documentation, including business cases. Approaches to benefits realisation categorisation include:
 - Financial and non-financial benefits.
 - Cashable and non-cashable benefits.
 - Efficiency/productivity and effectiveness/performance benefits.
 - Economy, efficiency and effectiveness benefits.
- **Portfolio benefits realisation plan.** Providing a clear forecast for the forthcoming planning period of the combined impact of current and completed change initiatives on operational performance and strategic objectives - and the metrics that will be used to assess this impact.
- **Inclusion of re-appraisal of benefits case at stage/phase gates and portfolio-level reviews.** A clear commitment to consideration of the updated benefits forecast at each stage/phase gate and portfolio-level review - including what changes in benefits forecast have occurred, and whether the initiative still represents value for money and a compelling case for investment.
- **Effective arrangements to manage benefit post project/programme closure.** A clear description of how benefits will be managed post programme or project completion and who is responsible for that realisation.
- **Clear arrangements for benefits tracking and reporting at a portfolio level.** Clear description of the arrangement for benefits tracking and reporting. Benefits information at a portfolio level should

be included in the portfolio dash-board including revised forecast and benefits realisation to date compared with the benefits realisation plan.

- **Robust post implementation reviews and feeding lessons learned back into forecasting and benefits management processes.** *Post implementation review should assess:*
 - *Were forecast benefits realised?*
 - *What unplanned benefits were realised and is there scope to leverage additional benefits?*
 - *Did the initiative represent value for money (i.e. actual cost compared with benefits realised)?*
 - *What lessons can be learned for future change initiatives and to improve the way benefits realisation is managed?*

Benefits management keys to success include:

- **Benefits management framework.** *Ensure that the portfolio benefits management framework includes a set of benefits eligibility rules covering categorisation, quantification, valuation and validation of benefits, and that they are used by all initiatives in the portfolio.*
- **Evidence based forecasting.** *Use reference class data from post-implementation reviews to inform benefits forecasting.*
- **Portfolio-level benefits plan.** *Complete a portfolio-level benefits realisation plan showing the benefits to be realised in the forthcoming period. The relevant portfolio governance body can then determine whether, in the context of investment and benefits realised to this date, this is sufficiently challenging. The plan also provides the baseline against which progress can be monitored in the year.*
- **Ongoing management of benefits.** *Ensure that benefits management is viewed as a constant throughout the business change life-cycle and not just something that occurs to justify investment in the business case. Revisit the benefits case at every stage/phase gate and portfolio-level review. Ensure an effective oversight of benefits beyond project or programme closure.*
- **Link to portfolio reporting.** *Include benefits realisation in the portfolio dash-board. When initiatives slips, consider the impact on the benefits realisation plan, operational performance and strategic objectives – and ensure this is included in reporting to the portfolio governance body.*
- **Post implementation reviews.** *Ensure post implementation reviews are undertaken and that:*
 - *Lessons learned are fed back into the benefits management processes.*
 - *Benefits realisation compared to forecast are used to inform forecasting on future initiatives.*

7.4.2.3 Financial management

The purpose of the financial management practice is to ensure that the portfolio management processes and decisions are aligned to the financial management cycle and that the financial considerations form a key element in all decisions regarding the commencement and ongoing viability of change initiatives, both at an individual and at a collective level. The main elements of financial management are:

- *Selection of appropriate investment criteria including metrics such as NPV and hurdle rates of return. Another consideration concerns whether the portfolio is segmented with the investment criteria being tailored to each portfolio segment or category.*
- *Clear rules for compiling cost forecasts in business cases and adjusting for optimism bias or the tendency for business case writers to under estimate costs and project duration, and overestimate benefits.*
- *Clear rules for valuing savings and other benefits in business cases.*
- *Clear control limits for reporting variances from budget and approving additional funding requests.*
- *A financial plan must be incorporated within every business case. This will include the required capital and operating expenditure to complete the initiative and the consequent financial requirements post implementation (including depreciation and cost of capital charges where applicable).*
- *The application of the concept of staged release of funding linked to the stage/phase gates to ensure that funding allocations remain aligned to strategy and minimising the risks.*
- *The portfolio delivery plan should include a portfolio-level financial plan showing the profiled capital and operating expenditure budgets in the forthcoming period. The plan should show in summary the impact on operating expenditure in future years and how cashable savings are to be re-cycled to fund new initiatives.*
- *Monitoring spend in the year against the portfolio-level financial plan via portfolio dash-board.*
- *Deciding how much financial contingency is retained at portfolio level to:*
 - *Address cost escalation on current programmes and projects (retained centrally rather than at individual initiative's budget).*
 - *Fund new initiatives during the year.*

Financial management keys to success include:

- ***Involve financial experts.*** *Ensure that the portfolio office and finance department work collaboratively. Seconding a finance expert into the portfolio office can be a significant advantage.*

- **Align cycles.** *Align strategic planning, portfolio management and financial management cycles for optimum value.*
- **Business cases include financial plans completed on a consistent basis.** *The business change life-cycle ensures that business cases include a financial plan for every initiative - and these financial plans should be consistent with portfolio-level standards for cost estimation.*
- **Staged release of funding.** *Incrementally releasing funds in line with the business change life-cycle helps maintain strategic alignment and minimise risk of wasted expenditure.*
- **Portfolio-level financial planning.** *Ensure that a financial plan exists for the portfolio as a whole. This should be included in the portfolio delivery plan.*
- **Financial reporting of progress.** *Ensure that spent against the portfolio financial plan is included in the portfolio dash-board report. This will require financial reporting information from all the change initiatives and the finance system on a regular basis.*

7.4.2.4 Risk management

The purpose of the risk management practice is to ensure consistent and effective management of the portfolio's exposure to risk at both individual and collective level. This is crucial to delivery of change initiatives, to delivery of the portfolio as a whole, and ultimately the achievement of the organisation's strategic objectives. Risk management at portfolio level encompasses the following main elements:

- *Implementing standards which apply to all change initiatives within the portfolio and which align to the organisational risk management policy. A risk management strategy should be agreed at portfolio level and should be included in the portfolio management framework.*
- *Collaborative working with organisational risk management function which facilitates compliance with organisational policies.*
- *Incorporating consideration of risk alongside investment return into the portfolio prioritisation practice and at each stage/phase gate review.*
- *Regular review of risks across the portfolio. The concern here is less about risks and opportunities associated with individual initiatives and more about those risks that run across the portfolio - for example, inaccurate forecasting and variability in returns; slippage of key dependencies; over exposure to a single supplier; and negative impact on operational performance of poorly scheduled business change.*
- *An effective escalation process that enables risks to be reported to the relevant portfolio governance body.*

- *Where appropriate, consideration of risk to the organisation from the portfolio - including for example, financial liabilities associated with performance and guarantee bonds.*
- *Consideration as to whether some budgetary contingency should be retained at portfolio level.*
- *Specific considerations of effective management of dependencies across the portfolio.*

Risk management keys to success include:

- ***Align portfolio risk management strategy with the organisational risk management strategy.*** *Standard roles and processes for risk management should be incorporated into the portfolio management framework. These processes should be consistent with any existing organisational risk management policy.*
- ***Involve experts.*** *Ensure close working relationships between the portfolio office and the organisational risk management function.*
- ***Risk-based prioritisation.*** *During portfolio management prioritisation ensure that risk is included as a factor in the prioritisation criteria. Use a matrix highlighting risk and benefit as a helpful way to present portfolio-level prioritisation data.*
- ***Incorporate risk into the business change life-cycle.*** *The management of risk must be embedded in the business change life-cycle. Risks must be owned at the appropriate level and incorporated into the portfolio reporting, reviews and stage/phase gates.*
- ***Portfolio risks.*** *A key purpose of portfolio risk management is to oversee the overall level of risk exposure. It is rarely a single risk that will cause major problems but the combination/aggregation of a number of risks that requires the attention of the portfolio office. Focus on both:*
 - *Aggregate programme and project risk - such as those relating to ineffective dependency management, over reliance on single supplier and the negative impact on operational performance of poorly scheduled change.*
 - *Generic risks - for example, those arising from inaccurate forecasting such as delayed delivery, cost escalation and non-realisation of anticipated benefits.*
- ***Portfolio reporting.*** *Ensure that the status of each of the top portfolio-level risks is incorporated into the portfolio dash-board and that risk actions are reviewed regularly and updated.*

7.4.2.5 Stakeholder engagement

The purpose of stakeholder engagement practice is to provide a coordinated approach to stakeholder engagement and communication and so as to ensure that:

- *The needs of the portfolio's customers (both internal and external stakeholders) are identified and managed appropriately.*
- *Stakeholder support for the portfolio is gained by effective consultation and involvement in the definition and delivery of the portfolio.*

Portfolio-level stakeholder engagement encompasses the following main elements:

- *Management board members being visibly involved and proactively supporting portfolio communications.*
- *Developing a consistent approach to stakeholder engagement and communications at all levels in the portfolio, ensuring a shared vision of what the portfolio is designed to achieve - and communicating this shared vision effectively.*
- *Collaborative working between portfolio office and the organisation's communication experts.*
- *The preparation of a portfolio stakeholder engagement and communication plan which should be included in the portfolio management framework. This plan, together with the business change life-cycle, ensures that stakeholders' needs are identified by proactively involving them in the design and development of initiatives, and the decision-making process where appropriate.*
- *The portfolio stakeholder engagement and communication plan need to identify key stakeholders, categorise them and outline how key messages will be communicated in each case.*
- *Adoption of the champion-challenger model and encouragement of recommendations for process improvement from all stakeholders.*

Stakeholder engagement keys to success include:

- ***Work collaboratively with the organisation's communication team.*** *Ensure that the organisation's communication team are involved with the creation of the portfolio stakeholder engagement and communication plan.*
- ***Involve stakeholders.*** *Make sure that stakeholder needs are understood and that they are actively and regularly involved throughout the portfolio stakeholder engagement and communication plan.*
- ***Align plans from individual initiatives with overall portfolio plan.*** *Align the individual stakeholder engagement and communication plans*

for each initiative with the portfolio stakeholder and communication plan.

- **Ensure a tailored approach.** Stakeholder engagement and communications is a broad and complex subject and requires more than simply “broadcasting” information to the wider community. It focuses on tailoring messages and establish in two-way engagement that contributes to portfolio success.
- **Incorporate a feedback loop.** Processes must exist that ensure stakeholders can see how their comments and feedback have been dealt with.
- **Use contemporary communications.** The use of contemporary technology to augment traditional media channels can help engage stakeholders effectively and efficiently.
- **Focus on senior management.** Senior management support is essential to effective implementation of portfolio management and sustaining progress - so pay particular attention to ensuring continued senior management commitment.
- **Value communication.** Communication skills and resources are often not viewed as a priority at the start of implementing portfolio management. This is a serious mistake, as without effective communication processes and skills, there is a serious risk of miscommunicating, lack of buy-in and the implementation becomes difficult to sustain.

7.4.2.6 Organisational governance

The purpose of the organisational governance practice is to ensure clarity about what decisions are made, where and when, and what criteria are used. Portfolio management governance should be aligned with the wider organisational governance structure. The main elements of effective governance of the portfolio include:

- *A vision of what the portfolio is designed to achieve is agreed by the management board and communicated to the organisation. This should be documented in the portfolio strategy and will need to be updated as the organisation’s strategic objectives change.*
- *A description of what portfolio management is designed to achieve (and the measures used to assess this), and the key processes and governance structures, are included in the portfolio management framework.*
- *Role profiles are prepared for key positions, and terms of reference are agreed for the portfolio governance bodies e.g. portfolio direction group and portfolio progress group/change management committee. Role*

profiles and terms of reference should be included in the portfolio management framework.

- *The business change life-cycle and stage/phase gates are used to ensure that initiatives are appraised, prioritised, approved, monitored and evaluated consistently based on their demonstrable strategic contribution and risk. This governance oversight of initiatives should extend from start gate to post-implementation review.*
- *Escalation paths with control/tolerance limits are clearly defined.*
- *The portfolio office is the guardian of the portfolio process - monitoring their operation, reporting and any non-compliance and providing an assurance on their effective operation. This is why the portfolio office should have no direct delivery responsibility.*

Organisational governance keys to success include:

- **Shared vision for the portfolio.** *The management board should agree a vision for the portfolio. This vision should be widely disseminated and should be included in the portfolio strategy and delivery plan as well as the portfolio dash-board report to keep the ultimate objective at the forefront of people's attention.*
- **Clarity about governance.** *Ensure that governance structures, processes, escalation routes, tolerance/control limits and role descriptions are clearly defined and included in the portfolio management framework.*
- **Regular review of business cases and progress.** *Ensure that the business change life-cycle incorporates regular reviews of continued business justification and strategic alignment - both at the individual initiative level (stage/phase gates) and for the portfolio as a whole.*
- **Shared understanding of the governance structure and processes.** *Ensure that all key stakeholders have a clear and shared understanding of the governance processes and structure:*
 - *Make a portfolio management framework widely available via the organisation's intranet.*
 - *The portfolio office should host training and awareness sessions.*

7.4.2.7 Resource management

The purpose of the resource management practice is to put in place mechanisms to understand and manage the amount of resources available and required. Resource management concerns the balancing of demand and supply for any constraint resource that limits capacity of the organisation to deliver its change initiatives. These resources include but are not limited to skilled programme and project staff, other specialists, required equipment and

accommodation, and the organisation's capacity to absorb business change. The main elements of portfolio resource management are:

- *Understand the demand.*
- *Understand the supply.*
- *Matching of demand and supply.*
- *Gap closure - where shortages in supply are forecast, corrective action can be taken in terms of:*
 - *Planned recruitment.*
 - *Negotiating contracts with external agencies.*
 - *Staff development.*
 - *Re-scheduling delivery.*

Resource management keys to success include:

- ***Set portfolio wide standards for resource forecasting.*** *Consistent forecasting is essential, so define standards and templates to guide programme and project planners.*
- ***Use business cases to create a portfolio resource schedule.*** *Amalgamate the resource plans of the programmes and projects to provide an understanding of the portfolio resource requirements i.e. what resources (people, skills and capacity) are required and for what time periods. Compare this against availability to identify spare capacity and any excess demand.*
- ***Review the resource schedule regularly.*** *As initiatives progress, understanding of their resource requirements changes, and improves. Consequently the portfolio resource schedule needs to be reviewed and updated on a regular basis - as part of the periodic portfolio-level reviews and at each initiative stage/phase gate at a minimum. Aligning resource management with business change life-cycle in this way enables more effective resource management and initiative delivery at a portfolio level.*
- ***Implement dynamic resource management.*** *Effective resource management is a dynamic process and is often as much art as is science. Resource forecasts and schedules can help - but they are a guide to effective management rather than fixed plans to monitor against. The portfolio office therefore needs to stay constantly abreast of developments and to consider the implications of changes in the portfolio composition and variances from plan on resource requirements.*

7.4.3 Organisational energy

According to the OGC MoP Guide (2011) organisational energy links the portfolio management cycles. Organisational energy is defined by the NHS

Institute for Innovation and Improvement as “the extent to which an organisation has mobilised the full available effort of its people in pursuit of its goals”. While portfolio management provides the principles and practices to enable informed decision-making, it is the collective effort of the people and the effective management of that effort within the organisation that are the deciding factor on whether or not the strategic objectives are achieved. Organisational energy refers to a collection of critical organisational elements such as leadership, direction, management, motivation, well-being, effective communication, teamwork, skills and experience, all of which must come together in order to release the organisation’s collective energy in the right direction.

7.5 TENSTEP PORTFOLIOSTEP™ PROCESS LIFE CYCLE

Mochal’s (2014b) *PortfolioStep™ Portfolio Management Framework* has a cycle that consists of four major sequential phases or activities. These are *prepare*, *plan*, *execute*, and *harvest*. These phases in turn encompass the ten stages (or steps) and are shown in Figure 38.



Figure 38: TenStep PortfolioStep™ portfolio management process (Source: Mochal, 2014b)

The *PortfolioStep™* framework is summarised in Table 28 and shows each of the ten stages (or steps), where the responsibility falls in the organisation, and the TenStep practice that should be followed to execute the stage.

Table 28: Summary of PortfolioStep™ stages, responsibility and TenStep practice

Stages	Description	Responsibility	TenStep Practice
1	PortfolioStep setup.	Executive	Executive management and PortfolioStep
2	Identify needs and opportunities.	PS function	PortfolioStep
3	Evaluate options.	PS function	PortfolioStep
4	Select work.	PS function	PortfolioStep
5	Prioritise work.	PS function	PortfolioStep
6	Balance and optimise the portfolio.	PS function	PortfolioStep
7	Authorise the work.	PS function	PortfolioStep
8	Plan and execute work (projects, programmes, and other work).	PM	TenStep, LifecycleStep, SupportStep and PMOStep
9	Report on portfolio status.	PM and Operations	TenStep, LifecycleStep &

			PMOStep
10	Improve the portfolio (launch products, harvest benefits, feedback and change strategy).	PS function, Operations and Executive	Executive management, operations and PortfolioStep

Each of the stages listed in the table above are consistent with the sequence recommended by the *PMI Standard for Portfolio Management*. The *PortfolioStep™ framework* phases and relevant stages (or steps) are briefly described in the sections that follow.

7.5.1 Prepare phase

7.5.1.1 Categorisation: Stage 1 – PortfolioStep setup

The Project Management Institute (PMI) defines categorisation as "the process of grouping potential components into categories to facilitate further decision-making", and it defines a category as "a predetermined key description used to group potential and authorised components to facilitate further decision-making. Categories usually link their components with a common set of strategic goals". When first implementing portfolio management an organisation must first establish what they are going to manage, that is, they need an overview of the extent and variety of existing and potential work, how it maps into the organisation's overall strategy. *TenStep* calls this phase "setup" where the terms, scope and definition of the portfolio is defined and agreement gained on the basic portfolio model. The following must be defined:

- **The departments covered**, e.g. the entire organisation or just certain departments?
- **The type of work included**, e.g. does your portfolio include projects, support, operations, etc.?
- **The categorisation scheme**. This helps to balance the portfolio in areas that are important to optimise the overall allocation of resources. For instance, categories could include work that "supports the business", "grows the business" and "leads the business".
- **The balance points**. For each categorisation guidelines are set as to how the work should be balanced.
- **The financial models**. When it is time to prioritise the work, projects must be chosen that are aligned to the strategic goals and strategies, as well as have the highest value. An organisation needs to understand the models it wants to employ and make sure all projects are justified using those models.

7.5.1.2 Identification: Stage 2 – Identify needs and opportunities

This step starts with an evaluation of the organisation's environment through a current state assessment and then contrasting it with a future state vision that describes where the organisation wants to be in the future. This process results in the validation (or creation) the organisation's mission, vision, strategy, goals and objectives. The organisation's strategy and goals provide the high-level direction that helps align and prioritise all the work for the coming business cycle and also surfaces the work for the coming year. Each request should have a simple value proposition document that describes the work, the value that it will provide to the organisation and the basis of alignment with the overall organisational strategy and goals. The value propositions must include projects, support, discretionary and leadership work.

7.5.2 Plan phase

7.5.2.1 Evaluation: Stage 3 – Evaluate options

This stage results in establishing the context within which work priorities and approvals will be made. It includes validating the value propositions prepared in the previous stage that provides a proper basis for evaluation of all the work opportunities to be included in the portfolio.

7.5.2.2 Selection: Stage 4 – Select the work

In this stage a meticulous and rigorous review is done of the value propositions prepared in the previous stage and more detailed business cases are created for all projects that survive the initial cut. During this stage all the work is selected that an organisation expects to conduct during the ensuing period.

7.5.2.3 Prioritisation: Stage 5 – Prioritise the work

One of the key assumptions is that there is much more work requested than an organisation can execute in one year. After all the work has been selected, a prioritisation process begins. First, work is prioritised within each business unit or group, and the business cases for all the work are then prioritised to come up with a final list of prioritised work. This process calls for collaboration and consensus amongst all the senior managers and/or stakeholders.

7.5.2.4 Portfolio balancing: Stage 6 – Balance and optimise the portfolio

Having selected and prioritised the work, it is important to establish if the resulting work is balanced:

- *Does the resulting mix satisfy the overall direction of the organisation and its overall priorities?*

- *Does the resulting mix produce the best or optimum benefit value?*

The answer to the first question is relatively easy to answer by adding up the estimated work under each of the categories and comparing that with the strategic plan. The answer to the second question is more difficult. The value of the anticipated future benefits need to be estimated and compared to different types of benefits that might not necessarily be identifiable in financial terms which means subjective judgment must be applied.

7.5.3 Execute phase

7.5.3.1 Authorisation: Stage 7 – Authorise the work

After the balancing stage the work finally selected is authorised for the coming year. This process lists and sets aside requisite budget and resources to carry out the selected work. It is not necessarily a guarantee that the work will be funded because changes in business conditions or newly surfaced work during the year could bump some authorised work off this approved list.

7.5.3.2 Activation: Stage 8 – Plan and execute the work

Activation is the process of actually scheduling and executing the work throughout the year based on business urgency, availability of staff and/or the logical relationships of outputs. This stage should also contain a process to account for new and unexpected work that arises during the year. Such work also needs to be selected, prioritised and authorised. If new work is authorised, it may mean that some work that was previously authorised could be cancelled or delayed. Activation includes keeping track of old projects to track value metrics and life-cycle costs, as well as keeping track of future work to ensure that all work authorisation and activation is scheduled appropriately based on business priorities and availability of staff.

7.5.4 Harvest phase

7.5.4.1 Portfolio reporting and review: Stage 9 – Report on portfolio status

The executive will want to know how the overall portfolio is progressing, what results are being achieved, what the overall portfolio picture looks like, and are the various benefits enablers being achieved? Put another way: what is the status of strategic goal achievement, asset contribution, current corporate risk profile, and the corporate resource capability? Answers to these questions may well lead to some modification of the authorised and activated work, and the need for further review and re-forecasting.

7.5.4.2 Strategic change: Stage 10 – Improve the portfolio

When products and other benefit enablers have been launched and the harvesting of benefits commenced, the results are collected and fed back from operations to the executive for information and the portfolio management group for thorough examination and analysis. These results enable an organisation to assess and improve the effectiveness of the portfolio management process. Some of these changes may even imply or require changes in the organisation's vision and strategy to reap the full benefits of its work investments.

7.6 IPS LEARNING STRATEGIC EXECUTION FRAMEWORK

A *Strategic Execution Framework* (SEF) was developed in a partnership between IPS Learning and the Stanford Centre for Professional Development (IPS, 2013) The *Strategic Execution Framework* helps organisations to align projects with key initiatives to achieve desired outcomes. The *Strategic Execution Framework* consists of six domains (see Figure 39) easily remembered by the mnemonic: INVEST:

- **Ideation.** An understanding of what an organisation is and how it appears in the world.
- **Nature.** Creating the conditions for strategic execution.
- **Vision.** The ultimate destination and route for the organisation.
- **Engagement.** Connecting strategy to project portfolio investments.
- **Synthesis.** Carrying out projects mapped to priorities.
- **Transition.** Turning outputs into operations.

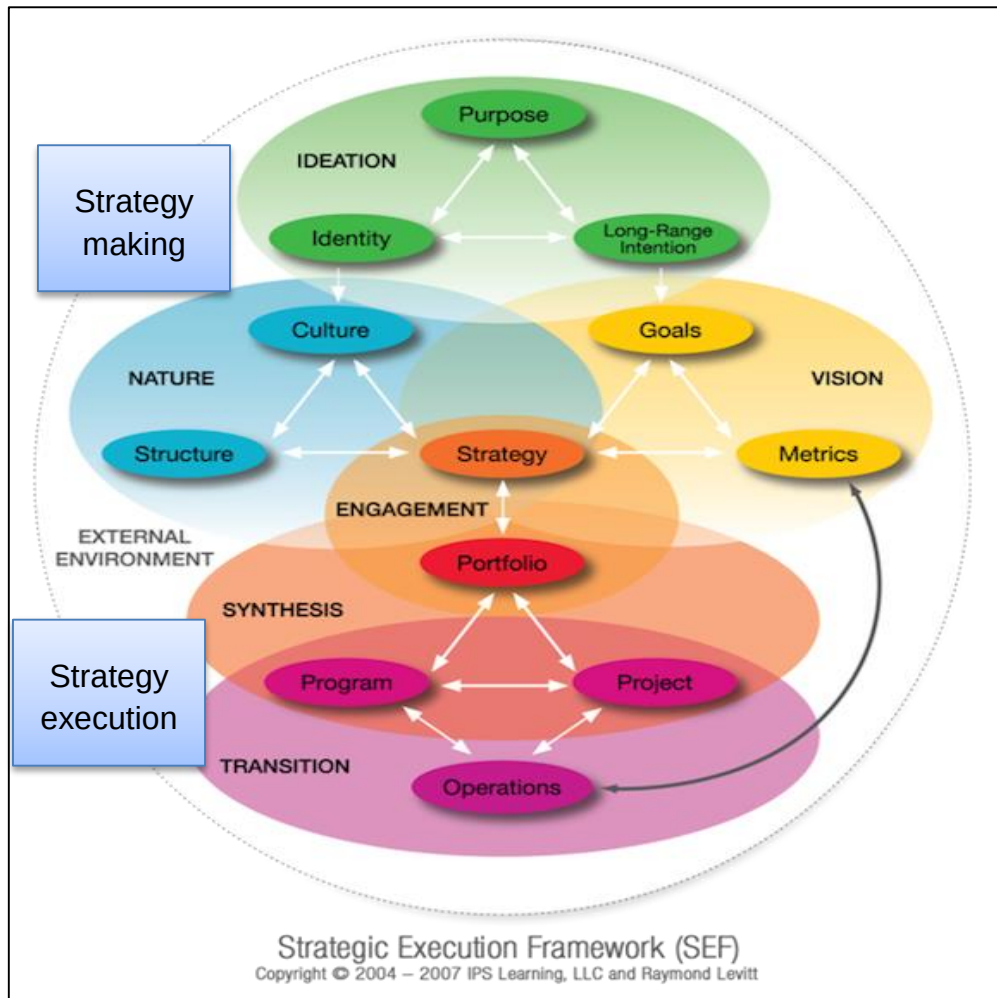


Figure 39: Strategic Execution Framework (SEF) (Source: IPS Learning, 2007)

The six domains of the *Strategic Execution Framework* are described in the sections that follow.

7.6.1 Ideation: where passion and drive originate (IPS, 2013a)

Ideation is based on the concept that life asks three fundamental questions:

- *Who are you?*
- *Why are you here?*
- *Where are you going?*

Corporate life is no exception. How a company answers these questions about identity, purpose and long-range intention creates central organising principles that are critical to driving cohesive and consistent action. Identity is the character, image, brand and values of an organisation. It is the first step to strategic differentiation and central to an organisation's ability to compete. Purpose is the fundamental reason the organisation exists. It gives people a compelling reason to come to work every day and to commit to the success of the business. Long-range intention defines what an organisation is dedicated

to in the long-term. The desired future strategy is the first step in identifying strategic goals and the project investments that will be necessary to realise them. An organisation's ability to clarify and clearly communicate these three aspects of ideation provide the context leaders and their teams need in order to make the best strategic choices as they move the organisation forward. With strong ideation employees can make decisions that align with what's important to the organisation.

7.6.2 Nature: creating the conditions for strategic execution (IPS, 2013b)

The nature domain focuses on an organisation's internal environment or the context in which it operates, linking culture, structure and strategy. Culture consists of the artefacts, core values and behaviour of the organisation. It's an organisation's approach to getting things done. Structure is the way in which an organisation designs relationships between areas or functions and can be defined anywhere along the spectrum from a strong matrix structure to a weak matrix, or silo structure. Strategy is the path an organisation designs to achieve its purpose and goals. Nature is grounded in the reality that culture and structure must be aligned with an organisation's purpose and identity and support a viable strategy to move an organisation forward. Any misalignment can create conditions that cripple effective and timely execution.

7.6.3 Vision: reaching your destination through measureable results (IPS, 2013c)

In the vision domain, an organisation's long-range intention, or where it wants to go in the long-term, becomes reality by translating it into near-term strategy with specific goals and metrics. While vision is a familiar concept to most organisations, many can stumble in this domain because they fail to recognise the importance of discipline, communication and agility in defining and executing their vision. Goal is the determination of specific, desired results. Without the discipline to choose goals that are tied to metrics and supported by strategy, goals can become empty promises. Metrics are the vehicle to evaluate progress towards achieving strategic goals. Identifying the right metrics requires understanding which behaviours to reinforce to drive performance. Strategy is the route an organisation lays out to achieve its purpose and goals. The optimal path is strongly influenced by an organisation's structure and culture which are part of the nature domain.

7.6.4 Engagement: connecting strategy to project portfolio investments (IPS, 2013d)

The engagement domain is central to strategic execution. It's where strategy turns into action by engaging in a portfolio of project-based work that will move the business forward. The ability to choose and fund the right projects

and programmes is based on clarity around goals, metrics and strategy. Without clarity it's easy to veer off course and work on projects that aren't aligned with your objectives and strategies. Strategy is the path an organisation designs to achieve its purpose and goals. The optimal route depends on how the organisation is organised and how it gets things done. The portfolio is the set of projects and programmes an organisation plans to execute, prioritised according to the strategy, and reconciled with the resources required to accomplish them. Success in the engagement domain centres on the ability to align resources with strategy through the selection and execution of the right project-based work. To accomplish this, organisations must clearly articulate the strategy to leaders and their teams, and enable them to participate in the dialogue about the portfolio in order to make the best informed decisions. They must also identify a process for establishing and managing the portfolio.

7.6.5 Synthesis: executing projects and programmes mapped to priorities (IPS, 2013e)

The synthesis domain is where plans turn into reality - where companies ensure their planned portfolio of project-based work maps to the actual projects and programmes that are being executed. It is the true test of an organisation's commitment to its strategy and ability to execute against it. Any gap between planned and actual reflects a lack of consistency and threatens an organisation's ability to achieve its goals. Synthesis consists of three components. The portfolio is the strategy-based and prioritised set of projects and programmes a company plans to execute, reconciled with the resources required to accomplish them. Programmes are collections of multiple, interdependent projects that fit together and are managed as a single unit. Projects are unique, temporary efforts defined by deliverables, schedule and resources. Alignment in the synthesis domain is defined by how well an organisation actually delivers its portfolio of programmes and projects. Success depends on:

- *Coherent and transparent translation of strategy into executable work.*
- *Consistency across planned and actual work driven by a common language and process methodology agreed upon at a high level.*
- *Active executive sponsorship to help overcome obstacles and ensure investment in the right opportunities so that day-to-day project and programme leaders have the support they need to maintain smooth operations.*

7.6.6 Transition: turning outputs into operations (IPS, 2013f)

The transition domain is the ultimate measure of success - moving the results of project-based work into the mainstream of operations. It is where an

organisation delivers on its goals or not, completing the cycle from strategy through execution. Transition consists of three components. Projects are unique, temporary efforts defined by deliverables, schedule and resources. Programmes are multiple, interdependent projects managed as a single unit. Operations are the ongoing processes of the enterprise that deliver value to the customer. Success hinges on managing two critical factors:

- **Organisational implications.** *By its very nature project-based work creates change and with change can come challenges. Project leaders and operations leaders must collaborate to minimise any disruptions that transition can create. To realise the full benefits of any project, smooth, thoughtful and coordinated transfer of the work output to the end users or customers is essential. This requires engaging operations early and often to gain their input and support throughout the process of planning and executing the project even if they aren't directly responsible for the project output until after the hand off.*
- **Metrics consistency.** *The metrics established at the outset, when the organisation defines its goals and strategy in the vision domain, must map to the metrics used in actual practice when the project is operationalised. Conflicting or unclear metrics hamper performance and ultimate success. Collaboration between project and operations leaders is also important here to help ensure desired outcomes.*

7.6.7 Enabling transformation

The Strategic Execution Framework helps companies to identify disconnects and barriers to successful strategic execution and can be adapted depending on the company's strengths and weaknesses. No matter what the key business initiatives may be, the Strategic Execution Framework provides a common language and way of understanding how businesses successfully execute, innovate, change and grow. Organisations can be assessed within this context and make necessary adjustments to create a foundation for balanced strategic execution.

7.7 INNOTAS™ PORTFOLIO LIFE-CYCLE STAGES

INNOTAS™ (2015) published a white paper which included the portfolio management life-cycle stages as summarised in Table 29.

Table 29: INNOTAS™ portfolio management life-cycle stages (2015)

Stage No.	Stage Name	Stage Description
1	Idea generation	Capturing ideas from anywhere in the organisation. It happens all the time, not just during planning time.
2	Collaborative enhancement	Having the people who came up with an idea work together no matter where they are in the organisation.
3	Preliminary screening	Prioritising which projects will move forward and which will get cut.
4	Standardised business cases	Comparing apples to apples as you decide which projects to pursue and creating a case for why.
5	Portfolio modelling	Understanding what a portfolio will do to the entire organisation if approved.
6	Strategic project execution	Executing an approved project. Project managers must stop thinking about deliverables and start thinking about business benefits and value.
7	Portfolio change management	Handling changes to the portfolio due to market or customer feedback.
8	Centralised benefits tracking	Ability to capture and track actual benefits.
9	Benefits accountability	Making sure someone is held accountable and getting rewarded when the results exceed the expectation.

7.8 SUMMARY, INTEGRATION AND CONCLUSIONS

Table 30 is a summary of the portfolio management standards, models and frameworks and their associated steps/stages, processes/practices or domains.

Table 30: Portfolio management standards, models and frameworks and their associated steps/processes/practices/stages/domains

	BS ISO 21504 portfolio management steps	PMI portfolio management process groups and processes	OGC portfolio management cycles and practices	TenStep PortfolioStep™ stages (or steps)	IPS Learning domains	INNOTAS™ stages
Processes/ practices	Define portfolio objectives. Identify and map selected and potential portfolio components to strategic objectives. Define the portfolio plan and benefits. Categorise, prioritise and select portfolio components and identify interdependencies. Validate portfolio alignment to strategic objectives, risk tolerance and resource capability and capacity, evaluate and document results. Establish performance	Defining process group: - Develop portfolio strategic plan. - Develop portfolio charter. - Develop portfolio roadmap. - Develop portfolio management plan. - Define portfolio. - Develop portfolio performance management plan. - Develop portfolio communication management plan. - Develop portfolio risk management plan. Authorising and controlling process group: - Authorise portfolio. - Provide portfolio oversight. Aligning process group:	Portfolio definition cycle: - Understand. - Categorise. - Prioritise. - Balance. - Plan. Portfolio delivery cycle - Management control. - Financial management. - Benefits management - Stakeholder management. - Organisational governance. - Resource management.	Prepare: - Categorisation and identification. Plan: - Evaluation and selection. - Prioritisation and balancing. Execute: - Authorisation and activation. Harvest: - Reporting and review. - Strategic change.	Ideation: A company's understanding of what it is and how it appears in the world, expressed through its <i>purpose, identity</i> and <i>long-range intention</i>. Nature: Creating the conditions for strategic execution that embodies the <i>culture</i> and <i>structure</i> (i.e. the environment and context, within which an organisation operate). Vision: The ultimate destination and route that includes the <i>goals, metrics</i> and <i>strategy</i> that form the foundation for the organisation. Engagement: Connecting <i>strategy</i> to project <i>portfolio</i>	Idea generation. Collaborative enhancement. Preliminary screening. Standardised business cases. Portfolio modelling. Strategic project execution. Portfolio change management. Centralised benefits tracking. Benefits accountability.

	BS ISO 21504 portfolio management steps	PMI portfolio management process groups and processes	OGC portfolio management cycles and practices	TenStep PortfolioStep™ stages (or steps)	IPS Learning domains	INNOTAS™ stages
	measurement baseline, manage and report portfolio performance, and manage and integrate benefits. Balance and optimise the portfolio by managing benefits, maintaining the portfolio, optimising resources, managing risks and controlling portfolio changes.	• Manage strategic change. • Optimise portfolio. • Manage supply and demand. • Manage portfolio value. • Manage portfolio information. • Manage portfolio risks.			investments, funding the right <i>projects</i> that will further the <i>strategy</i>. Synthesis: Carrying out projects mapped to priorities, and ensuring that these <i>projects</i> and <i>programmes</i> are in alignment with the <i>portfolio</i> and successfully carried out. Transition: Turning outputs into <i>operations</i> by moving the results of project-based work into the mainstream of the organisation's operations.	

The portfolio management model and elements in Figure 40 are derived from Table 30 and integrates the associated steps/stages, processes/practices or domains from the portfolio management standards, models and frameworks. The portfolio management cycle is to be understood less as sequentially ordered but rather in the sense of recurring that can be overlapping or parallel.

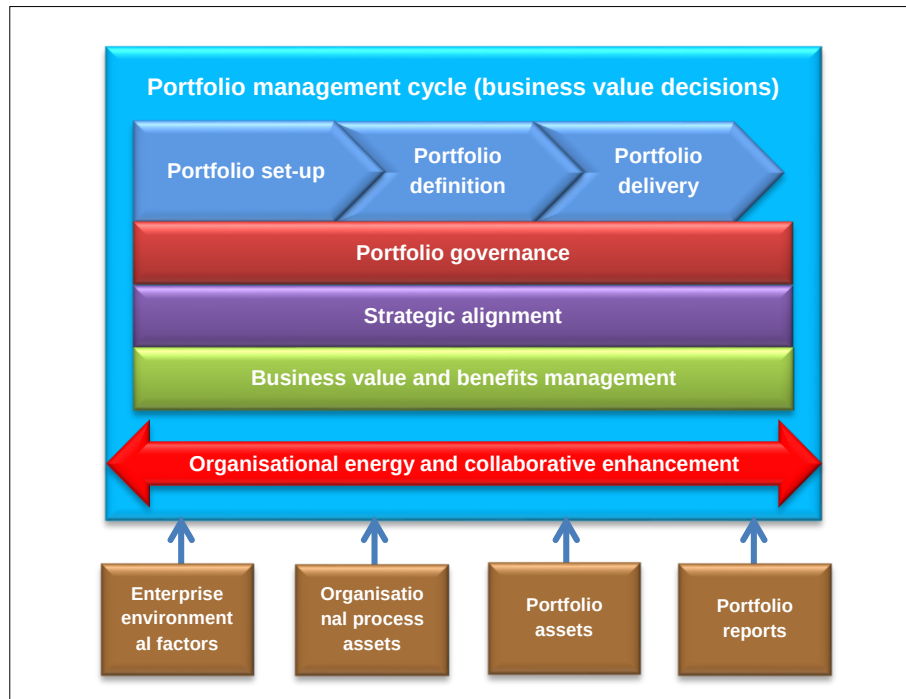


Figure 40: Portfolio management model and elements

An iterative comparison and analysis of the associated steps/stages, processes/practices and domains as outlined in Table 30 resulted in the development of the portfolio management model elements and activities shown in Table 31.

Table 31: Portfolio management model elements and activities

Portfolio set-up	Portfolio definition	Portfolio delivery
- Develop portfolio strategic plan. - Establish portfolio governance structures. - Identify potential portfolio components and benefits and maintain the portfolio pipeline. - Categorise potential portfolio components. - Develop portfolio charter/s and setup portfolio/s.	- Develop portfolio roadmap. - Develop portfolio governance management plan. - Develop portfolio change management plan. - Develop portfolio performance and benefits management plan. - Develop portfolio financial management plan. - Develop portfolio resource management plan. - Develop portfolio stakeholder and communications	- Activate portfolio components. - Manage portfolio changes. - Manage portfolio performance and benefits. - Manage portfolio finances. - Manage portfolio resources (i.e. supply and demand). - Manage portfolio stakeholders and communications. - Manage portfolio risks. - Provide portfolio oversight (i.e. management control). - Report portfolio performance.

Portfolio set-up	Portfolio definition	Portfolio delivery
	management plan. • Develop portfolio risk management plan. • Develop integrated portfolio management plan. • Assess and select portfolio components. • Prioritise portfolio components. • Balance, optimise and maintain the portfolio. • Authorise portfolio and changes. • Create portfolio delivery plan.	• Transfer benefits and allocate benefits accountability. • Perform portfolio governance reviews.

The portfolio management model elements and associated processes/practices/activities and their descriptions that follow are a result of an iterative comparison and analysis of the detail of the associated steps/stages, processes/practices or domains from the portfolio management standards, models and frameworks.

Portfolio set-up

The purpose of *portfolio set-up* is to evaluate the organisation's strategic objectives and strategies and develop a portfolio strategic plan to establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives. The processes/practices/activities include:

- **Develop portfolio strategic plan.** Evaluate the organisation's strategic objectives and strategies. Describe what portfolio management is designed to achieve. Establish the vision of the portfolio(s) and define the strategy in portfolio-related strategic goals and objectives. Define and capture the criteria and measures, key processes and methods to select and align portfolio components to enable a balanced portfolio to maximise the probability of achieving the organisational strategic objectives. Such actions must optimise the organisation's return on investment, maintain risk exposure within the organisation's risk tolerance and should match resource demand. Define and document the portfolio management governance structures.
- **Establish portfolio governance structures.** Prepare terms of reference for the portfolio governance bodies (e.g. portfolio direction group(s), portfolio progress group(s), investment committee(s), etc.) and establish the portfolio governance structures. Use the business change life-cycle and stage/phase gates, from the start gate to post-implementation review, to ensure that potential portfolio components are identified, assessed and selected, categorised, prioritised, authorised, executed, monitored and evaluated consistently based on their demonstrable strategic contribution and risk.

Define escalation paths with control/tolerance limits. Monitor the operation of the portfolio(s) process, report any non-compliance and provide an assurance on their effective operation.

- **Identify potential portfolio components and maintain the portfolio pipeline.** Continually identify and map potential portfolio components to the organisation's strategic objectives and strategies. Obtain a clear and transparent view of what is in the current portfolio(s) and the portfolio pipeline(s), performance to date together with their forecast impact on organisational performance. Collect consistent data on all potential portfolio components to aid with categorisation, assessment and selection, prioritisation, balance and optimisation, and authorisation. Collate the information on the potential portfolio components into an interim report to provide a clear view on the contents of the portfolio(s), any apparent overlaps and duplication, and the associated costs, dependencies, resource requirements, forecast benefits, risks, and strategic contribution. Identify the potential portfolio components for the coming business cycle and develop value propositions describing the scope, value and alignment to the organisation's strategic objectives and strategies.
- **Categorise potential portfolio components.** Setup the terms, scope and definition of the portfolio(s) as decided in the portfolio strategic plan of how potential portfolio components will be grouped into categories and define the divisions/departments covered, the type of work included (e.g. programmes/projects, operations, support, etc.), the categorisation scheme (e.g. categories such as: mandatory, strategic, business support, experimental, infrastructure, maintenance, and cross-functional), the balance points (e.g. for each category set guidelines as how the work should be balanced) and the financial models (i.e. models to be used to assess and select the portfolio components that are aligned to the strategic goals and strategies). Organise potential portfolio components into groups, segments or sub-portfolios based on the strategic objectives and strategies or other groupings to aid in strategic alignment and to ensure that resource allocation reflects the relative organisational priorities. The purpose of the categorise practice is to make it easier for senior decision-makers to understand the make-up of their portfolio(s) and thus to make decisions on balance and on the optimum use of available funding and other resources.
- **Develop portfolio charter(s) and setup portfolio(s).** Identify objectives for the portfolio(s) using past and current performance and future goals of the organisation. Set objectives for different time periods, ranging from immediate to longer term taking into account constraints such as the organisation's risk tolerance. Keep the objectives under change control. Create the portfolio charter(s), develop the portfolio management structure(s) and appoint the portfolio management team(s).

Portfolio definition

The purpose of *portfolio definition* is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability. The processes/practices/activities include:

- **Develop portfolio roadmap.** Create a high-level schedule showing the potential portfolio components to be implemented over time with any dependencies between them so that any conflicts or gaps between the roadmap and the organisational objectives and strategies can be evaluated.
- **Develop portfolio governance management plan.** Document the governance structures, processes, escalation routes, tolerance/control limits and role descriptions for the portfolio.
- **Develop portfolio change management plan.** Define a portfolio change control approach to develop and implement recommendations for portfolio changes, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment.
- **Develop portfolio performance and benefits management plan.** Develop the portfolio performance management plan as to how portfolio value is defined and realised through the portfolio measurements and targets, alignment to organisational objectives and strategies, and roles and responsibilities in executing the plan. Develop a portfolio benefits management framework encompassing the following main elements:
 - Benefits eligibility rules including a consistent approach to benefits categorisation (e.g. financial and non-financial benefits, cashable and non-cashable benefits, efficiency/productivity and effectiveness/performance benefits and economy, efficiency and effectiveness benefits).
 - Existing and potential portfolio components and their mapping to the strategic objectives and strategies.
 - Targeted benefits and capabilities to be achieved by the portfolio components within the costs and timescales.
 - Portfolio benefits realisation plan.
 - Re-appraisal of business cases and benefits at stage/phase gates and portfolio-level reviews.
 - Clear arrangements for benefits tracking and reporting at a portfolio level.
 - Robust post implementation reviews and feeding lessons learned back into forecasting and benefits management processes.
- **Develop portfolio financial management plan.** Develop a financial management plan to ensure that the portfolio management processes and decisions are aligned to the financial management cycle. Financial

considerations form a key element in all decisions regarding the commencement and ongoing viability of potential portfolio components, both at an individual and at a collective level. The main elements of the financial management plan are:

- Selection of appropriate investment criteria including metrics such as NPV and hurdle rates of return.
- Clear rules for compiling cost forecasts in business cases and adjusting for optimism bias or the tendency for business case writers to under-estimate costs and project durations, and overestimate benefits.
- Clear rules for valuing savings and other benefits in business cases.
- Clear control limits for reporting variances from budget and approving additional funding requests.
- Incorporation of a financial plan within every business case.
- Application of the concept of staged release of funding linked to the stage/phase gates to ensure that funding allocations remain aligned to strategic objectives and minimising the risks.
- Portfolio delivery plan should include a portfolio-level financial plan showing the profiled capital and operating expenditure budgets in the forthcoming period. The plan should show in summary the impact on operating expenditure in future.
- Monitoring spent in the year against the portfolio-level financial plan via portfolio dash-board.
- Deciding how much financial contingency is retained at portfolio level to:
 - Address cost escalation on current programmes and projects (retained centrally rather than at individual portfolio component budget).
 - Fund new portfolio components during the year.
- **Develop portfolio resource management plan.** Develop mechanisms to understand and manage the amount of resources available and required to balance the demand and supply for any constraint resource that limits capacity of the organisation to deliver its potential portfolio components. Define portfolio wide standards for resource forecasting. Resources include but are not limited to skilled programme and project staff, other specialists, required equipment and accommodation, and the organisation's capacity to absorb business changes.
- **Develop portfolio stakeholder and communications management plan.** Identify key portfolio stakeholders, categorise them, and develop a portfolio stakeholder engagement and communication approach to ensure that:
 - The needs of the portfolio's stakeholders (both internal and external) are identified and managed appropriately.
 - Stakeholder support for the portfolio is gained by effective consultation and involvement in the definition and delivery of the portfolio.

- **Develop portfolio risk management plan.** Develop a risk management strategy at portfolio level that aligns to the organisational risk management policy to ensure consistent and effective management of the portfolio's exposure to risk at both individual portfolio component and collective portfolio level to:
 - Determine the level and tolerance of risk that is acceptable within the portfolio.
 - Develop or adapt an analysis technique for risks held at the portfolio level.
 - Identify risks at the portfolio level based on identified risks for each portfolio component.
 - Analyse and prioritise the portfolio risks considering such items as priority of strategic objectives, benefits, and the relationships among portfolio components.
 - Evaluate the risks over time including changes that should be monitored for risk impact and changes in portfolio composition.
- **Develop integrated portfolio management plan.** Compile the integrated portfolio management plan that includes the following:
 - Portfolio organisation structure.
 - The existing and potential portfolio components, interdependencies between portfolio components, and their mapping to the strategic objectives and strategies.
 - The targeted benefits and capabilities of the portfolio components to be achieved by the costs and timescales.
 - Portfolio management subsidiary plans.

Portfolio management plan development is an iterative process. The subsidiary plans are considered part of the portfolio management plan although they may be separate documents and contain reference to the portfolio management plan.

- **Assess and select portfolio components.** Do a meticulous and rigorous review of the value propositions to assess the current list of categorised potential portfolio components and decide which will move forward and which will get cut. Evaluate the current resource allocation, availability and constraints and identify interdependencies among the portfolio components. Create more detailed business cases for all the portfolio components that survived the initial cut and organise them for on-going evaluation, selection, and prioritisation.
- **Prioritise portfolio components.** Use the business cases and rank the portfolio components within the portfolio (or portfolio segment) based on the measures as agreed with relevant portfolio governance bodies to answer the following questions:
 - Which initiatives should the organisation invest in?

- What are the most important initiatives?
- What initiatives must be resourced above others?

Where segmentation is used tailor the criteria for prioritising portfolio components to suit particular portfolio segments. Combine financial metrics with some form of multi-criteria analysis considering factors under two main headings to prevent financial appraisal bias:

- The “return of attractiveness” of each portfolio component including such factors as financial return on investment, political need, strategic impact, etc.
- The “risk of achievability” of each portfolio component including such factors as reputational risk, likelihood of product delivery, likelihood of benefits realisation, complexity, etc.

Select and assign a priority to each of the portfolio components for inclusion in the portfolio by the results of:

- The contribution to achieve strategic objectives.
 - The exposure to inherent risk.
 - The impact on available resources.
 - The capacity and capability of the organisation to absorb the totality of the changes from all portfolio components.
- **Balance, optimise and maintain the portfolio.** Establish if the resulting prioritised portfolio components and mix satisfies the overall direction of the organisation and its overall priorities by adding up the estimated work under each of the categories and comparing that with the strategic objectives and strategies. Review, analyse, and change prioritised portfolio components to create the optimal balance in terms of factors such as timing; coverage of all strategic objectives; impact across the business; stage of portfolio component development; overall risk; return profile; and available resources. Maintain the portfolio by continually evaluating potential portfolio components for inclusion in the portfolio, moving, modifying, closing or terminating portfolio components within the portfolio and balancing resources and other assets throughout the portfolio.
 - **Create portfolio delivery plan.** Create a portfolio delivery plan to provide a clear view on:
 - Which portfolio components are included in the portfolio for execution.
 - Scheduling/timing of the portfolio components.
 - Resource and financial requirements.
 - Key milestones.
 - Risks.
 - **Authorise portfolio and changes.** Present the proposed balanced and optimised portfolio together with the portfolio delivery plan to the relevant portfolio governance body and obtain authorisation for the coming year. This

process lists and sets aside requisite budget and resources to carry out the authorised portfolio components. It is not necessarily a guarantee that the authorised portfolio components will be funded because changes in business conditions or newly surfaced portfolio components during the year could bump some authorised portfolio components off the authorised list. Communicate the decisions regarding the authorised portfolio components and changes to the relevant portfolio stakeholders.

Portfolio delivery

The purpose of portfolio delivery is to manage the execution of the portfolio and its authorised components in line with the portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives. The processes/practices/activities include:

- **Activate portfolio components.** Schedule and initiate the execution of the authorised portfolio components throughout the year based on business urgency, availability of staff and/or the logical relationships between portfolio components.
- **Manage portfolio changes.** Evaluate and determine the responses to ongoing changes in organisational objectives and strategies or portfolio components. Update the portfolio management and delivery plans and portfolio baseline to reflect the impacts and responses to the changes. Control changes to the portfolio:
 - Develop and implement recommendations for the portfolio, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment.
 - Develop and implement recommendations regarding the adding, moving, modifying or removing of portfolio components.
 - Communicate decisions regarding changes to the portfolio baseline and plans to the portfolio stakeholders.
- **Manage portfolio performance and benefits.** Track, validate and capture actual benefits and forecast future investment gains or losses. Identify gaps where forecast benefits will not meet expectations and implement corrective actions. When portfolio components slip, consider the impact on the benefits realisation plan, operational performance and strategic objectives and include it in the reporting to the portfolio governance body. Report portfolio value at an aggregate level delivered by portfolio components with the goal of maximising return on investment within an acceptable level of risk.
- **Manage portfolio finances.** Incrementally release funds for activated portfolio components in line with the business change life-cycle to maintain strategic alignment and minimise risk of wasted expenditure. Monitor the actual spent in the year against the portfolio-level financial plan. Report the financial information of all the portfolio components and the portfolio as a

whole on a regular basis. Ensure that the spent against the portfolio financial plan is included in the portfolio dash-board report.

- **Manage portfolio resources (i.e. supply and demand).** Amalgamate the resource plans of the authorised portfolio components to understand and manage the portfolio resource requirements (i.e. what resources - people, skills and capacity - are required and for what time periods). Regularly review and update the resource schedule as part of the periodic portfolio-level reviews (e.g. during each portfolio component stage/phase gate) to understand the resource requirements changes. Identify changes required to be made in regard to the portfolio components such as de-scoping, cancelling, rescheduling, or other related actions to achieve optimisation. Resolve conflicts in resource utilisation and where shortages in supply are forecasted, take corrective action such as recruitment, negotiating contracts with external agencies, staff development and re-scheduling delivery.
- **Manage portfolio stakeholders and communications.** Identify stakeholders' needs and proactively engage them in the decision-making process to identify, assess and select, prioritise, balance and optimise, and authorise portfolio components (including portfolio changes). Execute the stakeholder and communication plan by collecting data, translating data into meaningful information, and supplying it to the identified stakeholders in a timely and effective manner. Establish two-way engagement and incorporate a feedback loop so that stakeholders can see how their comments and feedback are dealt with. Pay particular attention to ensure continued senior management commitment as senior management support is essential to effectively implement portfolio management.
- **Manage portfolio risks.** Identify risks at the portfolio level based on identified risks for each portfolio component. Analyse and prioritise the portfolio risks considering items such as priority of strategic objectives; benefits; changes in portfolio components; inaccurate forecasting and variability in returns; slippage of key dependencies; ineffective management of dependencies across the portfolio components; over exposure to a single supplier; negative impact on operational performance; etc. Evaluate the risks over time and develop and implement risk mitigation actions. Ensure that risk mitigation actions are reviewed regularly and updated and that the status of each of the top portfolio-level risks is incorporated into the portfolio dash-board. Escalate and report key risks and issues to the relevant portfolio governance body.
- **Provide portfolio oversight (i.e. management control).** Monitor progress at an individual portfolio component and portfolio level against the portfolio baseline as outlined in the portfolio management and delivery plans to ensure that the delivery stays on track. Track contributions of portfolio benefits and compare them with the current strategic objectives and strategies. Provide forecasting, including but not limited to resource and capacity utilisation and strategy and risk. Analyse both top-down and bottom-up portfolio component

composition, alignment and performance, the impact of individual portfolio component performance on the performance of the entire portfolio and achievement of prioritised strategic objectives, Ensure that governance decisions are made in response to portfolio performance, portfolio component changes, risks and issues to ensure the delivery of the portfolio is in line with the portfolio management and delivery plans, current progress and conditions (including resources).

- **Report portfolio performance.** Integrate and maintain the reporting cycle across the portfolio. Collate and report overall portfolio status to the relevant stakeholders and governance bodies via the portfolio dash-board.
- **Transfer benefits and allocate benefits accountability.** Make sure that the benefits are transferred to operations and that someone is held accountable for the realisation of benefits.
- **Perform portfolio governance reviews.** Perform regular governance reviews both at the individual portfolio component level (e.g. stage/phase gate reviews) and for the portfolio as a whole to ensure continued business justification and strategic alignment. When benefits have been transferred to operations and the realisation of benefits commenced, the results must be thoroughly examined and analysed to enable an organisation to assess and improve the effectiveness of the portfolio management process. Post implementation reviews should assess:
 - Were forecast benefits realised?
 - What unplanned benefits were realised and is there scope to leverage additional benefits?
 - Did the initiative represent value for money (i.e. actual cost compared with benefits realised)?
 - What lessons can be learned to improve the way benefits realisation is managed?

Organisational energy and collaborative enhancement

Organisational energy is the extent to which an organisation has mobilised the full available effort of its people in pursuit of its goals. It is the collective effort of the people and the effective management of that effort within the organisation that are the deciding factor on whether or not the strategic objectives are achieved. Organisational energy refers to a collection of critical organisational elements such as leadership, direction, management, motivation, well-being, effective communication, teamwork, skills and experience, all of which must come together in order to release the organisation's collective energy in the right direction. The demands of increased agility in planning require more effective collaboration between all functions involved in portfolio management e.g. portfolio office working in close collaboration with strategy; finance, risk, performance management, and project and programme management functions to ensure they are consistent with the wider organisational strategic, business and financial plans; collaboration and

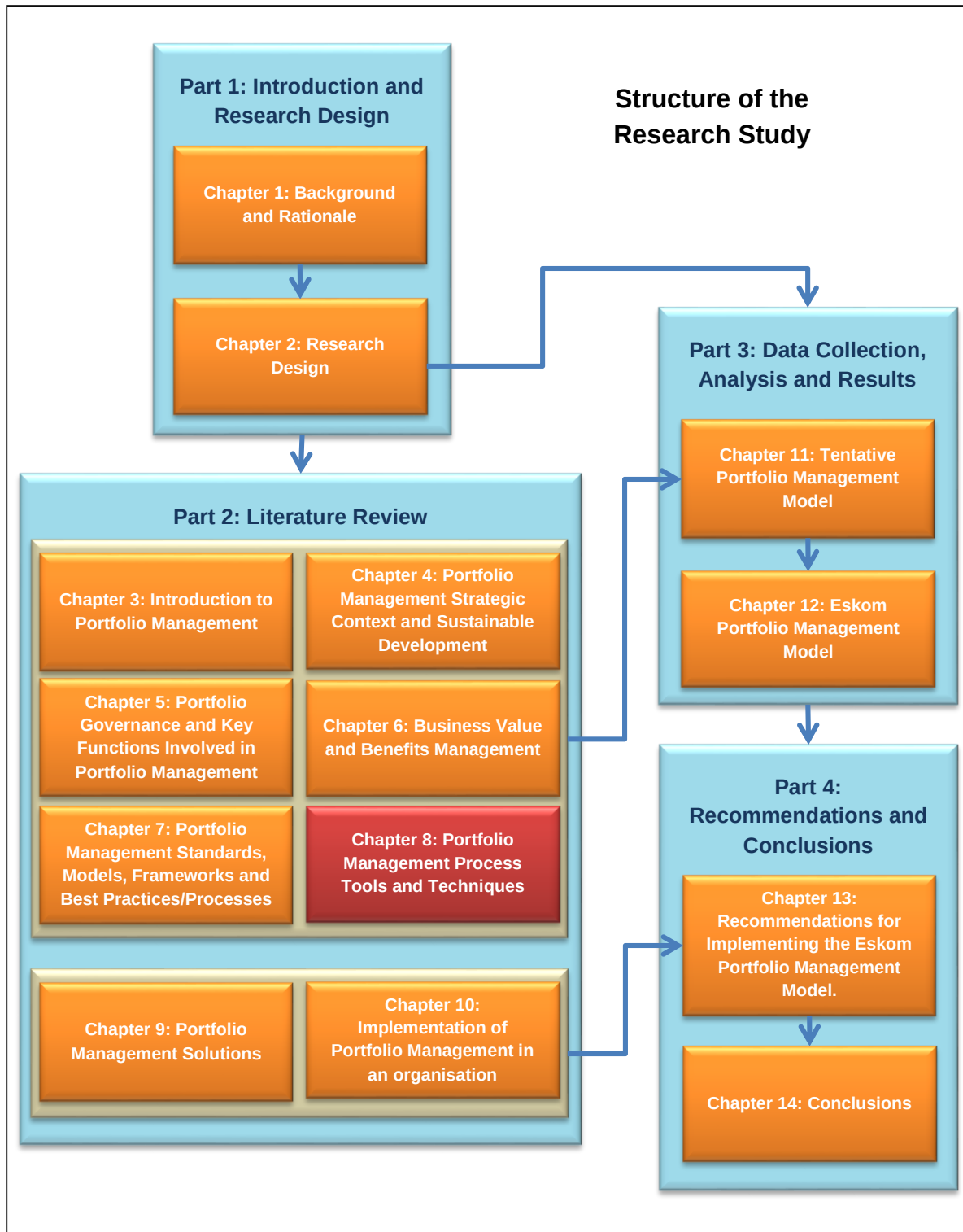
consensus amongst all the senior managers and/or stakeholders, etc. Collaborative enhancement is also about having the people who came up with an idea work together no matter where they are in the organisation.

Inputs and outputs for portfolio management process interactions

Common inputs and outputs for portfolio management process interactions include:

- **Strategic objectives (input).** Inputs from the strategic management process i.e. the specific results to be achieved in a given time period including targets and measures.
- **Portfolio process assets (input).** Formal and informal plans, policies, procedures, guidelines, portfolio related knowledge bases, such as lessons learned and historical information. It may also include information on tools, techniques, models, integrated schedules, and risk and performance data.
- **Organisational process assets (input).** Plans, processes, policies, procedures, and knowledge bases, specific to and used by the performing organisation that can be leveraged by the portfolio manager.
- **Enterprise environmental factors (input).** Internal or external conditions, not under the control of the portfolio organisation, which influence, constrain, or direct a portfolio's success.
- **Portfolio reports (input).** Reports such as performance reports, feedback report to organisational strategy planning, variance reports resource capability and capacity reports, portfolio risks and issues, governance recommendations and decisions, and portfolio component recommendations.
- **Authorised portfolio components (output).** Initiation to start and deliver the portfolio components (e.g. projects and programmes).
- **Benefits transition to operations (output).** Allocation of benefits accountability and transfer of completed portfolio components (e.g. projects and programmes) to operations to sustain benefits and realise business value.

CHAPTER 8: PORTFOLIO MANAGEMENT PROCESS TOOLS AND TECHNIQUES



8.1 INTRODUCTION

8.1.1 Background

The effective application of portfolio management tools and techniques can assist those responsible for managing portfolio management processes to enhance the likelihood of successful portfolio management. According to the *PMI Standard for Portfolio Management* (2013a) tools and techniques are the methods by which inputs are processed or analysed to create outputs. The *PMI PMBOK® Guide* (2013c) mentions that a technique is a defined systematic procedure employed by a human resource to perform an activity to produce a product or result or deliver a service, and that may employ one or more tools. The *PMI PMBOK® Guide* (2013c) further clarifies that a tool is something tangible, such as a template or software program, used in performing an activity to produce a product or result. A template is a partially complete document in a predefined format that provides a defined structure for collecting, organising, and presenting information and data. Templates can reduce the effort needed to perform work and increase the consistency of results.

8.1.2 Aim

The aim of this chapter is to document the various methods (process tools and techniques) by which inputs are processed or analysed to create outputs when applying portfolio management processes.

8.2 BS ISO 21504:2015 PORTFOLIO MANAGEMENT TOOLS AND TECHNIQUES

BS ISO 21504:2015 provides guidance on the principles of project and programme portfolio management but does not provide any guidance or information on tools and techniques.

8.3 PMI PORTFOLIO MANAGEMENT TOOLS AND TECHNIQUES

The *PMI Standard for Portfolio Management* (2013a) divides tools and techniques of the portfolio management processes into four categories:

- **Analysing.** Uses tools and techniques to analyse process inputs, resulting in additional information that becomes the process outcomes.
- **Selection.** Provides methods to facilitate selection of the appropriate portfolio components.
- **Meeting.** Provide mechanisms to share information and make decisions in a group interaction style.
- **Information.** Provide methods to obtain and share information relevant to the portfolio.

Many of these tools and techniques are used in more than one process. Figure 41 shows the alignment of the tools and techniques to the categories.

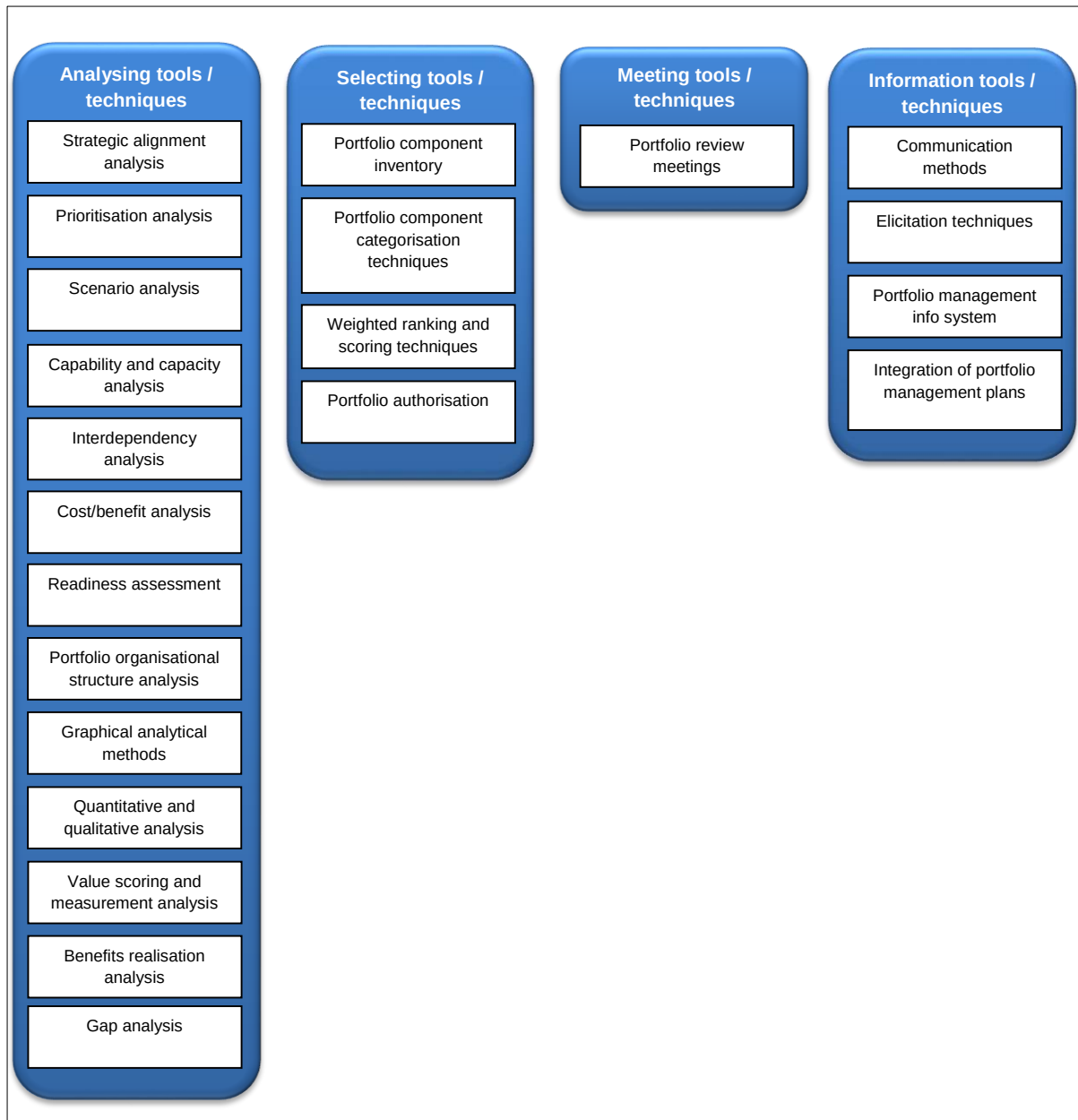


Figure 41: (Source: PMI Standard for Portfolio Management, 2013a)

8.3.1 Analysing tools and techniques

Organisational strategy and objectives are analysed to determine which part of the portfolio structure will address specific organisation strategy. The current inventory of work or existing portfolio is analysed to determine which portfolio components must be continued, modified or discontinued and whether any new components should be added. The techniques include the analysis of the drivers of strategic change to determine the desired contribution of the initiatives to the strategic objectives.

8.3.1.1 Strategic alignment analysis

The strategic alignment analysis focuses on the new or changing organisational strategy and objectives. This analysis indicates where there are gaps in focus,

investment, or alignment within the portfolio. Portfolios or inventory of work must be validated against organisational strategy updates to ensure consistency with evolving organisational mission, goals and objectives. By comparing new components to preceding components it must be determined whether components should be added, modified or terminated to ensure the portfolio objectives remain aligned with the organisational strategy and objectives. Factors that indicate the need for a revision of the portfolio components may include; obsolete goals, opportunities to be pursued, and response to regulatory changes, etc. Figure 42 displays a structure according to a high level timeline. The various organisation areas are indicted with the as-is situation and to-be vision. The boxes refer to multiple portfolio components in the various organisation areas. It provides an integrated view of the overall portfolio strategy and demonstrates one type of tool that can be used as a step in conducting strategic alignment analysis.

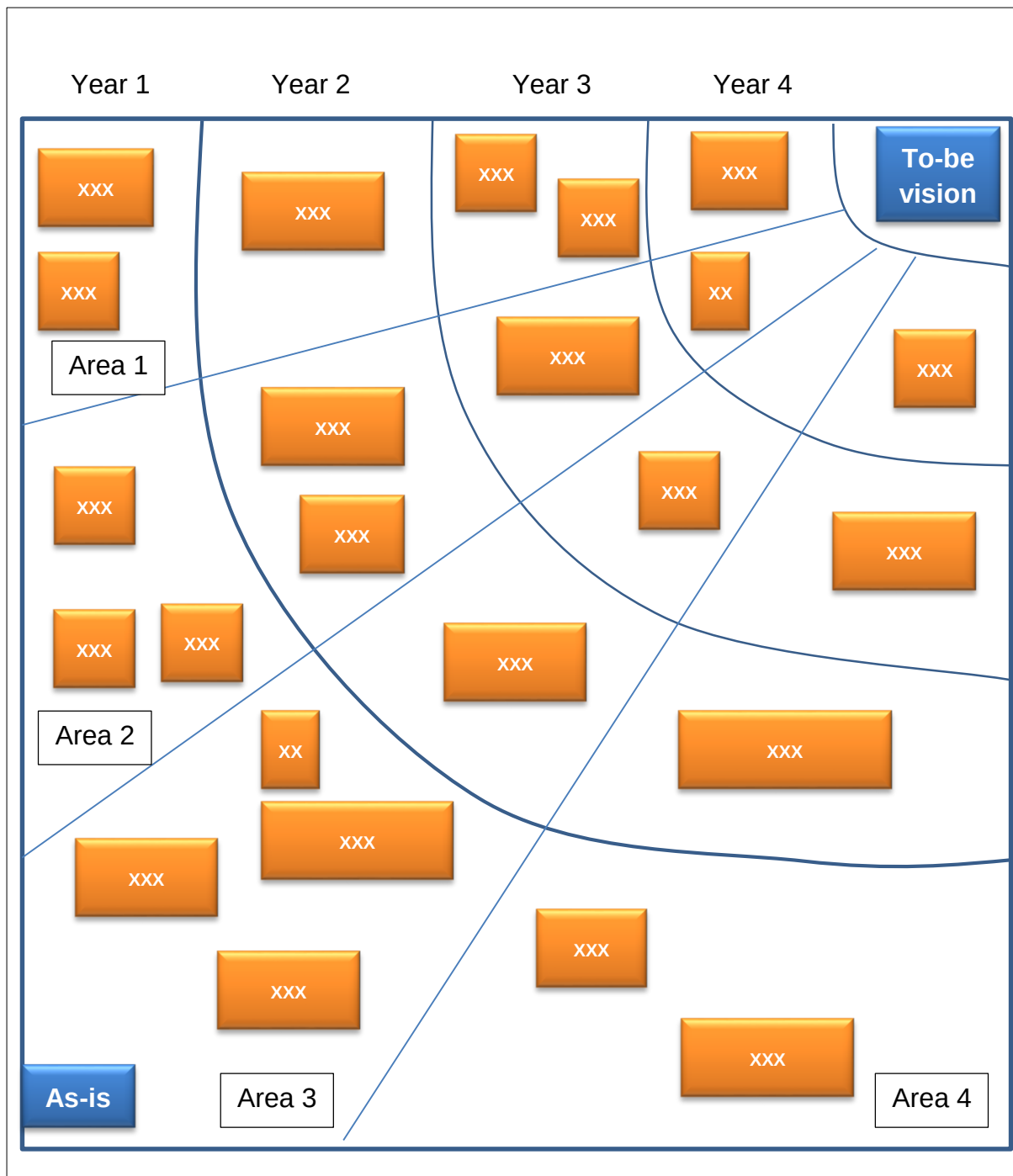


Figure 42: Integrated view of overall portfolio (Source: PMI Standard for Portfolio Management, 2013a)

8.3.1.2 Prioritisation analysis

The portfolio strategic plan should contain a prioritisation model or approach that guides the ongoing decisions as to which portfolio components should be added, terminated, or changed, as well as prioritises and balances the component mix over time. A simple prioritisation model contains criteria to ensure alignment to strategic goals, expected return on investment (ROI), investment risks, and dependencies to determine overall scoring and ranking. Based on the measurement for each criterion,

portfolio components are scored, and compared to assist in establishing the portfolio and are used when evaluating the portfolio throughout its life cycle. There are various tools, techniques, and models to assist in performing prioritisation analysis. Some examples are weighted ranking and scoring techniques as described in Section 8.3.2.4.

8.3.1.3 Scenario analysis

This analytical method enables decision-makers to create a variety of portfolio scenarios using different combinations of both current and potential components, evaluating their possible outcomes based on various assumptions. The result of this analysis allows decision-makers to determine the portfolio structure and objectives for inclusion in the portfolio charter. Scenario analysis is necessary to determine various possibilities of resource allocations and the impact to portfolio component schedules. Analysis can be used to determine what would happen if human, financial, or equipment funding was increased or decreased, or if constraint resources are not available as scheduled. This type of analysis is important to ensure that the organisation is prepared for changes in demand or changes to resource supplies. Resource management tools are also available for modelling alternative scenarios for using resources to meet the demand of the portfolio component priorities.

8.3.1.4 Capability and capacity analysis

Capability and capacity analysis is performed to understand how much work is able to be performed based on the resources available (capacity), as well as the ability of the organisation to source and execute the selected portfolio and to determine the constraints generated by certain skill-set limitations, financial constraints, and other capacity availability factors (capability). Internal resource capacity is required to be measured and external resource availability is required to be established to complete the portfolio structure. These human resource, financial, and asset capacity considerations are limiting factors for the number and size of portfolio components the organisation can execute.

Exceeding the available resource capacity jeopardises a portfolio's ability to attain its goals and benefits. Protecting resource capability directly supports portfolio component execution by ensuring that resources are available to accomplish portfolio objectives. Capacity management is a critical component of portfolio optimisation as it enables the organisation to achieve maximum portfolio benefits given current resource constraints. The organisational capacity analysis comprises the following three analyses:

- **Human resource capability and capacity analysis.** The human resource capability and capacity analysis is performed to understand the capabilities and capacities of the organisation to source and execute the selected portfolio components, and to determine the constraint generated by capability such as

certain skill-set limitations. Internal resource capability needs to be measured and external resource capability needs to be established in order to have a complete picture. The human resource capability and capacity will be limiting factors for the number of portfolio components the organisation can execute.

- **Financial capability and capacity analysis.** The financial capability and capacity analysis is performed to understand capability and capacity of the organisation to finance portfolio components. Internal financial capability needs to be measured and external financial resource availability (capability) needs to be established. The financial capability and capacity are constraining factors for the number of portfolio components or the size of portfolio components the organisation can execute.
- **Asset capacity and capability.** The asset capacity and capability is performed to understand the physical needs, by determining the type of asset (equipment, buildings, systems, etc.) of the organisation available to support the selected portfolio components to understand the constraints generated by certain asset limitations. The asset capability and capacity is a limiting factor for the number of portfolio components and the size of portfolio components the organisation can execute.

Resource capability and capacity management may include:

- **Resource types.** Financial, human resources, physical/intellectual assets, and knowledge bases.
- **Resource schedules.** Histograms combining and detailing forecasts and ongoing resource supply and demand.
- **What-if scenarios.** What-if scenarios track the impacts of portfolio optimisation decisions on resource capacity.
- **Finite capacity planning and supporting.** Given the organisational objectives, this planning and reporting tool indicates resource bottlenecks and under and over allocations and is based on priorities that were agreed upon through governance oversight; and performs resource levelling across portfolio components.
- **Resource management tools.** These tools help to quickly and easily identify the resource capability and capacity.

Resource capacity must be analysed before performance or portfolio resources are included in the performance management plan.

8.3.1.5 Interdependency analysis

The interdependency analysis identifies the dependencies the portfolio has in relationship to other portfolios or to the portfolio environment. Dependencies to be analysed include resources, finance, quality, risks, timelines, etc. Participants in this analysis may include executive level and other key stakeholders.

8.3.1.6 Cost/benefit analysis

The cost-benefit analysis quantifies estimated costs and benefits and lists qualitative considerations of alternative portfolio components for evaluation in determining the best course of action.

8.3.1.7 Stakeholder analysis

Stakeholder analysis is critical in managing strategic change because it helps to ensure continuity and align stakeholders' expectations with the changing strategy and resulting portfolio realignment. The techniques used to analyse stakeholder expectations and requirements include interviewing senior executive stakeholders and analysing requirements and expectations for strategic change. This may include identifying the stakeholders by individual or group, determining expectations, evolving conditions, newly recognised pain points, problems or desires, change impacts, risk tolerance, and concerns. The purpose of stakeholder analysis is to identify the stakeholders, determine the different individuals and groups, and determine their concerns, interests and influence. It is important to understand the stakeholder's interests and influence in order to develop the portfolio communications management plan. After gathering information about who the stakeholders are, the process of stakeholder analysis captures information about each stakeholder and the relationships among them. Assigning stakeholders into groups and classifying them as external or internal helps to target the optimal type of communication and whether communications can be grouped together to match the stakeholder grouping. Once grouped, analysis can be done on that group's ability to influence the portfolio by asking the following questions:

- Who are the members of the governing body? Are there governance processes to be supported such as portfolio component proposal validations, ROI considerations, and investment management practices? How do these processes affect information requirements?
- Which of the stakeholder are thought leaders, influencers, or early adopters? Which stakeholders are known to resist change?
- What level of authority does each stakeholder have affecting the portfolio and the organisation?
- What is their political influence in the organisation?
- Is their role as a stakeholder recognised by the organisation?
- What are the interrelationships among the stakeholders?
- Which of the stakeholders can significantly influence others?

After assigning levels of influence, stakeholder analysis is performed to assess the level of interest and urgency in communication by each stakeholder. See Table 32 for an example of a stakeholder communication strategy matrix.

Table 32: Stakeholder communication strategy matrix (Source: PMI Standard for Portfolio Management, 2013a)

Setting stakeholder communication strategy matrix			
		Level of interest	
		Low	High
Level of influence	Low	Apply minimum effort	Keep informed
	High	Active communications	Active communications and engagement

An understanding of the core communication needs of each stakeholder is also necessary for planning. What kind of information is each stakeholder interested in and what type of communication do they expect to ensure portfolio success? Table 33 is an example of a stakeholder matrix used in stakeholder analysis.

Table 33: Stakeholder matrix used in stakeholder analysis (Source: PMI Standard for Portfolio Management, 2013)

Stakeholder groups	Stakeholder roles	Stakeholder interests	Stakeholder expectations
Portfolio sponsors	- Provides funding. - Provides resources. - Provides high-level scoping.	Benefits and outcomes that meet the organisation's goals.	To be informed regularly of portfolio ROI, key portfolio milestones, risks, costs, and schedule.
Portfolio governance	- Oversees the portfolio. - Sets priorities. - Manages the spending. - Reports progress. - Manages timely delivery of benefits.	- Portfolio performance. - Governance decisions. - Change decisions. - Concerns of sponsors and governing body.	- To be the most knowledgeable party of portfolio progress against goals. - To be aware of all development of consequence.
PMO	Ensures that portfolio management best practices are being followed.	- Project progress. - Lessons learned. - Developing PMO materials for future use.	To receive notification of all portfolio changes and portfolio needs.
Contract management team (vendors, legal)	- Ensures that funding is intact. - Manages the contract. - Ensures efficient availability of contractor staff.	- Financial standings. - Project progress. - Contract impacts and changes.	- To be made aware of progress against contractual deliverables. - To be made aware of any changes to the contract including increased resource requirements.
Portfolio component teams	Report progress and completion of components.	- Portfolio changes. - Portfolio risks and issues.	To receive notifications of all portfolio changes, risks, and issues.

8.3.1.8 Readiness assessment

A readiness assessment is performed to assess how ready the organisation is to perform the steps necessary to bridge the gap between the “as-is” portfolio state and the “to-be” state. The assessment determines the “if”, “when”, “what”, and “how” of implementing the change, and points out any needs not yet addressed that is required in order to affect the change.

8.3.1.9 Portfolio organisational structure analysis

Depending on the size and complexity of an organisation, a single person or team may manage the portfolio. And senior management or a governing body make decision regarding portfolio components. The portfolio manager assigns performance review and reporting roles and responsibilities across each programme, project, or operational component. Resources (information, human, and financial) are identified and made available to the portfolio components at the right time and returned to the enterprise once their purpose has been served.

8.3.1.10 Graphical analytical methods

Graphical analytical methods such as risk versus return, histograms, pie-charts and other methods are used to visualise the portfolio. Figure 43 and Figure 44 are two graphical representations often used by organisations to balance and monitor their portfolios. Figure 43 represents a typical bubble graph that helps compare and balance portfolio components according to some pre-established portfolio component balancing criteria. Each bubble is a portfolio component, and the size of the bubble represents an additional variable such as cost or net present value. Colour may mean another criteria or categorisation.

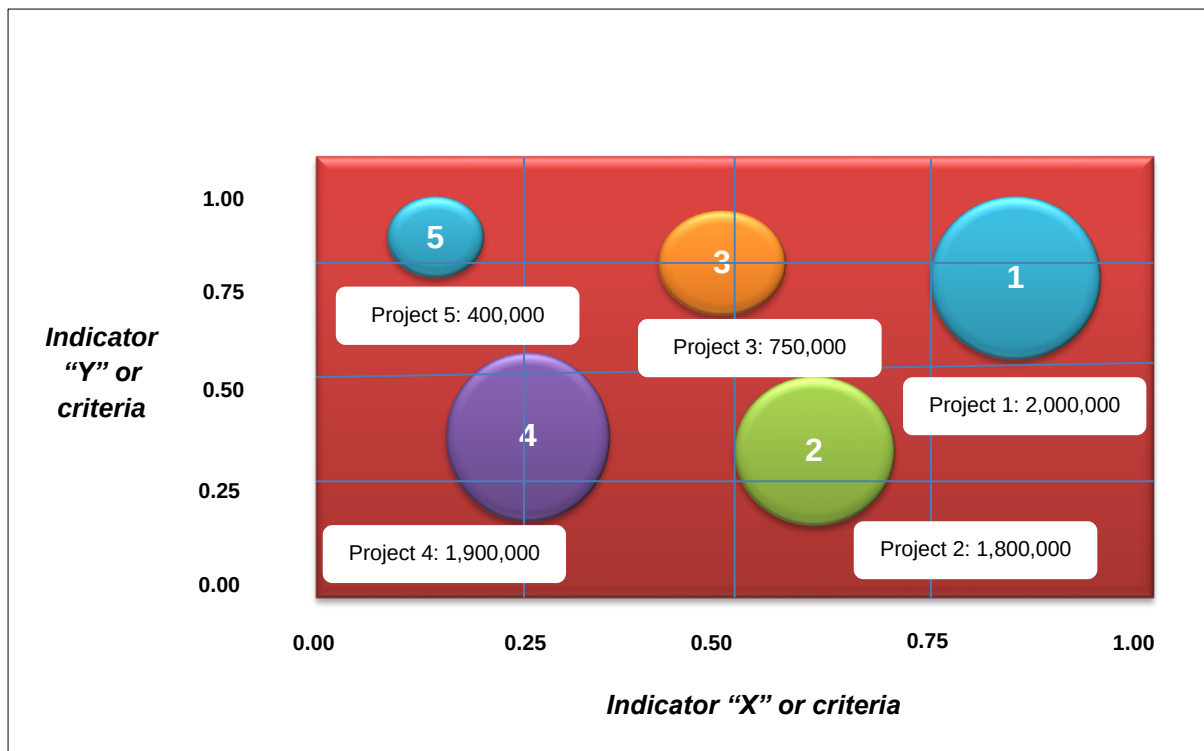


Figure 43: Portfolio balancing using indicators or criteria (Source: PMI Standard for Portfolio Management, 2013a)

Figure 44 illustrates another variant of the bubble graph displaying portfolio components according to the category they belong to and the organisational unit impacted by the portfolio component. The bubble graph also uses other indicators from the scoring model or new indicators concerned with portfolio balance where each bubble is a portfolio component and the size of the bubble represents an additional variable, such as cost or net present value. The colour of the bubble might refer to a specific qualitative criteria required to measure balance.

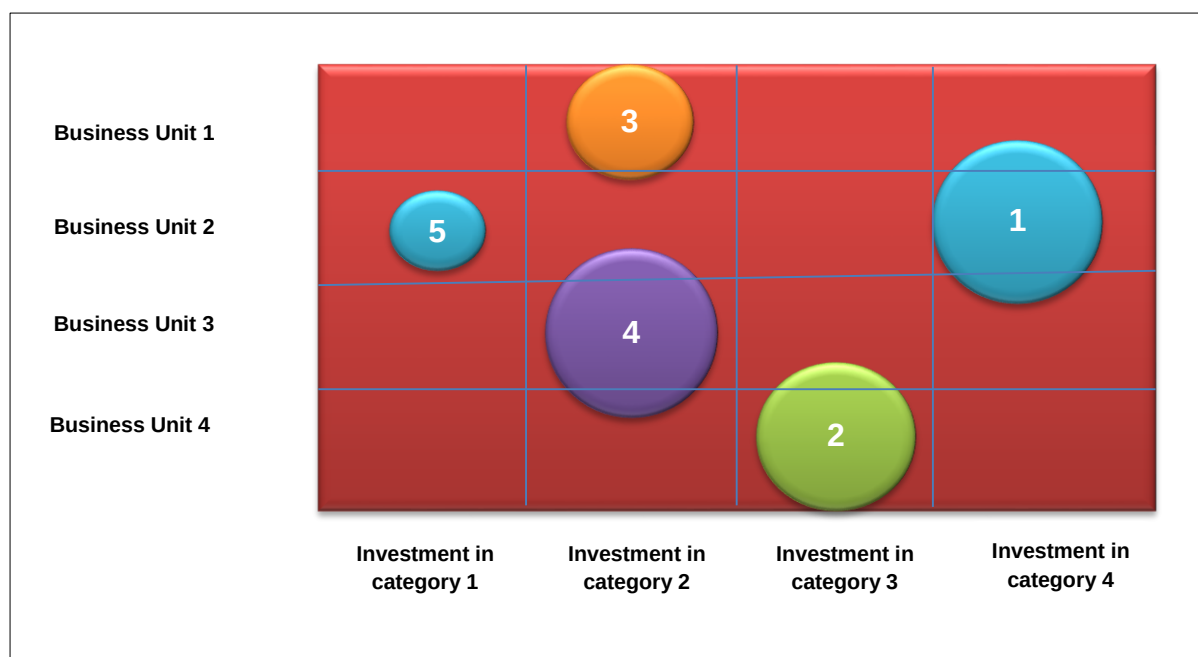


Figure 44: Portfolio balancing using strategic categories and impacted business unit (Source: PMI Standard for Portfolio Management, 2013a)

The probability and impact matrix shown in Table 34 allows a standard view and assessment of the organisational risks.

Table 34: Probability and impact matrix (Source: PMI Standard for Portfolio Management, 2013a)

Probability	Threads					Opportunities				
0.9	0.05	0.09	0.18	0.36	0.72	0.72	0.36	0.18	0.09	0.05
0.7	0.04	0.07	0.14	0.28	0.56	0.56	0.28	0.14	0.07	0.04
0.5	0.03	0.05	0.10	0.20	0.40	0.40	0.20	0.10	0.05	0.03
0.3	0.02	0.03	0.06	0.12	0.24	0.24	0.12	0.06	0.03	0.02
0.1	0.01	0.01	0.02	0.04	0.08	0.08	0.04	0.02	0.01	0.01
	0.05	0.10	0.20	0.40	0.80	0.80	0.40	0.20	0.10	0.05
Impact (ratio scale) on an objective (e.g. cost, time, scope, or quality)										
Red = high, yellow = moderate, green = low.										
Note: Its risk is rated on its probability of occurring and impact if it does occur. An organisation's threshold for low, medium, or high, risks are shown in the matrix and determine whether the risk is scored as high, moderate, or low for that objective.										

Risk probability assessments determine the likelihood for occurrence of each specific risk. Risk impact assessment investigates the potential effect, both negative for threats and positive for opportunities, on one or more of the portfolio's objectives. Risks can be assessed in interviews or meetings with participants who have been selected because of their familiarity with the risk categories being discussed. Explanatory details, including assumptions that justify the levels assigned, are also recorded.

8.3.1.11 *Quantitative and qualitative analysis*

Quantitative and qualitative analysis help in optimising the portfolio and include:

- **Cost-benefit analysis.** This analysis is performed with any financial analytical method preferred by the organisation. These methods may include: net present value (NPV), discounted cash flow (DCF), internal rate of return (IRR), payback period, and options analysis.
- **Quantitative analysis.** Quantitative analysis may include the use of spreadsheets or other tools to examine factors of interest, such as resource loading requirements over time or cash flow.
- **Scenario analysis.** This analytical method enables decision makers to create a variety of portfolio scenarios using different combinations of both potential portfolio components and current portfolio components and evaluating their possible outcomes based on various assumptions. The analysis can be further enhanced by incorporating numerous baselines.
- **Probability analysis.** These methods may include decision-trees, flowcharts, and Monte Carlo simulation. Portfolio components are evaluated using success and failure probabilities and ranges of impacts if they occur for estimated cost, time, anticipated revenues, risk, and or other criteria.
- **SWOT analysis.** Market or competitor analysis includes determining the value of portfolio components in the market place and how portfolio components may affect or be affected by competitors. A SWOT (strengths, weaknesses, opportunities, and threads) analysis can be used to ensure market and competitor information is comprehensively and holistically considered.
- **Market/competitor analysis.** Market and competitor analysis includes determining the value of portfolio components in the market place and how portfolio components may affect or be affected by competitors.
- **Business value analysis.** Predetermining the values to improve the market value or organisational improvement and the applying those values to the portfolio components. In this context, the data may be qualitative or quantitative and as long as the sponsor agrees with the order of execution, the value is correct.

Quantitative and qualitative analysis includes various approaches to studying the demand for resources against capacity constraints to determine how best allocate resources. Resource levelling and project sequencing can be applied to manage bottleneck areas and communicating delayed schedules if necessary. Trend analysis, using historical data can also be performed to determine if resource requirements have been properly estimated. Following the analysis, an organisation must take appropriate action to manage the project demand and sequence project work based on resource availability and project priority.

During the planning processes, there are specific tools and processes, which are identified for analysing trends, balancing the portfolio, and managing investment choices. These tools and processes include:

- **Status and trend analysis.** Compares current performance data and recent trends, and compares recent changes in the portfolio.
- **Rebalancing methods.** Used to reallocate the portfolio in cases where it has deviated away from the strategy or in order to better balance risk.
- **Investment choice tools.** These tools include: (1) trade-off analysis determines the effect of changing one or more factors of the portfolio; (2) market-payoff variability focusses on pricing and sales forecasts; (3) budget variability determines the effect of changing the portfolio; (4) performance variability analyses the performance of the portfolio; (5) market requirement variability analyses changes in market requirements in relation to the portfolio; and (6) time-to-market variability determines the effects of portfolio velocity.
- **Portfolio risk exposure charts.** These charts provide the following information:
 - **Outcome probability analysis of the portfolio.** Estimates of the potential portfolio outcomes with respect to success criteria, listing the possible values of the corresponding performance indicators with their associated confidence levels. This output is typically expressed as cumulative cost distribution that the portfolio component manager can use to set realistic targets in line with stakeholder risk tolerance (see Figure 48 Cumulative cost chart for spend of a portfolio over time).
 - **Probability of achieving portfolio objectives.** An estimate of the probability of achieving specific objectives under the current plan using modelling techniques.

Quantitative and qualitative tools are used to better understand the interdependencies, importance, timing, and confidence limits. These tools perform sensitivity and trade off analysis, modelling and simulation (e.g. what-if scenarios) and determine variability and trends in schedule, budget, performance, and time-to-market. Variance and trend analysis using performance data from the portfolio components must be reviewed on a regular basis to determine deviations from the baseline, which can indicate the potential impact of threats or opportunities. Trends are also useful for evaluating the effectiveness of earlier risk response actions. The following tools and techniques are useful in order to realign the portfolio risks:

- **Quantitative analysis.** Tools used to measure financial metrics such as NPV - a measure of a series of cash flows; estimated NPV - a measure of future NPVs; payback period - a measure of time required for a return on investment; ROI - a measure of the efficiency of an investment; IRR - the discount rate used in budgeting, which makes NPV equal to zero.

- **Sensitivity analysis.** Helps to determine which risks have the most potential impact on the portfolio. It examines the extent to which the uncertainty of each element affects the respective objective when all other uncertain elements are held at their baseline values. The Toronto diagram is useful for displaying which parameters lead to a high degree of variability and which have less effect (see Figure 45).

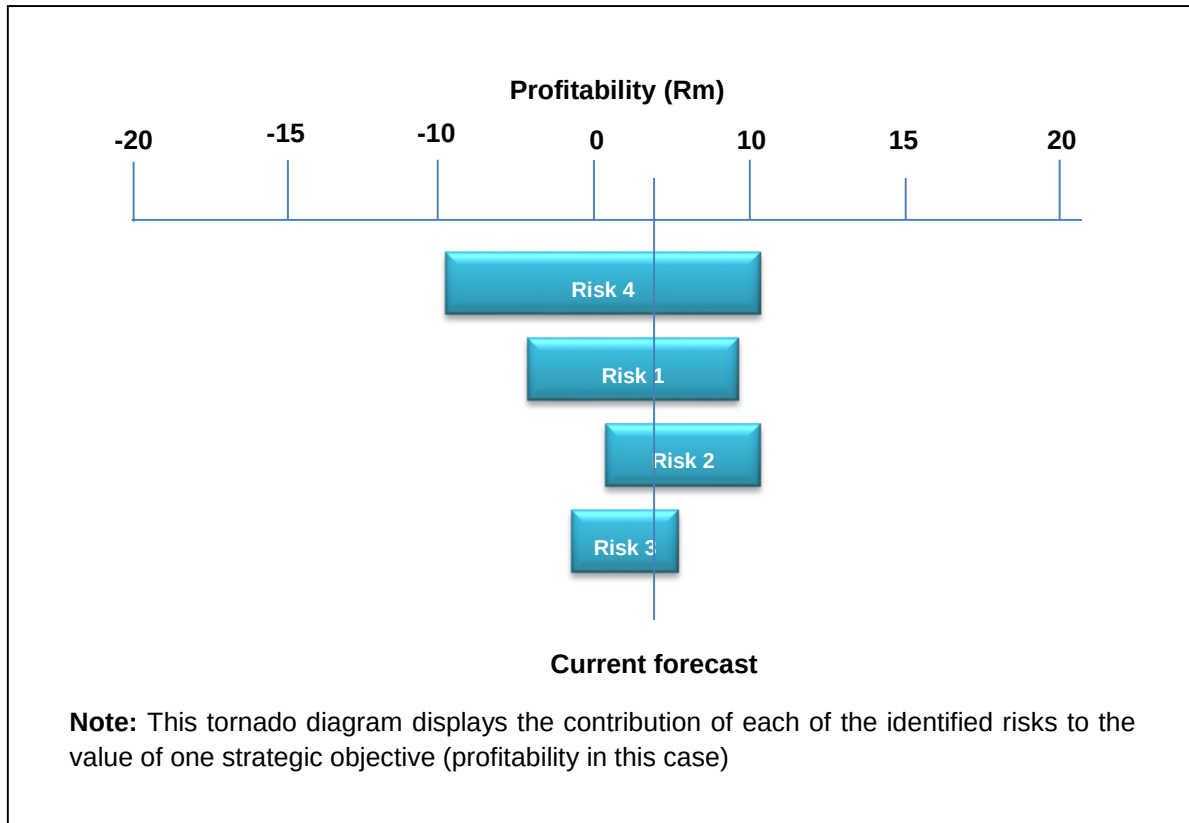


Figure 45: Tornado diagram (Source: PMI Standard for Portfolio Management, 2013a)

- **Modelling and simulation.** Simulation uses a model that translates the uncertainties specified at a detailed level of the portfolio into their potential combined impact on portfolio objectives. Simulations are typically performed using the Monte Carlo technique.
- **Qualitative analysis.** Qualitative tools are generally used to provide a way to measure portfolio risks that are not specific quantitative. These may include risk probability and impact assessment, sensitivity analysis, modelling and simulation, assumptions analysis, influence diagrams, risk-portfolio component chart, weighted ranking and scoring techniques, heat maps, and ranking and scoring of portfolio risks.
- **Investment choice analysis.** This pertains to the alignment of the portfolio. This analysis focuses on the new and changing strategic goals/objectives and indicates where there are gaps in investment within the portfolio as a whole which may constitute portfolio risks.

Variance analysis compares the planned results to the actual results. Outcomes from this analysis can be used to forecast any potential deviation from the baseline plan at project completion and can indicate the potential impact of threats or opportunities. Performance review measurements compare and analyse the objectives in quantifiable measurements which can be used to compare the actual results with the target. This helps to forecast the degree of success in achieving the portfolio scope.

8.3.1.12 Value scoring and measurement analysis

There are various methods that can be used to score and measure the organisational value:

- **Scoring models.** Used to consistently document and assess financially intangible portfolio benefits. All criteria in the benefits scoring model should relate to organisational priorities. Using a scoring model facilitates agreement as to what is important and ensures the criteria is documented and applied consistently to all intangible benefits. A simple way to show scoring a component against criteria is shown in Figure 46.

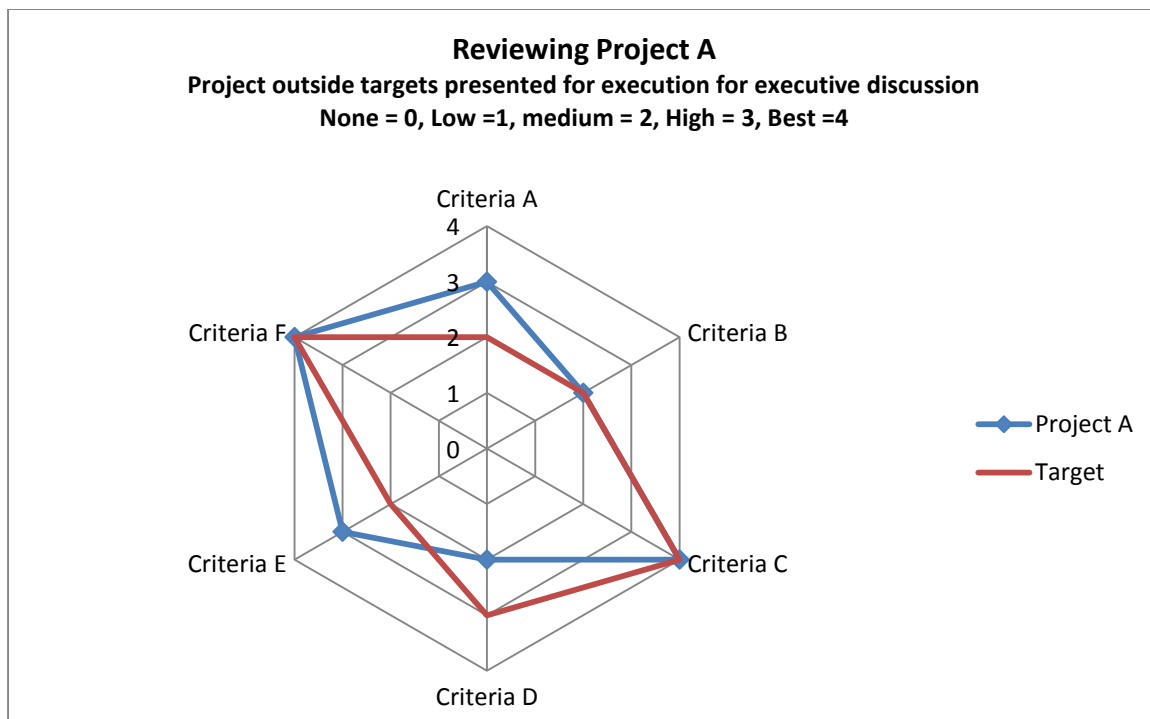


Figure 46: Scoring component performance Source: PMI Standard for Portfolio Management, 2013a)

When conditions change due to new organisational conditions an updated analysis may show a need to revise the criteria weights.

- **Cost-benefits analysis.** This analysis seeks to define that benefits that will be provided by the portfolio and compare it to the costs of the portfolio. Benefits may be financial, such as increased profits, but may also be non-

financial such as increased market share or a new capability. The cost-benefits analysis should be tracked and re-evaluated as required throughout portfolio performance management, as the portfolio component changes or as the financial or competitive environment changes. ROI and NPV are helpful in determining expected impact.

- **Comparative advantage analysis.** When conducting comparative analysis against a strategic objective or portfolio component proposal, it is important to consider that competing efforts may reside within or external to the organisation. A typical component proposal includes some level of analysis and comparison against current or future alternatives. This technique may also include conducting a what-if analysis to consider how the portfolio component and its intended benefits could be achieved by various options, including resource capability and capacity matrix.
- **Progress measurement techniques.** Tools and techniques used at the portfolio level are similar to those used in a portfolio component such as earned value.
- **Value measurement techniques.** Performance indicators are defined based on assessed value and are used to measure and report portfolio performance.
- **Portfolio efficient frontier.** The efficient frontier (see Figure 47) gives the decision-makers the analytical tool to optimise portfolios given the resource constraints. The portfolio is referred to efficient if it has the best possible expected value of return for its level of risk (usually proxied by the standard deviation of the portfolio's return). Diversification may allow for the same portfolio expected return with reduced risk. It should be noted that efficient frontiers are not static and organisations should monitor cost-benefit ratios on a continual basis.

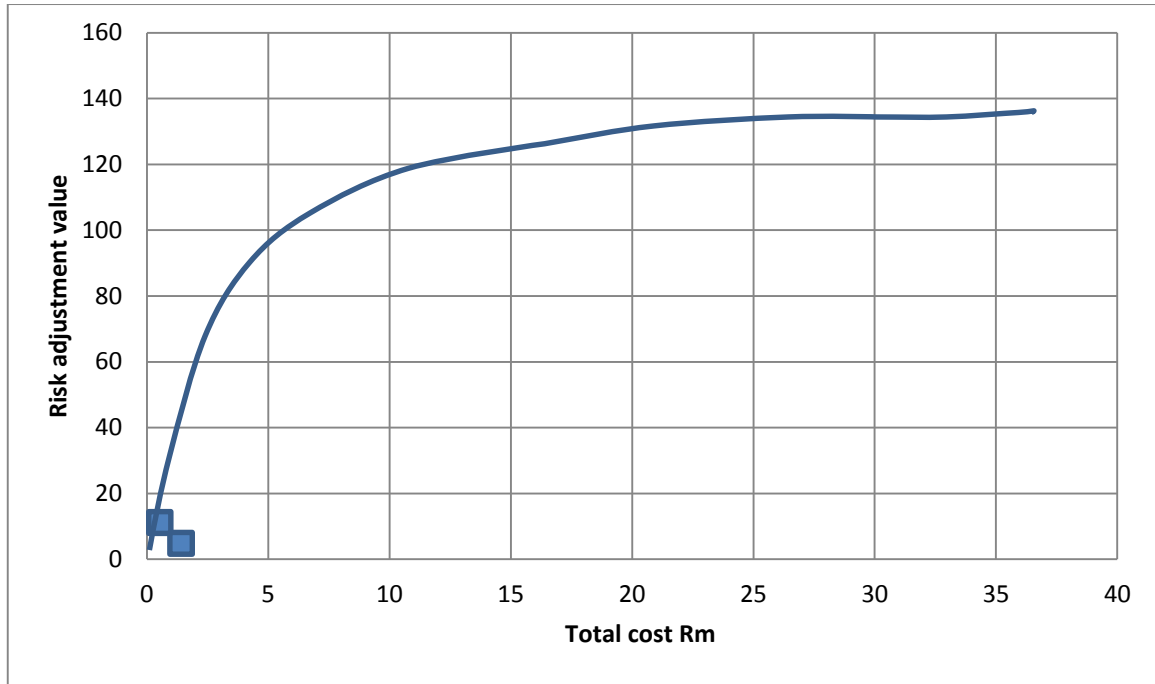


Figure 47: Portfolio efficient frontier (Source: PMI Standard for Portfolio Management, 2013a)

8.3.1.13 Benefits realisation analysis

Organisation benefits and value expand beyond economic value to include other forms of value such as employee value, customer value, channel partner value, managerial value, and societal value. A number of tools that can help an organisation increase their achievement of planned benefits are:

- **Results chain.** A results chain shows the cause and effect relationships between the portfolio components that are needed to deliver benefits. This tool is used to identify the specific contributions that each portfolio component makes to the overall portfolio value. It also shows gaps and overlaps that need to be addressed to more effectively or efficiently realise planned benefits.
- **Outcomes probability analysis of the portfolio.** The portfolio manager estimates the potential portfolio outcomes with respect to success criteria listing the possible values of the corresponding performance indicators with their associated confidence levels. The output is typically expressed as a cumulative distribution (see Figure 48) that the project manager can use to set realistic targets in line with stakeholder risk tolerances.

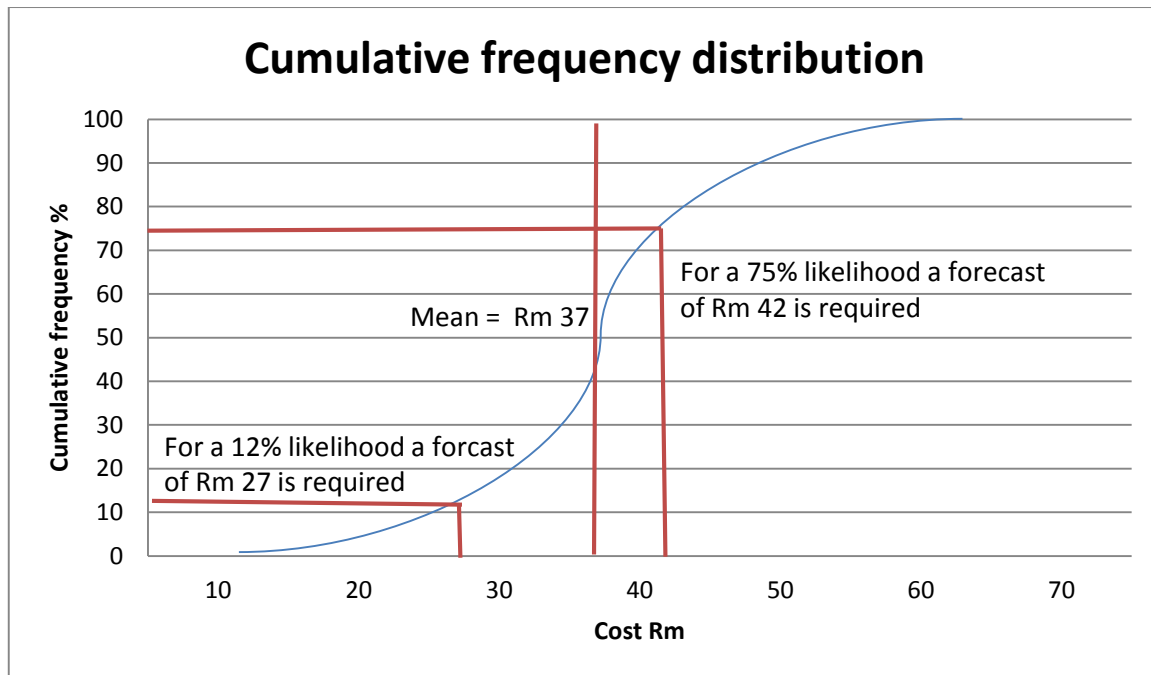


Figure 48: Cumulative cost chart for spent of a portfolio over time (Source: PMI Standard for Portfolio Management, 2013a)

Various other methods can be used to both visualise and aid the management of portfolio benefits depending on the situation and requirements involved, for example, various graphical methods such as charts showing planned versus actual targets.

8.3.1.14 Gap analysis

A gap analysis is performed to compare the current portfolio mix and components with the new strategic direction and the “to-be” organisational vision. This is essential to properly manage strategic change. This analysis determines the gaps and changes needed in the portfolio mix in order that components may be added, changed, or terminated.

8.3.2 Selecting tools and techniques

8.3.2.1 Component inventory

By understanding the objectives, expected benefits, performance, and prioritisation criteria, an organisation is able to define the portfolio in accordance with strategic direction and prioritisation criteria.

8.3.2.2 Portfolio component inventory

The identification of qualified portfolio components determines whether or not a particular portfolio component qualifies to be part of the portfolio. The sponsor for a portfolio component uses a standard set of key descriptors when providing a proposal for a new portfolio component or change to an existing portfolio component. The key descriptors ensure that all portfolio components are comparable.

Descriptors and criteria are used for filtering or eliminating new portfolio components by having associated acceptance levels. A preliminary comparison of all inventoried portfolio components against the portfolio component definition is used to identify portfolio components that meet requirements for consideration. The portfolio component definition is used to make a first screening of the portfolio component list. Each descriptor is defined and the corresponding evaluation criteria are predetermined. Key descriptors may include, but are not limited to:

- Portfolio component number.
- Portfolio component code.
- Portfolio component description.
- Type of portfolio component.
- Strategic goals supported.
- Quantitative benefits.
- Qualitative benefits.
- Portfolio component customer.
- Portfolio component sponsor.
- Key stakeholders.
- Resources required.

8.3.2.3 Portfolio component categorisation techniques

Assigning portfolio components to predetermined categories helps to compare components that address similar organisational needs and strategic concerns. It also facilitates portfolio optimising by ensuring that portfolio components are selected and managed within a set of categories addressing the organisation strategy and objectives. Each identified portfolio component, along with the key descriptors, is compared to the categorisation criteria for the purpose of scoring, ranking, evaluating, and selecting between similar portfolio components. The number of categories is usually limited. Examples include:

- Increase profitability (revenue increase, generation, cost reduction and avoidance).
- Risk reduction.
- Efficiency improvement.
- Regulatory/compliance.
- Market share increase.
- Process improvement.
- Continuous improvement.
- Foundational (e.g. investments that build the infrastructure to grow the business).
- Business imperatives (e.g. IT compatibility, upgrades).

8.3.2.4 Weighted ranking and scoring techniques

Weighted ranking and scoring techniques are used for ranking and scoring portfolio components within each category based on values assigned. Portfolio components are scored based on pre-established criteria as illustrated in Table 35 and Table 36.

Table 35: Single criterion prioritisation model (Source: PMI Standard for Portfolio Management, 2013a)

Project	A	B	C	D	E	Rank	Priority
A		1	1	1	1	4	First priority
B	0		0	1	1	2	Third priority
C	0	1		1	1	3	Second priority
D	0	0	0		1	1	Forth priority
E	0	0	0	0		0	Last priority

The single criterion approach is a pair wise comparison of different portfolio components with one another, to rank them hierarchical from the one that has the first priority to the one has the last priority.

Table 36: Multiple-criteria weighted ranking (Source: PMI Standard for Portfolio Management, 2013a)

Project	Criterion 1		Criterion 2		Criterion 3		Priority	
	Measure	Rank	Measure	Rank	Measure	Rank	Score	Priority
A		2		2		1	1.67	1
B		4		1		2	2.33	2
C		3		3		3	3.00	3
D		1		4		5	3.33	4
E		5		5		4	4.67	5

In the multiple-criteria weighted ranking the projects are ranked based on the criteria to assign the highest priority to the project with the lowest score.

Scoring models is another method to evaluate and compare portfolio components. A scoring model consists of a series of evaluation criteria having a weight expressed as a percentage and a score. The weight for each criterion is expressed in percentages (total needs to add up to 100%) and determines the relative importance of each criterion in the portfolio component evaluation. The score measure whether or not each criterion is met. Each scoring level needs to be clearly defined to ensure consistent evaluation from portfolio component to portfolio component. The score multiplied by the weight provides a value of each criterion and the total of all these criteria values is the total value of the portfolio component as shown in multi-criteria scoring model in Table 37.

Table 37: Multi-criteria scoring model (Source: PMI Standard for Portfolio Management, 2013a)

Scoring model		Evaluation								
Criteria	Weight	Low	Medium	High	Score	Total	Indicator			
1	20%	0	5	10	10	2	Y			
2	20%	0	5	10	10	2				
3	10%	0	5	10	5	0.5				
4	15%	0	5	10	10	1.5				
5	5%	0	5	10	5	0.25				
6	5%	0	5	10	0	0				
7	5%	0	5	10	10	0.5	X			
8	5%	0	5	10	5	0.25				
9	10&	0	5	10	0	0				
10	5%	0	5	10	5	0.25				
Total weight = 100%					Total score		7.25			
						Indicator Y (0 to 1)	0.83			
						Indicator X (0 to 1)	0.4			

Portfolio components that are required to comply with regulatory or operational criteria need to be included in the final portfolio regardless of their scoring and ranking.

High-level plans for conducting the risk management activities are defined by ranking and scoring. Risk management cost elements and schedule activities are developed for inclusion in the portfolio's component budget and schedule. Risk contingency reserve application approaches can be established. General organisational templates can be tailored to a specific project. The outputs of these activities are summarised in the risk management plan.

Weighted ranking and scoring techniques are used during recurring governance meetings to evaluate the existing risks and identify whether any new risks have arisen.

8.3.2.5 Portfolio authorisation

The authorisation tools and techniques specify the activities to formally authorise a new portfolio or portfolio components, to effect funding allocations and transfers, and to report and communicate the results.

8.3.3 Meeting tools and techniques

8.3.3.1 Portfolio review meetings

Portfolio review meetings are held by the portfolio governing body in order to review the current status of the portfolio and to determine if any decisions need to be made regarding the portfolio and its portfolio components. These meetings are recurring, formal in nature, scheduled around significant portfolio milestones, or triggered by external events such as financial drivers, regulatory changes, and completion of significant portfolio components or deliverables.

8.3.4 Information tools and techniques

8.3.4.1 Communication requirements analysis

In communications requirements analysis, the tool used to communicate information to the stakeholders and the frequency planned is evaluated to determine if changes should be made. A list of available communication methods are chartered to evaluate alternatives and ensure the optimal vehicle is being used to meet stakeholder needs. Reviews are conducted to identify any redundant communication. Choices must be made to identify which communication is primary and which should be discontinued. Table 38 is an example of a communication matrix that can be used to build a communication management plan.

Table 38: Communication matrix (Source: PMI Standard for Portfolio Management, 2013a)

Communication areas	Frequency	Intended recipient	Communication vehicles
Portfolio governance decisions	Quarterly and monthly.	- Project sponsors. - Portfolio manager. - PMO. - Contracting officer.	Quarterly and monthly reports on internal portal.
Portfolio dash-board	Weekly.	- Project sponsors. - Portfolio manager. - PMO.	- Governance meetings. - E-mail distribution. - Portfolio dash-boards on internal portal.
Portfolio performance reports	Weekly.	- Portfolio sponsors. - Portfolio stakeholders. - Functional managers.	- Governance meetings. - E-mail distribution. - Newsletters. - Blogs. - Portfolio dash-boards on internal portal.
Key risks and issues updates	Weekly.	- Portfolio sponsors. - Portfolio stakeholders. - Functional managers.	- Governance meetings. - Status reports with e-mail distribution.
Resource utilisation	Weekly.	- Project team. - Project team members. - Subject matter experts	- Governance meetings. - Status reports with e-mail distribution. - Portfolio dash-boards on internal portal.

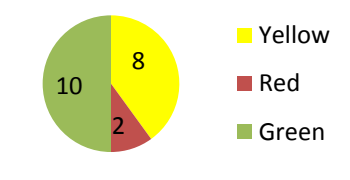
To complete communications requirements analysis, an assessment of the organisational culture is helpful to ensure the communication management plan is suitable for the organisation. If the organisation is generally comfortable with technology, portals may be planned more extensively as the primary vehicle for reporting information. If the organisation is not comfortable with technology, they may prefer paper reports and e-mails.

8.3.4.2 Communication methods

Methods to communicate portfolio information depend upon the context of the portfolio and the needs of the stakeholders. Communication methods may include visual representations of the data and information received such as dash-boards, resource histograms, and a communication calendar.

- **Dash-boards.** Dash-boards are an effective way to communicate multiple messages on portfolio status and trending simultaneously. An example of a dash-board is shown in Table 39.

Table 39: Portfolio dash-board matrix (Source: PMI Standard for Portfolio Management, 2013a)

Portfolio schedule status		Portfolio issues		
		Program 1 – Issue text Program 2 – Issue text Program 3 – Issue text		
Portfolio risks		Portfolio financials		
Program 1 – Risk text		Budget	Actual	Variance
Program 2 – Risk text		(in Rm)		
Program 3 – Risk text		400	200	200
		250	100	150
		150	200	-50

- **Resource histograms.** Changing organisation priorities impact resource allocation and portfolio performance. A resource histogram is a graphical representation that aids in identifying risk associated with resource over- or under-allocations across the portfolio.
- **Communication calendar.** The communication calendar is a representation of all the communication of the portfolio taking into account all of the existing communication dependencies associated with the portfolio as well as the time-sensitive needs of the stakeholders.

8.3.4.3 Elicitation techniques

Requirements for the portfolio management plan from a variety of sources are elicited and in a variety of ways. Some of the methods used to elicit key information include:

- **Facilitation techniques.** These include focus groups and brainstorming activities. During these facilitated sessions, a mind-map diagram may be used as one type of tool to organise the ideas from stakeholders into logical groupings for consideration and incorporation into the plan.

- **Survey techniques.** These include the use of interview and observation survey techniques to capture stakeholder input.
- **Collaboration techniques.** These techniques are employed to ensure that the plan has the benefit of polling input from a team as a consensus of majority vote.

Numerous elicitation techniques can be used when providing portfolio oversight and gathering potential issues and risks. Examples of elicitation techniques are compiling status reporting, facilitating meetings, and conducting questionnaires and surveys.

Elicitation techniques are also used to develop measures and to ensure that the correct items are being measured to ensure optimal resource performance and maximum portfolio value. The performance report must include a predetermined, pre-approved set of metrics that monitor strategic goal achievement, financial contribution, stakeholder satisfaction, risk profile, and resource utilisation. Metrics measure quantitative and qualitative information aggregated from the portfolio components. The metrics should be relevant to the organisation strategy and objectives and aligned with its other performance criteria. Performance measures and targets (metrics) are set at the portfolio component level and then rolled up to the portfolio level to determine overall portfolio impact. Meaningful measures must be SMART i.e.:

- **Specific.** This provides a clear target as to what is being measured, and the value being realised.
- **Measurable.** The benefits need to be quantifiable in terms of return on investment, net present value, internal rate of return, payback period, or other organisational value.
- **Attainable.** Measurements are capable of being met with reasonable effort.
- **Realistic.** The target is achievable, given the organisation's capabilities and capacities.
- **Time bound.** There is a time frame set, both for initial targets and metrics, as well as benefits realisation.

Elicitation techniques used in the portfolio value process include meeting with stakeholders to assess criteria and to discern the weight assigned to different benefits and outcomes. SWOT analysis can also be used to elicit information to ensure benefits are comprehensively and holistically taken into consideration. Benefits result from exploiting a strength or opportunity as well as from positively addressing a weakness or a threat.

As portfolio stakeholders and stakeholder communication requirements change over time, it is important for the portfolio manager to engage with stakeholders to ensure their needs are met and are aligned with the communication management plan. This may be achieved through interviews, questionnaires/surveys, stakeholder meetings,

and lessons learned sessions on the effectiveness of communication. Brainstorming can be helpful in identifying new stakeholder groups.

8.3.4.4 Portfolio management info system

The portfolio information management system is a tool, manual or automated. It is used to execute the “authorise portfolio process” by indicating which portfolio components have been assigned resources. All changes and updates made to the authorised portfolio components are communicated by means of the updated portfolio management information system and other communication methods.

The project information system is also used for information collection and distribution to support portfolio performance management. The information can include costs, performance metrics, risk information, and other information that is used to monitor and control portfolio component performance against established baselines to calculate variances that need to be explained. The portfolio management information system is often a collection of spread sheets rather than an automated tool.

8.3.4.5 Integration of portfolio management plans

Portfolio management plan development is an iterative process. Subsidiary plans such as risk, communication, performance, and stakeholder management plans are developed concurrently at the various stages of portfolio management. The subsidiary plans are considered as part of the portfolio management plan although they may be separate documents and contain reference to the portfolio management plan.

8.4 OGC MANAGEMENT OF PORTFOLIOS GUIDE: TOOLS AND TECHNIQUES

The tools and techniques in the *OGC MoP Guide* (2011) are discussed for each of the portfolio management practices.

8.4.1 Understand

8.4.1.1 Portfolio management framework document contents

The purpose of the portfolio management framework is to provide all stakeholders with a single, authoritative and up-to-date source of advice on the portfolio management practices adopted by the organisation and its governance arrangements. Typical contents include:

- The objectives of portfolio management.
- The investment criteria and portfolio categorisation/segmentation to be used.
- The business change life-cycle timings of stage/phase gates and portfolio-level reviews.
- Regular performance reporting and change control.

- The governance framework - where, when, and by whom key decisions are made and the role of the portfolio office.
- Terms of reference for portfolio boards.
- Role descriptions for main portfolio positions.
- Overview of portfolio-level strategies for benefits, finance, risk and resource management and for stakeholder engagement.

8.4.1.2 Portfolio strategy document contents

The purpose of the portfolio strategy document is to communicate a succinct description of the vision and objectives for the portfolio - and the means by which these objectives will be achieved. Typical contents include:

- Vision and longer term objectives for the portfolio endorsed by senior management.
- Overview of strategic priorities.
- Top-level information regarding benefits to be realised and how they link to the strategic objectives.
- Key strategic risks.
- Key dates, measures and success factors.
- Key resource and cost information.
- Motivational teamwork statement from senior management.

8.4.1.3 Programme and project information template

The purpose of the programme and project information template is to capture the key information regarding current and proposed change initiatives within the organisation. Using a standard document for all initiatives will help to ensure consistent information is collected, which helps provide a level playing field for investment appraisals and portfolio prioritisation activities. A checklist for fitness of purpose for this template:

- Is the information accurate?
- Have appropriate programme and project managers been consulted and have they agreed the information presented?

The suggested content for this template is:

- Programme/project title and ID (completed by the portfolio office).
- Names of key personnel - senior responsible owner/sponsor and programme/project manager.
- Objectives.
- Portfolio category/segment.
- Strategic objective contribution.
- Outcomes or blueprint contribution.
- Key deliverable(s).

- Initial start/finish dates and current life-cycle stage.
- Key milestones with planned dates including stage/phase gate reviews.
- Cost profile - capital and operating.
- Key quantitative benefits (and measures).
- Key qualitative benefits (and metrics to be used to assess progress).
- Risk level - e.g. use of the risk potential assessment.
- Resources/skills required.
- Business changes required.
- Key dependencies.
- *Business as usual* area impacted.
- Current status/progress to date.
- Any other relevant information.

8.4.2 Categorise

8.4.2.1 Simplified portfolio categorisation model

Table 40 highlights how the selection of changes can be aligned to the various portfolio categories, which in turn align to strategic objectives.

Table 40: Simplified portfolio categorisation model (Source: OGC MoP, 2011)

Strategic objective	Portfolio category	Proposed changes			
		Change 1	Change 2	Change 3	Change 4
Strategic objective 1	Category 1	Yes			
	Category 2		Yes		
Strategic objective 2	Category 3			Yes	
	Category 4			Yes	
	Category 5				Yes

The information captured in the programme and project information template can be used to identify in which category (or sub-category) the proposed initiative should be included.

8.4.2.2 Number of changes within portfolio categories graph

Once each initiative has been allocated to a category, it is useful to review the balance of the portfolio across the categories. Figure 49 provides a simplified example which highlights the portfolio categories in a graph.

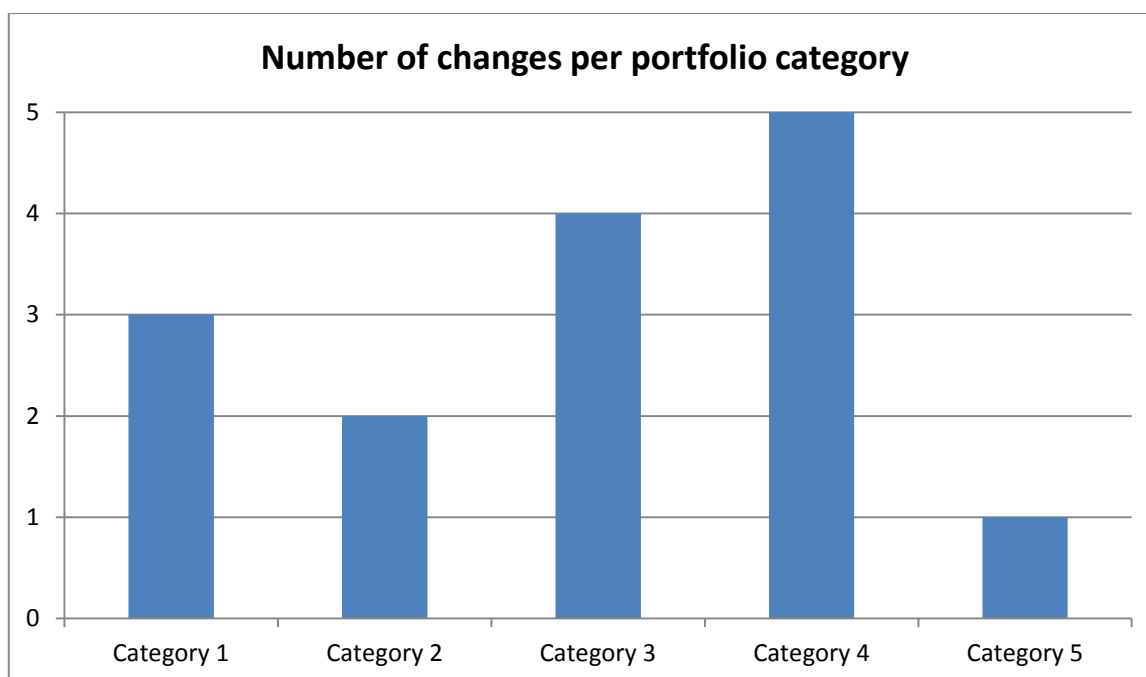


Figure 49: Number of changes aligned to portfolio categories (Source: OGC MoP, 2011)

8.4.2.3 Example of categorisation and tailored investment criteria

The UK Criminal Justice System Information Technology portfolio has split the available spend into portfolio categories or segments as follows:

- **Business applications.** Justified on non-cost-benefit terms - i.e. does the economic value of the benefits exceed the costs?
- **Mandated.** Justified on cost-benefit terms - any shortfall in benefits represents the implied political value of avoiding non-compliance with the law, regulation or policy.
- **Replacement infrastructure.** Justified on cost-benefit terms - i.e. does the replacement enable resources to be re-directed to other value-adding activities?
- **New infrastructure.** Justified on cost-benefit terms by taking into consideration both the infrastructure and the application (both planned and potential) that will run on that infrastructure.

8.4.3 Prioritise

8.4.3.1 Example of calculating financial metrics

Table 41 shows an example of an initiative's cost/benefit profile over a five-year time frame.

Table 41: Example of an initiative's cost/benefit profile over a five-year time frame (Source: OGC MoP, 2011)

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Costs (Rm)	50	5	5	5	5	5
Benefit (Rm)	0	15	25	25	20	15
Net flow	-50	10	20	20	15	10
Discount factor	1	0.9662	0.9335	0.9019	0.8714	0.842
Annual NPV	-50.0	9.7	18.7	18.0	13.1	8.4
Cumulative NPV	-50.0	-40.3	-21.7	-3.6	9.4	17.9
IRR						

Notes:

- The above analysis follows the convention that year 0 represents initial cash flows and all future cash flows are assumed to occur on the last day of the year for ease of calculation purposes.
- Net flow represents the excess of benefits over costs.
- Discount factors are obtained from the *HMT Green Book* for a 3.5% discount rate.
- Annual NPV represents the net present value of that year's cash flows (benefits less costs).
- Discounted payback occurs when cumulative NPV reaches zero and turns positive.

8.4.3.2 Delivery confidence criteria

Table 42 can be used as an approach to assess delivery confidence.

Table 42: Delivery confidence (Source: OGC MoP, 2011)

Colour	Criteria description
	Successful delivery of the project/programme and its outcomes/benefits to time, cost and quality appears highly likely and there are no major outstanding issues that at this stage appear to threaten delivery significantly.
	Successful delivery appears probable, however constant attention will be needed to ensure risks do not materialise into major issues threatening delivery.
	Successful delivery appears feasible but significant issues already exist, requiring management attention. These appear resolvable at this stage and, if addressed promptly should not present cost/schedule overrun.
	Successful delivery of the project/programme is in doubt with major risks or issues apparent in a number of key areas. Urgent attention is needed to ensure that these are addressed, and to decide whether resolution is feasible.
	Successful delivery of the project/programme appears to be unachievable. There are major issues on project/programme definition, schedule, budget, required quality or benefits delivery, which at this stage do not appear to be manageable or resolvable. The project/programme may need re-baselining and/or overall viability re-assessed.

8.4.3.3 Example of assessing the likelihood of change initiatives success and failure

Research across the globe by the Boston Consulting Group identified that success is dependent on four elements:

- **Duration.** The time until the project is completed if it has a short time span, or if not, to the next review.
- **Integrity.** The performance integrity or capabilities of the team to deliver the initiative on time including capable and respected leadership, clear objectives, and resources and organisational skills appropriate to the initiative's requirements.
- **Commitment.** Commitment to change, including the visible commitment of senior management and the attitudes of the local area undergoing the change.
- **Effort.** The additional effort over existing responsibilities required of local staff to complete the change.

Assessments range from 1 to 4 (where one represents the ideal situation). Any differences in perception are openly debated, and although the assessments are subjective, the system provides organisations with a structured basis for discussion and an objective framework for making these assessments.

8.4.3.4 Example of a portfolio “bubble matrix” of change initiatives on benefits and risk

Consideration of factors under the dual headings of “attractiveness/return” and “achievability/risk” allows potential initiatives to be represented in a portfolio map such as shown in Figure 50.

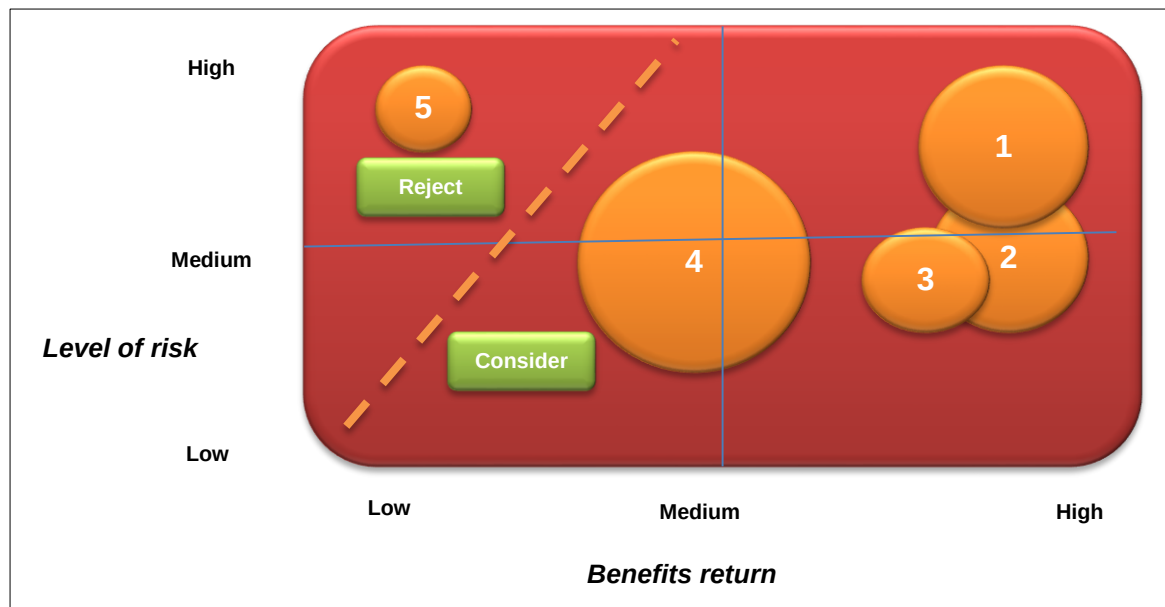


Figure 50: Example of a portfolio map bubble matrix of change initiatives based on benefits and risk (Source: OGC MoP Guide, 2011)

8.4.3.5 Example of scoring a proposed change initiative using weighted prioritisation criteria

A simple approach to prioritisation is as follows:

1. Decide on prioritisation criterion that represents the factors the organisation views as important when considering an investment.
2. Agree the importance of each criterion by assigning a weighting or percentage of relative importance - and ensure that the total percentages of all criterion add up to 100.
3. Agree a rating system to apply to the initiatives - a simple approach is based on:
 - 0 = no contribution.
 - 5 = some contribution.
 - 10 = high contribution.
4. Rate each change initiative using the ratings and weightings identified above. Total weighting scores can then be divided by the required funding to provide a score per Rand invested. Alternatively, the scale of budget can be represented on a portfolio map via the size of the “bubble” as shown in Figure 50 above.
5. Collate all prioritisation information and analyse - including by using a portfolio map to communicate the findings.

Table 43 shows an example of a proposed change initiative that has been assessed using a simple weighted prioritisation scoring mechanism.

Table 43: Example - scoring a proposed change initiative using weighted prioritisation criteria (OGC MoP, 2011)

Proposed change 1			Contribution			Score	Total
	Prioritising change criteria	Weight	None	Some	High		
1	Criterion 1	40%	0	5	10	10	4.0
2	Criterion 2	10%	0	5	10	0	0.0
3	Criterion 3	30%	0	5	10	5	1.5
4	Criterion 4	20%	0	5	10	5	1.0
Change priority score							6.5

Decision-conferencing approaches have been found to be particularly effective in such situations. Here senior management debate and agree the relative importance of the strategic objectives, the criteria to be used to assess strategic contribution and the scores/ratings for each initiative. The role of the facilitator can be crucial in ensuring that a consensus is reached. The advantages of decision-conferencing include improved commitment by senior management both to the success of the portfolio and to portfolio management itself.

8.4.3.6 Example of a ranked list of change initiatives

When each change initiative has been scored, the information can be collated into a ranked listing. Sorting by descending priority provides a clear view on which initiatives are most important to the organisation. Table 44 illustrates a basic prioritised list.

Table 44: Example – ranked list of change initiatives (OGC MoP Guide, 2011)

Priority	Change name	Budget	Benefit	Risk	Priority score
1	Proposed change 4	R100m	H	H	8.0
2	Proposed change 2	R75m	H	M	7.5
3	Proposed change 1	R50m	H	M	6.5
4	Proposed change 5	R150m	M	M	6.0
5	Proposed change 3	R25m	L	H	4.5

This analysis can also be advanced by dividing the priority score by the cost of the initiative - and then listing the change initiatives in order of score per Rand thousand/million invested. This information can also be illustrated in a simple bubble matrix portfolio map.

8.4.4 Balance

8.4.4.1 Portfolio map bubble matrix of change initiatives

The portfolio office should create easy-to-understand representations of the balanced portfolio. The portfolio map bubble matrix in Figure 50 provides an example of how to graphically represent change initiatives based on budget, risk and benefit data.

8.4.4.2 Tornado diagram

The Tornado diagram in Figure 51 shows costs and benefits by strategic initiative.

Costs		Strategic initiative (SI)	Benefits	
		SI 1		
		SI 2		
		SI 3		
		SI 4		
		SI 5		

Figure 51: Tornado diagram (Source: OGC MoP Guide, 2011)

8.4.4.3 Example of portfolio map and balancing

By plotting each project on a graph of strategic value against risk it is clear to see which projects should be invested in and which projects should be parked (see Figure 52).

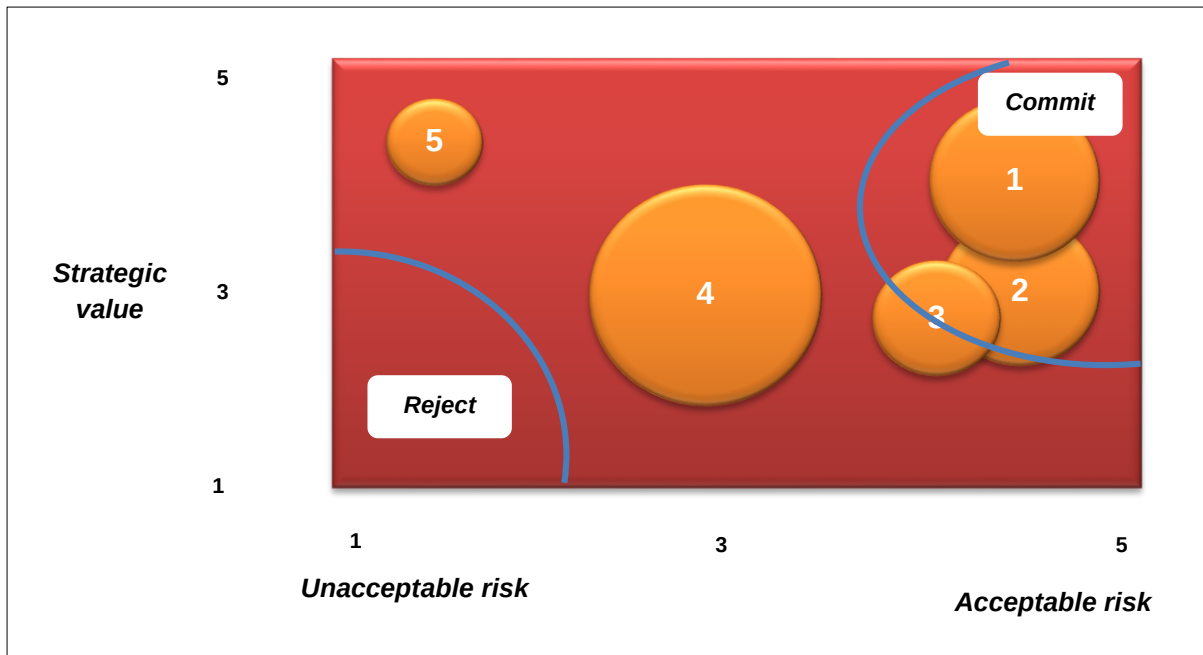


Figure 52: Portfolio map and balancing (Source: OGC MoP Guide, 2011)

8.4.5 Plan

8.4.5.1 Portfolio delivery plan document contents

The purpose of the portfolio delivery plan is to:

- Provide a basis for formal senior management approval of planned initiatives and associated resource requirements.
- Provide a baseline against which progress will be monitored via the portfolio dash-board.

Typical contents include:

- Shorter term (often annual) portfolio delivery schedule including key milestones.
- Portfolio financial plan - profiled budget by month.
- Portfolio benefits realisation plan - summary of the benefits to be realised in the year ahead and when.
- Key risk mitigation action plan.
- High-level resource plan/schedule for all limited resources.
- Portfolio performance metrics.

8.4.6 Management control

8.4.6.1 Defined processes including the business change life-cycle

Central to management control practice are:

- A business change life-cycle, which is used to control the delivery of all change initiatives in the portfolio.
- Escalation procedures for such matters as risks and issues; alterations to schedules; budget variations; and changes to benefits forecast beyond delegated levels. Escalation is usually linked to control limits for spend and schedule, and benefits beyond which variances from plan are referred to the relevant governance body for remedial action.

Appropriate arrangements should be established to provide assurance that defined processes are operating as intended. This includes the stage/phase gates and portfolio-level reviews. The portfolio management, governance and assurance processes should be documented in a portfolio management framework. This provides a central authoritative source of guidance on the way the portfolio is managed, how (and where) decisions are made and on what basis.

8.4.6.2 Example on reliable business cases

Sound business cases are one of the bedrocks on which effective portfolio management is built as they provide the basis for informed investment appraisal and portfolio prioritisation. American Express developed an investment decision-making guide to provide a consistent basis for business case preparation consisting of the following six steps:

1. State a compelling business case including:
 - a. At a strategic level how the change will lead to a competitive advantage.
 - b. At a tactical level, sufficient detail to understand how it will be achieved and what risks are involved.
2. Use realistic assumptions based on rigorous analysis, past experience and peer comparisons.
3. Build a sound driver-based model and projections.
4. Apply consistent decision-making criteria encompassing financial metrics (NPV, IRR, etc.) and measures of strategic contribution.
5. Secure appropriate approvals - the approvals process should be cross-functional to ensure ownership and appropriate scrutiny prior to release of funding.
6. Conduct a thorough post-implementation review - capture lessons learned and apply them in future business cases and investment appraisals.

8.4.6.3 Business case guidance and templates

Standards and templates should be developed including:

- Project/programme initiation documents.
- Concept/feasibility studies.

- Strategic outline and full business cases - and guidance on detail required at each stage of development.
- Benefits management strategy, realisation plan and benefits profiles.
- Post-implementation review reports.

Consideration should be given to reliability of forecasts of costs, benefit and time to complete the initiative. In order to address the problems of underestimating costs and time and overestimating the benefits the following solutions can be applied:

- Adjusting forecasts for optimum bias e.g. the *HMT Green Book* includes standard adjustments to be made to forecasts for different categories of programmes and projects.
- Adopting *reference class forecasting* whereby forecasts are informed by the organisation's track record in delivery or the experience of others in delivering similar typed of initiatives.
- Defining common frameworks for costing and benefits estimating.
- The use of three-point (optimistic, pessimistic, and most likely) rather than single-point estimating.
- Independent validation of estimates.
- Staged release of funding linked to stage/phase gate.
- Summary investment appraisal templates in making the investment rationale transparent by summarising the key data under the headings of:
 - Attractiveness (return), e.g. financial return on investment, measure of strategic contribution, benefits, etc.
 - Achievability (risk), e.g. delivery confidence assessment, likelihood of benefits realisation, etc.
 - Affordability both in capital and operating expenditure terms.

8.4.6.4 Example of investment appraisal template

Table 45 shows an example of an investment appraisal template.

Table 45: Example of an investment appraisal template (Source: OGC MoP, 2011)

Project name:			Business sponsor:		
Management summary:					
Financial appraisal summary:					
Cash flow	Expenditure			Savings	Cumulative cash flow
	Capital	Non-capital	Total		
Year 0					
Year 1					
Year 2					
Year 3					
Year 4					
Totals					

Benefits (R)			
Payback period			
Net present value (NPV)			
Internal rate of return (IRR)			
Return on investment (ROI)			
Resource type	Internal (days)	External (days)	Total
Strategic attractiveness summary			
	Weighting	Score	
Strategic alignment			
Confidence in benefits analysis			
Clarity of objectives			
Buy-in of stakeholders			
Attractiveness total			
Achievability summary			
Complexity			
Compatibility			
Ownership and accounting			
Belief of stakeholders in achievability			
Achievability total			

8.4.6.5 Regular progress reporting

Progress/highlight reporting will be coordinated by the portfolio office for each of the change initiatives on a regular basis. This information is collated for the portfolio governance bodies in the form of a dash-board report which tracks performance against the baseline presented by the portfolio delivery plan. The dash-board should include:

- Progress information against milestones.
- Status of key initiatives, risks, issues and dependencies.
- Spent and revised forecast compared with the profiled budget.
- The latest benefits forecast and realisation to date compared with the plan.

The dash-board report should also include a suit of portfolio-level performance metrics encompassing both lead and outcome indicators. The following list provides some sample metrics:

- Trend in balance of spend by portfolio category/segment.
- Savings in business case production = cost and time.
- Stage/phase gate ratings on delivery confidence (red, amber, green).
- Post-implementation review ratings for benefits realisation against forecast and achievement of value for money (actual benefits compared to actual cost).
- Proportion of initiatives rejected/stopped at each stage/phase gate and portfolio-level review.

- Speed with which initiatives progress through the development pipeline and the shape of this pipeline (it should be a funnel not a tunnel).
- Proportion of portfolio in value terms (and by cost) invested in modular programmes and projects.
- Length of projects from inception to closure e.g. percentage less than six months, six months to one year, one year to 18 months, greater than 18 months.
- Scale (and trend) of reliance on external resources (contractors and consultants).
- Scale of unplanned delays due to resource constraints.
- Scale of unplanned delays due to ineffective dependency management.
- Key resource utilisation rates.
- Amount of investment written off.
- Improved reputation for effective change management - assessment by auditors etc.
- Quantitative data on:
 - Percentage of initiatives delivered on time compared with initial forecast.
 - Percentage of initiatives delivered on budget compared to initial forecast.
 - Percentage of benefits realised compared with initial forecast.
- Process maturity assessment or health-check assessment.
- Number of portfolio process improvements recommended under the champion-challenger model and from post-implementation reviews.
- Stakeholder survey of views on the efficiency and effectiveness of portfolio definition practices.
- Stakeholder survey of views on the efficiency and effectiveness of the portfolio delivery practices.

8.4.6.6 Portfolio dash-board document contents

The purpose of the portfolio dash-board document is to:

- Provide the portfolio governance bodies with an overview of progress against plan.
- To identify areas where action is required to address issues impacting, or potentially impacting, on portfolio delivery.

The contents include:

- Progress information against key milestones.
- Status on key initiatives, risks, issues and dependencies.
- Spend and revised forecast compared to the profiled budget.
- Latest benefits and realisation to date compared with plan.

8.4.6.7 Example of a portfolio dash-board report

An example of a portfolio dash-board report is shown in Table 46.

Table 46: Example of a portfolio dash-board report (Source: OGC MoP, 2011)

Name	ID	Type	Priority	Project owner	Business unit owner	Stage gate	Management and control (1)		Delivery (2)		Notes	Finish date
							This mth	Last mth	This mth	Last mth		
Project 1	11	Efficiency	1	RW	Div C	Exe	R ↓	A	A ↓	G		Apr 16
Project 2	21	Compliance	3	FP	Div B	Dev	A ↑	R	G ↑	A		Feb 17
Project 3	35	Efficiency	2	PT	Div A	Feas	A ↔	A	A ↔	A		Jun 17
(1) Management and control (i.e. how well the project is being managed, project health).												
(2) Actual performance delivery (i.e. how well the project is delivering benefits).												

Portfolio indicators:

	Benefits realisation - 20/130 projects' benefits at risk (R200m)		Risk - 20/130 project not managing risk effectively		Time - 90/130 projects behind schedule
	Budget - 20/130 projects over budget (R100m at risk)				Embedding change - 30/130 projects are following the PM standards

8.4.6.8 Stage/phase gate reviews

The business change life-cycle should specify the points at which initiatives should be reviewed for continuous business justification. Particular attention should be given to a start gate to ensure that entry to the portfolio is strictly controlled and that significant sums of money are not invested before initial review for consistency with existing portfolio.

8.4.6.9 Portfolio-level review

The portfolio as a whole should be reviewed on a regular basis (e.g. every six months or annually). Such reviews should encompass:

- Progress to date against the portfolio delivery plan in terms of:
 - Is delivery on schedule and are dependencies being managed?
 - Spend against profiled budget and forecast outturn.
 - Benefits realised compared to plan.
 - Performance against portfolio-level performance metrics.
- Progress looking forward:
 - Are the initiatives included in the portfolio strategy and delivery plan still necessary and sufficient in relation to the current strategic objectives?
 - What degree of confidence is appropriate that the portfolio strategy and delivery plan will be achieved?

The review should also assess how well the portfolio management processes are working.

8.4.7 Benefits management

8.4.7.1 Portfolio benefits management framework document contents

The purpose of the portfolio benefits management framework document is to provide a framework within which consistent approaches to benefits management can be applied across the portfolio. The contents include:

- Outline of the high-level benefits the portfolio is designed to achieve and the metrics to be used to assess their realisation.
- Benefits eligibility guidance - the detailed rules on the identification, quantification, classification, valuation and validation of benefits.
- Treatment of benefits throughout the business change life-cycle - from business case, through stage/phase gates and portfolio-level reviews, to post-implementation review.
- Definition of roles and responsibilities for benefits forecasting, tracking and reporting.

8.4.7.2 Portfolio benefits realisation plan document contents

The purpose of the portfolio benefits realisation plan document is to:

- Summarise the benefits forecast to be realised in the year ahead and so provide a clear view of the planned returns from the organisation's accumulated investment in change.
- Provide a baseline against which to assess the benefits actually realised.

The contents include a statement of the main benefits forecast to be realised in the year ahead including:

- Scale of impact.
- Profile throughout the year (when they will be realised - if not monthly then usually at least quarterly).
- Metrics to be used to assess benefits realisation.

8.4.7.3 Example of portfolio benefits categorisation

See Table 47 for an example of portfolio benefits categorisation.

Table 47: Example of portfolio benefits categorisation (Source: OGC MoP, 2011)

Benefit recipient	Benefit type			
	Efficiency		Effectiveness	
	Cashable (in Rand)	Opportunity value (in Rand)	Cashable (in Rand)	Opportunity value (in Rand)
Department 1				
Department 2				
Department 3				
Department 4				
Department 5				

8.4.7.4 Benefits management guidelines example

This example contains extracts from the guidelines from Standard Chartered Bank for benefits management

Benefits categories

In order to ensure a consistent approach for calculating benefits, the categories below provide rules for which benefits can be included in the business case calculations. The benefits section should only include financial benefits, separated into three categories:

- **Incremental revenue.** All types of additional revenue, including where increase volumes and fee margins result in an increased revenue budget or forecast.
- **Cost savings.** All types of cost savings, resulting in a reduction in budgeted and forecasted costs part of the performance management process.
- **Other.** All additional tangible financial benefits resulting in a positive impact to the business profit and loss accounts, such as balance sheet improvement leading to a proven profit and loss impact.

Furthermore only tangible financial benefits that meet the following criteria should be included:

- The benefit is realistic, measurable and comparable against a baseline.
- The benefit is included or catered for in a financial budget or forecast and subsequently implemented into *business as usual*.
- The benefit is realisable and can be tracked in the general ledger and/or other financial system.
- The benefit is signed-off by the accountable executive and an appropriate member of the bank's finance community.

Other benefits that should be documented but not included in the benefits case are:

- Tangible but non-financially quantifiable benefits - these benefits can be measured, but a direct correlation to the impact on the business' bottom line is unable to be made for example benefits resulting from customer service.
- Intangible benefits - these benefits cannot be measured and therefore assessed, generally because their magnitude and timing cannot be accurately forecast, such as positive contribution to the brand or improved decision-making.

Benefits calculation rules

In order to ensure a consistent approach for calculating benefits cases, the following guiding principles should always be followed:

- **Recurring benefits timeframes.** Benefits of a recurring nature can be claimed in the first full month that the benefit is realised, not part-way through the month.
- **People cost savings.** Benefits associated with head count savings can only be included where an explicit role (for either a full-time or part-time staff member) is saved and hence there is a cost reduction in a nominated cost centre, even if the resource is deployed elsewhere to fill an organisational gap.
- **Premises cost saving.** Benefits associated with premises savings can only be included where a premises saving directly impacting the profit and loss takes place.
- **Revenue protection.** Revenue protection should not be included in the financial benefits case, because it is unable to be tracked and validated. However, it should be included when providing a holistic description of the benefits.
- **Cost avoidance.** Cost avoidance should not be included in the financial benefits case. However, it should be included when proving a holistic description of the benefits.

Importance of baseline data

Obtaining appropriate baseline data is critical to demonstrating improvements in performance. The baseline position for tangible financial measures, tangible non-financially quantifiable financial measures, and key performance indicators (KPIs) needs to be identified and agreed at the commencement of a project. This will enable the improvements in performance to be calculated, help validate assumptions on which the benefits case was based, and aid ongoing tracking and validation during the scheduled and periodic post-implementation reviews.

KPI identification overview

A KPI provides a leading indicator, demonstrating that a change has occurred as forecasted by a project. This is particularly useful where non-financially quantifiable benefits are targeted, but is also of value when a number of initiatives contribute to one overall benefit. To measure the varying success and contribution of each initiative, KPIs should be employed to monitor changes in performance at the same time as the realisation of the (financial) benefit is tracked. Where possible, existing KPIs should be used rather than establishing new KPIs. The KPIs should be:

- Simple to understand and communicate to all involved in producing change.
- Specific and detailed - if KPIs are too high-level, it becomes difficult to confirm the cause and effect relationship between programme activity and change, as many other influences will come into play.
- Support by data that is available on a regular basis with limited resource investment.
- Available in a meaningful frequency of measurement.
- Where possible, aligned to individuals' performance objectives.

By monitoring these KPIs over a statistically valid sample size, a clearer understanding of the cause and effect can be established and the improvement in customer satisfaction can be demonstrated. Table 48 illustrates an example of performance improvement KPIs.

Table 48: Example of performance improvement KPIs (Source: OGC MoP Guide, 2011)

Performance improvement	Measure	Frequency	Baseline period	Baseline value
Customer satisfaction	Score (out of 10)	Quarterly	Q4	6.34
Queuing time	Average number of minutes	Monthly	H2 average	2.15 minutes
Customer complaints	Absolute number	Weekly	Q4 average	26
Closed accounts	% per 10,000 customers	Weekly	Q4 average	0.5%

8.4.7.5 Example portfolio-level benefits management

Ensuring a portfolio-wide, post-programme/project focus on benefits realisation can be aided by the nomination of a benefits realisation manager in a corporate rather than programme or project position with a remit to:

- Support projects and operational change teams in ensuring change is relevant and fit for purpose.
- Ensure consistency of business change approaches across the organisation.
- Ensure business readiness for changes.

- Ensure the benefits forecasting and realisation is accurate and actually happens.
- Provide an integrated view of change across the organisation.
- Help, support, understand, advise, represent and make life easier for the business areas.

8.4.8 Financial management

8.4.8.1 Portfolio financial plan document contents

The purpose of the portfolio financial plan is to summarise the financial commitments inherent in the approved portfolio for the year ahead as a basis for formal senior management budgetary approval. The contents include:

- Profiled budget for the year ahead (usually monthly).
- Analysed separately for capital and operating/resource expenditure.

8.4.9 Risk management

8.4.9.1 Example of portfolio-level risk management

Adopt a framework for assessing risks across the portfolio encompassing three aspects:

- **Technical risk.** Can the technical objectives of the projects and programmes be achieved?
- **Implementation risk.** Can the organisation deliver and utilise the technical deliverables? This in part reflects the organisation's ability to absorb change.
- **Commercial or benefit risk.** Will the planned strategic, financial or social benefits be realised?

8.4.9.2 Key challenges and sample solution for managing dependencies

It can be particularly challenging to identify, track and manage dependencies effectively. Some of the key challenges and sample solutions in dependency management are set out in Table 49.

Table 49: key challenges and sample solutions for managing dependencies
(Source: OGC MoP Guide, 2011)

Typical dependency management challenges	Sample solutions
Dependency information is not readily available.	The portfolio office can organise a workshop to raise awareness of the scope of the portfolio (or specific category/segment) and identification of key dependencies. This can include: • Short presentations by each main initiative to summarise the scope and planned business impact of their initiative. • One to one timed sessions where initiatives identify and agree potential dependencies.

Typical dependency management challenges	Sample solutions
	The results should be consolidated by the portfolio office (e.g., dependency matrix) and fed back to the participants for validation. This can then inform the dependencies element of the portfolio dashboard.
Uncertain of what type of dependencies exist.	Dependencies include: • Where progress on one initiative is dependent on deliverables from another initiative. • Where initiatives are making joint calls on a limited resource. • Where realisation of benefits from an initiative is dependent on actions beyond the scope of the initiative.
How to manage and document dependencies.	There is a wide range of approaches to document dependencies. For example, as part of benefits realisation outcome relationship modelling is used. In some organisations a central planning software tool can link the dependencies and aggregate the impact on benefits and provide a report automatically. In others, the portfolio office maintains a simple matrix of initiatives with cross-referenced dependencies, and this is updated each month as part of the portfolio progress reporting progress. The key point to remember at the portfolio level is to focus on the key dependencies - i.e. those that materially affect the portfolio-level delivery schedule and benefits realisation plan.
How to present complex information in an easily understandable form.	Dependencies can be presented in a number of ways - for example, in a simple matrix outlined in the example that follows in the next section, or by highlighting key dependencies on the portfolio schedule. Some organisations link dependencies to the risks and issues registers, which can also be incorporated into the monthly reporting cycle.
What are the most important dependencies?	Modify a version of the prioritisation practice to focus on dependencies. The portfolio office should work through each dependency and assess which are the most important.

8.4.9.3 Example of the contents of a dependency matrix

A simple dependency matrix can be adopted with the change initiatives shown on both the horizontal and vertical axes. The relevant cells in the matrix can then be completed to show:

- Which are the giving and receiving initiatives.
- A brief description of the dependency and (cross-reference) key milestone dates.
- The impact of the dependency on the receiving initiative rated as:
 - Mission critical. Slippage on the giving initiative will cause significant slippage on the receiving initiative.
 - Major. Slippage on the giving initiative will cause slippage on the receiving initiative but this is recoverable - albeit at additional cost.
 - Minor. Slippage on the giving initiative may have some impact but this is manageable within current resource provision.

8.4.10 Stakeholder engagement

8.4.10.1 *Project stakeholder engagement and communication plan document contents*

The purpose of the project stakeholder engagement and communication plan is to provide a framework for coordinated consistent communications across the portfolio. The contents include:

- Statement of the objectives of portfolio stakeholder engagement and communications.
- Description of the key stakeholder groups analysed by interest and influence.
- Media to be used for each group.

8.4.10.2 *Focus on senior management*

One of the key principles that lays the foundation for effective portfolio management is senior management commitment. The stakeholder engagement and communication plan therefore should include specific focus on building and maintaining senior management commitment. This can be facilitated by:

- An active board-level portfolio management champion.
- Engaging with board members both collectively and individually.
- Providing board members with a briefing based on and executive guide to portfolio management.
- Clearly stating what their role is in relation to portfolio management and what decisions will be required and when.
- Linking portfolio management and the required behaviours to the performance management processes.
- Obtaining the support of influential non-executive directors.

8.4.10.3 *Example classifying stakeholders*

An organisation map can be used to identify and classify key stakeholders as:

- Key thought leaders.
- Influencers.
- Early adopters.
- Potential resisters.

Appropriate strategies can then be developed, including identifying the “What is in it for me?” for each group from the implementation of portfolio management.

8.4.10.4 *Example stakeholder workshop*

There are many perspectives and views on what portfolio management is and should be. One organisation ran a number of workshops to help reach a shared vision of

what the new organisation would look like once portfolio management had been fully implemented. This proved particularly useful not only in enabling all stakeholders to understand where the organisation is going (and to contribute to that vision), but also from a team-building perspective because everyone worked collectively and concerns were addressed openly.

8.4.10.5 *Embrace modern communication*

In the recent years there have been many media channels and technology platforms to enhance communication - intranet sites, software with centralised forum functionality, messenger technology on laptops and telephones, use of video conferencing, internet meetings, and websites such as Twitter and YouTube are increasingly being used by organisations to enhance their traditional information.

8.4.11 Organisational governance

8.4.11.1 *Example organisational governance*

A case study from the Cambridgeshire County Council shows that effective governance is crucial when they transformed their governance structures following the introduction of portfolio management. The key components of success were identified as:

- Securing the support and commitment to the introduction of portfolio management and the breaking down of existing management structures, so allowing the rapid consolidation of large numbers of disparate projects into smaller coherent groupings of related programmes.
- Business cases being kept under review post-approval to ensure the benefits remain relevant and achievable.
- Clear and concise information and regular reporting on current status , risks and issues, dependencies, progress against key targets/deliverables and benefits.
- Support for the process from a corporate project office which was established to bring consistency in project management and delivery and to ensure that scarce resources were allocated effectively and efficiently across the portfolio of projects.

8.4.11.2 *Example portfolio governance*

Peterborough City Council portfolio governance consists of:

- **Director's group.** Oversees the corporate programme at a macro level and ensures interaction with the sustainable community strategy. Chaired by the director of resources.
- **Governance board.** Manages all the council's projects and programmes. Decides which projects should go ahead and which should not. Manages the gateway process. Chaired by the head of growth.

- **Savings and innovations board.** Manages the delivery of the transformation projects. Calls in projects where they are difficult (red or amber). Coordinates intervention and can cease projects. Chaired by head of customer services.
- **Programme team.** Reports to the savings board and supports the delivery of all programmes including capital, *business as usual* and transformation. Lead by a senior programme manager.

8.4.12 Resource management

8.4.12.1 *Portfolio resource schedule document contents*

The purpose of the portfolio resource schedule document is to provide a baseline against which to manage demand and supply for constrained resources. The contents include a profiled comparison of supply and demand for constrained resources throughout the planning period, highlighting periods of slack and under-supply.

8.4.12.2 *Example resource management*

Recommendations by the US-based Enterprise portfolio management Council are as follows.

Demand-side resource management

- Resist trying to control the detail; only model reality as far as is relevant for strategic planning i.e. at aggregate level.
- Focus planning and management efforts on large and/or mission-critical projects.
- Group portfolio resources into three categories: skills, facilities and technology environment.
- There are four levels to manage demand for resources:
 - Changing timescales to flatten demand.
 - Decouple development from roll-out to help flatten demand.
 - De-scope to reduce absolute resource needs.
 - If there are not enough, defer or drop some lower-priority projects.

Supply-side resource management

- Differentiate core competencies from commodity skills.
- Staff/train enough people to cover these core competency needs.
- For commodity skills, develop standard role descriptions, cross-train people and develop good external relationships.

8.4.12.3 *Other possible graphical representations*

Other possible graphical representations include:

- Comparison of demand and supply for constrained resources showing under/over allocations.
- Share of investment by portfolio category/segment.
- Scale of investment by strategic objective.
- Anticipated benefits by business area.
- Coverage by strategic objectives and timing.
- Business value and criticality matrix.
- Value and cost matrix.
- Analysis of coverage by portfolio category and area of the business.
- A dependencies matrix showing where major dependencies exist between initiatives.

8.5 TENSTEP PORTFOLIOSTEP™ TECHNIQUES

The techniques that follow appear in Mochal's (2014b) *PortfolioStep Portfolio Management Framework™*.

8.5.1 Categorisation

8.5.1.1 Define financial models

At some point in the initial business planning process, priority decisions are made to determine which work requests are more important than other work requests. Some work may be inherently more important. Many projects will compete for the scarce resources that are remaining. Prioritisation will be based on the projects that align best to the organisation's goals, objectives and strategies, as well as those that are most attractive from a financial standpoint. The question then is which projects are more attractive financially? The only way to know is if a consistent financial analysis is performed on all projects using common financial models. A simple cost/benefit analysis might be the starting point, but it is rarely sophisticated enough for most organisations. Most organisations have a common way to determine the financial payback, and it is important that all projects use one or more common models. A set of projects could be prioritised differently depending on the type of financial analysis performed. Understanding the costs and benefits of a project may be difficult. The costs are probably more easily understood, at least at a high-enough level to calculate an intelligent cost estimate. Benefits may be harder to understand, since many business benefits are intangible. There are some general rules of thumb that can give a sense for whether a project has a high degree of value. These include:

- **How many people does it impact?** In general, a project that impacts many people will have higher (potential) value than a project that impacts a few. This goes for internal impact and customer impact.
- **How often are the effects felt?** If a project touches people every day, it probably has more (potential) value than one that only impacts people once a month or once a year.

- **Are the deliverables new or changes to existing deliverables?** A project that ends up with something new, like a new product or a new process, usually has more potential benefit value than a project that makes an existing process more efficient or makes improvements on a current deliverable.
- **Can more people be free up?** A project that will result in the elimination of people from a process is more valuable than one that will result in incremental timesaving.

To compare the financial benefit of projects a common financial model is needed that all projects use to describe their costs and benefits. It is usually one of the responsibilities of the finance department to determine which financial model(s) the organisation uses. These models are usually run over three years or five years to get a truer sense as to the overall value over the planning period. Some examples of financial models are:

- **Simple cost-benefit analysis.** This is a simple model and could be the starting point for determining whether a project makes sense. First do an estimate of the cost of a project and an estimate of the business benefit. If the benefit is greater than the cost, then value is created. In many instances, the costs are one-time, but the benefits are repeating.
- **Example: return on investment (ROI).** This is a very popular financial model and looks at cost benefit from the perspective of the financial return gained from any investment of resources on a yearly basis. It is simply the benefit of an investment divided by the cost. When comparing projects, the higher the ROI the better.
- **Economic value added (EVA).** One of the problems with ROI is that it assumes that the organisation has project funding. First of all, the organisation may well have to borrow funding for projects, and that interest rate needs to be factored into the equation. EVA takes the cost of the funding capital into account. The project will then have a lower ROI after accounting for the cost of capital. The cost of capital need to deduct this from the benefit before arriving at a more accurate financial model.
- **Example: net present value (NPV).** This calculation is more sophisticated because it takes into account the relative value of money over time. If a project has a five-year payback it takes five years of benefit to equal the cost. However, that is not totally accurate. Even if the cost of capital was zero (from the EVA calculation), it must be recognised that the future value of money is less than it is today. When comparing projects, Project A has a larger financial payback over five years than a second Project B has over three years. However, Project B may have the better NPV since it reaches its payback sooner.
- **Example: total cost of ownership (TCO).** This calculation allows an organisation to more easily see the entire costs associated with a project or

product over the life of the product. A TCO calculation factor in the total cost of owning and running the asset over the useful life.

8.5.1.2 Define portfolio roles

An organisation needs to think who will be involved in the various aspects of the portfolio management process. The following roles and responsibilities are used in *PortfolioStep*:

- **Portfolio management sponsor.** Any portfolio management process needs to be sponsored by some manager in the organisation.
- **Portfolio management team.** This is the group of managers who are responsible for managing the portfolio of work. The exact makeup of this group is dependent on how the portfolio is defined.
- **Project manager.** The project manager is the person with the authority to manage a project. This includes leading the planning and the development of all project deliverables.
- **Sponsor (executive sponsor and project sponsor).** The sponsor is the person who puts forward project work during the portfolio selection process and has ultimate authority over the project if selected.
- **Steering committee.** A group of high-level clients and stakeholders who are responsible for prioritising work, providing strategic guidance to the portfolio, prioritises work for the portfolio and then monitors the portfolio during the year. If new work comes up or if changes occur in the authorised workload, the steering committee determines the impact on the portfolio and adjusts accordingly.

8.5.1.3 Portfolio examples

There is no right or wrong way to structure a portfolio - there are many ways. Depending on the size of an organisation and the range of projects and teams, portfolios can take on many shapes and sizes. The key point is that the work is related in some way, so that it would make sense to manage a large group of work as a portfolio. Here are a number of examples:

One portfolio for the whole organisation

If an organisation is small enough, one portfolio can be defined of work that covers everything - including all departments and all types of work (see Figure 53).

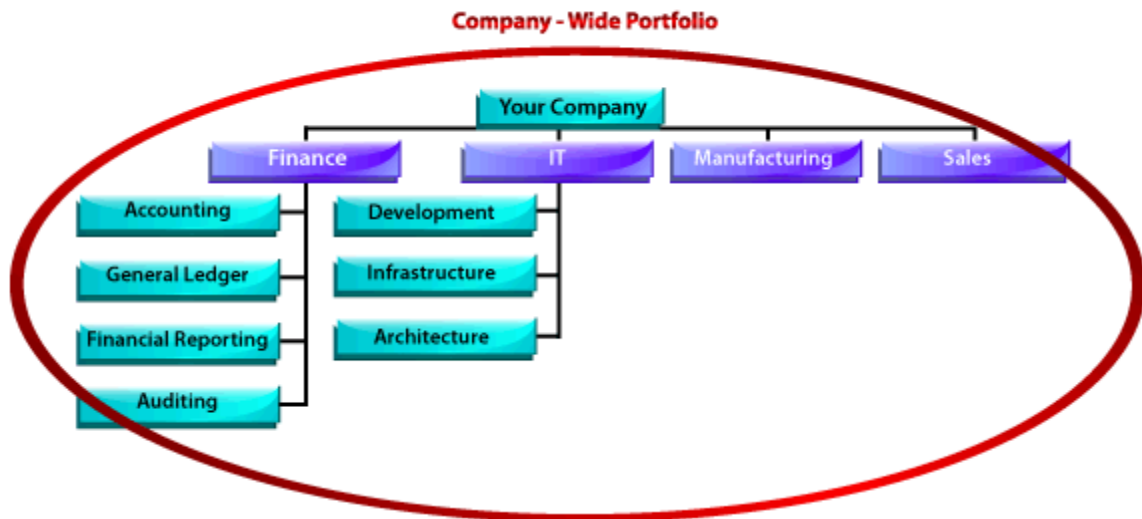


Figure 53: Whole organisation portfolio (Source: Mochal, 2014b)

Information technology portfolio (one functional portfolio)

This portfolio is very common in companies. One unique aspect is that the functional department is set up as a portfolio, but much of the work is done on behalf of internal clients. A steering committee with representatives from the various client groups is usually established to prioritise the work and provide strategic direction. See Figure 54.

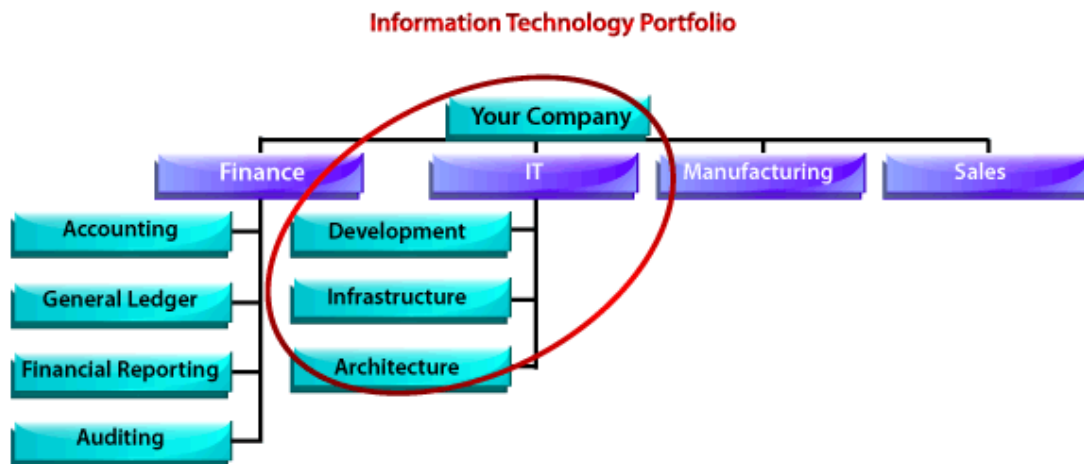


Figure 54: Whole department portfolio (Source: Mochal, 2014b)

Projects only portfolio/top 50 projects portfolio

All the projects in a department can be managed as a portfolio or only the top 50 projects. Another option is to have tiers of project portfolios.

Multiple functional portfolios

A larger organisation may want to use portfolio management, but one portfolio would be too large and cumbersome. Instead, each functional department is organised as a portfolio, with a common executive steering committee coordinating the overall prioritisation process. See Figure 55.

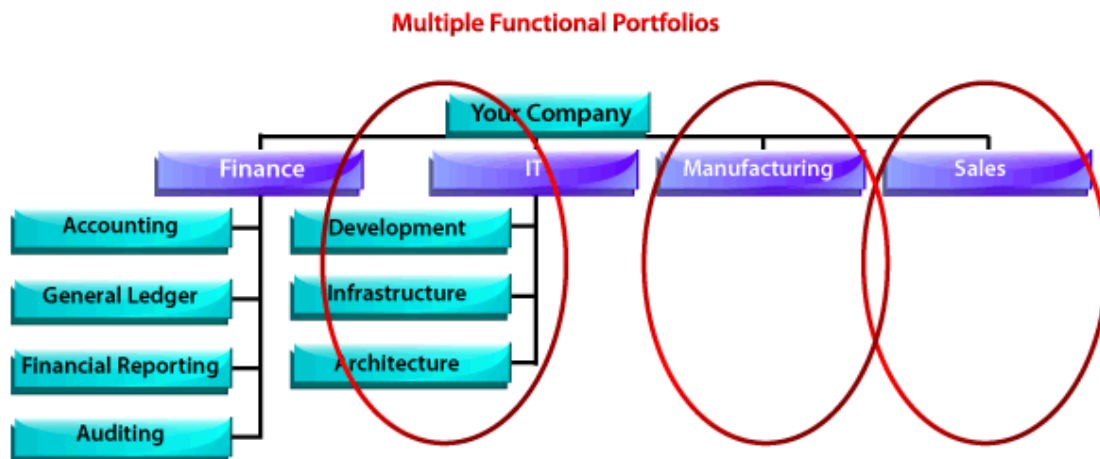


Figure 55: Multiple portfolios on a functional basis (Source: Mochal, 2014b)

Multiple portfolios within one department

If a department is large enough, multiple portfolios may need to be assembled (see Figure 56). The portfolios could be based on the internal departmental structure or based on the similar work (operations, support, projects). The overarching principle is to determine to what extent each individual portfolio will draw on a discrete set of resources.

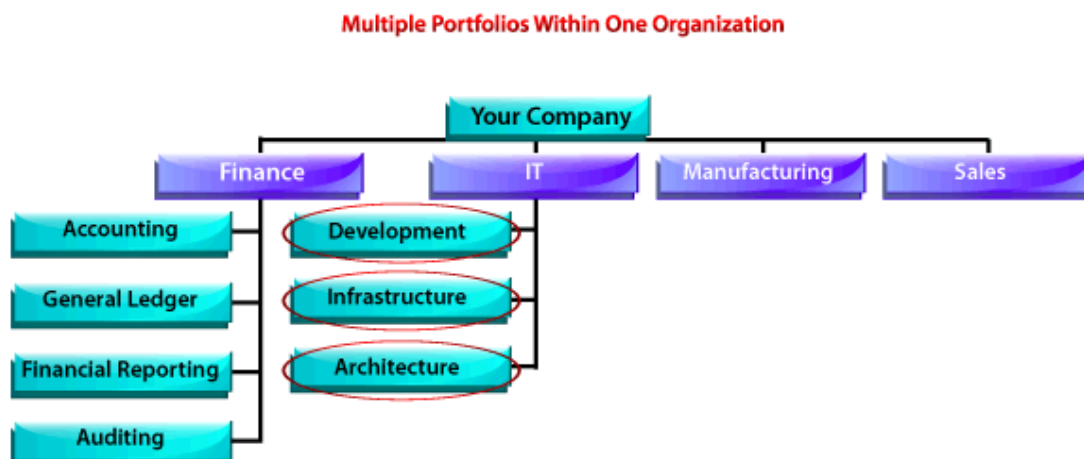


Figure 56: Multiple portfolios within a department (Source: Mochal, 2014b)

8.5.1.4 Templates

Portfolio definition template

The first process in *PortfolioStep* is portfolio definition. There are a number of elements in the portfolio definition, and they can be documented in this template. This template is used to define one portfolio, or it can be used as template to define multiple related portfolios. See Table 50 for portfolio definition template outline.

Table 50: Portfolio definition template outline (Source: Mochal, 2004)

Portfolio definition	
Contents	Description
Background.	This section provides background and context into why the portfolio is being formed. There may be some problems that the portfolio structure is trying to address or a need to become better at selecting and authorising work. Discuss the history of the initiative and why the portfolio is being formed now. For multiple related portfolios use one <i>portfolio definition</i> template for each portfolio, or combine them all in this one document.
Organisation scope.	Describe what functional organisations will be a part of the portfolio. For instance, if the portfolio is made up of the entire company, state so here. If the portfolio is based on one or more internal organisations, such as the IT organisation, that should be stated. If you have multiple portfolios, you could describe the types of work that all of them contain.
Work scope.	Describe the type of work that makes up the portfolio. For instance, the portfolio might include all work types, or it may include just project work. If the organisation has multiple portfolios, describe the types of work that all of them contain. <i>PortfolioStep</i> has certain terms for the work categories. If they are fine for your organisation, use them. If you have your own work categories, use them instead.
Balance points.	For each major work category defined above, state the balance points. The balance points define the overall allocation of each work type within each work category. The balance points are very important and are a fundamental feature of <i>PortfolioStep</i> to make sure that the best mix of work are authorised for your portfolio.
Financial model.	Comment on the financial model that will be used in the selection and prioritisation processes. There are many models that can be chosen, but usually an organisation has one or two that they favour. It is important that all projects utilise a similar financial model so that they can be compared to each other and ranked based on this common model.
Roles and responsibilities.	Define the various roles within the portfolio, including the portfolio sponsor, portfolio management team, portfolio steering committee, etc. For each of these major roles, list the people who fill them and what their major responsibilities are.
Portfolio definition approvals.	Add any signatures that are important for the approval of the portfolio definition.

8.5.2 Identification

8.5.2.1 The value of architecture

During the current state assessment, it is important to understand the assets in a portfolio today. Gathering these inventories, if they do not already exist, provides valuable information to eliminate duplication and waste. Inventories help to understand the assets in an organisation to manage the assets more effectively. In

the future state vision, the inventories need to be further leveraged as the basis for architectures. Architectures are important because they provide standards and guidance on many of the common technical decisions that get made in the portfolio on a daily basis. In other words, inventories tell organisations what they have today while architectures tell organisations where they want to be in the future. Architectures are future-looking entities, and they are similar to low-level strategies in that they both provide frameworks for guiding decisions. However, architectures usually provide low-level technical guidance. Strategies tend to provide more high-level direction.

8.5.2.2 Application architecture example

One example of architecture is application architecture. There are a number of aspects to application architecture, including the application inventory that was gathered as a part of the current state assessment.

Current application portfolio

This is basically the application inventory created as a part of the current state assessment. The application inventory allows organisations to know what they have in place today, including application names, description, age, major technology, etc. Just creating the inventory can be a huge task for larger organisations, but it is vital to help guide future decisions. Once creating the inventory, be sure to have processes in place to keep it up-to-date. There are two main reasons for collecting the application inventory:

- First look for opportunities to rationalise wherever possible. One way to rationalise is to look for redundancies, that is, different applications being used for similar needs.
- The second purpose of the application inventory is to map requests for new development against the current business applications. This can be done as a part of the work prioritisation and authorisation process. The people who are making funding decisions can also see what the new projects are, what business processes they relate to, and what applications exist in that space already. They can catch obvious duplications and ensure that redundant applications are not funded.

Application technical models

One of the purposes of architecture is to provide guidance for decision-making. When an application is being built, there are many decisions to be made. One of the most important decisions is the overall technical design. The technical design is created after business requirements are generated, and before the detailed design and coding work begins. If you look at all of the various applications today, you can start to categorise them into application types, or models. Application architecture provides guidance as to the type of application that should be built based on the

business requirements. The architecture provides guidance for the overall technical design based on a given set of business requirements.

Application technical design

In addition to providing guidance on the overall technical model, architecture can provide examples and further guidance on the technical design of an application.

Development tools

When applications are inventoried, the major technology used on each one is tracked. The entire suite of development tools is also inventoried. These tools are not necessarily tied to particular applications. They may be used in the development environment for many applications. However, they are all unique products within themselves, and in many cases the organisation is paying for licenses and ongoing maintenance. Examples of development tools include programming languages, testing tools, analysis tools, component libraries.

8.5.2.3 Joint Application Development sessions

Joint Application Development (JAD) is a specific technique (or set of techniques) for more rapidly gaining consensus from a group of individuals. It can be applied to a wide variety of areas such as gathering business requirements, creating mission and vision statements, defining a project, building a quality management plan, etc.

The JAD process

Get all of the major decision-makers, stakeholders and knowledge providers into one place at the same time. If a stakeholder has a question about scope, they can ask it in the context of the JAD session. The people required to answer the question are in the room and can answer the question immediately - no time delay and no misrepresenting the question.

The JAD meeting

There are sets of formal techniques that are used to make the sessions as productive as possible that include:

- **Identify the right people** and make sure they are there. It's fine to invite your manager and the client department managers. But what questions might arise that require others to be there as well? All decision-makers must be present, as well as information providers.
- **Use a facilitator.** Normally, a formal JAD session has a formal facilitator. The facilitator makes sure the discussion stays on track, that meeting rules are followed and that the meeting is as productive as possible.
- **Take notes.** Assign someone to take notes, document decisions and note all action items. If there are co-facilitators at the meeting, the second person can be the scribe.

- **Spend the time necessary** to reach a conclusion and consensus. The objective of the JAD session is to go through all of the items that need to be discussed and reach a consensus on what needs to be done.

The creation of the future state vision is a time when a JAD session can be very useful. Get the right people involved for the right amount of time, add a facilitator and a scribe, and get everyone together to hammer out and agree on the details.

8.5.2.4 Interviewing techniques

The current state assessment and future state vision require people with good interviewing and assessment skills. The model that follows can be used to help bring focus to the interview and to gather the most important information in the least amount of time.

Prepare ahead of time

Develop a standard set of questions to guide all the interviews to end up with a consistent set of feedback from all the interviewees. The preparation should also include an understanding of who the person is and what they do. The key point of the interview preparation is to understand what information is required.

Conduct the interview

The following techniques can be used to conduct the interview:

- **Explain the purpose of the interview and what your expectations are.** Explain what information is required and what will be done with the results.
- **Consider the use of two interviewers.** One interviewer can then assume the role of questioner, focusing attention on eliciting the information while the second interviewer takes notes. Alternatively use a tape recorder if it is acceptable to the interviewee.
- **Establish a time period for the interview.** This helps everyone focus on providing the information needed in as concise a way.
- **Refocus an interviewee who only wants to talk about problems.** Agree with the user that the interview has two parts - one about problems and concerns (i.e. current state assessment) and the other about how he thinks things should be in the future (i.e. future state vision).
- **Be persistent if any difficulty is being experienced to understand the interviewee's point of view.** Keep asking follow-up questions and ask for examples that will illustrate the points the interviewee is making.
- **Follow the interviewee's preferred sequencing of material.** Different people have different ways that they process information, be flexible to proceed based on the preference of the interviewee.
- **Avoid questions that are too general.** Always have a purpose in mind when asking a question.

- **Avoid jargon.** The interviewee may or may not know the terms.
- **Use visual aids.** Whiteboards and flip charts can also be a useful way to involve the interviewees to record findings and generate thoughts and ideas.
- **Always ask each interviewee one last time for any further suggestions.** Give people one last chance to provide input on the current topic before heading into a new one.

Send the notes back to the interviewee for validation

Document the discussion with the interviewee soon after the interview completes and send it to the interviewee for validation. This accomplishes three things.

- It helps you to validate that the interview was recorded correctly.
- It gives the interviewee a chance to add any additional information.
- It makes the interviewer more comfortable that the information gathered is valid.

If your findings are challenged, you can also show that you validated the results back to the interviewees to confirm.

8.5.2.5 Requirement gathering techniques

The current state assessment and future state vision require people with good interviewing and assessment skills. The key to the current state assessment is to talk to people who see the organisation from many different perspectives. If feedback is gathered from enough people, hopefully, a consensus will emerge, otherwise issue multiple opinions. While gathering feedback on the current state, also ask questions to gather requirements for the future state assessment. Gathering feedback for the current state and future state discussions is all about asking questions, not to solve problems.

Current state assessment

The current state assessments are more about understanding and interviewing than about gathering requirements. However, remember that in most cases, the discussion will go back and forth between the current state and future state.

Future state vision

Gathering business requirements is the main purpose of the future state vision. Business requirements are statements that describe what the interviewee and major stakeholders need and want. If automating a business process, they are the statements that describe the way the process should work. Think of requirements in two groups - product requirements and process requirements. Between these two types of requirements, everything the interviewee needs should be identified.

- **Product requirements.** Product requirements describe the business needs in terms of the main deliverables or products that are produced.
- **Process requirements.** Process requirements describe how people interact with a product and how a product interacts with other products.

Information gathering alternatives

One or more of the following techniques can be used for gathering business information for the current state assessment and future state vision:

- **One-on-one interviews.** The discussion should be planned out ahead of time based on the type of requirements being looked for. The interview could be tailored to discuss current processes, uncover future needs or determine the problems the interviewee is trying to resolve.
- **Group interviews.** These have a similar purpose to the one-on-one interview, but they require more preparation and more formality to get the information from all the participants.
- **Facilitated sessions.** These involve getting a much larger group together and potentially keep them together until all the requirements are gathered. It requires heavy preparation and the use of a trained facilitator to keep the group on track and functioning productively.
- **JAD sessions.** Described in a previous section.
- **Questionnaires.** Good tools for stakeholders in remote locations and can also be a valuable way to gather statistics or to get a sense for the relative priority of requirements.
- **Following people around.** This is helpful when gathering information on current processes.

Prioritise the requirements

Requirements are statements that describe what a person wants, needs, or would like to have. It is also clear that fulfilling of some requirements requires much more effort and cost than others. Therefore, it is important to prioritise the requirements after they are gathered. This could be as simple as designating the requirements into categories of high, medium and low to ensure that the most important requirements are incorporated into the final solution.

8.5.2.6 Gap analysis

The gap analysis represents the differences between the current state and the intended future state. It describes what needs to happen to move from the current state assessment to the future state vision (see Figure 57).

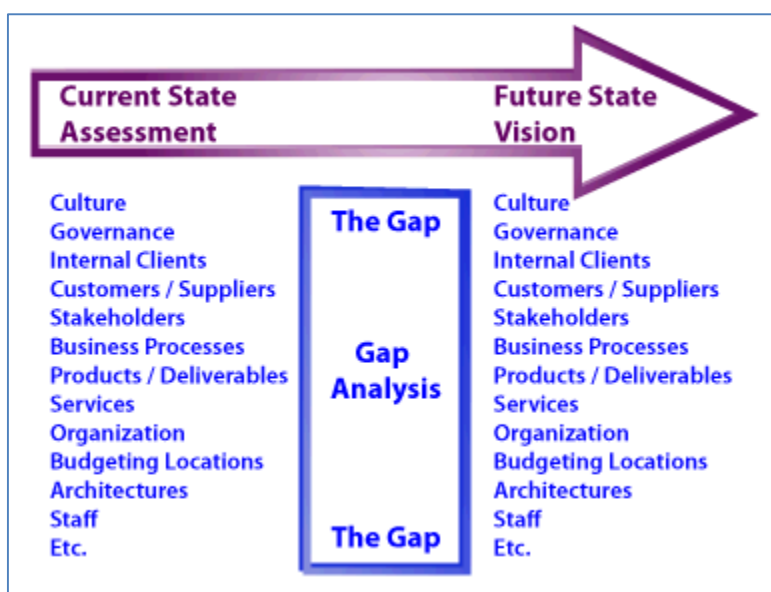


**Figure 57: Gap analysis, the difference between present and intended states
(Source: Mochal, 2014b)**

Take advantage of and reinforce the enablers, and mitigate or eliminate any barriers to success. If the current state and future vision documents are in the same format, it will be fairly easy to determine the gaps between the two. The gap analysis provides a sense for how much work is required and how far the current environment is from the required state.

The gap analysis needs to be action-oriented

When writing the gap analysis, keep the focus on actionable work that can be executed to move to the future state. The gap analysis needs to discuss concrete and reasonable actions. The gap analysis must be capable of translation into actual work projects and activities.

Three-year horizon

If the organisation is large, it might be necessary to look at a three-year window to get to the future state vision.

Detailed and summary gap analysis

The gap analysis can be written at a higher level than the current state assessment and future state vision documents. There are two options for the format of the document. The first option is to keep the format the same as the current state assessment and future state vision documents and comment about the gap associated with each category. The second option is to combine the related sections into higher-level sections and create the gap analysis based on the higher-level categories. Sometimes this approach can be a little easier, since many of the gaps may be related. It allows thinking about how to close the gaps in a more holistic approach.

a. Detailed gap analysis

One of the ways to complete the gap analysis is to look at all of the individual categories within the current state assessment and future state vision and determine what has to happen to move from the current state to the future state. In the detailed gap analysis, look at the current state assessment and future state vision on a category-by-category basis and analyse each section individually. In general, each detailed gap analysis section should start by describing the gap and then explaining what will be done to move toward the desired state. The following notes will help:

- **Mission.** There is no need to write a specific gap analysis for the mission.
- **Vision.** There is no need to write a specific gap analysis for the vision.
- **Organisational values (optional).** A plan needs to be put into place to make the organisational values real as they are not always followed. Decisions must be aligned to the organisational values.
- **Culture (optional).** Culture basically describes "how we do things around here". The formal and informal rules of culture can be changed in two ways. First, make decisions in the future based on whether they will help to achieve the culture being strived for. Second, look at the barriers identified in the current state assessment and determine how to specifically overcome them. Culture change requires proactive communication and it requires time. It requires managers to make decisions taking into account the cultural implications so that the future culture can be realised over time.
- **Governance.** The future state requires that the governance processes to be followed be defined.
- **History.** The history of the organisation helps put things in context, but it is not applicable to the gap analysis.
- **Clients/customers (internal).** Processes should be put in place to recognise the internal clients and how they are impacted by decisions make.
- **Customers and suppliers (external).** Processes should be put in place to recognise the external clients and how the processes impact them. If the customers and suppliers are changing, determine the best ways to satisfy the new needs as products and services are delivered.
- **Business processes.** Describe what needs to happen to move the organisation from current state to future state processes. In most cases where new processes are added, one or more projects are needed to define the process, the roles and responsibilities, skills requirements, systems support, etc. On the other hand, changes to existing processes might be handled more easily with current staff, skills and systems.
- **Stakeholders.** The gap analysis for stakeholders is similar to the ones for internal and external clients, customers and suppliers. Changes in

stakeholders may require changes to the processes to satisfy the new needs.

- **Products/deliverables.** Lay out the projects and other activities to get the products to the desired, future state.
- **Services.** Lay out the projects and other activities to get the services to the desired, future state.
- **Organisation.** If the organisation needs to change, describe the activities required to move to the future state. Organisational changes take time since the right managers and staff must be identified.
- **Budget.** The budget process may need to change to support the future vision. If so, this could be a lengthy process.
- **Locations (optional).** Locations are related to the organisation structure. If changes are made to locations or how different locations work together, try to get to the future state in one year, or two years at most.
- **Inventories/architectures.** At this point the inventories needed have been identified. There may be work to collect the inventories, and that work may span a number of months. However, try to get all the inventories completed as a part of the current state assessment, or at least in the first year. If there are any architectures that need to be put in place, establish projects to define them in the first year as well. Architectures provide guidance for many of the detailed decisions that are made on a daily basis, so it is important to have these agreed to and in place fairly early. Any inventory and architecture established must also have a process in place for keeping it up-to-date.
- **Staff.** A staff inventory from the current state assessment must be available as well as an overall staffing strategy that describes the future and how to get there. The staffing strategy should be at a high-level and is used to guide your overall decision-making. In the gap analysis, state that staffing strategy will be created to guide future decisions.
- **Other business categories.** Add a gap analysis on any other categories that were included in the current state assessment and the future state vision.

b. Summary gap analysis

There are a number of ways to represent the summary levels. The following summary categories are one way to do it. It is also possible to summarise some of the levels and leave some categories at a detailed level.

- **External business processes.** This summary section looks at the externally focused categories, including external business processes, external customers and suppliers, external stakeholders, products and services. Take a look at the products and services delivered today and where a better job needs to be done in the future. All business processes contain a set of actions that create a product or service for the client or

customer. The future state assessment looks at the entire process and the people who are involved. There may be a lot of work identified to move the processes from where they are today to where they need to be in the future.

- **Internal processes.** This summary section includes many of the assessment categories that are inwardly focused. The gap analysis discussion points out ways to deliver products and services more efficiently and effectively. This summary section could include the internal clients and internal suppliers, internal processes, internal deliverables and services, departmental culture, internal stakeholders, etc. The work required can also be reviewed for the budgeting and governance processes, both of which are primarily inwardly focused.
- **People.** In this summary section, include all of the people initiatives required to move the organisation's staff to its future state. The staff inventory from the current state assessment is already available, as well as an overall staffing strategy for the future and how to get there. In the gap analysis, state the specific things to be done in the next one to three years to get to the desired state.
- **Inventories/architectures.** At this point the inventories needed have been identified. There may be work to collect the inventories, and that work may span a number of months. However, try to get all of the inventories completed as a part of the current state assessment, or at least in the first year. If there are any architectures that need to be put in place, establish projects to define them in the first year as well. Architectures provide guidance for many of the detailed decisions that are made on a daily basis, so it is important to have these agreed and in place fairly early. Any inventory and architecture established must also have a process in place for keeping it up-to-date. This process should include a specific person or group with overall responsibility for the upkeep of each inventory and architecture.
- **Other business categories.** Add a gap analysis for any other categories that were included in the current state assessment and/or the future state vision.

8.5.2.7 Templates

Current state assessment template

See Table 51 for current state assessment template outline.

Table 51: Current state assessment template outline (Source: Mochal, 2004)

Current state assessment	
Contents	Description
Overview.	The overview provides background on the entire initiative and why it is being executed. The overview also provides context for the effort. For instance, if this is the first step to defining portfolios, that should be mentioned. The entire process can be summarised here to provide perspective on how the current state assessment fits into a broader picture. If this work is a follow-up on earlier work or if there is a specific set of problems that are being addressed, that information should be shared here.
Approach.	Describe how the document was created. Discuss who was talked to, who provided input, what historical documents were utilised, what techniques were used, etc. The purpose of this section is to give the reader a sense for how much effort and rigor went into the creation of this document. Note whether the assessment was done quickly or very thoroughly, and why the approach was chosen.
Mission.	Describe what the organisation does, how it is done, and for whom. It is a very general statement, usually aligning the organisation to the value it provides to the business. It should tie together the vision, strategy, goals, etc. that fall under it. At this point only describe what is formally or informally in place. If an organisational mission does not exist, note it as such and continue.
Vision.	The vision describes a state that the organisation is striving to achieve in the future. It is very general, but it gives a sense of what the organisation would be doing and how it would look if it were perfect and existed in a perfect world. Only describe what is formally or informally in place. If an organisational vision does not exist, note it as such and continue.
Principles/values.	Principles/values provide an organisation with rules of behaviour, and moral and ethical statements for how it will function. Usually the principles/values describe how people within the organisation will act and how they will interact with other people inside and outside the group. They provide guidance on how to deal with people and teams, especially when encountering problems. Only describe what is formally or informally in place. If organisational principles/values do not exist, note it as such and continue.
Culture.	Culture basically describes "how an organisation does things around here". Culture describes the informal rules that govern how an organisation acts, how the organisation interacts with others, how the organisation gets work done, what things are valued, etc. Understanding the current culture is important. Every organisation has a culture, and some of the characteristics may have been documented before. If you do not have a description of the culture, try to gain a consensus with a group of people providing input. Understanding the organisational culture can help to understand the enablers and barriers that need to be accounted for to be successful. Enablers are parts of the current culture that will help to be successful or to accelerate acceptance. Barriers are the aspects of the culture that will thwart the changes, or slow them down. If it is unsure what the enablers and barriers are, use a brainstorming session to gain a consensus on these factors. Document: • Enablers. • Barriers.
Governance.	Describe how the organisation accomplishes its objectives today using the management governance process. How strong is the management governance process today? Are there consequences for managers if organisational initiatives are not met? Is governance in place everywhere or just in pockets of the organisation? Every organisation has a formal or informal governance process. Some are very effective and some are very

	weak. If a formal policy is not in place, try to develop a general description of the governance process and gain a consensus.
History.	What is the general attitude toward change initiatives? How successful have they been in the past? Do people see this effort as just another in a long line of failed initiatives? Will the staff be open or hostile to this initiative?
Internal clients/customers.	The main internal groups that request and utilise the products and services the organisation provides. While there may be many stakeholders (below), it is important to recognise who the clients are. They should be the ones the organisation focuses on - to meet their needs and help them achieve their strategy, vision, mission, etc. (In some companies, "clients" refers to people or groups within the same company, while "customer" refers to people or groups outside the company, but this is not a hard and fast rule). If a description of the clients is not available, develop a list of them as part of the current state assessment. Portfolio management is based on providing the most value to the clients and to the entire organisation. One cannot proceed without understanding who the clients are.
External customers and suppliers.	Some organisations work mostly with internal clients. Other organisations, like sales, work directly with external customers and suppliers. Just as with internal customers, it is important to identify who the external customers are to be clear about what work is of direct benefit to them. In many organisations, external customer needs are much more important than internal client needs. An organisation must know who the suppliers are to understand when work is done that impacts them as well.
Stakeholders.	These are the specific people or groups who have an interest or a partial stake in the products and services an organisation provides. Internal stakeholders include management, other employees, administrators, etc. External stakeholders could include suppliers, investors, community groups, and government organisations. Clients/customers are stakeholders as well. However, most stakeholders are not clients or customers.
Business processes.	This category looks at the various business processes performed by the organisation. Most organisations have some internally focused processes, and many also have external processes that touch customers and suppliers. It is not required to do a full process decomposition, which can end up being very time consuming. However, one can list the major business processes (internal and external) that the organisation performs today.
Products/deliverables.	Products/deliverables describe tangible items that the organisation produces. The organisation achieves its objectives through the creation of products/deliverables (and services below). An organisation may produce internal and interim work products; however, the term product/deliverable refers to the final product delivered to the customer. If a description of the products is not available, try to gain a consensus with a group of people providing input. Understanding the products is necessary to be able to provide a complete picture of mission, goals, customers, stakeholders, etc.
Services.	Services refer to work done for customers or stakeholders that does not result in the creation of tangible deliverables. Services provide value by fulfilling the needs of others through people contact and interaction. If a description of your services is not available, try to gain a consensus with a group of people providing input. Understanding the services is necessary to be able to provide a complete picture of mission, goals, customers, stakeholders, etc.
Other initiatives.	What else is going on in the organisation? How much and how fast can the organisation change based on other initiatives going on at the same time? Are any other projects related to this one? Do any other projects contribute to or hinder the project management deployment? If it is unsure what other organisational change initiatives are going on, find out so that one can make sure that the portfolio management implementation is not at cross-purposes with some other organisational change going on at the same time.

Organisation.	How are you organised today? Do you run projects in a functional, matrix or project-based organisation? What are the strengths and weaknesses of the organisation structure? How is the structure conducive to successfully executing projects or how is it a hindrance? This is an important category to understand. If the current organisation is not well defined, create it as a part of the current state assessment. Portfolio management is going to change some of the fundamental ways that work is managed. The organisation structure might change to reflect a portfolio structure.
Budget.	What budget conditions will come into play? Will the initiative be funded centrally or by each organisational unit? Does each organisational unit have the funding necessary to make the change? How is budgeting for projects done today? Understanding the current budget process is also important when implementing portfolio management. Much of the up-front work in portfolio management directly ties to the prioritisation and authorisation of work. It is important to be clear on how similar processes work today to understand what needs to change to support a portfolio management model.
Locations.	Does the change affect one location, multiple locations, multi-national locations, etc.? Will different locations need to change differently? Do the foreign locations have cultural differences that come into play? Are there translation problems? Is there a headquarters - branch relationship? Do some locations have better project management capabilities than other locations? This category is important when defining a portfolio that crosses different locations. If the portfolio includes worldwide clients, for instance, there may be differences in how the process is deployed and managed in various countries.
Inventories.	One part of the current state assessment involves taking an inventory of the important assets of the organisation. For instance, if the assessment includes the IT organisation, an inventory of current business applications is needed and some details about their purpose, age, technology, support staff, etc. Likewise, an inventory is required of the hardware and software, telecommunications, networks, etc. Much of this information will only be summarised in the current state assessment, but the details should be known and understood by the people or groups that are responsible for each area.
Staff.	Human resources are organisation assets as well, and it is important to understand how many there are, who they are, and what their capabilities are. Some of this information will come from human resources. This information is gathered to understand the capabilities of the organisation. Document: • Roles. • Responsibilities. • Skills. • Staff make-up.
Other business categories.	Add any other category that will help define the current organisation. For instance, if the current state assessment is done on a business client organisation, include categories such as market share, reward systems, customer satisfaction, profitability, value chain, etc.
Approvals.	Add any signatures that are important for the approval of the assessment.

Future state vision template

See Table 52 for future state vision template outline.

Table 52: Future state vision template outline (Source: Mochal, 2004)

Future state vision	
Contents	Description
Overview.	The overview provides the background on the entire initiative and why it is being executed. The overview also provides context for the effort. For instance, if this work is a follow-up on earlier work or if there is a specific set of problems that are being addressed, that information should be shared here. This can be copied from the current state assessment.
Approach.	Describe how the document was created. Discuss who was talked to, who provided input, what historical documents were utilised, what techniques were used, etc. If requirements were gathered on the future state at the same time gathering input on the current state, then much of this section will be similar to the current state assessment. Show the reader that a broad range of input was received on the requirements associated with the future state vision.
Mission.	If a current mission statement is available that describes where the organisation wants to be in three to five years then leave it. However, if a mission does not exist, or if an existing mission does not reflect where the organisation wants to be, take time to develop a new one as a part of the future state vision. The mission describes what the organisation does, how it is done, and for whom. It is a very general statement; usually aligning the organisation to the value it provides the business. The future vision, strategy, goals, etc. all fall under and support the mission statement.
Vision.	If the organisation has a current vision statement that describes where it wants to be in three to five years, then leave it. However, if a vision does not exist, or if an existing vision does not reflect where the organisation wants to be, take time to develop a new one as a part of the future state vision. The vision describes a state that the organisation is striving to achieve in the future. It is very general, but it gives a sense of what the organisation would be doing and how it would look if it were perfect and existed in a perfect world.
Principles/values.	Principles/values provide an organisation with rules of behaviour, and moral and ethical statements for how it will function. Usually the principles/values describe how people within the organisation will act and how they will interact with other people inside and outside the group. They provide guidance on how to deal with people and teams, especially when encountering problems. Principles/values are important, but not required. If portfolio principles/values, they can help the organisation make decisions among competing interests by pointing out what things are valued, how people must be treated, and how they must behave.
Culture (optional).	Culture basically describes "how an organisation does things around here". Culture describes the informal rules that govern how an organisation acts, how the organisation interacts with others, how the organisation gets work done, what things are valued, etc. Understanding the current culture is important. However, the future state vision for culture may or may not be important.
Governance.	Governance refers to the way an organisation enforces policies, standards and management decisions. An organisation needs strong governance to make portfolio management work. Look at the current state assessment for the organisation's formal and informal governance processes. If they are effective, any changes may not be needed for the future state vision. However, if the governance processes are ineffective and weak, define a governance policy for the portfolio.
Internal	Typically, the internal clients/customers will not change much over time. It

clients/customers.	might be decided to treat them differently and provide a different service level, but the actual client/customer groups will not change much. Once the clients/customers are defined in the current state assessment, only note any changes that are envisioned in the future.
External customers and suppliers.	If there are external customers and suppliers, they may change over time. Mention any potential changes, even if it is only at a high level.
Stakeholders.	This category is the same as internal and external clients and customers. Once the stakeholders are described in the current state assessment, only make modifications based on changes that an organisation want to make in the future. It is important to recognise the stakeholders to know that they need to have some level of involvement in the portfolio; however, one also has to understand that their needs are not prioritised as highly as the clients/customers.
Business processes.	This category highlights how an organisation would like the business processes to look like in the future. In some cases, an organisation may want to add some completely new processes to the ones that already exist. In other cases, an organisation may just want to change or improve what is currently being done. Some processes that are being performed today may need to be dropped in the future. Most organisations have some internally focused process, and many also have external processes that touch customers and suppliers. An organisation does not need to do full process decompositions, which can end up being very time-consuming. However, list the major business processes (internal and external) that the organisation performs today. Also be more specific about changes to the processes for the future state.
Products/Deliverables.	Once the products in the current state assessment have been defined, changes may or may not be required for the future state vision. However, take into account feedback and requirements from the customers and stakeholders to see if there are some products that are no longer needed and other products that should be added to the portfolio in the future.
Services.	This category is similar to the products. Once the services are defined in the current state assessment, changes may or may not be required for the future state vision. However, take into account feedback and requirements from the customers and stakeholders to see if there are some services that are no longer needed and other services that should be added to the portfolio in the future.
Organisation.	Once the current organisation structure is understood, the need must be determined whether this is the best structure for managing a portfolio as well. Portfolio management is going to change some of the fundamental ways that work is managed. An organisation may end up changing the organisation structure to reflect a portfolio structure.
Budget.	The organisation may need to change the way it does budgeting to better support the portfolio authorisation process. This might require changes to internal systems, approval processes, authority delegation, etc. If changes are needed, they should be described in the future state vision.
Locations (optional).	If an organisation envisions changes to physical locations, they should be described in the future state vision. It could be that the introduction of portfolio management will actually drive the inclusion or exclusion of locations from the portfolio structure. Understanding various locations in the portfolio helps determine any differences in the approach for implementing portfolio management.
Inventories.	One of the important aspects of a current state assessment is to gather inventories of an organisation's important portfolio assets. One use for the inventories is to use them as the basis for future state architectures. Inventories provide the framework for guiding asset decisions in the future. These inventories are not defined in this document. However, comment on the state of inventories in the organisation. Note the types of inventories to be in place in the future.
Staff.	Discuss the makeup of the staff in the future. This section will highlight the roles and responsibilities, skills and staff makeup in the future. This high-

	level description will help drive the portfolio staffing strategy, which will in turn guide decisions in the yearly portfolio staffing plan.
Other business categories.	Add any other categories that were included in the current state assessment.
Approvals.	Add any signatures that are important for the approval of the assessment.

Detailed gap analysis template

The gap analysis represents the differences between the current state of the organisation and the future state vision. In other words, this is where it is described what needs to happen in each of the areas described in the current state assessment to move to the future state vision. The organisation wants to take advantage of and reinforce the enablers and mitigate or eliminate any barriers to success. Since the current state and future vision documents should follow the same format, it should be fairly easy to determine the gaps between the two. The gap analysis provides a sense for how much work is required and how far the current environment is from where the organisation wants to be. For the most part, the gap analysis document is dispassionate. That is the facts as best laid out as best as one can. One does not make any judgments as to whether your organisation is in good shape or bad shape, although the reader might get a sense for that based on how large the gap is. The tone of the gap analysis is basically to "tell it like it is". It is important to gain agreement on the gap analysis so that the organisation can move toward the more controversial areas of determining projects, resources, timeframes, funding needs, etc. That will all be a part of the *PortfolioStep* selection process. *PortfolioStep* recommends keeping these processes separate so that the organisation can gain agreement on the facts first (gap analysis), and then proceed to gain agreement on what the organisation should do. The gap analysis can be written at a higher level than the current state assessment and future state vision documents. There are two options for the format of the document. The first option is to keep the format the same as the current state assessment and future state vision documents and comment about the gap associated with each section. That is the format of this template. Define the gap between the current state and the future vision. It is not necessary to describe exactly how to close the gap. See Table 53 for detailed gap analysis template outline. The second format is to combine the related sections into higher-level sections for which there is a separate template.

Table 53: Detailed gap analysis template outline (Source: Mochal, 2004)

Detailed gap analysis	
Contents	Description
Principles/values (optional).	A plan needs to be put into place to make the principles/values real. One major problem with principles/values is that they are stated, but not always followed. The organisation should align the decisions regarding people to its overall principles/values. The gap analysis can discuss how an organisation will continue to bring visibility to the organisation's principles/values so that people are aware if they are making decisions that are contrary to them. An organisation must also ensure that there are consequences for people who do not adhere to organisational principles/values. If principles/values are not a part of the culture (see

	below), they are not really valid.
Culture (optional).	Culture basically describes "how an organisation does things around here". The formal and informal rules of culture can be changed in two ways. First, make decisions in the future based on whether they will help an organisation achieve the culture they are striving for. This is similar to the adoption of organisational principles/values that was described earlier. Second, look at the barriers that were identified in the current state assessment and determine how to specifically overcome them. Culture change requires proactive communication, and it requires time. It requires managers to make decisions taking into account the cultural implications so that the future culture can be realised over time.
Governance.	There may be governance processes in place, but the future state requires that the organisation defines the governance processes they would like to use. Governance starts at the top of the organisation and can be put into place in one year if the governance rules can be documented, understood by the managers and then followed.
Internal clients/customers.	Processes should be put into place to recognize the internal clients and how they are impacted by decisions that are made. If the clients are changing, make sure that the best ways are determined to satisfy the new needs as the products and services are delivered.
External customers and suppliers.	Processes should be put into place to recognise the external clients and how they are impacted by the processes. If your customers and suppliers are changing, make sure that the best ways are determined to satisfy the new needs as the products and services are delivered.
Business processes.	Describe what needs to happen to move the organisation from current state to future state processes. In most cases where processes are added, an organisation will need one or more projects to define the process, the roles and responsibilities, skills requirements, systems support, etc. On the other hand, changes to existing processes might be handled more easily with current staff, skills and systems.
Stakeholders.	The gap analysis for stakeholders is similar to internal and external clients, customers and suppliers. Changes in stakeholders may require changes in the processes to satisfy the new needs.
Products/deliverables.	Lay out the projects and other activities to get the products to the desired future state.
Services.	Lay out the projects and other activities to get the services to the desired future state.
Organisation.	If the organisation needs to change, describe the activities required to move to the future state. Organisational changes take time, since the right organisation must be identified (managers and staff). Be careful of organisational structure changes to make sure the organisation gets as much right as possible the first time. Problems will be experienced with the staff if the organisation is too fluid and changes too quickly.
Budget.	The budget process may need to change to support the future vision. If so, this could be a lengthy process. Start early enough and try for as much budget change as necessary to get to the future state in the first year. However, if all your changes cannot make in one year, try to complete them within the second year at the most.
Locations (optional).	Locations are related to the organisation structure. If the organisation makes changes to locations or how different locations work together, try to get to the future state in one year or two years at the maximum.
Inventories.	At this point, the organisation will have identified the inventories it needs. There may be work to collect the inventories, and that work may span a number of months. However, try to get all of the inventories completed as a part of the current state assessment, or at least in the first year. If there are any architectures that need to be put in place, establish projects to define them in the first year as well. Architectures provide guidance for many of the detailed decisions that are made on a daily basis, so it is important to have these agreed to and in place fairly early. Remember that any inventory and architecture that are established must also have a process in

	place for keeping it up-to-date. This process should include a specific person or group with the overall responsibility for the upkeep of each inventory and architecture. (One of the inventories that is created covers people, and the future state is referred to as a staffing strategy rather than an architecture. This part of the gap analysis is covered below).
Staff.	The organisation should have a staff inventory from the current state assessment, as well as an overall staffing strategy that describes where the organisation wants to be in the future and how to get there. The staffing strategy should be at a high-level and is used to guide the overall decision-making. In the gap analysis, the organisation should state that it will be creating a staffing strategy to guide future decisions. If the organisation is not going to create a staffing strategy, list the specific things that will be done in the next one to three years to get to the desired state. For instance, it may be necessary to implement training programs to build competencies in certain areas. A project may be created to compare salaries at various job levels, or it may be necessary to create job descriptions where none are in place currently.
Other business categories.	Add a gap analysis on any other categories that were included in the current state assessment and the future state vision.
Approvals.	Add any signatures that are important for the approval of this analysis.

Summary gap analysis template

The gap analysis represents the differences between the current state of the organisation and the future vision. In other words, this is where it is described what needs to happen in each of the areas described in the current state assessment to move to the future state vision. The organisation wants to take advantage of and reinforce the enablers and mitigate or eliminate any barriers to success. Since the current state and future vision documents should follow the same format, it should be fairly easy to determine the gaps between the two. The gap analysis provides a sense for how much work is required and how far the current environment is from where the organisation wants to be. For the most part, the gap analysis document is dispassionate. That is the facts as best laid out as best as one can. One does not make any judgments as to whether your organisation is in good shape or bad shape, although the reader might get a sense for that based on how large the gap is. The tone of the gap analysis is basically to "tell it like it is". It is important to gain agreement on the gap analysis so that the organisation can move toward the more controversial areas of determining projects, resources, timeframes, funding needs, etc. That will all be a part of the PortfolioStep selection process. PortfolioStep recommends keeping these processes separate so that the organisation can gain agreement on the facts first (gap analysis), and then proceed to gain agreement on what the organisation should do. The Gap Analysis can be written at a higher level than the current state assessment and future state vision documents. There are two options for the format of the document. The first option is to keep the format the same as the current state assessment and future state vision documents and comment about the gap associated with each section. Define the gap between the current state and the future vision. It is not necessary to describe exactly how to close the gap. The second format is to combine the related sections into higher-level sections for which there is a separate template. That is the format of this template. See Table 54 for summary gap analysis template outline.

Table 54: Summary gap analysis template outline (Source: Mochal, 2004)

Summary gap analysis	
Contents	Description
External business processes.	This summary section looks at the externally focused categories, including external business processes, external customers and suppliers, external stakeholders, products and services. Take a look at the products and services the organisation delivers today and where it needs to do a better job in the future. All business processes contain a set of actions that create a product or service for the client or customer. The future state assessment looks at the entire process and the people who are involved. There should be a lot of work identified to move the processes from where they are today to where they need to be in the future.
Internal processes.	This summary section includes many of the assessment categories that are inwardly focused. The gap analysis discussion points out ways to deliver products and services more efficiently and effectively. This summary section could include comments on internal clients and internal suppliers, internal processes, internal deliverables and services, organisational culture, internal stakeholders, etc. Also review the work required for the budgeting, and governance processes - both of which are primarily inwardly focused.
People.	In this summary section, include all of the people initiatives required to move the organisation staff to its future state. The staff inventory is available from the current state assessment, as well as an overall staffing strategy that describes where you want to be in the future and how you will get there. The staffing strategy should be at a high-level, and is used to guide the overall decision-making. In the gap analysis state the specific things that must be done in the next one to three years to get to the desired state. For instance, training programs have to be implemented to build competencies in certain areas. A project may be created to compare salaries at various job levels, or job descriptions may be created where none are today. Other categories to include in this summary section include how to get to the future state organisation and location structure. (The complexities associated with multiple locations most often affects the ability of people to work together).
Inventories.	At this point the inventories you have available have been identified. There may be work remaining to collect the inventories, and that work may span a number of months. However, try to get all of the organisations inventories completed as a part of the current state assessment or at least in the first year. Remember that any inventory that you establish must also have a process in place for keeping it up-to-date. This process should include a specific person or group with overall responsibility for the upkeep of each inventory.
Other business categories	Add a gap analysis on any other categories that were included in the current state assessment and the future state vision. For instance, combine specific categories related to the business environment, such as market share, customer satisfaction, profitability, etc.
Approvals.	Add any signatures that are important for the approval of this analysis.

8.5.3 Evaluation

8.5.3.1 Establishing a metrics program

Portfolio management requires a commitment to metrics. Metrics are required to show how effectively the portfolio is being managed, and metrics are required to show the value of the work that the portfolio produces. Projects will all have their unique set of costs and benefit metrics. There are two approaches for portfolios to

start collecting metrics - one is a formal, structured approach and the other is an unstructured, "let's do it" approach.

The structured approach

One way to get a metrics program started is to get a set of key stakeholders together and go through an exercise to create a balanced set of metrics. The overall steps would include:

- **Identify criteria for success.** First, define what success means to the organisation. Look at the business plan, including strategy, vision, organisational objectives, etc. See what documents exist at the organisational level. If nothing exists spend some time to identify a candidate set of criteria that would signify success.
- **Assign potential metrics.** Identify potential metrics for each of the criteria that provide an indication for achieving success. This is a brainstorming exercise that helps to identify as many potential metrics as possible.
- **Look for a balance.** The potential list of metrics should be placed into categories to make sure that they provide a balanced view.
- **Prioritise the balanced list of metrics.** Depending on how many metrics were identified, prioritise the list to include only those that have the least cost to collect and provide the most value.
- **Set targets.** The raw metric may be of some interest, but the measure of success comes from comparing the actuals against a predefined target.
- **Collect and analyse the information.** Set up the processes to collect the metrics and analyse them on an ongoing basis.

The unstructured approach

In this approach the basic philosophy is "just collect something, even if it's wrong". In this approach, some key people in the department get together and look for information that can be easily captured, and from which certain aspects of success can be inferred. Look for metrics that can be captured easily and start to capture and analyse them. After collecting the data over time the organisation will get a sense for whether the metrics are providing value or whether different ones need to be found. The following list contains examples of metrics that may be of value:

- **Total capacity.** Total capacity tells how many potential hours of the staff are available to work (minus overhead). The more people there are, the larger this number will be.
- **Utilisation rate.** The utilisation rate is a percentage that tells the percent of time that the people are actually allocated to operations, support, projects, and discretionary.
- **Available hours.** This is a forward-looking metric that tells how many hours people are unassigned in the future. The portfolio management team must

focus on people who have available hours in the next three months and assign them additional work or a new project. This will keep the utilisation rate high.

- **Downtime (per person).** This metric tells how many hours people are unallocated. This can happen, for instance, if a person comes off a project and does not have another place to be assigned immediately. This number should be as low as possible.
- **Work allocation balance points vs. actual** (actual Rand per category and percentages). This shows how well the work in the portfolio is balanced versus the balance points. For instance, if you have a target for your support work to be 40% of your entire portfolio workload, you can track this target against the actual numbers for the portfolio.
- **Project budgeted cost vs. actual.** These are basic financial numbers that should be tracked for each project in the portfolio and then rolled up at the portfolio level as well. If the total project budgets exceed their targets, it could mean that other authorised work will not be able to be executed.
- **Project budgeted schedule vs. actual.** All projects should be tracking their performance against their targeted completion dates. Again, if projects are tending to run over their deadlines, it may mean that other projects will not be able to start because the resources are still tied up on other projects.
- **Rework.** Reported from the project teams.
- **Defects.** Reported from the support teams.
- **Service level agreement commitments vs. actuals.** Reported wherever they are applicable, but usually these are related to support teams.

Client satisfaction

All projects and operations and support teams need good processes to report client satisfaction. The following metrics are client-focused:

- **Are you meeting customer requirements?** Put into place recurring processes to validate the client's needs on an ongoing basis.
- **Are you delivering in a manner that is convenient to the client or only to yourself?** For instance your client might have to work very late hours. Do you also work late hours to support your client?
- **What guiding principles do you use to resolve problems?** One of the true tests of a client-focused department is how you resolve problems. You need to resolve conflict situations in a way that the client feels is fair.
- **How well do you communicate with your client?** If you have processes in place to communicate proactively and often, you are much more client-focused than if you make the client follow-up with you to see what is going on.
- **How serious is your department about meeting client commitments?** Some groups regard commitments they make to their clients as sacred. They have to be achieved.

- **Are your performance and recognition systems client-focused?** If people are not ultimately held accountable for how they interact with the clients, client-centric results will not be achieved.

Surveys can provide the fastest and cheapest way to gather good information.

8.5.3.2 Investment science

Investment science as it applies to portfolio management is an area of general management that attempts to quantify the value of projects and assets through analysis and various advanced mathematical techniques. The results provide the basis for making decisions with a view to optimising the overall value of future business. These techniques include such calculations as return on investment (ROI), internal rate of return (IRR), cost/benefit analysis, cash flow or payback, etc. These calculations can be quite sophisticated. The problem is that where projects are concerned they all take place in an environment of uncertainty and rely on a lot of data that is only speculation at best and may or may not be optimistic. So, when it comes to assessing the value of projects or work in a portfolio for determining selection and priorities, what you need to know is:

- Is this portfolio component mandatory to satisfy government regulations, or corporate governance requirements? In which case we must do it anyway, sooner or later.
- How much benefit will we get from this proposed component?
- What is the nature of the benefit: is it purely financial, or are there other attributes that make it worthwhile, perhaps even unquantifiable?
- Is it consistent with the strategic direction?
- How reliable are the value propositions, our business cases and/or our project charters? How reliable have they been in the past, given the nature of the business environment and the respective risks involved?
- In the case of a project, when will we get the benefit, not just the benefit enabler, i.e., the deliverable, but the return on our investment?
- How much will the component cost, including production, marketing, ramp-up and servicing?
- How risky is this whole project undertaking? Should we first invest in extra effort in the business case?
- If the project (deliverable) is delayed, what will be the consequences?

Then the organisation needs to know:

- What resources will be needed, at what level and when?
- How will that fit into the available capacity?

This leads to further questions such as:

- Does the organisation have the right technical delivery processes for developing and deploying products, such as conceiving, designing, detailing, creating, and launching?
- Does the organisation have the right support processes relating to people and administrative support, such as people recruiting, motivating, training, administering, required essentially for managing people, product and project data?
- If these capabilities are not in place, should it be given this first priority?

Such questions may be only partly surfaced during the gap analysis.

8.5.3.3 Scoring competing projects

There are a variety of ways for "scoring" competing projects. The simplest approach is to plot the results of discretionary projects on a chart that compares one criterion against another. Select those projects that fall into the area of the chart representing the highest values for both criteria. This approach has only limited application. Another approach is to assemble a team of experts and have them compare and rank projects on a subjective basis. In practice this is what frequently happens when the responsible steering committee carries out this function. The problem is that each individual usually has their own vested interest and the outcome is not so much in the best interests of the organisation as a whole, but a reflection of who has the loudest voice. The most useful approach is to develop a set of criteria and weight each project by working through responses to each criteria and calculating a bottom-line value. A simple example of the use of weighted key criteria is shown in Table 55.

Table 55: Example of the use of weighted key criteria (Mochal, 2014b)

Project A					
a	b	c	d	e = c*d	f
	List of criteria	Weight %	Score	Total	Comments
1	Criterion 1	25	8	2	
2	Criterion 2	20	10	0.8	
3	Criterion 3	15	5	0.8	
4	Criterion 4	10	7	0.7	
5	Criterion 5	10	2	0.2	
6	Criterion 6	10	8	0.8	
7	Criterion 7	5	3	0.2	
8	Criterion 8	5	3	0.2	
	Totals:	100%		5.7	

The scoring in column **d** must be on a consistent scale and a scale of 1 to 10 is probably sufficient given the reliability of the data. The total of column **e** gives the score for the project, i.e. its bottom line value. The value of this approach is that it enables taking into account more criteria and the results are more likely to be objective.

8.5.3.4 Decision analysis

Kepner-Tregoe Matrix

The Kepner-Tregoe Matrix is a specific, carefully orchestrated, and documented root cause analysis and decision-making approach. It can be used to make hard choices. Kepner-Tregoe summarises the following steps to their decision analysis approach as follows:

1. Prepare a decision statement having both an action and a result component.
2. Establish strategic requirements (musts), operational objectives (wants), and restraints (limits).
3. Rank objectives and assign relative weights.
4. Generate alternatives.
5. Assign a relative score for each alternative on an objective-by-objective basis.
6. Calculate weighted score for each alternative and identify top two or three.
7. List adverse consequences for each top alternative and evaluate probability (high, medium, low) and severity (high, medium, low).
8. Make a final, single choice between top alternatives.

Value management

The steps in value management are somewhat simpler:

1. Gather information about the problem to be solved.
2. Speculate on alternatives that would meet the requirements.
3. Analyse the alternatives to identify the best solutions.
4. Present the alternatives and justify the best recommendation to the decision-maker.
5. Prepare final report describing what was recommended, what was decided and, when available, what was implemented and the quantified results.

8.5.4 Selection

8.5.4.1 Quantifying business benefits

Organisations typically struggle to determine the business benefit for projects. Many times it is difficult to put a hard monetary estimate on the benefit value provided. In many cases, the benefits are based on a set of assumptions for the project outcome and how that will impact or influence other people or processes. In some cases, the benefits may seem straightforward for example if a process is automated the total benefit can be calculated in terms of time-savings. Ultimately, it is the responsibility of the sponsor and the sponsor's department to determine the value of a project. The following areas should be considered when trying to determine business benefit:

Profit/loss

Will the project:

- Result in increased sales/revenue?
- Increase the profitability of the products/services being sold?
- Reduce the costs of the products/services?

Quality

Will the project:

- Result in a higher level of product/service quality?
- Result in fewer product defects?

Customer satisfaction

Will the project:

- Result in increased customer satisfaction with the products/services?
- Result in increased retention rates for the products/services?
- Make it easier to do business?
- Make it easier to do business with vendors/customers/suppliers?
- Provide business value to vendors/customers/suppliers?
- Help you to achieve the committed service level agreements?

Business goals and strategy

Will the project:

- Help to achieve business goals, objectives and strategies? (If so, what is the tangible benefit of the goals and strategy?)
- Help to anticipate future customer needs?
- Help to better predict marketplace trends?
- Increase internal capability to achieve the goals and strategies?
- Increase the information available to make better-informed decisions?

Internal process improvement

Will the project:

- Reduce time to market?
- Help to deliver the same (or better) product with less people?
- Help to deliver the products/services faster?
- Help internal groups to work more closely and efficiently together?
- Reduce direct, indirect or overhead costs?
- Reduce the number of touch points in a process?
- Reduce the number of contacts required to complete a process?
- Reduce internal turnover?
- Increase employee morale/satisfaction?

Tangible versus intangible benefits

Tangible benefits are those where you can more easily tie a specific numeric value (e.g. eliminating two positions). Intangible benefits are those that are harder, perhaps even impossible, to quantify (e.g. an increase in employee morale). It is better to propose a project based on tangible benefits rather than intangible benefits. The tangible benefits make it easier to compare projects and they also make it much easier to determine whether you achieved the benefits that you expected after the project is completed. Here are a couple tips to consider when dealing with intangible benefits:

- Try to convert intangible benefits to tangible ones. Once you identify intangible benefits, it becomes easier to see how the intangible benefits could translate into tangible ones.
- Quantify the amount of the total project benefit that comes from intangibles. You can determine the percentage of the project's total benefits that come from intangibles - 20%, 50%, 80%, etc.
- Determine the risks of achieving or not achieving the intangible benefits.

Calculating a potential range of business value

Generally, organisations like to have one number that describes the business value of a project. However, many organisations take the business benefits calculations a little further and actually estimate the value in terms of a range from best case to worst case. Having a range of values allows an organisation to better factor in the best case/worst case scenarios that always exist on a project as well (e.g. the estimate of the benefit can range from Rm 20 to Rm 30).

8.5.4.2 Quantifying project cost when reviewing value propositions and business cases

A common dilemma organisations face during the business planning process is trying to provide a high-level estimate of project benefits and costs. The problem is that an organisation want a fairly accurate guess of the effort, cost, duration and benefit but do not want to spend the time and effort required to create estimates that are highly accurate and defensible for all projects. The most accurate way to estimate is usually to build a work breakdown structure and to estimate all of the lowest-level individual work elements. This is a bottom-up approach and the most time consuming, and is not appropriate for the initial estimating during the prioritisation process. A top-down approach can be used to gain as much estimating confidence as possible. The following are all top-down techniques that should be considered:

- **Previous history.** This is by far the best way to estimate work. The characteristics of the prior work, along with the actual effort hours, should be stored in a file/database.

- **Partial work breakdown structure (WBS).** Build a traditional WBS but only take it down one or two levels.
- **Analogy.** Describe the work and ask whether a similar project was done in the past. If a match is found see how many effort hours that project took, and use the information for the estimate.
- **Ratio.** Ratio is similar to analogy except that some basis is available for comparing work that has similar characteristics, but on a larger or smaller scale.
- **Expert opinion.** Make use of an internal or external expert to get help estimating the work.
- **Parametric modelling.** To use this technique, a pattern must exist in the work so that an estimate of one or more basic elements can be used to drive the overall estimate.
- **Estimate in phases.** One of the most difficult aspects of estimating projects is that it is not known exactly what work will be needed in the distant future. To reduce the level of uncertainty, break the work into a series of smaller projects and only give an estimate of the most current project, with a less focused estimate for the remaining work.

Calculating business costs using PERT

Rather than providing one number for the project cost, determine three numbers instead - the best case, the worst case and the most likely outcome. Then use PERT techniques to calculate an overall project costs. A PERT estimate is calculated using the formula:

$$(\text{Best case} + (4 \times \text{most likely case}) + \text{worst case})/6$$

Decide whether to include full client cost and effort

The cost estimate for projects typically only reflects the effort and resources required by the team working directly on the project. Client effort includes the time to review and approve deliverables, provide requirements, attend meetings, participate in training, etc. Some organisations want to understand the total effort and cost of a project, including both the direct project team and the client. In other organisations, the project costs only include the direct project team. This is an area that must be discussed ahead of time so that all business cases are framed on the same basis.

Decide whether to include support costs

Usually a solution has a longer lifespan and requires some level of support for a period of time. Decide if you will include support costs. This provides a truer picture of the overall ROI for each project. Do this by calculating the total project benefits over a period of time and calculate the total project and product (deliverable) costs over that same period of time.

8.5.4.3 Templates

Value proposition template

The various individuals that are proposing the work for the portfolio should complete the value proposition documents. For operations and support work, for instance, this would probably be the team manager for each group. For project work, this would be created by the requestor (the requestor is probably not the sponsor, but is someone a little lower in the organisation). It can be difficult to initially create the high-level estimates for benefits and costs, especially for projects, since each project has a unique cost and business benefit. However, the other work categories are similar from year to year, so you can try to establish a set of ongoing metrics to track the resources used. For this initial value proposition, the information can be a little vague and the cost/benefit information can be very preliminary and high-level. Include enough information so that the work can be captured and so that the reader knows what is being referring to. There will be a chance to firm up the information and the estimates by creating a more detailed and final version of the value proposition. *PortfolioStep* refers to a preliminary value proposition and a more detailed and refined final value proposition. The same template can be used for both, two documents can be created. See Table 56 for value proposition template outline.

Table 56: Value proposition template outline (Source: Mochal, 2004)

Value proposition	
Contents	Description
Name of the work.	This is a one-line name, and the names can be standardised for similar types of work.
Description of the work.	A brief description of the work. Keep this to one paragraph maximum for the preliminary version, and perhaps two paragraphs for the final version. Make sure that it provides enough information so that others can understand the work that is being proposed. There can be standard descriptions for operations and support, discretionary, management and leadership, and overhead.
Work category.	Specify whether this work is operations and support, project, discretionary, management and leadership, overhead or non-labour.
Balancing categories.	For each balancing category that you defined, specify how this work is categorised. For instance, if there is a balancing category for “risk”, identify whether this work is high, medium or low risk. If there is a balancing category for “internal/external”, identify whether this work is internal or external.
Estimated business benefit.	Describe the business benefit at a high-level. Include any hard numbers if available. Otherwise, describe the business benefit in terms of continuing operations, process improvement, new products or markets, increased

	revenue, cost reduction, increased customer satisfaction, etc. If the work involves infrastructure or increased internal capability, the business benefit may be indirect. The estimated benefit for the final value proposition should be more refined and accurate.
Estimated effort and cost.	A high-level estimate is fine for the preliminary pass. If more detailed, hard numbers are available, disclose them, since this will save some time creating the final value proposition. For instance, you may have a sense for the cost of operations and support work based on the current and prior year's costs. Project work may be more difficult to estimate, but there are some techniques to utilise to create an initial high-level estimate. The estimate should provide a sense for both the labour and non-labour costs. The labour costs will be reflected in the estimate of effort hours. The estimated costs for the final value proposition should be as accurate as possible.
Change from current year.	If this work exists in the current year, provide the current cost (or projected cost) and the reason for any change. This will be applicable for work categories such as operations and support, discretionary, and management and leadership. If the proposed cost and effort for next year are different than the current year, justify the reason for the change. If the costs are the same, just state so. If the work did not exist last year (for instance a project), state that as well.
Alignment.	Validate the alignment by specifying how this work contributes and aligns to your organisation goals, objectives and strategy.
Is the work required?	Specify whether you feel this work is required. For instance, work may be required for legal or regulatory reasons, even if it is not aligned and does not have business benefit.
Urgency/consequence of not performing this year.	Describe the consequences of not performing the work. In many cases, this is just as important to know as the business benefit and alignment. Some work is very valuable to the organisation, but it is not urgent. Based on priorities and available funding, some very beneficial and aligned work may need to be postponed to a future year. It might make sense to also comment about the consequences of not receiving the full funding authorisation for this year.
Approvals.	Define the preliminary and higher-up approval levels for your value proposition.
Attachments.	Attach any supporting details of additional documentation appropriate.

Business case template

During this step more detailed business cases are created for all projects that survived the evaluation step and a selection of work is done that is expected to be conducted during the ensuing period. See Table 57 for business case template outline.

Table 57: Business case template outline (Source: Mochal, 2004)

Business case	
Contents	Description
Executive summary (optional).	The executive summary provides a summary of the business base. This section can be included in the business case, or it could be a standalone PowerPoint presentation. If it is an external document, then just reference that here. The executive summary contains a brief overview of the business case document, including a short introduction, a brief look at the approach, a high-level recap of each alternative, and the overall recommendation. If a person only reviews this section, he or she should come away with a high-level understanding of the entire business case document.
Introduction.	Describe the background and context for the business case and why it is

	being undertaken. Keep to a couple paragraphs, but also include enough information here so that the rest of the sections in the business case make sense. Include the specific work category (usually "project" or "non-labour"). Also include the balancing categories for this work. For each balancing category that you defined, specify how this work is categorised. For instance, if you have a balancing category for "business capability", note whether the work is support the business, grow the business or lead the business. Document in tables: • Work category. • Balance category 1. • Balance category 2. • Balance category 3.
Major assumptions.	Assumptions are circumstances, conditions or events that need to occur for the business plan to make sense. They are listed as assumptions if there is a high probability that they will, in fact, happen. The assumptions provide a historical perspective when evaluating the results of the business case conclusions and recommendations. The conclusions and recommendations could be less accurate, and perhaps incorrect, if the assumptions listed do not come true. • Assumption 1. • Assumption 2. • Assumption 3, etc.
Major risks.	Project risks are circumstances or events that may occur in the future that will have an adverse impact on the costs, benefits and conclusions of this alternative. Risks may not be able to be eliminated entirely, but they can be anticipated and managed, thereby reducing the probability that they will occur. If this alternative is chosen, these risks must be mitigated for the benefits and conclusions to occur. • Risk 1 and general risk response plan. • Risk 2 and general risk response plan • Risk 3 and general risk response plan, etc.
Estimated business benefits.	Describe the benefits of this alternative. Include whatever tangible and intangible benefits make sense for this alternative. This could include tangible benefits such as increased revenue and profit, or savings in labour, material, equipment, etc. Intangible benefits may include better customer service, faster response time, higher morale, etc. The benefits may be known at a high degree of certainty, or they may be vague.
Estimated costs.	Describe the costs of this alternative. Include whatever costs make sense for the business case, including labour, material, equipment, training, travel, etc. Depending on the level of detail known, these costs could be at a high or low level. They may be known at a high degree of certainty, or they may be vague.
Financial models.	This section is used to lay out any financial or economic models that are used to support this alternative. This could include total cost of ownership (TCO), return on investment (ROI), internal rate of return (IRR), etc. The models may be at a general or detailed level. If the charts and calculations are large, they should be placed in appendices and referenced here.
Alignment.	Validate the alignment by specifying how this work contributes and aligns to the organisation goals, objectives and strategy. Alignment is very important in the prioritisation process, so be as descriptive as possible in describing how this work aligns. You may want to come up with some type of common rating scheme for alignment to help compare projects.
Urgency/consequence of not authorising.	Is the work required? Specify whether you feel this work is required. For instance, work may be required for legal or regulatory reasons, even if it is not aligned and does not have business benefit. Describe what the consequences are of not performing the work. In many cases, this is just as important to know as the business benefit and alignment. Some work is very valuable to the organisation, but it is not urgent. Based on priorities

	and available funding, some very beneficial and aligned work may need to be postponed to a future year.
Business case approvals.	Add any signatures that are important for the approval of the business case.
Attachments.	Include any detail that the organisation requires or anything else that is important for senior management to read. Typically there would not be a lot of detailed information in the business case unless it was requested by the organisation.
Project Approvals.	Add any signatures that are important for the approval of the project.

8.5.5 Prioritisation

8.5.5.1 Ranking projects

When prioritising the portfolio, decisions will need to be made regarding the priority of individual projects. A simple ranking procedure can be used to accomplish the prioritisation. Depending on the level of scrutiny needed or the amount of projects involved, this ranking can either be done very simplistically and subjectively or else with multiple weighted criteria to take into account.

Simple comparative ranking

There are a number of ways to resolve project-ranking issues, especially when there are many projects to consider and it is difficult to keep all in mind at once. The simplest method is to compare pairs of projects in a matrix format. This can be done by an individual, or in a teamwork session. The comparison of any two projects relies on the participants' personal knowledge, objectivity and sound judgment. The result is strictly qualitative, but with the right people is probably as good as any. The process steps are:

1. The projects to be ranked are simply numbered from 1 to n in no particular order.
2. The projects are compared in pairs using the chart shown in Table 58 below.
3. The "winner" of each pair is flagged in the score line (see slashes).
4. The final ranking follows from the number of flags in the score line.
5. The team then examines the results to make sure they have consensus.

Table 58: Comparison matrix chart (Source: Mochal, 2014b)

	1/2				
	1/3	2/3			
	1/4	2/4	3/4		
	1/5	2/5	3/5	4/5	
Item	1	2	3	4	5
Item score	/	///	//		////
Item rank	4	2	3	5	1

This system works because it is easier to compare two projects at a time rather than all at once.

Multiple criteria weighted ranking

Where multiple rating criteria are taken into account for project ranking, a spreadsheet can be developed as shown in Table 59. The process steps are:

1. Choose a series of evaluation criteria.
2. Measure each project against each criterion.
3. Rank the project accordingly for each criterion.
4. For each project, add the rank numbers and divide by the number of criteria to arrive at the score.
5. The resulting score provides the ranking, with the lowest score being the highest priority.
6. If the different criteria are considered to be of different value to the organisation, then a weighting factor may be applied to the results under each criterion following step 3 above (not shown in the table).

Table 59: Ranking projects using multiple criteria (Source: Mochal, 2014b)

Project	Criticality		Project success				Benefits					
	1-9	Rank	Prob	Cost	PxC	Rank	Prob	Value	PxV	Rank	Score	Prior
A	7	2	80%	R1M	0.8	4	50%	R20M	10	5	3.7	4=
B	4	3	65%	R2.5M	1.6	2	75%	R40M	30	1	2	1
C	2	4	70%	R500k	0.35	5	95%	R20M	19	2	3.7	4=
D	9	1	45%	R3M	1.35	3	40%	R30M	12	4	2.7	2
E	1	5	90%	R7M	6.3	1	25%	R70M	18	3	3	3

Projects A and C score equally, and since they are low on the list may have to be resolved subjectively

8.5.5.2 Templates

Consolidated work summary spreadsheet

This spreadsheet template is used to track all of the requests put forward in the prioritisation process. This work should be consolidated from all organisations that make up the portfolio. All of this work should have initial value propositions, although business cases are not usually required for every line item. This work should be consolidated from all organisations that make up the portfolio. The work list can be sorted by department or by priority. Sorting by priority helps when the approved budget is set and a decision must be made which work will be funded. See Table 60 for consolidated work summary template.

Table 60: Consolidated work summary spreadsheet outline (Source: Mochal, 2004)

Consolidated work summary spreadsheet
Spreadsheet column headings: • Department/Group. • Work type. • Overall priority. • Name. • Balancing category 1. • Balancing category 2. • Balancing category 3. • Estimated effort hours. (Total in bottom row). • Estimated cost (Rand). (Total in bottom row). • Change from current budget (Rand). (Total in bottom row). • Change from current forecast (Rand). (Total in bottom row). • Required? (Y/N). • Business case prepared? (Y/N). • Business case approved? (Y/N). • Comments. E.g. project has been initially been rejected.

8.5.6 Balancing

8.5.6.1 Cost benefit analysis

Cost benefit analyses include various financial analytical approaches such as cost benefit ratio, discounted cash flow (DCF), internal rate of return (IRR), net present value (NPV), payback time, etc. Charts of various types are very effective in presenting the results of portfolio analyses making it easier for executive management to reach decisions. Such charts include X-Y charts, bubble charts, pie charts and histograms.

8.5.6.2 Probability analysis

Probability analysis includes a variety of approaches such as decision trees, flowcharts, Monte Carlo simulations, etc. Here, portfolio components are assessed using success and failure probabilities for such variables as estimated cost, projected benefits, etc. Probability analysis is particularly relevant in examining relative project risks and is used extensively in project risk management.

8.5.6.3 Quantitative analysis

Quantitative analysis typically involves the use of spreadsheets for comparing the factors of interest such as resource requirements, or cash flow, spread over the planning horizon, usually the fiscal year.

8.5.6.4 Scenario analysis

The idea here is to draw up a range of portfolio component collections of different projects and other work, both ongoing and new, for executive management's

consideration. The intent is to examine the impacts of each and to select that collection that appears to be the most favourable to the organisation over all.

8.5.7 Authorising

No techniques and no templates.

8.5.8 Activation

No techniques.

8.5.8.1 Templates

Staffing strategy template

A staffing strategy provides guidance on staffing and is established at a company level or an organisation level. The staffing strategy provides overall guidance on how you deal with staff. This includes how to identify staff, the types of people you want on the staff, how they will be developed, retained, etc. The staffing strategy lays out the overall direction for staffing and describes the considerations that the portfolio feels are important. The strategy needs to then be reflected in the more detailed staffing policies and procedures, as well as the yearly staffing plans. See Table 61 for staffing strategy template outline.

Table 61: Staffing strategy template outline (Source: Mochal, 2004)

Staffing strategy	
Contents	Description
Overview.	The overview provides background of the entire portfolio, its history, background, and where the portfolio fits in the organisation. The overview should also specifically provide context for the purpose of the staffing strategy and how it will be used by the portfolio. Include any relevant comments about the marketplace and other external factors that must be considered in this strategy. For instance, if you are a government agency trying to attract and retain high-tech workers, comment on this and the challenges that you face.
Ties to organisation goals and strategy.	The staffing strategy does not exist in isolation. It is one part of what is required to achieve the organisational goals and strategies and to fulfil the organisation mission. The staffing strategy must be executed through the more detailed staffing policies and procedures, as well as a yearly staffing plan. On the other hand, the staffing strategy must also align upward, and it must support the organisation mission, goals and strategy. For instance, if you have an organisational strategy to outsource non-essential job functions, your staffing strategy and staffing plan must reflect this as well. In this section, describe how the staffing strategy ties to and supports the higher-level organisation mission, vision, goals or strategies.
Filling openings.	The beginning of the staffing process is identifying candidates to fill openings. The staffing strategy provides guidance to managers for how candidates should be identified and the areas that are important to the portfolio. This does not necessarily imply new hires. The strategy should start by describing, in general, how to fill staff openings. For example, it could be required that all openings be posted internally before a manager looks for outside candidates. You should also state whether it is your preference to fill openings with internal candidates. If your preference is to

	fill internally, there should be much more mobility in terms of employee transfers. In addition, describe the preference for hiring candidates identified by the HR department versus utilising outside recruiting agencies.
Staff balance.	In this section, provide guidance as to whether employees or contractors should fill openings. The question is twofold. First, what is the organisation's preference in terms of the percentage of contractors versus employees? Also, describe the reasons for choosing the guidelines. Second, provide high-level guidance as to what an individual manager should consider when an opening exists. Also mention how the decision is affected by the length of the work, the type of work it is, the responsibility level, the confidentiality of the position, etc. These are general points to consider when filling an open position. The specific hiring decisions can be described in a more detailed staffing plan.
Diversity goals.	Discuss your portfolio's position on diversity. These could be in terms of mandates to the managers, or guidance. For instance, discuss how important it is that the workforce contains diversity in terms of men and women, and also in terms of race and culture. This diversity policy may, in turn, affect how candidates are identified and how the hiring process works. If the organisation is under any legal mandates, this could also impact the overall staff balance.
Retention.	Describe the overall retention strategy. This includes the level of turnover an organisation is willing to accept and the lengths required for retaining staff. For instance consider counteroffers for your best performers if they decide to leave. Discuss how much management time should be spent on trying to ensure that the staff is happy and challenged.
Employee development.	Discuss the overall philosophy for developing staff. This includes growth in professional, business and technical skills. Every employee cannot know everything, but this section provides guidance to managers about the emphasis on employee development, how proactive the managers should be, and the responsibility of each employee in their personal development programme. Also, note the overall philosophy on employees joining associations, taking training off hours, employer reimbursement of employee expenses, etc. If some of these areas are covered by the company benefit program, your staffing strategy can still describe how much the benefit will be emphasized in the organisation.
Work environment.	Describe any aspects of the overall work environment that are important from a staffing perspective. Give guidance here. For instance, discuss the organisation's tolerance for discrimination and intimidation (none), the philosophy for how people should be treated, how conflict should be resolved, how managers and employees communicate, etc. Remember that you need to be prepared to implement any general philosophy in specific policies and procedures. Many areas in this category may also coincide with Human Resources policies, but including them here provides extra emphasis within your organisation.
Other.	Add any other sections that are appropriate.
Approvals.	Add any signatures that are important for the approval of this strategy.

Portfolio staffing plan template

The portfolio managers must create a staffing plan for the coming year. The staffing plan takes into account the specific needs of the portfolio based on the authorised workload. The staffing plan is created and executed within the context of the previously defined staffing strategy. For instance, you may determine that you need to hire five more people to support the authorised work in the portfolio. The staffing strategy may give the guidance to know that two project manager positions should be employees, a new person in the support organisation should be an employee,

and the remaining two people that are needed for project work should be contract resources. The staffing plan should tell when the people need to be hired, what specific positions they will fill, and how the current staff will be changed (if at all). The staffing strategy is developed at a high level and provides general guidance on how staffing decisions should be made. The staffing plan describes how the portfolio will be specifically staffed to support the business plan for the coming year. See Table 62 for staffing plan template outline.

Table 62: Staffing plan template outline (Source: Mochal, 2004)

Staffing plan	
Contents	Description
Overview.	The overview provides background of the entire portfolio, its history and where the portfolio fits in the organisation. This section can be copied from the staffing strategy, if it exists. The purpose is to provide some perspective and background for a reader that is not familiar with the portfolio.
Current portfolio staff makeup.	Start by describing the portfolio today or at the end of the fiscal year. This section can be a combination of narrative and tables. Note the total number of staff members and any demographic or statistical information of interest to the reader. This section sets the stage from which the rest of the document flows. Comment on the total number of staff, the number of employees and contractors, number of years' experience, distribution of staff by job function, etc.
Summary of staffing needs to support the business plan.	The rest of the staffing plan describes the staffing requirements necessary to support the business plan. Before jumping into the details, provide a summary of the needs. If the current staff can support the business plan, say so here. If changes or additional skills will be needed, describe it at a high level here. Document: • Current staff count. • Staff required supporting the business plan. • Summary of changes.
Known staffing needs.	Start describing the specific needs to support the business plan. This section contains a combination of descriptive text and specific tables. The staffing needs will include open positions at the beginning of the year, approved openings to fill during the year, known turnover, known staff reductions, etc. Document the following in table format: • Date to fill. • Full time/contract. • Level (e.g. project manager). • Approved (Y/N/pending). • Position number. • Name of manager. • Comment (e.g. pending final funding approval).
Training needs.	In many cases the correct numbers of staff members to support the business plan are available. However, they may not all have the right skills. If specific people need training to support the business plan, state so in this section.
Outsourcing.	Discuss any specific plans for outsourcing work that is needed to support the business plan. This does not include contract people that work under your direction.
Staff reductions.	Comment on any proposed or definite staff reductions needed to support the business plan. This does not have to include contract staff that was only scheduled for a certain length of assignment. If staff reductions are

	planned, state the impact on the ability to support the business plan. Also comment on the timing of the reductions. Do not mention specific people in this section. Also, be sure to seek guidance from Human Resources before completing this section to ensure that the staffing plan is valid, while also preserving confidentiality.
Other.	Add any other sections that are appropriate. This could include people who will be converting to part-time, people performing job sharing, any known leave-of absences, etc. Describe anything remaining that will have an impact on the staff being able to fulfil the needs of the business plan.
Approvals.	Add any signatures that are important for the approval of this plan.

Portfolio resource requirements worksheet

The output of the resource planning process is a description of the types of resources that are required and the quantities for each resource. This worksheet can be used to describe the resources, the approximate cost of the resources and how the resources could be obtained. In some cases there may be options to obtain resources both internally and externally. If so, both options can be described on the worksheet and a determination can be made as to the best option for the project. The resources on this worksheet can reflect both labour and non-labour resource needs. See Table 63 for portfolio resource requirements worksheet outline.

Table 63: Portfolio resource requirements worksheet outline (Source: Mochal, 2004)

Portfolio resource requirements
Worksheet column headings: • Type of resource. • Cost per unit. • Number needed. • Date needed. • Internal/external. • Comments/options (e.g. J Blox is needed for the 60 hours for the project).

8.5.9 Portfolio reporting and review

8.5.9.1 Example quality assurance questions

Quality assurance does not refer directly to the creation of specific deliverables. It refers to the processes used to manage and deliver the portfolio output. This is a role that portfolio managers must assume on projects within the portfolio to be able to tell if the processes in use are satisfactory. The questions in Table 64 is an example of questions that can be asked to guide the quality assurance discussion in an IT development project, depending on the specific phase the project is in.

Table 64: Example of quality assurance questions to be asked (Source: Mochal, 2014b)

When to ask	Questions
Up-front project charter.	• Has the right sponsor been identified, and has he formally approved the project? • Has a project charter been written and approved by the appropriate managers and sponsor? • Did the key stakeholders participate in the planning? • Are the resource requirements adequate? • Has a valid project schedule been created? • Has a sound estimate been created in terms of effort, cost and duration? • What project management procedures will be used to control the project?
Project management questions to be asked at the end of every major phase.	• Is the project manager utilising the schedule to manage the work performed by the team? • Does the schedule accurately reflect the work remaining? • Can the project manager clearly explain where the project is vs. where it should be at this time? • Will all the deliverables specified in the project charter be completed? • Are solid processes being used to manage issues, scope and risk? • Is the project manager communicating effectively with status meetings and status reports? • Is the project on track in terms of cost, duration and quality? • Are the business clients happy with the project progress so far? • Are client expectations being properly managed?
At the end of the gathering business requirements phase.	• Have the business clients reviewed and approved the requirements? • What other deliverables did the project produce during this phase? Did the appropriate business clients approve them? • Is the project following appropriate organisational standards, guidelines and policies?
At the end of the design, construct and testing phases.	• What deliverables did the project produce during each phase? Did the appropriate business clients approve them? • If the preceding deliverables are not created, discuss how the testing was accomplished, how the training will be performed and how data will be converted. • Is the project following appropriate organisational standards, guidelines and policies? • Is the project following the organisation's standard technology architecture?
After the solution is implemented.	• Was the solution formally approved and accepted by the project sponsor before being moved to production status? • Is the project team initially supporting the production solution? • Are initial problems being resolved in a timely manner? • Is the solution being properly transitioned to the support team?

8.5.9.2 Quality assurance on outsourced projects

Outsourcing of project work is more common today. Even though work is outsourced there is an obligation to make sure the project is progressing smoothly. The in-house project manager is responsible for making sure work is being done on time and the project is progressing as it should. He is therefore "directing" the work rather than "managing" it, which is why that person is often referred to as a "project director". Even though the vendor is managing the details, the portfolio still must maintain the quality assurance role by asking the right questions to make sure that the vendor is doing his job correctly:

- Has a project charter (or similar document) been approved by the appropriate stakeholders and managers of the organisation?
- Is there a contractual agreement that spells out the expectations of both parties in terms of deliverables to be produced, deadlines, payment schedule, completeness and correctness criteria, etc.?
- Has a comprehensive project schedule been created?
- What project management procedures will the vendor use to control the project and are change procedures built into the contract?
- Has the vendor been clear on what resources will be needed from your organisation and when they will be needed?
- Have a number of agreed-upon milestones been established to review progress so far and validate that the project is on-track for completion?
- Have the deliverables specified in the project charter been completed up to this point?
- Have the appropriate deliverables been agreed to and approved by the organisation?
- If the vendor has met expectations up to this point, have any interim payments been released?
- Can the vendor clearly explain where the project is vs. where it should be at this time?
- Will all the future deliverables specified in the project charter be completed?
- Are issues, scope, and risks being managed as stated in the project management procedures?
- Should the contract or project charter be updated to reflect any major changes to the project?

8.5.9.3 Estimate to complete

The project manager conducts a review of all the remaining work and does a careful estimate of how much effort it will take and for how long to complete the project.

8.5.9.4 Earned value

Earned value is a technique for measuring project progress. It looks at "value earned" relative to what was expected according to the project's budget and schedule. Using earned value allows a project manager to know precisely how far the project is, how much work is remaining, what the expected cost and end date will be.

8.5.9.5 Templates

Consolidated portfolio status report template

See Table 65 for consolidated portfolio status report template outline.

Table 65: Consolidated portfolio status report template outline (Source: Mochal, 2004)

Portfolio name Consolidated portfolio status report	
Contents	Description
To: Name(s) From: Name Date: yyyy-mm-dd Subject: Monthly status report for the <<Name>> Portfolio	This status report is written by the portfolio manager. The intended audience is management clients, stakeholders and senior managers in the organisation. Therefore, the information should be high-level and targeted to this level of reader.
Overall comments.	Include any comments on the portfolio as a whole, including the overall budget situation, staffing matters, new hires, resignations, etc.
Support and operations.	Comment on the status of support and operations. Discuss any major problems and their resolution or current status. Comment on anything else of major interest or importance that took place during the past month or that the readers must be made aware of for the coming month.
Discretionary.	Comment on the status of discretionary work. Discuss any major accomplishments during the month, including the total number of discretionary requests completed, added and remaining on the backlog. Comment on anything else of major interest or importance that took place during the past month or that the readers must be made aware of for the coming month.
Management and leadership.	Comment on the status of management and leadership. Discuss anything of major interest or importance that took place during the past month or that the readers must be made aware of for the coming month.
Projects.	Comment on the status of all major projects. Keep these status updates to the high-level information that would be of interest to the reader. Comment on major issues, scope changes, risks, etc. Discuss the status against the schedule and budget. If everything is on track and there is nothing unusual going on, just note as such and move on. Document the following: • Project 1. ○ Overall status (green, yellow, or red) ○ Short description of problems. ○ Deadline date and status: ○ Budget amount and status: ▪ Total approved (Rand, hours). ▪ Actual YTD (Rand, hours). ▪ Forecast (Rand, hours). ○ Highlights, accomplishments, issues since last month. • Project 2, etc.

All projects consolidated status report template

See Table 66 for all projects consolidated status report template outline.

**Table 66: All projects consolidated portfolio status report template outline
(Source: Mochal, 2004)**

All projects - consolidated status report	
Contents	Description
Prepared by: Date of publication: yyyy-mm-dd.	The following information represents a summary of all projects that were active during the preceding month. Projects that have a status of yellow (at risk on schedule or budget) or red (definite problems with budget or schedule) should have comments about the current problems and what is being done to get the project under control. Document the following: • Project 1. ○ Organisation. ○ Project manager. ○ Start date. ○ Estimated completion date. ○ Budget. ○ Estimated cost at completion. ○ Status. (Green, yellow, red). ○ Comments. (if yellow or red). • Project 2, etc.
Overall comments.	Include any comments on the portfolio as a whole, including the overall budget situation, staffing matters, new hires, resignations, etc.
Support and operations.	Comment on the status of support and operations. Discuss any major problems and their resolution or current status. Comment on anything else of major interest or importance that took place during the past month or that the readers must be made aware of for the coming month.

8.5.10 Strategic change

No techniques and no templates.

8.6 OTHERS

8.6.1 Sample criteria for project prioritisation

Transparent Choice (no date) has developed sample criteria for project prioritisation to help organisations with the strategic task of project prioritisation. The criteria contained in Table 67 splits projects into two buckets - strategic and operational. This table also highlights into which bucket a particular criterion fits. Some, naturally, might fit in either bucket. The criteria can be organised into hierarchies and weighted appropriately.

Table 67: Sample criteria for project prioritisation (Source: Transparent Choice, no date)

Criterion	Strategic	Operational
Geographic expansion.	Yes	
Product readiness.	Yes	
Organisational readiness.	Yes	
Supports target customer segments.	Yes	

Product fit.	Yes	
Distribution and service fit.	Yes	
Transforms competitive positioning.	Yes	
Defensible IP position.	Yes	
Differentiation in product.	Yes	
Improves technology readiness.	Yes	
Environmental sustainability.	Yes	
Social sustainability.	Yes	
Improves employee perception.	Yes	
Improves external stakeholder perception.	Yes	
Supports restructuring.	Yes	Yes
Operational readiness.	Yes	
Human factors.	Yes	
Disaster recovery.	Yes	
Supports human capital development.	Yes	Yes
Recruit the best people.	Yes	Yes
Develop the best people.	Yes	Yes
Retain the best people.	Yes	Yes
Supports brand position.	Yes	Yes
Enhances brand value/image.	Yes	Yes
Enhances brand reach.	Yes	Yes
Supports diversity.	Yes	Yes
Supports major (government) policy goals (endless list of possibilities).	Yes	
Reduces unemployment.	Yes	
Makes it easier to do business.	Yes	
Reduces homelessness.	Yes	
Support change initiative.	Yes	
Risk.	Yes	Yes
Complexity.	Yes	Yes
Level of technology.	Yes	Yes
Accuracy of cost estimates.	Yes	Yes
Level of project maturity.	Yes	Yes
Management capacity.	Yes	Yes
Risk of not doing this project.	Yes	Yes
Business resilience.	Yes	Yes
Supports disaster recovery.	Yes	Yes
Spreads customer/market risk.	Yes	Yes
Spreads financing risk.	Yes	Yes
Supports succession planning.	Yes	Yes
Increase sales.		Yes
Increase customer acquisition.		Yes
Reduce customer churn.		Yes
Increase value of each customer.		Yes
Increases brand awareness.		Yes
Helps us build distribution capacity.		Yes
Supports higher pricing for our product/service.		Yes
Improves customer satisfaction.	Yes	Yes
Opens up new markets.	Yes	Yes
Reduces costs.		Yes
Reduces waste.		Yes
Reduces cycle time.		Yes
Reduces down-time.		Yes
Reduces taxes.		Yes
Reduces transport costs.		Yes
Reduces warehousing costs.		Yes
Reduces energy consumption.		Yes
Reduces headcount.		Yes

Improve quality. Improve product "feel". Reduce warranty claims. Reduce rework. Increase mean-time to failure. Improves employee participation.		Yes Yes Yes Yes Yes Yes
Customer satisfaction. Improves consistency. Improves customer journey. Improves quality of touch points. Reduces number of complaints. Improves (insert the most common customer gripe).		Yes Yes Yes Yes Yes Yes
Improves employee productivity. Gives people access to information they need. Empowers people to take ownership. Supports skills development. Improves staff motivation.		Yes Yes Yes Yes Yes
Financial. Net Present Value (NPV). Return on Investment (ROI). Internal Rate of Return (IRR).		Yes Yes Yes Yes

8.7 SUMMARY, INTEGRATION AND CONCLUSIONS

BS ISO 21504:2015 does not provide any guidance or information on tools and techniques. The *PMI Standard for Portfolio Management* (2013a) tools and techniques falls into four categories: analysing, selection, meeting, and information. The *OGC MoP Guide* (2011) provides tools and techniques for each of the portfolio management practices. Mochal's (2014b) *PortfolioStep™ Portfolio Management Framework* provides techniques for each of the steps that form part of the four major sequential phases., etc. Table 68 summarises and groups the portfolio management process tools, techniques, templates according to the portfolio management model elements and activities as outlined in Table 31 in the summary of Chapter 7.

Table 68: Portfolio management process tools, techniques, templates, etc.

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
Portfolio set-up.	Develop portfolio strategic plan.	- PMI - Strategic alignment analysis (integrated view of overall portfolio). - PMI – Prioritisation analysis (prioritisation model or approach). - PMI - Readiness assessment. - PMI - Portfolio organisational structure analysis. - PMI - Quantitative and qualitative analysis (scenario analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). - PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis,

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI - Gap analysis. • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Portfolio management framework document contents. • OGC - Portfolio strategy document contents. • TenStep – Define financial models. • TenStep - Implementing PortfolioStep in an organisation. • TenStep - Deploying portfolio management as a culture change.
	Establish portfolio governance structures.	• OGC - Portfolio management framework document contents. • OGC - Example organisational governance. • OGC – Example portfolio governance. • TenStep – Define portfolio roles.
	Identify potential portfolio components and maintain the portfolio pipeline.	• PMI - Component inventory. • PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Programme and project information template. • TenStep – Define financial models. • TenStep – Value of architecture. • TenStep – Application architecture

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		example (current application portfolio, application technical models, application technical design, development tools). • TenStep – Joint application development (JAD). • TenStep – Interviewing techniques. • TenStep – Requirements gathering techniques. • TenStep – Gap analysis (detailed and summary). • TenStep – Current state assessment template. • TenStep - Future state vision template. • TenStep - Detailed gap analysis template. • TenStep - Summary gap analysis template. • TenStep – Value proposition template.
	Categorise potential portfolio components.	• PMI - Component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI - Graphical analytical methods (portfolio balancing using indicators or criteria and portfolio balancing using strategic categories and impacted business unit). • PMI - Portfolio component categorisation techniques. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • OGC - Portfolio management framework document contents. • OGC - Programme and project information template. • OGC - Simplified portfolio categorisation model. • OGC - Number of changes within portfolio categories graph. • OGC - Example of categorisation and tailored investment criteria. • TenStep – Define financial models. • TenStep – Portfolio examples. • TenStep – Portfolio definition template.
	Develop portfolio charter(s) and setup portfolio(s).	• PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI – Organisational structure analysis.

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		• OGC - Portfolio strategy document contents. • OGC - Portfolio management framework document contents. • TenStep – Define portfolio roles. • TenStep – Portfolio examples. • TenStep – Portfolio definition template.
Portfolio definition	Develop portfolio roadmap.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • OGC - Programme and project information template. • OGC - Simplified portfolio categorisation model. • OGC - Number of changes within portfolio categories graph.
	Develop portfolio governance management plan.	• OGC - Portfolio management framework document contents. • OGC - Example organisational governance. • OGC – Example portfolio governance. • TenStep – Define portfolio roles.
	Develop portfolio change management plan.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Programme and project information template.
	Develop portfolio performance and benefits management plan.	• PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • OGC – Portfolio benefits management framework document contents.

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		• OGC – Portfolio benefits realisation plan document contents. • OGC – Example of portfolio benefits categorisation. • OGC - Benefits management guidelines example. • OGC – Example of performance approval KPIs. • OGC – Example of portfolio-level benefits management. • TenStep – Define financial models. • TenStep - Establishing a metrics program. • TenStep – Investment science. • TenStep – Value proposition template. • TenStep - Business case template.
	Develop portfolio financial management plan.	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, business value analysis, investment choice analysis). • OGC - Portfolio financial plan document contents. • TenStep – Define financial models.
	Develop portfolio resource management plan.	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Portfolio organisational structure analysis. • OGC - Portfolio resource schedule document contents. • OGC - Example resource management. • OGC - Other possible graphical representations. • TenStep – Define portfolio roles. • TenStep – Staffing plan template. • TenStep - Staffing strategy template.
	Develop portfolio stakeholder and communications management plan.	• PMI - Stakeholder analysis. • PMI – Stakeholder communication strategy matrix. • PMI – Stakeholder matrix example. • PMI - Communication requirements analysis. • PMI – Communication matrix. • PMI - Communication methods (dashboards, resource histograms, communication calendar). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques).

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		• OGC - Project stakeholder engagement and communication plan document contents. • OGC - Focus on senior management. • OGC - Example classifying stakeholders. • OGC – Example stakeholder workshop. • OGC – Embrace modern communication. • TenStep – Define portfolio roles.
	Develop portfolio risk management plan.	• PMI – Graphical analytical methods (probability and impact matrix). • PMI - Quantitative and qualitative analysis (probability analysis, portfolio risk exposure charts, sensitivity analysis, modelling and simulation). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Example of portfolio-level risk management. • OGC - Key challenges and sample solution for managing dependencies. • OGC - Example of the contents of a dependency matrix.
	Compile integrated portfolio management plan.	• PMI - Integration of portfolio management plans. • OGC - Portfolio management framework document contents.
	Assess and select portfolio components.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, value measurement techniques, portfolio efficient frontier). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • OGC - Programme and project information template. • OGC - Number of changes within

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		portfolio categories graph. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • OGC – Example of investment appraisal template. • TenStep – Define financial models. • TenStep – Establish a metrics program (structured approach, unstructured approach, client satisfaction). • TenStep - Investment science. • TenStep - Scoring competing projects. • TenStep – Decision analysis (Kepner-Tregoe matrix, value management). • TenStep - Quantifying business benefits (profit/loss, quality, customer satisfaction, business goals and strategy, internal process improvement, tangible versus intangible benefits, calculating potential value of business range value). • TenStep - Quantifying project cost when reviewing value propositions and business cases (calculating business costs using PERT, decide to include full client cost and support cost). • TenStep - Business case template.
	Prioritise portfolio components.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, value measurement techniques, portfolio efficient frontier). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – Prioritisation analysis (prioritisation model or approach). • OGC - Programme and project information template. • OGC - Number of changes within

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		portfolio categories graph. • OGC - Example of calculating financial metrics. • OGC - Delivery confidence criteria. • OGC - Example of assessing the likelihood of change initiatives success and failure. • OGC – Example of bubble matrix of change initiatives on benefits and risks. • OGC - Example of scoring a proposed change initiative using weighted prioritisation criteria. • OGC - Example of a ranked list of change initiatives. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • TenStep – Define financial models. • TenStep – Ranking projects (simple comparative ranking and multi criteria weighted ranking). • TenStep – Consolidated work summary spreadsheet. • Transparent Choice - Sample criteria for project prioritisation.
	Balance, optimise and maintain the portfolio.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Graphical analytical methods (portfolio balancing using indicators or criteria and portfolio balancing using strategic categories and impacted business unit). • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Gap analysis. • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		(facilitation, survey and collaboration techniques). • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC - Portfolio map bubble matrix of change initiatives. • OGC - Tornado diagram. • OGC - Example of portfolio map and balancing. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • TenStep – Define financial models. • TenStep – Cost benefit analysis. • TenStep – Probability analysis. • TenStep – Quantitative analysis. • TenStep - Scenario analysis.
	Create portfolio delivery plan.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Portfolio management info system. • OGC - Programme and project information template. • OGC - Portfolio delivery plan document contents.
	Authorise portfolio and changes.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, value measurement techniques, portfolio efficient frontier). • PMI - Portfolio authorisation tools and techniques. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI - Portfolio management info system. • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC - Example of investment appraisal template. • TenStep – Define financial models.

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
Portfolio delivery	Activate portfolio components.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, business value analysis, investment choice analysis). • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI – Portfolio management information system. • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC - Example of investment appraisal template. • TenStep – Define financial models. • TenStep – Staffing strategy template. • TenStep - Portfolio staffing plan template. • TenStep Portfolio resource requirement worksheet.
	Manage portfolio changes.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • TenStep – Define financial models.
	Manage portfolio performance and benefits.	• PMI - Portfolio component inventory. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis,

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • PMI - Portfolio review meetings. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Programme and project information template. • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • OGC – Portfolio benefits management framework document contents. • OGC – Portfolio benefits realisation plan document contents. • OGC – Example of portfolio benefits categorisation. • OGC - Benefits management guidelines example. • OGC – Example of performance approval KPIs. • OGC – Example of portfolio-level benefits management.
	Manage portfolio finances.	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Portfolio financial plan document contents. • TenStep – Estimate to complete. • TenStep – Earned value.
	Manage portfolio resources (i.e. supply and demand).	• PMI - Capability and capacity analysis (human resources, financial and asset).

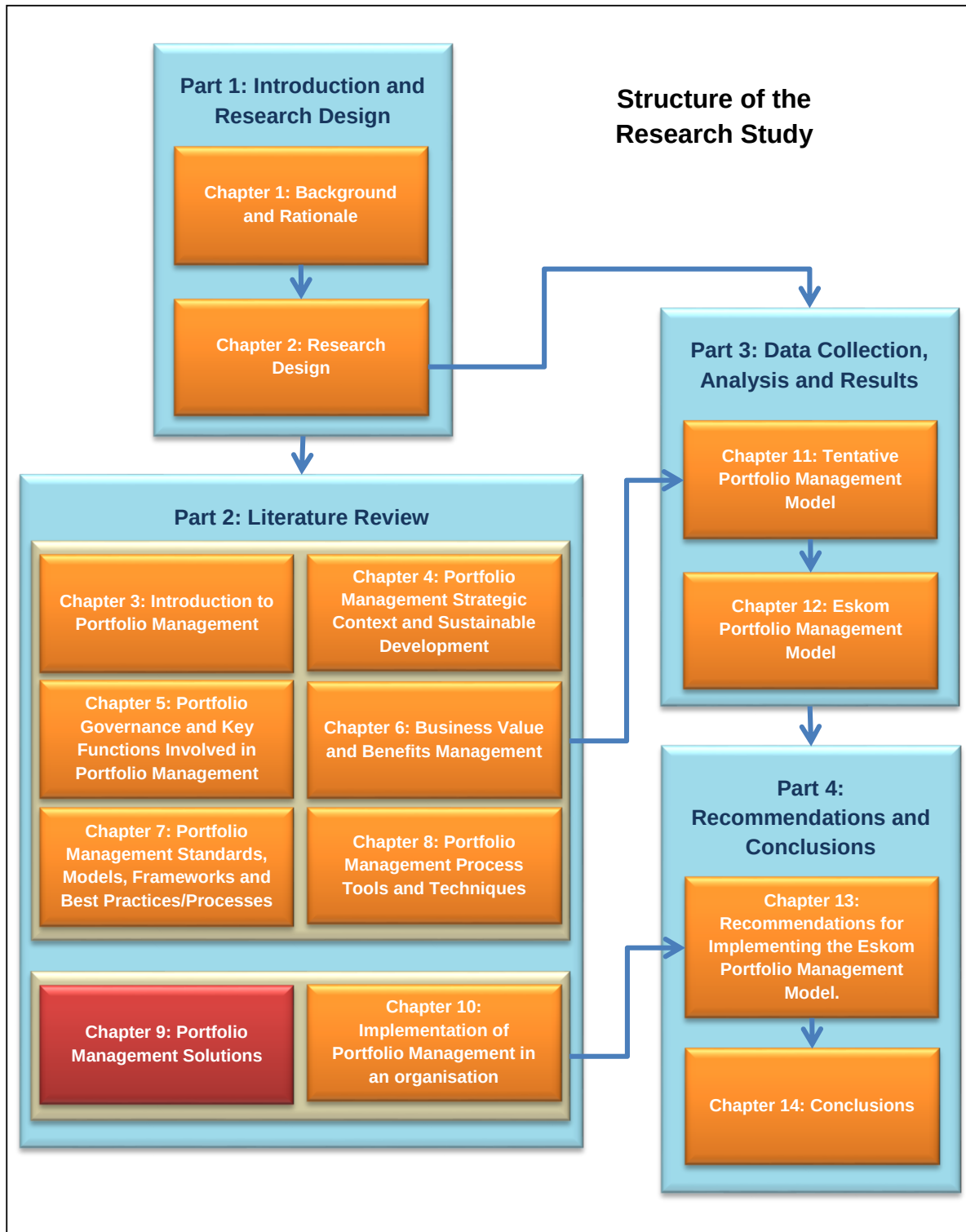
Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		• PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Portfolio resource schedule document contents. • OGC - Example resource management. • OGC - Other possible graphical representations.
	Manage portfolio stakeholders and communications.	• PMI - Stakeholder analysis. • PMI – Stakeholder communication strategy matrix. • PMI – Stakeholder matrix example. • PMI - Communication requirements analysis. • PMI – Communication requirements analysis. • PMI – Communication matrix. • PMI - Communication methods (dashboards, resource histograms, communication calendar). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Project stakeholder engagement and communication plan document contents. • OGC - Focus on senior management. • OGC - Example classifying stakeholders. • OGC – Example stakeholder workshop. • OGC - Programme and project information template. • OGC – Embrace modern communication.
	Manage portfolio risks.	• PMI - Graphical analytical methods (probability and impact matrix). • PMI - Quantitative and qualitative analysis (probability analysis, portfolio risk exposure charts, sensitivity analysis, modelling and simulation). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Example of portfolio-level risk

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		management. • OGC - Key challenges and sample solution for managing dependencies. • OGC - Example of the contents of a dependency matrix.
	Provide portfolio oversight (i.e. management control).	• PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • PMI - Portfolio review meetings. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC – Business change life-cycle. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • OGC – Example of investment appraisal template. • OGC – Escalation procedures. • OGC – Stage/phase gate reviews. • OGC – Portfolio level review. • TenStep – Example of quality assurance questions. • TenStep – Quality assurance on outsourced projects. • TenStep – Estimate to complete. • TenStep – Earned value.
	Report portfolio performance.	• PMI - Portfolio component inventory. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI - Communication methods (dashboards, resource histograms, communication calendar). • PMI – portfolio management information system. • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC - Regular progress reporting. • OGC - Portfolio dash-board document

Portfolio element	Activities	Portfolio management process tools, techniques, and templates
		- contents. - OGC - Example of a portfolio dashboard report. - TenStep – Estimate to complete. - TenStep – Earned value. - TenStep – Consolidated portfolio status report template. - TenStep – All projects consolidated status report template.
	Transfer benefits and allocate benefits accountability.	- PMI - Portfolio component inventory. - PMI - Benefits realisation analysis. - OGC - Portfolio benefits management framework document contents. - OGC - Portfolio benefits realisation plan document contents. - OGC - Example of portfolio benefits categorisation. - OGC - Benefits management guidelines example.
	Perform portfolio governance reviews.	- PMI - Portfolio review meetings. - OGC - Stage/phase gate reviews. - OGC - Portfolio-level review. - OGC – Example organisational governance. - OGC – Example portfolio governance. - TenStep – Define portfolio roles. - TenStep – Example of quality assurance questions. - TenStep – Quality assurance on outsourced projects.

The portfolio management process tools, techniques, and templates in Table 68 can be used by organisations as the basis for developing their own process tools, techniques, and templates.

CHAPTER 9: PORTFOLIO MANAGEMENT SOLUTIONS



9.1 INTRODUCTION

9.1.1 Background

Organisations are seeking to create better economies of scale and use resources more effectively when executing projects. By leveraging project portfolio management technology solutions, organisations can find smarter, more cost-effective ways to address market demands while balancing costs and driving more business value. These systems enable organisations to gain visibility into projects, share information, improve decision-making and complete tasks on time and on budget. Portfolio management solutions delivered through cost-effective means can significantly reduce implementation and maintenance costs while speeding time to value. Realising the benefits of portfolio management technology solutions depends not only on using the right system, but also the right approach. With a highly prescriptive and best-practice-based methodology that employs portfolio management software to organise project execution efforts, organisations can more effectively:

- Innovate new technologies and fulfil demands for new products and services.
- Accelerate the pace at which they deliver innovation.
- Transform business projects, new products and IT by improving efficiency, cutting costs and managing growing complexity.

The governance of portfolios, programmes and projects is focused on ensuring that management develop and implement systems that are capable of ensuring the right projects and programmes are selected by the organisation to support its objectives, and that the selected few are accomplished as efficiently as possible. Management's role is to understand the organisation's strategy and objectives and develop systems to execute initiatives, achieve desired results, and ultimately drive more value for the organisations.

9.1.2 Aim

This chapter discusses information about portfolio management technology needs and provides information about portfolio management software selection criteria, vendor evaluation, and identifies the most significant software providers in the market.

9.2 SOFTWARE SYSTEMS AND TOOLS

Mochal (2014b) mentions that there are many software tools in the marketplace that can assist in implementing portfolio management. These software packages and tools exist in the following areas:

- Portfolio allocation, tracking and management.
- Workload allocation, management and forecasting.
- Time reporting.

- Project management and programme management scheduling tools.
- Resource pool allocation.
- Demand management, including documenting needs, prioritisation, skills requirements, time and cost estimating and approval.
- Financial reporting.
- Dash-board tools.

Mochal (2014b) mentions that organisations should first implement good processes and then look for tools, if necessary, to automate parts of the process. Mochal (2014b) expresses the view that the tool is not the process, it is only a way to automate a process or some aspects of a process. Depending on the size of an organisation, the processes and templates may be all that is required to be successful.

9.3 SELECTING THE RIGHT PORTFOLIO MANAGEMENT SOLUTION

A white paper published by Daptiv (2016) states that portfolio management solutions can help transform business execution and provide executives, stakeholders and project teams with new ways to collaborate and get work done more productively and effectively.

9.3.1 Business value of portfolio management solution

Daptiv (2016) states that organisations that successfully improve their portfolio management processes and adopt a portfolio management tool realise most or all of the following business benefits:

- **Strategic alignment across project portfolios.** Aligning resources with strategic priorities is challenging for any organisation, but by capturing all work across the company, both project-related and non-project work, prioritisation and trade-off decisions can be made with full visibility into business impact. Avoiding low-value projects is one of the major benefits an improved portfolio management process can deliver.
- **Better collaboration across organisational silos.** If a portfolio management process and tool is easy to use and adopt, it enables teams across organisational silos to collaborate. For instance, resource managers and project managers can better collaborate on project staffing, and finance can more easily provide regular updates on project costs. This broad adoption enables real-time visibility into project, programme and portfolio status, thereby allowing executives and project managers to ensure business results are being achieved.
- **Improved decision-making and accountability.** A strong portfolio management solution will provide powerful business intelligence and reporting capabilities to enable a “single source of truth” for dash-boards and reports. This enables more accurate and timely information for management decisions

about project investments and which projects require more oversight and controls.

- **Streamlined PMO processes and templates.** Implementing an overall project management framework, with just the basic phases and gates and a few key controlling artefacts (business case, project schedule, status report, etc.), enables a common streamlined process for the PMO while also enabling individual projects to select the right methodology for their project type.
- **Improved organisational productivity.** Utilising a portfolio management tool enables a more predictable process to be implemented that eliminates unstructured data entry and management. In addition, a portfolio management solution should enable customisation to ensure the tool matches the way the organisation works.

Daptiv (2016) mentions that these business benefits are clearly compelling but refers to research by Gartner stating that PMOs attempting to implement a portfolio management solution for the first time have a failure rate of 50% or more. The most common reasons for failure include neglecting to improve portfolio management processes in parallel with tool implementation and/or a lack of executive sponsorship. Hence, it's critical to find a vendor that can offer a combination of proven portfolio management expertise and a comprehensive, flexible solution that will lead to successful adoption in the organisation.

9.3.2 Industry trends shaping the future of portfolio management

Daptiv (2016) mentions that the key trends to consider when assessing a portfolio management solution include:

- **Software-as-a-Service (SaaS).** Cloud computing is a major trend in the industry that is causing many organisations to take a "SaaS-first" approach to reduce cost and implementation risk. Costs are reduced because large upfront capital expenses for hardware and software are exchanged for a lower annual subscription. In addition, SaaS vendors are typically far more efficient at operating their services than internal IT organisations due to economies of scale and operational experience. Risk is reduced because SaaS implementations are usually faster to deploy and business value can be proved more quickly through a trial or proof-of-concept.
- **Web technologies and user experience.** User interface design has dramatically improved in the last couple of years with the introduction of new web technologies that require fewer mouse clicks and page refreshes. This, in turn, has aided the adoption of portfolio management solutions as users can experience the benefits of a portfolio management solution without a complex learning curve.
- **Business intelligence.** Although business intelligence is not a new technology, its deep integration into portfolio management applications to provide a "single source of truth" and insight into project and portfolio activity

continues to trend. To provide sophisticated business intelligence a vendor must provide (1) a single data model, (2) seamlessly integrated portfolio management applications, (3) the ability to customise data fields and processes, and (4) easy-to-use report generation and customisation.

- **Collaboration and communication.** Portfolio management solutions that enable real-time collaboration and communication provide significant business value for organisations. These capabilities not only improve team productivity, but also provide better executive visibility into project activity, status and risks. Collaborative features include document management, project workspaces, dash-boards, newsgroups, blogs, wikis and team activity feeds. This is an important industry trend that will improve project execution as end-users become adept at using these new technologies.
- **Integration to ERP systems.** As more organisations grow and mature their portfolio management capabilities, integration to other corporate systems, such as ERP financial management, is becoming a common trend. Even if an organisation doesn't need this capability initially, they should choose a vendor that can support integrations as and when they become required.

These industry trends should be factored into an organisation's business requirements to provide a comprehensive framework to select a portfolio management vendor.

9.3.3 Business justification and ROI

Daptiv (2016) mentions that business justification ensures executives have a way to measure the benefits of a new portfolio management solution to evaluate the ROI of the required investment. Common measurable benefits for a portfolio management solution include:

- Increased productivity through process standardisation and automated reporting.
- An enhanced portfolio management process leading to improved decision-making and increased productivity.
- Cost savings due to reduction in internal IT support requirements.
- Savings through software licence fees, server, and maintenance cost avoidance.
- Improved scalability for portfolio and project management initiatives.
- Increased accountability.
- Improved visibility and business focus through automated and enhanced reporting.
- Improved collaboration.

Other business outcome-based benefits can also be estimated, including:

- **Reduction in the number of non-strategic projects.** Reducing the projects that are not aligned with strategy or are unnecessary, and therefore erode the value of the overall project portfolio.
- **Improvement in resource utilisation.** Improving the percentage resource utilisation against billable targets due to better resource management and visibility.
- **Reduction in cost overruns.** Improving the ability to avoid cost overruns due to poor estimation, scheduling, and lack of project visibility.
- **Reduction in project failure rate.** Reducing the percentage of projects that fail to deliver business value due to budget, schedule or cost overruns, or failure to deliver on business requirements.
- **Reduction of project delivery times.** Reducing the time it takes to complete a project due to more efficient project methodologies and improved project visibility to make decisions.
- **Reduction in administrative time.** Reducing the administrative time to collect project data and manually build status reports.

Daptiv (2016) refers to a recent Forrester survey that found that portfolio management tools improved these business outcomes by 10%-25% depending on the organisation.

9.3.4 Assessing an organisation's portfolio management maturity level

Daptiv (2016) highlights that many portfolio management implementations fail because the organisation selects a tool that is too complex or too simplistic for their needs. The key is to select a vendor with the right combination of tool and services that meet the organisation's current needs and is flexible enough to evolve as the organisation progress along the maturity curve. Table 69 will help to assess an organisation's current maturity level and associated tool needs.

Table 69: Assessment of portfolio management maturity and associated tool needs (Source: Daptiv, 2016)

	Level 1 Ad-hoc	Level 2 Emerging	Level 3 Managed	Level 4 Integrated	Level 5 Optimised
Process/ organisation	- Reactive project selection process. - No consistent PM framework across projects. - Basic budget estimates/tracking. - Resource bottlenecks. - Limited risk mitigation. - No portfolio management.	- Standard PM framework implemented. - Project prioritisation against strategy "bottom-up" resource management. - PMO created. - Project costs/hours.	- Cyclical project intake process. - PMO roles well defined. - Emerging EPMO. "Top-down" resource planning. - Portfolio analysis/monitoring. - Value-based estimates. - Chargeback/financial integration.	- Organisation-wide portfolio management processes. - EPMO/multiple business unit PMOs. - Portfolio results actively tracked. - Centre of Excellence. - Resource management optimised. - Integrations to enterprise systems.	- Innovation-centric portfolio management processes. - EMPO owns strategy/project execution. - Sophisticated financial management. - Role specialisation/career paths. - Enterprise-wide frameworks/best practices.
Tools	- Uncoordinated spreadsheets. - MS Project.	- Resource management. - Project workspaces. - Executive dash-boards. - T&E tracking. - Standard project templates. - Simple configuration. - Single data store. - Business intelligence (BI) reporting.	- Resource "what-if" analysis. - Portfolio analysis. - Configurable processes/workflow. - Enterprise administration. - Advanced BI integration to ERP.	- Advanced financial management. - Advanced risk analysis/modelling. - Portfolio modelling. - Custom development.	Integration to enterprise knowledge management.

9.3.5 Vendor selection criteria

Daptiv (2016) remarks that once the business justification has been approved, an organisation will typically develop a Request for Information (RFI) and/or a Request for Proposal (RFP) to solicit information from vendors as part of the selection process. Both an RFI and RFP will contain the following information:

- Summary of business problem and solution required.
- Vendor selection process and instructions for responding.
- Information requests based on specific criteria and stage of selection process.

For a portfolio management tool, the selection criteria can range from 50 to 250+ items across a number of dimensions. It's important to outline the critical business needs to determine the key dimensions and assign appropriate weighting for the scoring model. Daptiv (2016) recommends ranking the 5 to 10 critical success factors for an organisation and mapping these to the selection criteria to guide development of the vendor comparison matrix. For instance, some example critical success factors and selection criteria are shown in Table 70.

Table 70: Critical success factors and selection criteria for a portfolio management tool (Source: Daptiv, 2016)

Critical Success Factor	Selection Criteria
1. Implement a project intake process to prioritise and select strategic projects.	- Core portfolio management functionality. Portfolio management, project intake. - Professional services/support. PPM process consulting.
2. Successful adoption by project teams.	- Usability. Simple, intuitive web-based interface. - Technology. Software-as-a-Service delivery.
3. Real-time executive reporting/visibility into project and portfolio status.	- Business intelligence. Dash-boards and views. - Business intelligence. Single data store.
4. Ability to tailor portfolio solution for existing and new business processes.	- Functionality. Import spreadsheets/project templates. - Configuration. Easily add custom data fields. - Configuration. Configure new processes. - Business intelligence. Build role-based reports and views.
5. Improve portfolio management process maturity from Level 1 to Level 3.	- Customisation. Solution templates - Professional services/support. Portfolio management best practices web-based training.
6. Reduce administrative overhead for reporting and data visualisation.	- Business intelligence. Single data store. - Business intelligence. Build role-based reports and views. - Usability. Simple interface for creating reports.
7. Improve collaboration/communication between project teams.	- Core portfolio management functionality. Project workspaces. - Core portfolio management functionality. Workflow.
8. Improve resource planning and utilisation.	Core portfolio management functionality. Resource planning.

Agreeing on the critical success factors help to prioritise the important aspects of a vendor evaluation, such as usability, customisation/flexibility, business intelligence and professional services, which can significantly impact the success of a portfolio management initiative. An example of a vendor comparison matrix is shown in Table 71. This matrix is not intended to be exhaustive, but includes the frequent selection criteria and dimensions to be utilised by an organisation. If the scores are close for two or three vendors, reviewing qualitative feedback and revisiting the critical success factors can be useful to make the final selection.

Table 71: Sample vendor scoring matrix (Source: Daptiv, 2016)

Dimension	Weight (W)	Score (S)	Total (W*S)
1. Core portfolio management functionality.	30%	88%	26.40%
2. Business intelligence.	15%	92%	13.80%
3. Configurability/flexibility.	10%	98%	9.80%
4. Usability.	10%	85%	8.50%
5. Pricing.	10%	90%	9.00%
6. Professional services and support.	10%	85%	8.50%

7. Vendor qualifications.	10%	100%	10.00%
8. Technology.	5%	85%	4.25%
Final vendor score			90.25%

This sample vendor comparison matrix contains eight dimensions and 100+ criteria. Dimensions and criteria should be added or removed based on business requirements. Each vendor receives a score between 0% and 100%. To complete the matrix, complete the following steps:

1. For each dimension, assign a weight based on importance. The total for all dimensions should equal 100%.

2. For all criteria in the vendor scoring matrix, assign a score based on the following:

- Criteria completely met (4 points).
- Criteria completely met with configuration (3 points).
- Criteria partially met (2 points).
- Criteria completely met with software customisation (1 point).
- Criteria not met (0 points).

3. Calculate the maximum score for each dimension by multiplying the number of criteria in a dimension by 4. For instance, if the business intelligence dimension has 8 criteria, the maximum score is 32. Total the scores for criteria in each dimension and divide by the maximum score to give a percentage score for a dimension. For example, if a vendor scored 16 in the business intelligence dimension, the percentage score would be $16/32 = 50\%$.

4. Transfer the percentage score for each dimension (S) to the summary table and multiply by the weight for each dimension (W) to calculate the total column (W*S). Sum the Total (W*S) column for the final vendor percentage.

See sample vendor scoring matrix below (Table 72).

Table 72: Sample vendor scoring matrix (Source: Daptiv, 2016)

Dimension	Criteria	Score	Notes
1. Core portfolio management functionality			
1.1. Portfolio management			
	Create user definable portfolios.		
	Group related projects by any portfolio attribute.		
	Associate projects to the organisational structure (business unit, division, etc.).		
	Roll up budgets and costs.		
	Show budget impact of proposed projects against a target portfolio budget.		
	Show impact of proposed projects on resource capacity.		
	Automate proposal approvals.		
	Support rating criteria based on strategic goals.		
	Vary strategic goals by organisational unit.		

	Create tailored scoring models based on customer specific criteria to prioritize, align and compare projects and/or project requests.		
	Ability to configure tailored scoring models.		
	Map projects to corporate objectives.		
	Allow for project classification, filtering, and sorting by type and other characteristics.		
1.2 Demand management/project intake			
	Create web forms allowing for licensed or non-licensed users to submit project requests/proposals.		
	Create and track project requests / proposals outside of a project workspace.		
	Ability to add reviewers ad-hoc to project requests/proposals.		
	Ability to estimate resource labour costs and revenue potential at the project request/proposal stage.		
	Ability to expose or hide configurable fields in the project request form.		
	Ability to enable and automate approval orders and notifications.		
	Support “proposed” projects not yet approved.		
	Support customised forms (e.g., new project request, change request, etc.).		
	Project request review and approval.		
	Attach documents to project request.		
1.3 Resource management			
	Skill inventory and tracking.		
	Track billable and labour cost rates.		
	Provide standard role-based billing rates.		
	Track allocation (top-down), schedule (bottom-up) and actual time for individual and teams.		
	View resource allocations and schedules across projects.		
	Instantaneous what-if analysis on resource supply and projected demand.		
	Provide the ability to tailor billing rate categories with rate schedules.		
	Forecast resource requirements by role at either the project request/proposal stage and/or at the project workspace.		
	Forecast resource availability for named or generic resources.		
	Automated resource utilisation calculations for individuals and roles.		
	Provide online resource requests (by role or individual) to a resource manager.		
	Provide the ability to define and separate resource teams by resource manager(s).		
	Provide flexibility and functionality to support both an approval driven resource request and allocation process and/or a more casual approach to invite project members.		
	Map users to organisational workgroups.		
	Capture contact info in resource profile.		
1.4 Project management			

	Timeline views grouped by projects/clients/portfolios or any project/portfolio attribute.		
	Planned vs. actual summaries.		
	Milestone summaries.		
	Dynamic project Gantt charts.		
	Team member calendars.		
	Define/maintain task dependencies within the project or across other projects.		
	Summary tasks automatically roll up subtask data.		
	Two way sync with MS Project.		
	Ability to define, track and manage non-project work time categories.		
	Ability to create non-working day categories and applying to company-wide work week calendar(s).		
	Ability to relate project plan artefacts (tasks, issues, documents, risks, expenses, or any tailored project item) between each other.		
	Ability to bulk edit tasks including custom fields in a grid like fashion with an intuitive interface.		
	Ability to copy/move/paste tasks within projects and/or between projects.		
	Provide hierarchical task plan/WBS with target and actual delivery dates.		
	Permit any project plan to become a template.		
	Manage task dependencies.		
	Support task constraints.		
	Assign multiple resources to a task.		
	Provide security permissions for tasks.		
	Notify resources via email when assigned to a task.		
	Allow permissions to distinguish project members by role to manage (create, edit, delete, view, update) projects, tasks, issues, documents on a project by project basis.		
	View and report tasks for a resource.		
	Provide printable Gantt chart views.		
1.5 Issue/risk management			
	Manage issue life-cycles.		
	Associate issues, risks or action items to any other items, including to a project or a task.		
	View, report, and track issues across projects/programmes.		
	Assign issues to individuals.		
	Notify assignee/PM or any other project role by email when issues are created, assigned or Completed.		
	Allow conditional rollup of issues and risks to drive project status indicators.		
	Include link to the issue in an automated email.		
	Permit non-assigned issues to be viewed only.		
	Drill up from the issue to the project or task.		
	Drill down from the project or task to the issue.		

	Categorise issues (i.e.: issue “types”).		
	Permit user-defined probability and impact levels (risks only).		
	Ability to weight issues and risks with tailored scoring models to measure impacts.		
	Report a single project’s issues and risks.		
	Support issue and risk reporting across a portfolio or group of projects.		
	Provide custom fields in both issues and risks.		
	Capture project action items with due dates and ownership.		
	Capture project decisions with decision date and responsibility.		
1.6 Time and expense			
	Provide intuitive, easy to read time sheet.		
	Record time at the project level, task level or non-project work level.		
	Record time and update notes at the assigned tasks only.		
	Automatically route timesheets to project managers and final approvers for approval.		
	Capture notes on each time entry; report notes on time reports.		
	View, edit and approve time and expenses.		
	Report and define notifications triggered by timesheet states (e.g. reminders, edits delinquent).		
	Allow flexibility for team members to manually update % complete or have % complete automatically calculate.		
	Allow team members to enter in estimate to complete which will automatically recalculate the % complete.		
	Allow managers to override recorded task % complete.		
	Only approved timesheet entries update task schedules.		
	Timesheet entries automatically update task schedule.		
	Report billable vs. non-billable work.		
	Resource can add non-working time (e.g. vacation) to timesheet.		
1.7 Project team collaboration/document management			
	Ability to provide a configurable, project-specific home page to serve as a centralised, real-time source for project team collaboration, document sharing and project milestone tracking.		
	Select events that trigger notifications which can be preserved from projects started from templates.		
	Permit personalised notification rules.		
	Enable sending news to team members.		
	Easily identify unread items.		
	Post replies or update notes with notification capabilities within discussion threads, tasks, issues, documents.		
	Upload documents in a centralised repository by		

	definable folder structures with check-in/check-out, version control, locking and event history log capabilities.		
	Include documents in project templates.		
	Relate document with any other project item (tasks, risks, issues, other documents, projects).		
	Provide document approval routing.		
	Add custom attributes/fields to categorise documents.		
	Notifications get routed to e-mail address.		
	Ability to perform search for documents only.		
	Ability to search for text within documents.		
	Ability for subscribers to manage documents using Windows Explorer.		
1.8 Financial management/budgeting			
	Provide top-down budgeting where financial targets and goals can be identified at the portfolio and/or project level.		
	Provide top-down budget cost and revenue forecasting of labour effort and expenses.		
	Provide bottom-up estimates of hours, costs and revenue.		
	Report actuals for hours, costs and revenue.		
	Report project finances by task, phase, milestone, project, program, account, etc.		
	Provide project-to-date reporting.		
	Report earned value.		
	Distinguish between capital and non-capital costs on a project.		
	Rollup sums, min, max, averages, differences in real time within views and/or reports.		
	Exchange and integrate financial information with ERP systems.		
	Capture invoice information and exchange data with other financial packages.		
	Track budget planned and actual spend over a period of time.		
	Expense reporting.		
1.9 Integration			
	Web services application program interfaces.		
	Prebuilt integrations to major ERP systems.		
	Customised integration options.		
	Synch tasks and import appointments with Microsoft Outlook.		
	Two way sync with MS Project (incl. import/export.mpp).		
	Import/export project data with Microsoft Excel.		
	Active directory/LDAP integration for user management.		
	Single sign on capability.		
1.10 Administration and security			
	Control functions, access and permissions by role, i.e.: admin, resource manager, project manager, team member.		
	Allow for limited functional use subscription.		

	Provide audit trails.		
	Simple wizard driven enterprise configuration.		
	Support localised languages.		
	Provide IP filtering to control user access based on customer definitions.		
	Capability to define different project types that can be separated and distinguished from each other with roles based access.		
	Role-based security model.		
	Project-based security model.		
	Enterprise/organisation based security model.		
	Item level permissions.		
	Total		Max total =
2. Business intelligence			
	Provide user-specific, configurable, real-time dash-boards.		
	Summarise financial information for organisation, department, account, program, etc.		
	Drill down to details from dash-boards.		
	Track and report status of portfolios.		
	Track and report project health with project status reports.		
	Provide traffic light indicators or similar on dash-boards.		
	Track and report project pipeline, backlog, completed projects, etc.		
	Provide project views of resource requirements.		
	Provide departmental views of resource requirements.		
	Map projects to corporate objectives.		
	For each project or proposal, show degree of alignment, business value, benefits, etc.		
	Report financial forecast and actuals by date range.		
	Report resource forecast and actuals by date range.		
	Report spending patterns across different types of projects.		
	Provide reporting capabilities for realised post-project value.		
	Provide ad-hoc reporting and queries.		
	Provide ad-hoc graphical reporting and queries.		
	Enable permissions to allow users to create their own reports or views.		
	Allow permission to publish dash-board reports to other roles.		
	Filter data on user-definable criteria.		
	Provide wizards for writing basic reports.		
	Export all reports to Excel, TXT or HTML for off-line analysis.		
	Ability to deliver reports via a variety of vehicles e.g. roles-based dash-boards, PDF, XLS, html, xml, email attachments.		
	Total		Max total =

3. Configuration/flexibility			
	Simple, intuitive web-based interface.		
	Provide context sensitive online help.		
	Provide user and/or roles-based customisable views of project data.		
	Provide user and/or roles-based customisable views of personal home page.		
	Search across all objects or by object type.		
	Provide centralised administration - User ID's, password resets, etc.		
	Include links to data in email notifications.		
	Provide wizards for creating new projects and/or project requests.		
	Ability for non-subscribers to create project requests.		
	User level currency and language selection.		
	Easily sharable with business and collaborate with customers/partners.		
	Segregate projects so tool is usable by many groups across the enterprise.		
	Ability to re order, move, copy/paste, bulk edit, and bulk update project tasks.		
	Total		Max total =
5. Professional services/support			
	Implementation methodology and process.		
	Quick Implementation timeframe.		
	Range of best practices services.		
	Solutions consultant's experience.		
	Solutions templates.		
	Provide web based training.		
	Offer on-site training; support for train-the-trainer methodology.		
	Unlimited free technical support for each subscriber during business hours via web portal, email and telephone.		
	Option for a dedicated technical support account manager.		
	Post implementation optimisation and/or coaching services.		
	Offer after-hours support.		
	Provide an SLA for support response times.		
	Community forum and product feedback centre.		
	Online knowledge base.		
	Total		Max total =
6. Pricing			
	Pricing for X user deployment.		
	Pricing for implementation services.		
	Pricing for training and ad-hoc services post implementation		
	Total		Max total =
7. Vendor qualifications			
	Financial viability, including profitability / cash flow.		
	Vision and strategy.		

	Standard terms and conditions.		
	Executive management.		
	Number of years in business.		
	Size of customer base/subscribers?		
	International presence.		
	Customer references.		
	Total		Max total =
8. Technology			
	Uptime statistics for past 24 months.		
	Provide documented technical architecture diagrams.		
	Security and ISO 270001 certification.		
	Provide documented disaster recovery plan.		
	Provide up-time guarantees (e.g. 99.7%).		
	Use Akamai or similar caching technology to reduce latency.		
	Regular release schedule.		
	Server redundancy to support the business continuity plan.		
	Off-site storage of tape backups.		
	Total		Max total =

9.4 PORTFOLIO MANAGEMENT SOFTWARE VENDORS AND EVALUATIONS

Gartner (2017) published the *Magic Quadrant for Project Portfolio Management, Worldwide Report* that evaluates software providers targeting a complete and evolving project portfolio management (PPM) life-cycle. According to Gartner (2017) the PPM software market is expanding and growing at more than 11% per year. The *Magic Quadrant for PPM* offers an analysis of the competitive positioning for PPM software providers by the relative placement of the main players in the market according to a variety of criteria, and by offering strengths and cautions for each of the included providers. The ratings of the providers represent a combination of research, analysis and client reference checks conducted specifically for the *Magic Quadrant for PPM* process, along with input from the Gartner PPM research community, ongoing provider briefings, interactions with Gartner clients, market developments and other research sources.

Gartner (2017) mentions that the *Magic Quadrant for PPM* is a useful input into a process to identify and evaluate PPM software providers. According to Gartner (2017) enterprise users should select a suitable provider based on a detailed evaluation of their specific needs and objectives, compared to a provider's capacity to fulfil those objectives to determine which provider can best address their particular requirements. Gartner (2017) continues that care should be taken to understand any PPM dynamics playing out in a prospective PPM buyer's enterprise. PPM tool proliferation is becoming more commonplace in today's enterprises, as digitalisation forces enterprises to experiment with new methods of work and project execution, while also normalising communication in large-scale transformation initiatives and ensuing programmes.

Figure 58 shows the PPM software providers that provide a broad set of PPM software products evaluated by Gartner (2017). According to Gartner (2017) providers in this *Magic Quadrant for PPM* are mature and robust, in most cases, representing more than a decade's worth of product evolution. The average "general availability" of the products across all of the vendors included in their research is 13 years. As such, the vendors all demonstrate deep levels of PPM experience and work in the field. In general, all the products these providers offer have a significant amount of depth and breadth.



**Figure 58: Magic Quadrant for Project Portfolio Management, Worldwide
(Source Gartner, 2017)**

9.4.1 Quadrant descriptions

9.4.1.1 Leaders

According to Gartner (2017) PPM software providers identified as leaders meet many of the PPM application functionality and process automation requirements of targeted consumers. They both recognise the importance of different PPM scenarios and support those different use cases. Leaders understand that one PPM product

alone cannot support all the different market opportunities available to them, and have to take steps to diversify their PPM software product portfolios.

Leaders can provide comprehensive, resilient and high-performance PPM functionality to the project-execution-level customer as well as to the portfolio-level customer. Additionally, leaders recognise the market need for different types of PPM products matching well with the proliferation of different project and work environments of their prospective customers. As such, leaders are acquiring and building out a thoughtful inventory of different PPM products supporting the varied types of customers looking for software in the PPM space.

Most leaders can demonstrate a strong market presence, combined with a higher-than-usual level of frequency in sales activity and execution. Leaders are growing their installed bases, and their average number of end users per deal is steadily increasing year over year. Leaders can verify their longevity and stability as on-premises and cloud-hosted providers in the PPM market, but some also have additional products supporting small to midsize businesses, and can offer cloud-based (rather than cloud-hosted options) for smaller workgroups or customers with limited budgets.

Leaders provide depth and breadth of functionality in their applications, representing many years of development. Leaders can provide overwhelming evidence that they are actively selling and marketing their solutions. Their sales and marketing programs continue to be highly effective. Leaders are often heavily engaged with customers as process consultants, in addition to being software providers. Leaders are currently stable financially. In addition, no significant business or outside disruption has shaken or distracted the leaders.

Leaders are differentiated by higher ratings in many areas of execution compared to challengers, but they are also differentiated by comparatively higher ratings in many areas, not just a few, with overwhelming customer references supporting their claims submitted as evidence, and other significant observations made by Gartner.

9.4.1.2 Challengers

According to Gartner (2017) many PPM software providers in the challengers' quadrant are enjoying steady, incremental growth in customer count and average users per customer. Some challengers have been operating in the space for two decades or more. Challengers often rely on their strong global presence and longevity in the PPM market, and almost exclusively rely on one PPM product offered to the market. These providers are missing a growing PPM product inventory that would drive stronger vision marks if they recognised the need to support PPM tool proliferation in today's enterprises.

To this end, challengers seek to enable PPM broadly as a business process, but do not always choose to build out additional PPM products targeting varied PPM use

cases. Often bound to the limitations of offering one PPM product, challengers are not always able to extend, alter and adjust their product to support the diverse needs of different types of PPM customers. Challengers may focus more on core capabilities, but their products might also be missing recent innovations, resulting in a slower pace of improvement compared to other providers in the market. The financial viability, number of customers and average number of users per deal of many of the challengers often are in line with leaders.

9.4.1.3 Visionaries

According to Gartner (2017) the completeness of vision ratings earned by visionaries reflect innovative approaches in areas such as collaboration, social networking, mobile device support, interoperability with third-party data sources, and group-specific collaboration (for example, for PMOs, steering committees, workgroups, project execution environments and teams). PPM service providers in the visionaries' quadrant are enjoying steady, increased growth in customer count and average users per customer. Visionaries often demonstrate, as their designation implies, forward-thinking features and traits, such as a cloud-based architecture and agile application development cadence.

Some visionaries have been more experimental with business models, and they may approach various markets more broadly with variable packaging and pricing (for example, free trials, try-and-buy options and flexible contract durations). Like leaders, visionaries seek to enable PPM broadly as a business process. However, they also may focus on offering only one PPM product, as opposed to building out an inventory of PPM products like leaders.

Visionaries' financial viability, number of customers and average number of users per deal may not compare with those of the leaders or challengers, but these visionaries make up for such limitations through innovative features and functionality, as well as through direct, responsive customer care and some influence over future product development.

9.4.1.4 Niche players

According to Gartner (2017) PPM software providers identified as niche players provide a good core set of PPM functionality. Their focus on specific portions of the PPM market puts them close enough to customers to fully understand what improvements should be made to their products quickly in the near term to keep their customers happy. The products offered by these vendors are maintained well for reliability's sake, and customers are often satisfied, even if the providers are not well-funded or making big leaps in gained market share or innovation. Like challengers, niche players differ from leaders in areas such as innovation. Customers may benefit from having more influence over the provider's future product development.

9.4.2 Vendor evaluation criteria

The following criteria were used in the Gartner report to evaluate the PPM vendors:

9.4.2.1 *Ability to execute*

- **Product or service:** Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the sub-criteria.
- **Overall viability:** Viability includes an assessment of the overall organisation's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will: continue investing in the product, continue offering the product, advance the state of the art within the organisation's portfolio of products.
- **Sales execution/pricing:** The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.
- **Market responsiveness/record:** Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.
- **Marketing execution:** The clarity, quality, creativity and efficacy of programs designed to deliver the organisation's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organisation in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth, and sales activities.
- **Customer experience:** Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.
- **Operations:** The ability of the organisation to meet its goals and commitments. Factors include the quality of the organisational structure, including skills, experiences, programs, systems and other vehicles that enable the organisation to operate effectively and efficiently on an ongoing basis.

Table 73 shows the weighting of the evaluation criteria in terms of the ability to execute.

Table 73: Ability to execute evaluation criteria (Source: Gartner, 2017)

Evaluation criteria	Weighting
Product or service	High
Overall viability	High
Sales execution/pricing	Medium
Market responsiveness/record	High
Marketing execution	High
Customer experience	High
Operations	High

9.4.2.2 Completeness of vision

- **Market understanding:** Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.
- **Marketing strategy:** A clear, differentiated set of messages consistently communicated throughout the organisation and externalised through the website, advertising, customer programs and positioning statements.
- **Sales strategy:** The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.
- **Offering (product) strategy:** The vendor's approach to product development and delivery that emphasises differentiation, functionality, methodology and feature sets as they map to current and future requirements.
- **Business model:** The soundness and logic of the vendor's underlying business proposition.
- **Vertical/industry strategy:** Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.
- **Geographic strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

Table 74 shows the weighting of the evaluation criteria in terms of the completeness of vision.

Table 74: Completeness of vision evaluation criteria (Source: Gartner, 2017)

Evaluation criteria	Weighting
Market understanding	High
Marketing strategy	High
Sales execution/pricing	High
Sales strategy	High
Offering (product) strategy	High
Business model	High
Vertical/industry strategy	Low
Innovation	High
Geographic strategy	Medium

9.4.3 Vendor strengths and cautions

The vendor strengths and cautions in the Gartner report (2017) are discussed in the sections that follow.

9.4.3.1 CA Technologies

CA Technologies provides one flagship PPM product: CA PPM. Additionally, CA Technologies' CA Agile Central provides an agile development tool that can be purchased as a stand-alone tool or integrated with CA PPM.

Strengths

- CA PPM's user experience has been improved in some key areas, including UX improvements for the resource manager, project manager and time reporter roles.
- CA Technologies is putting significant investment in integration between CA PPM and CA Agile Central to connect CA PPM users with development teams leveraging agile development methods under one PPM software solution.
- Improvements to CA Technologies' SaaS deployment platform, coined "the continuous delivery platform" (currently in beta), allow the vendor to push software patches and product updates automatically to customers.

Cautions

- Although the user experience improvements across a number of key user roles are improved, there remains an uneven user experience across the entire product. CA Technologies is making the improvements piece by piece, rather than holistically across the whole product as a single, comprehensive effort.
- The introduction of Jaspersoft as the main reporting engine for CA PPM is an improvement over previous technology, but users caution that a thorough knowledge of SQL is needed to take full advantage of its benefits.
- Although building project schedules is a capability within CA PPM, improvements to this portion of the product, to make it easier to do so, are needed.

9.4.3.2 Cerri.com

Cerri.com provides one main PPM product: Genius Project.

Strengths

- Cerri.com provides a few product options for customers, including Genius Project Domino, as well as Genius Project delivered on-premises or cloud-hosted. Latest improvements include enhancements to web Gantt charts, project status reports, project governance and project charters.
- Genius Project targets and sells into small and midsize businesses, as exemplified by the composition of its installed base and attractive price points.
- For companies interested in cost-effective PPM that will integrate well with an existing IBM investment in software technology, Cerri.com remains one of a scant few PPMs in the market that supports and leverages the Domino platform and Notes for collaboration.

Cautions

- Although a few improvements were recently made, its pace of innovation lags in comparison to that of the PPM market.
- A promising complementary task, document and light project management tool, called Cerri, is now available (in beta) but is mainly untested in the field at this time.
- Although Genius Project has an established installed base of PPM customers using up to 500 licenses per customer, Cerri.com has yet to achieve a significant number of deployments involving several hundred or thousands of licenses.

9.4.3.3 Changepoint

Changepoint offers two main PPM products supporting the needs of its customers and prospects: Daptiv, its cloud-based PPM service, and Changepoint, its on-premises and cloud-hosted product.

Strengths

- For customers currently using the Changepoint product, the provider continues to focus on offering a newer deployment option for those that want to transition from their current on-premises instances to cloud-hosted environments.
- Much work is ongoing to improve the user experience for both the Changepoint and Daptiv products.
- The Changepoint PPM product now includes a new open security data model, allowing users, such as financial officers or business executives, access to

the data and the transparency they need, without requiring them to have full access to all data in the Changepoint product.

Cautions

- Daptiv's TTM mobile application is limited to task management, time entry and time sheet submission. Additional capabilities would bring the mobile application more in step with innovations in mobile that are emerging in the PPM market.
- Daptiv does not yet allow users to save and later compare multiple, live, modelled resource capacity planning scenarios they build out in the system.
- Although user experience improvements are an active part of Changepoint's product development roadmap for both Changepoint and Daptiv, the overall user experience in each product is still uneven and will be until the provider completes the improvements to each in their entirety.

9.4.3.4 Clarizen

Clarizen provides a single, cloud-based PPM application service: Clarizen.

Strengths

- Clarizen is a very clean, easy-to-use, PPM cloud-based service adaptable to a number of different project and work management environments. It allows for the creation of projects on the fly, with milestones and tasks, when the business, customer of the work team or organisation makes requests.
- Recent improvements include portfolio optimisation capabilities, such as what-if scenario modelling and waterline analysis, a new financial planning module, enhanced resource planning by time periods, integration to Microsoft SharePoint, and automated PowerPoint slide publishing.
- Clarizen is intuitive, allowing users to exploit its capabilities without heavy reliance on Clarizen support.

Cautions

- Clarizen customers would benefit from more flexible pricing and licensing options. Currently, pricing is based on volume and term.
- Clarizen would benefit from improvements to account management, reducing the turnover of sales representatives by customers. Technical account management remains consistent.
- Clarizen only offers one PPM product, which limits its ability to support the multitude of emerging PPM use cases playing out in today's enterprises. Clarizen is flexible, however, and can be configured for multiple PPM use cases.

9.4.3.5 Hewlett Packard Enterprise (HPE)

HPE provides one main PPM product: HPE PPM.

Strengths

- HPE PPM is a solid workflow engine for conducting project demand management and prioritisation. Multiple governing bodies can use it the way they need to, in the same enterprise, to capture and vet inbound project demand.
- HPE PPM users find the resourcing capabilities quite powerful, including the ability to create roles, build out staffing profiles to capture resource demands and model resource staffing scenarios.
- When paired with other HPE product offerings, HPE PPM can help facilitate project monitoring and governance, in conjunction with other IT process areas, such as application maintenance and software change and configuration management.

Cautions

- HPE PPM would benefit from additional features and enhancements to portfolio-level dash-boarding and reporting, including the ability to add large programmes, not just projects, to portfolios created by users. More recent investments in programme management allow the inclusion of programmes in the portfolio hierarchy, and allowing programmes (of all sizes) to be included in what-if planning and optimisation is on the roadmap.
- HPE PPM first introduced mobile support in 2015, and it is achieved mainly through HTML5 infusion. However, the market is now adopting dedicated mobile applications, rather than HTML5, to provide much stronger mobile support for users.
- The spinoff and merger of Micro Focus could call into question the ability of HPE to solidify both its PPM market messaging and market execution in ways that will attract and retain customers.

9.4.3.6 KeyedIn

KeyedIn offers one main PPM product in the market: KeyedIn Projects.

Strengths

- KeyedIn Projects is designed for simplicity and ease of use, offering capabilities easy enough for new and/or casual users to learn and adopt quickly.
- As a cloud-based PPM service, KeyedIn Projects includes a cost-effective price for PPM functionality.

- KeyedIn Projects provides a dedicated mobile app, going beyond HTML5-based mobile support.

Cautions

- Although KeyedIn Projects is a valid option for small or midsize enterprises, KeyedIn has yet to prove a level of significant, sustained scalability and sales execution of it in large enterprises.
- KeyedIn Projects would benefit from improved reporting capabilities, including more out-of-the-box reporting and additional charting options in executive dash-boards. The latest release does focus on some improvements in this area.
- KeyedIn provides a strong core of PPM capabilities, but it does not yet have enough of the field experience it needs to match innovations, integrations, and other services and support packages offered by the PPM market.

9.4.3.7 Microsoft

Microsoft provides Microsoft Project Server, as well as Project Online.

Strengths

- Microsoft's Project Server and Project Online offerings give customers some options for how they want to deploy their PPM technology: SaaS, on-premises, cloud-hosted through a partner or as part of Microsoft's own cloud-based service.
- Beneficial, existing synergies between the Microsoft Office suite and Microsoft Project have been carried over to Microsoft's evolving cloud strategy through the offering and integration of Office 365 and Project Online. Additionally, Microsoft's Planner product addresses the needs for casual project managers.
- Microsoft's partner ecosystem is vast and accessible to prospects that need assistance with consulting, configuration, and training targeting a wide range of PPM use cases and project environments.

Cautions

- Existing Project Server customers currently on on-premises or cloud-hosted earlier versions (e.g. 2010), in which the number of users is significant (several hundreds or thousands) and/or where significant customisation was made, may find migration to Project Online cost-prohibitive. This cost issue is mainly a factor in large enterprise deployments, but for smaller installations, it is not always as much of an issue. Microsoft partners also offer migration services to help customers with migration to Project Online.
- Microsoft Project, Project Server and Project Online can present a learning curve for casual, accidental or layman project managers.

- Although Microsoft's Project Online includes a free Power BI license, this free option is limited by the number of data calls or report generation actions customers can make using this option. More frequent use of Power BI with Project Online may require purchase of more advanced licenses, triggering an additional cost to the investment.

9.4.3.8 One2Team

One2Team offers one main PPM product: One2Team.

Strengths

- The slide board feature in One2Team makes it easy for users to visualise, consume and analyse information. It also includes the ability to create sub-lists and a UI designed to handle large amounts of data.
- One2Team offers a dedicated mobile app, as opposed to basic HTML5 coding.
- One2Team is designed to be flexible and easy to use and adopt. Its emphasis is on task management and collaboration as a cost-effective, cloud-based PPM service.

Cautions

- One2Team would benefit from an increased local presence in different countries in Europe.
- Although the provider does offer a dedicated mobile application, it is fairly untested in the field.
- Although One2Team provides a nice variety of options for customers with different deployment needs, the company only offers one PPM product, which may limit its ability to address emergent PPM scenarios and use cases supported by the wider market.

9.4.3.9 onepoint Projects

onepoint Projects offers one main PPM product for the market: onepoint Projects.

Strengths

- For prospective customers looking to connect their PPM system to Atlassian's Jira, onepoint Projects offers strong bidirectional Jira integration. Version 16 included a rewrite of sorts, of this integration, and now includes support for planning subtasks, multiple Jira repositories and explicit issue type mapping.
- onepoint Projects includes substantial mobile support. The base UI supports mobile through HTML5 and JavaScript, and the provider also offers two dedicated iOS-based mobile applications - onepoint 360 (a portfolio dashboard application for executives) and onepoint ME (an app for project contributors).

As a European PPM provider, onepoint Projects may be more attractive to European prospects than North American PPM providers.

Cautions

- onepoint Projects' two dedicated mobile applications do not yet support Android devices.
- Although onepoint Projects is a valid option for small or midsize enterprises, it has yet to prove a level of significant, sustained scalability and sales execution in large enterprises.
- onepoint Projects would benefit from additional resource capacity planning and management functionality that would allow users to adjust resource plans based on changes to projects and other conditions affecting existing resource plans.

9.4.3.10 *Planisware*

Planisware provides one main PPM product: Planisware.

Strengths

- Planisware brings with it a long-standing PPM history and deep expertise in new product development (NPD) PPM technology deployment. As such, it includes road-mapping and support for stage-gating - two key requirements for product development groups that are becoming more popular in other environments, like IT.
- Planisware offers three main deployment options of its product, to address the varied needs of its customers, such as Noovem (managed cloud with shared infrastructure and servers among multiple tenants), Planisware Live (cloud-hosted for each customer) and Planisware Classic 6 (on-premises).
- The latest version of Planisware, version 6.2, includes an improved UI that simplifies screen layouts, Hyperdoc (a new user documentation offering users contextual online and in-line help), and an updated Planisware Mobile interface with tab-friendly action menus and lists.

Cautions

- Although Planisware provides a nice set of options for customers with different deployment needs, the company offers only one PPM product, which limits its ability to address a number of varied, emergent PPM scenarios supported by the wider market.
- Planisware's mobile support is limited to its HTML5-based UI and does not yet offer a dedicated mobile application for iOS and Android.
- Planisware would benefit from continued improvements to the balance between its powerful features and the product's learning curve.

9.4.3.11 *Planview*

Planview offers a number of PPM-related products, including Planview Enterprise, Innotas and Projectplace.

Strengths

- Planview is currently building a portfolio of PPM products, as part of a merger and acquisition strategy based in part on the significant trend of PPM tool proliferation in today's enterprises.
- With its PPM product set growing, Planview is increasingly able to target a number of specific PPM use cases for companies of varied size. The Planview Enterprise product, delivered on-premises or cloud-hosted, targets large enterprises. The Innotas cloud-based PPM product targets midsize enterprises. The cloud-based Projectplace product targets collaborative, team-based work management environments.
- Planview offers integration of Planview Enterprise or Innotas with its Projectplace product, combining strong PPM core functions with a cloud-based product that supports team-based collaboration and task and work management.

Cautions

- Planview's strategy will certainly allow the company to grow its product portfolio, but challenges do exist moving forward, such as maintaining an acceptable level of product innovation, customer service, and support across multiple products and installed bases.
- Although Planview's integrations between Planview Enterprise, Innotas and Projectplace are a good start for connecting product lines, these are initial integrations and they are very basic. Further innovation and improvements based on customer feedback are needed.
- Projectplace would benefit from additional depth in its account maintenance and administration capabilities.

9.4.3.12 *Project Objects*

Project Objects offers two PPM-related products: Project Objects and Needful.

Strengths

- Project Objects is a PPM product deployable either on-premises or as a cloud-based PPM service with a growing European and North American presence.
- In addition to the Project Objects product, the provider also offers Needful, a collaborative add-on product supporting to-do lists, task management, Kanban boards and timelines.

- Ease of use and the ability to support execution-level or portfolio-level PPM configurations, especially for European customers, are key capabilities of Project Objects.

Cautions

- Although Project Objects has established a presence in North America, its European support and presence is relatively stronger. However, continued investment in North America, including key staffing, is leading to increased market penetration.
- Project Objects is a cost-effective PPM system attractive to small or midsize enterprises. Although Project Objects has also been successfully implemented in a few large organizations with thousands of users and complex project context, the provider must continue to improve sales execution in larger enterprises.
- Although Project Objects now offers a promising native mobile application for iOS and Android devices, it was released in January 2017 and is not yet proven in field.

9.4.3.13 Sciforma

Sciforma offers one PPM product: Sciforma.

Strengths

- Sciforma's more recent product development includes a focus on improvements to system performance as well as usability enhancements, such as better drag and drop within the Gantt view, redesign in the creation and planning of projects, and optimised printing options.
- Extensions, Sciforma's answer to out of the box (OOTB) configuration and extension to different PPM methods and processes, include additional support for work packages, portfolio control, resource allocation management and agile/bimodal.
- Sciforma can be deployed as an on-premises installation, a cloud-based service or a cloud-hosted instance.

Cautions

- Although Sciforma offers a cost-effective PPM system for small or midsize enterprises, the provider has yet to demonstrate a significant presence in larger enterprises.
- Sciforma does not yet support mobile computing.
- Although Sciforma provides a nice set of options for customers with different deployment needs, the company only offers one PPM product, which limits its ability to address a number of varied PPM scenarios and use cases supported by the wider market.

9.4.3.14 Sopheon

Sopheon offers one main PPM product: Accolade.

Strengths

- Accolade is a strong offering for enterprises interested in a PPM product that can support product development processes (e.g., stage gate and agile), enterprise initiatives and enterprise portfolio management, in an NPD or engineering environment.
- Sopheon's ongoing product development includes a significant focus on strategic planning and road-mapping, as well as idea capture and management.
- Sopheon's deep understanding of enterprise innovation management and new product development feeds a strong set of complementary PPM consulting services offered by the provider - a distinct advantage over potential competitors when the prospective customer's business relies on such practices and process areas.

Cautions

- Sopheon's innovation management and new product development (NPD) focus may serve it well in some enterprises and PPM use cases, but the provider's IT PPM support is not as strong in comparison to more traditional task-based IT PPM solution models.
- Although Sopheon provides some basic mobile support, including a mobile application for iOS, it could benefit from additional development and improvement, including extending android support beyond HTML5-based browser access.
- Customers using Chrome would benefit from improvements to the integration between Accolade and the Google suite of applications.

9.4.3.15 Upland

Upland offers two PPM-related products: PowerSteering and Eclipse.

Strengths

- Upland's two PPM products allow it to support the top-down portfolio needs of customers with PowerSteering and the execution-level needs of project managers and team members with Eclipse. Connectivity using the Dell Boomi platform can provide integration of multiple Upland products, including Upland's PSA, IT Financial Management, Advanced Timesheet and Advanced Workflow products.
- PowerSteering is a solution for portfolio-level capabilities attractive to PPM leaders engaged in continuous improvement, Lean Six Sigma, program

management and stage gate process support. The solution also supports prioritisation and alignment metrics.

- Eclipse is a project and work management solution suited for IT PPM use cases and PMOs within midsize organisations, and it demonstrates strong experience in the healthcare industry. The latest release of Eclipse includes an overhauled and mobile-friendly user interface, a new Eclipse home page for individual users that allows them to address time-relevant to-do items and actions, and improved dash-board customisation and charting options.

Cautions

- Eclipse could benefit from additional improvements to its own what-if scenario modelling capabilities for the Eclipse customers asking for such features. Pairing PowerSteering with Eclipse does provide an option for adding these modelling capabilities for existing Eclipse users.
- Both Eclipse and PowerSteering provide only basic mobile support.
- The potential exists for customers to buy multiple Upland products and integrate them using Upland's Dell Boomi-based web integration platform, but the option is more recent and is not yet proven significantly in the field.

9.4.3.16 Workfront

Workfront provides one PPM product: Workfront.

Strengths

- Workfront's recent improvements and added capabilities include, but are not limited to, an estimate-at-completion calculation to project the total cost of a project or tasks, a team agile burn down chart and story board, the ability to manage a project in an agile-style view, advanced resource scheduling, and custom object naming allowing teams to use their own terminology.
- Workfront's dedicated mobile application has been redesigned for users, improving the ways they can stay informed, reach contacts, manage work, add new requests and update status.
- Workfront provides a very cost-effective, cloud-based PPM service that is highly configurable, easy for users to learn and adopt, and supports many of the needs of small to midsize teams and departments.

Cautions

- Although Workfront is very flexible and cost-effective as a PPM system, the company only offers one PPM product, which may limit its ability to address a number of emergent PPM scenarios and use cases supported by the wider market.

- Workfront is a well-established cloud-based provider presenting a PPM option that can match the needs of small- and midsize teams and departments, but lacks a significant number of customers using 500 or more licenses.
- Workfront and its customers would benefit from Workfront taking more primary ownership of the creation and deployment of integration services for its customers, relying less on partners and third parties.

9.4.3.17 WorkOtter

WorkOtter provides one PPM product: WorkOtter.

Strengths

- WorkOtter offers a very cost-effective, cloud-based PPM service that is easy to configure, adopt, and consume, and supports the many needs of small to midsize implementations.
- WorkOtter added business intelligence, interactive visualisations and dashboarding to an existing "ad hoc" reporting capability.
- Recent improvements to WorkOtter include improved user experience as well as improved and enhanced integration with Jira, Microsoft Project, Excel, SharePoint and Google Drive, as well as other third-party products and technology.

Cautions

- Although WorkOtter is flexible and cost-effective, the company only offers one PPM product, which limits its ability to address a number of varied PPM scenarios.
- WorkOtter can match the needs of small- and midsize implementations, but the provider has yet to achieve a level of significant, sustained scalability and sales execution of WorkOtter globally.
- WorkOtter would benefit from additional investments in and improvements to allow larger work breakdown structures of 1,000 or more tasks in a single project without having to break them into programmes or sub-projects.

9.5 SUMMARY, INTEGRATION AND CONCLUSIONS

Portfolio management solutions can help transform business execution and provide executives, stakeholders and project teams with new ways to collaborate and get work done more productively and effectively. The benefits of adopting a portfolio management tool include:

- Strategic alignment across project portfolios.
- Better collaboration across organisational silos.
- Improved decision-making and accountability.
- Streamlined PMO processes and templates.

- Improved organisational productivity.

The most common reasons for failure in adopting a portfolio management tool include neglecting to improve portfolio management processes in parallel with tool implementation and/or a lack of executive sponsorship. Key trends to consider when assessing a portfolio management solution include:

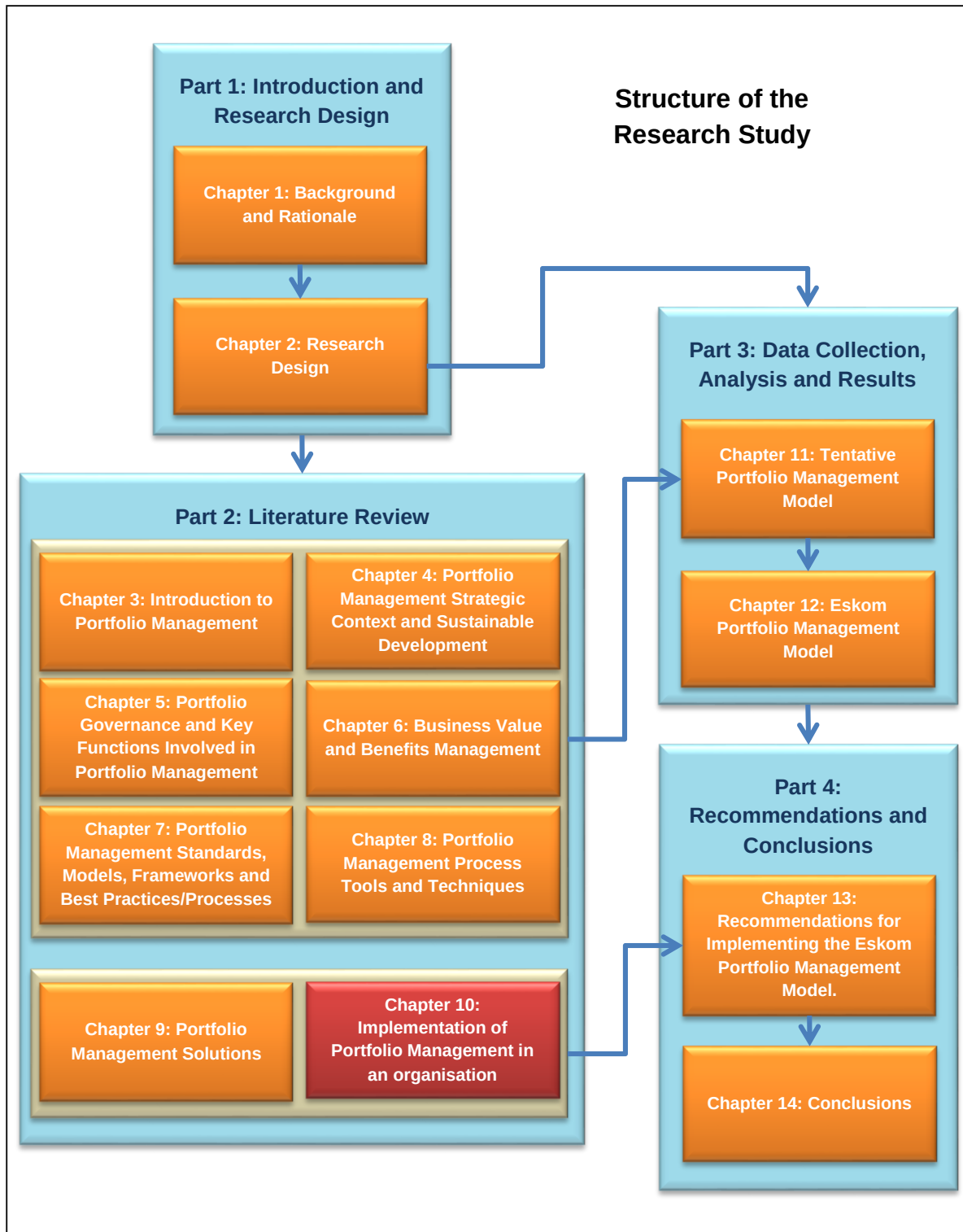
- Software-as-a-Service (SaaS).
- Web technologies and user experience.
- Business intelligence.
- Collaboration and communication.
- Integration to ERP systems.

Business justification ensures that executives have a way to measure the benefits of a new portfolio management solution to evaluate the ROI of the required investment. Portfolio management tools can improve business outcomes by 10%-25% depending on the organisation. Assessment of an organisation's portfolio management maturity can assist to select the correct portfolio management tool. In selecting a portfolio management tool it is recommended to rank the five to ten critical success factors for an organisation and to map these to the selection criteria to guide the development of a vendor comparison matrix. Agreeing on critical success factors help to prioritise the important aspects of vendor evaluation, such as usability, customisation/flexibility, business intelligence and professional services, which can significantly impact the success of a portfolio management initiative. A vendor comparison matrix can be developed and used by an organisation to evaluate vendors and do a final vendor selection.

Enterprise users should select a suitable provider based on a detailed evaluation of their specific needs and objectives, compared to a provider's capacity to fulfil those objectives to determine which provider can best address their particular requirements. The results of the Gartner evaluation analysis of portfolio management vendors in the Forrester research report revealed that:

- The leaders are CA Technologies, Planview, and Changepoint.
- Challengers are Microsoft, Sopheon, Plainsware, Hewlett Packard Enterprise and Sciforma.
- Visionaries are Clarizen, Workfront, One2Team, onepoit Projects and Project Objects.
- Niche players are KetedIn, WorkOtter, Upland and Cerri.com.

CHAPTER 10: IMPLEMENTATION OF PORTFOLIO MANAGEMENT IN AN ORGANISATION



10.1 INTRODUCTION

10.1.1 Background

Proper implementation of portfolio management best practices in an organisation is critical to successfully implement business strategies and strategic objectives in order to deliver business value and remain competitive. The implementation of portfolio management best practices is a major business transformation process for an organisation to stay ahead of emerging players and maintain a competitive edge. For businesses to remain ahead of an ever-changing market and meet rapidly evolving customer demands, they must effectively plan and implement portfolio management best practices.

10.1.2 Aim

The aim of this chapter is to establish how portfolio management best practices can be successfully implemented in an organisation. Prerequisites for portfolio management implementation, implementation approaches and steps, implementation considerations, as well as pitfalls, lessons and tips for portfolio implementation are discussed.

10.2 PREREQUISITES FOR PORTFOLIO MANAGEMENT IMPLEMENTATION

BS ISO 21504:2015 Project, programme and portfolio management - Guidance on portfolio management addresses the prerequisites that an organisation should meet in order to set up and maintain portfolio management. Addressing these prerequisites should involve:

- Consideration of positive and negative benefits to the organisation.
- Assessment of positive or negative impact on the organisation, both internally and externally.
- Set-up and readiness for implementation.

10.2.1 Justification for portfolio management

BS ISO 21504:2015 states that portfolio management requires an investment of resources. There should be a justification of this investment. This justification should address the need, the benefits and the cost of the investment, as well as the alignment to one or more strategic objectives.

The PMI *Pulse of the Profession In-Depth Report: Portfolio Management* (2012) provides the reasons why organisations practice portfolio management (see Table 75).

Table 75: Reasons for practising portfolio management (Source: PMI, 2012)

Reasons for practising portfolio management	Percentage
Customer satisfaction	73%
Cost reduction	59%
Revenue growth	58%
Improved ROI	45%
Improved development cost	40%
Regulatory compliance	35%
Innovation	34%
Internal knowledge sharing	32%
Employee satisfaction	29%
Share of market	21%
Sustainability	18%
Supplier relations	12%

The *OGC Portfolio Management Guide: Final Public Consultation Draft* (2008) highlights the following key benefits of implementing portfolio management:

- **Clear picture of programmes and projects.** Get to see and understand the overall landscape of change in the organisation due to cross-functional and collaborative working within departments. High-level picture that shows all the programmes and projects, the timeline, dependencies and how they link to the strategic objectives and key risks and issues.
- **Involved in decision-making.** Full involved in decisions regarding the start-up and ongoing delivery of programmes and projects.
- **Confidence in delivery.** Involvement in the start-up decision-making process will increase the confidence and belief that the right programmes and projects are being implemented and that they will enable realisation of the strategic objectives and targets.
- **Understand which programmes and projects impact the organisation.** Opportunity to identify how other programmes and projects will impact on departments' *business as usual* in terms of resources and process changes.
- **Understand overall resources requirements.** There will be more visibility of the resource requirements. This means additional resources required can be identified to enable the delivery of programmes and projects.
- **Know which programmes and projects are most important.** Involvement in discussions and decisions regarding programme and project prioritisation and resource allocation to realise strategic objectives.
- **Understand dependencies.** Able to see where dependencies are within the portfolio, which will help to plan better and understand the risks to the department and team.

10.2.2 Portfolio management framework

The portfolio management framework according to *BS ISO 21504:2015* should define the means by which the organisation should determine and decide which

components should be prioritised and included in the portfolio or removed. The framework should also define how resources will be allocated to those components.

10.2.3 Types of portfolio components

According to *BS ISO 21504:2015* an organisation should determine the types of work that will be included or excluded as portfolio components, as well as criteria that should be used to identify them. These should include:

- Types of projects.
- Types of programmes.
- Other related work.
- Other portfolios.

10.2.4 Criteria for selecting and prioritising portfolio components

As per *BS ISO 21504:2015* criteria for selection and prioritisation of portfolio components should be defined and verifiable. These criteria should reflect defined portfolio objectives that should align with the organisational strategy. The criteria should also reflect the values, principles, other organisational policies and targeted benefits. The definition and documentation of such criteria should reflect that:

- Selected portfolio components support the organisation in achieving its strategic objectives and realising specific benefits.
- A method is available to evaluate to what extent the portfolio is in alignment with the tolerated risk exposure.
- A balanced portfolio is maintained.
- A structured and consistent method is followed for evaluating and aligning the mix of portfolio components.
- Comparability exists among portfolio components of different types.

10.2.5 Alignment with organisational processes and systems

BS ISO 21504:2015 states that portfolio management processes and systems should be aligned with the following organisational processes and systems:

- Performance reporting processes and systems.
- Resource management processes and systems.
- Risk management processes and systems.
- Financial management processes and systems.
- Programme and project management processes and systems.
- Communication methods and cycles.
- Business planning and systems.

10.2.6 Visibility of the portfolio

BS ISO 21504:2015 requires that a management system should be defined and established to provide visibility and relevant information to the decision-makers. The management system should provide status and overview of the following elements:

- Portfolio components.
- Resource management.
- Alignment with strategic goals and other intended benefits.
- Benefits status and realisation.
- Current risk exposure that the portfolio generates for the organisation as a whole.

The management system should also:

- Enable portfolio reporting.
- Align and coordinate with existing processes and systems.
- Provide visibility of selected and potential portfolio components.

10.2.7 Portfolio performance reporting structure

BS ISO 21504:2015 remarks that a performance reporting structure and method with measurement criteria should be established to monitor achievement of portfolio objectives and organisational strategic objectives. This should include reporting for the portfolio as a whole and for each component to:

- Enable decision-making and provide timely alerts of performance variances.
- Enable the organisation to continuously improve strategic financial forecasting and benefits realisation.
- Enable tracking of schedules, costs, contributions, benefits, risks and resourcing.
- Align the reporting cycle with the cycle of portfolio component development.
- Integrate the reporting cycle with the project or programme life-cycle processes used by the organisation.
- Enable reporting iterations of the portfolio and the progress towards acquiring benefits.
- Report the status of the risk exposure of the portfolio for the organisation.

10.2.8 Improving portfolio management

BS ISO 21504:2015 adds that the organisation should continually improve the suitability, adequacy, effectiveness and efficiency of portfolio management. The organisation should:

- Evaluate the effectiveness of the portfolio management framework.
- Determine and prioritise improvements to be implemented.

10.2.9 Governance of portfolios

BS ISO 21504:2015 points out that the means of governance should be established and may include policies, legal considerations, processes, roles and responsibilities, procedures, values, principles and other organisational guidance.

10.3 PORTFOLIO MANAGEMENT IMPLEMENTATION APPROACHES AND STEPS FOR IMPLEMENTING PORTFOLIO MANAGEMENT

10.3.1 BS ISO 21504:2015

While *BS ISO 21504:2015 Project, programme and portfolio management - Guidance on portfolio management* mentions that each organisation's context will depend on considerations such as the evaluation of the impact of introducing portfolio management into the organisation; the organisation's capability to absorb changes in terms of structure, responsibilities and culture; and that the assessment of associated risks and opportunities with the implementation of portfolio management must be considered, it does not provide any guidance on implementing portfolio management.

10.3.2 Project Management Institute

The *PMI Standard for Portfolio Management* (2013a) states that a structured approach to implement portfolio management processes may add long-term value to the organisation. PMI (2013a) mentions that the steps for implementing a portfolio management process are those used to implement any process in an organisation. These steps as discussed in the sections that follow.

10.3.2.1 Assess the current state of the portfolio management process

Performing an assessment of the current state of portfolio management and related processes provides insight as to what processes may already exist, which processes are needed in the organisation, and possible organisational or cultural enablers or barriers that will be encountered. An assessment will facilitate development of a gap analysis and plan to establish or formalise the portfolio management function. Assessment activities may include:

- Identify and evaluate existing portfolio management knowledge (i.e. strategic management, governance, communications, risk management and performance management).
- Assess the existing portfolio management processes to determine if they support organisational vision, mission, strategy, and objectives (i.e. processes that define, align and authorise portfolio components).
- Assess the current portfolio management structure and resources for maturity and adequacy.
- Identify gaps in knowledge, processes, structures and resources.
- Evaluate the existing portfolio components to determine if they are supportive of current organisational strategy and objectives.
- Assess the current portfolio components resource availability and allocations against the integrated schedule.
- Understand the stakeholders for each of the strategic objectives and portfolio components.

- Review the existing portfolio reporting processes and procedures.

Assessment results may include:

- Depth and breadth of board of directors, and senior management commitment.
- Level of satisfaction with current practices.
- Communication goals and requirements of the organisation.
- Misinformation that needs to be addressed.
- Project, programme, portfolio, and operations practices in place.
- Understanding of the organisation's vision, both long-term and short term, for portfolio management.

OPM® is one example of a tool that can be used for portfolio management assessment within an organisation. Maturity assessment permits organisations to identify which best practices, capabilities, and outcomes they currently exhibit.

10.3.2.2 *Define the portfolio management vision and plan*

The portfolio management vision should be aligned with the organisational vision and be supportive of the strategy and objectives of the organisation. The vision for portfolio management will help to clarify the direction in which to proceed. The vision for portfolio management should reflect the organisation's cultural values and should be meaningful and valid to stakeholders. The organisational vision, strategy and objectives will guide the interim steps needed to implement the portfolio management vision. A portfolio management roadmap is built for the implementation of organisational level portfolio management structure and processes. The organisational portfolio management implementation plan should address the following two related efforts in order to successfully establish a portfolio management process:

- A planned approach to change organisational behaviour that includes a balance of strong leadership and management, and a proficient management team committed to the effort.
- A planned approach for incrementally developing and implementing portfolio management processes, building on processes that already exist, and working towards the defined vision.

10.3.2.3 *Implement the portfolio management processes*

Portfolio management processes are performed in an environment broader than a portfolio, therefore an organisation-level implementation team supported by executive management, a governing body, and portfolio managers must guide the implementation of organisation-wide portfolio management processes using international portfolio management standards. The first steps must include:

- Define roles and responsibilities for portfolio management process implementation.
- Communicate the portfolio management implementation plan.
- Define and deploy detailed portfolio management processes and provide training to staff and stakeholders.

Changing business processes within an organisation may be a difficult undertaking. Planning for organisational and behavioural changes is required for a long-term successful implementation of the portfolio management processes.

10.3.2.4 *Improve the portfolio management processes*

A portfolio management improvement plan defines the objectives expected to be achieved from portfolio management and guides, measures, and prioritises improvement activities. In addition, pre-defined metrics drive results and accountability for performance improvement. Metrics provide insight into the current performance of the processes as well as the results from changes to these processes. A documented process improvement plan may be advantageous to evaluate and improve current portfolio management processes. To ensure that changes are implemented in a controlled manner, it is important to specify and manage changes to the processes, procedures, and tools used for portfolio management. Once the changes have been implemented, they should be monitored in order to validate the achievement of expected results. In addition to portfolio management processes, it is important to identify any dependant or parallel processes that will impact portfolio management performance (e.g. project and programme management processes).

10.3.3 Office of Government Commerce

The *OGC MoP Guide* (2011) does not provide detailed steps on how to implement portfolio management. It however covers the following topics:

- Misconceptions that can cause confusion and detract from successful implementation.
- Approaches for implementing portfolio management.
- Portfolio management implementation sustainment.
- Organisational energy link with portfolio management cycles.
- Portfolio management health-check assessment.

Each of these topics is discussed in the sections that follow.

10.3.3.1 *Misconceptions that can cause confusion and detract from successful implementation*

The *OGC MoP Guide* (2011) mentions that there are a number of misconceptions that can cause confusion and detract from successful implementation. Portfolio management is not:

- **Just another process, system or overhead.** Implementing portfolio management may bring about changes to management board decision-making and the organisational governance processes.
- **A group of project people who sit in isolation and produce a plan summarising what is already scheduled.** Portfolio management coordinates activities with *business as usual*; strategic/business planning; budgeting and resource allocation; project and programme management; performance management; corporate governance; and other functions including information technology (IT), human resources (HR), finance and commercial.
- **Programme and project management on a bigger scale.** Programme and project management focus on implementing change initiatives in the right way while portfolio management is about choosing the initiatives in order to realise benefits that contributes to the agreed strategic objectives by ensuring the allocation of resources remains optimum.
- **Just reporting.** When applied effectively, portfolio management creates a transparent, evidenced-based environment that will provide objective and timely information to inform senior management decision-making.
- **A rigid, bureaucratic constraint on management decision-making.** Portfolio management is a collection of flexible activities which, when integrated and used collaboratively, enable more effective and informed decision-making.
- **Just a list of existing programmes and projects.** The portfolio contains current and planned initiatives that have been prioritised, scheduled and endorsed by the relevant portfolio governance body with costs, benefits, required resources and dependencies identified.
- **A bureaucratic process that prevents or stops programmes or projects for no good reason.** Portfolio management ensures the effective and consistent use of a business change like-cycle, which provides a review of the continued viability and business value of initiatives via regular reporting, stage/phase gates and portfolio-level reviews.

10.3.3.2 Approaches for portfolio management implementation

OGC *MoP Guide* (2011) considers the main approaches for implementing portfolio management and how to sustain progress, including the role of organisational energy in ensuring success. According to the *OGC MoP Guide* (2011) portfolio management does not necessarily have a mandated start point, middle or end. The definition cycle contains a series of broadly sequential phases (i.e. *understand* generally becomes before *categorise*, which usually comes before *prioritise*, etc.) which in practice often overlap. The delivery cycle is different in that the practices here are undertaken broadly simultaneously. *OGC MoP* (2011) *Guide* continues that different organisations have different reasons for implementing portfolio management and therefore organisations have different starting points reflecting

their existing capability, organisation culture, governance structure, financial position and strategic objectives. The different drivers behind the adoption of portfolio management, and the different conditions in which it is undertaken, influence the way portfolio management is implemented. Three broad approaches are outlined in **Table 76**.

Table 76: Creation and evolution approaches to implementing portfolio management (Source: OGC, 2008)

Big-bang	Implementing portfolio management is viewed as a business change programme in its own right and is planned with: • A business case. • A compelling vision for the future state. • A blueprint or target operating model. • An implementation plan agreed by the management board. Here a time-bound implementation phase is followed by live running encompassing all portfolio and delivery practices.
Evolution	Here a more evolutionary or incremental approach is taken, starting with areas of greatest need or those where rapid progress can be made. The organisation's approach to portfolio management then evolves to reflect its needs, opportunities and lessons learned.
Ad-hoc	As with the evolutionary approach, there is no detailed master plan, but there is no expectation that the approach will develop and no commitment to capturing lessons learned to inform development. Instead, implementation is more opportunistic.

The big-bang approach is more appropriate where top-down approaches to strategy formulation are applied, where the environment is relatively stable and where programme and project management is already relatively mature. In other situations, a staged, incremental or evolutionary approach will be more appropriate - building on initial developments in one part of the organisation and focusing on specific processes to demonstrate the value of a portfolio management approach. An incremental approach reduces the potential adverse impacts of a big-bang implementation. The *OGC MoP Guide* (2011) mentions that it is important to implement portfolio management as a business change programme when following the big-bang approach or evolutionary approach where the desired end state is kept in mind and regular reviews are undertaken to assess the progress and determine the next steps. In other circumstances a more ad-hoc approach can be adopted in the case where existing practices are less mature and where senior management commitment to organisation-wide, end-to-end portfolio management is less well embedded. It must however be recognised that planned approaches have several advantages:

- Planned approaches to the implementation of business change are supported by best management practice guidance.
- Experience shows that the use of structured, systematic process drastically improves the likelihood of success.
- A planned approach, with confirmed senior management buy-in, will significantly reduce the risk of failure.

- Planned approaches can be quicker, so the potential benefits realise earlier.

10.3.3.3 *Portfolio management implementation sustainment*

Many portfolio management implementations run into difficulties. The whole process can become bogged down in internal politics, silo-based interests and inertia. The lessons learned from those that have overcome or avoided these issues are that continued progress is assisted by incorporating the following factors:

- A senior sponsor to maintain focus at the highest level to continually promote a portfolio-level view.
- An incremental or staged approach, starting with areas of greatest need to demonstrate the value of portfolio management with some quick wins.
- Building on existing organisational processes and not reinventing wheels or changing things that do not need changing.
- Being clear about success criteria.
- Regular assessment of progress - not just meeting milestones, but more significantly in relation to the benefits realised and progress against success criteria.
- Effective and ongoing stakeholder engagement and communications.
- Aligning the reward and recognition processes with the appropriate behaviours (e.g. taking a corporate rather than departmental or functional view) and enforcing them through objective-setting and personal reviews.
- Adopting a champion-challenger model where processes are open to challenge and improvements.
- A commitment to continuous improvement, including identifying improvements to the portfolio management practices via membership of appropriate professional groups, capturing lessons learned from robust post-implementation reviews, submissions under the champion-challenger model and periodic portfolio effectiveness reviews.
- Appropriate use of software tools tailored to support organisational needs.

Sustaining progress is dependent on the commitment of stakeholders and the existence of sufficient organisational energy.

10.3.3.4 *Organisational energy link with portfolio management cycles*

Organisational energy is a significant consideration when implementing portfolio management. Organisational energy is about the extent to which an organisation mobilises its emotional, cognitive and behavioural potential to pursue goals. The *OGC MoP Guide* (2011) refers to Bruch and Vogel that have identified four energy stages:

- **Productive energy.** People with high emotional involvement on the lookout for new opportunities and taking decisive action to solve problems because they really care about success of the organisation.

- **Comfortable energy.** Relaxed atmosphere where people prefer the status quo.
- **Resigned energy.** People are mentally withdrawn and do nothing more than is required of them.
- **Corrosive energy.** People experience high levels of anger, fight each other, and actively hinder change and innovation.

Productive energy is required to implement portfolio management. Movement to productive energy requires the development of a shared vision to which the portfolio contributes, clear leadership and a range of initiatives that engage staff and ignite the sources of organisational energy. These sources of energy are:

- **Connection.** How people link themselves, their values and their work to the purpose of the organisation.
- **Content.** Work stimulates and provides a sense of achievement.
- **Context.** Working practices support and enable people to do a good job.
- **Climate.** How the organisation helps people to grow, achieve their potential and do their best.

While portfolio management will enable informed decision-making, without collective and coordinated effort of all those involved, the delivery of the portfolio and contribution to strategic objectives will be at risk.

10.3.3.5 Portfolio management health-check assessment

The questions in Table 77 can be asked to aid in the preparation of an action plan for the adoption of more effective portfolio management.

Table 77: Portfolio management health-check assessment (Source: OGC MoP Guide, 2011)

Key questions	Yes	No	Partly	Action required
1. Do I have a clear view of the current change portfolio? • What projects and programmes are included? • What are the predicted costs and benefits at a portfolio level? • Are the inter-dependencies visible to me, and are we managing them effectively? • How will this change portfolio impact on the business?				
Given our strategic objectives, are all programmes and projects included in the portfolio necessary? And is it clear: • How each project or programme contributes to our strategic objectives? • That all funded projects and programmes contribute more than				

they cost? • That the selected solutions are being achieved cost-effectively?				
When the portfolio and <i>business as usual</i> are looked at together, am I confident that these are the investments that will achieve the organisation's strategic objectives?				
Are people happy, motivated and driven to successfully implement changes to the organisation? • Do people understand where we are going? • Do people understand the importance of their role in the journey? • Do people crave success and work as one portfolio delivery team?				
Do I have a clear view of the future change portfolio, including projects in the development pipeline? • Is the start-up of projects disciplined - i.e. are effective controls in place so that significant resources are only committed to priority projects? • Are projects progressing through the development pipeline at an acceptable speed?				
Project prioritisation - do we have a consistent set of metrics for assessing the attractiveness (return) and achievability (risk) of potential investments? • Do we make collective decisions about the projects and programmes to be included in the portfolio, or is it a situation of he/she who shouts loudest?				
In terms of financial management: • Is the allocation of funds staged and linked to project performance? • Is a modular approach to project development in place, so that wasted spent is minimised should funding be reallocated?				
Are resources demand and supply matched - do we have the right people at the right time with the skills to deliver the portfolio?				
Do regular portfolio progress reports provide clear line of sight on portfolio delivery impact? • Do I feel confident that the reported status reflects the real status? • Do I have clear understanding of the top risks and issues facing the portfolio? • Are portfolio progress reports the basis for action rather than a template-filling exercise?				

Is the return and risk of individual projects actively managed - to increase the former and reduce the latter?				
Do I clearly understand the portfolio management governance process?				
Do I have a clear view of our track record in terms of delivering projects? • On time? • To budget? • To quality? • With forecast benefits being actually realised in practice?				
Am I clear about the difference portfolio management has already made and will make to my organisation?				

10.3.4 TenStep PortfolioStep™

The *PortfolioStep Portfolio Management Framework™* of Mochal (2014b) provides advanced processes for managing a portfolio of projects. This framework is consistent with the *PMI Standard for Portfolio Management* (2013a) general recommendations but is more comprehensive than the PMI standard. The techniques and steps to be followed to implement portfolio management according to this framework are discussed in the sections that follow.

10.3.4.1 Techniques for Implementing PortfolioStep in an organisation

Manage the implementation of portfolio management as a project

It is a culture change initiative that requires participants to understand and buy into the purpose and the value of managing work as a portfolio. Implementing the portfolio management process as a project must start with a project charter and schedule before beginning and obtaining the required funding. Authorisation for implementing portfolio management should ideally take place before year-end of the prior year. Within a large organisation the implementation of the portfolio management process can take two to three years due to:

- The large amount of work to be done as a part of the identification stage.
- The time needed to reach the optimum level of work balance (a two-year timeframe).
- The time to get the stakeholders comfortable with the new processes associated with defining and activating a portfolio.

Portfolio management could be implemented in phases. As much as possible of the portfolio management processes should be implemented in the first year followed by the remaining processes in the second year. A sponsor should be accountable for the implementation of portfolio management in an organisation, typically the CEO or CFO. The sponsor should designate a manager or senior professional that are familiar with the portfolio management processes to be responsible for implementing portfolio management.

Phased approach to portfolio balancing

The balancing of a portfolio is important and when first starting portfolio management two balance points must be kept in mind:

- **Long term (desired) balance.** Being able to balance an organisation's portfolio requires that the balancing categories be defined as well as the optimum balance points. The results of this definition process a sense for what the organisation's future state looks like. This is the desired state and reflects many of the organisational values. For instance, if it is decided to keep high-risk projects to less than 10% of the portfolio, it would give a sense that the organisation is risk averse. It must be kept in mind that this balance represents the organisation's desired state. An organisation may have to make compromises in any given year that will keep it from the optimum state. However, an organisation can make these compromises deliberately and with proper forethought as to the consequences, rather than thoughtlessly and by accident.
- **Short term balance.** When starting with the implementation of portfolio management an organisation might not be able to achieve their optimum balance points in the first year. For instance, when setting the optimum balance points in various categories (e.g. supporting the business, growing the business, leading the business) the organisation might not have the capability and experienced staff to execute the desired balance.

Deploying portfolio management as a culture change

Most of the people in an organisation are impacted indirectly when portfolio management is implemented in an organisation because their work is a result of the portfolio management selection, prioritisation and authorisation process. Whenever there is a change in the way people do their jobs, and whenever people are asked to do things differently than they used to, then an organisation are dealing with a culture change. Therefore, the implementation of portfolio management in the organisation should be viewed as a culture change initiative. The people that are most directly impacted are the senior managers who ultimately need to make the prioritisation decisions. If the organisation sponsor puts enough emphasis on implementing this process, there is no reason why it should not be successful. However, there is a question as to how painful the implementation will be. Senior managers can actively and passively fight the new process, or try to undermine its effectiveness if they feel that they will not benefit from portfolio management. One of the major tenets of portfolio management is that the work will be optimised from an organisation perspective, and that may mean some areas will not get all of their individual priorities authorised. The implementation of portfolio management must be accomplished through a project. One or more people need to be accountable for its success, and the implementation approach needs to be multi-faceted. For instance, the following needs to be done:

- Identify the impacted people.
- Proactively communicate what is been done and why.
- Obtain broad buy-in in areas like the future state vision, goals, strategy, etc.
- Provide training where needed.
- Perform team-building sessions among the major players that need to work closely.
- Have strong, active, visible, vocal and continual support from the sponsor.

Driving culture change requires a lot more than simply teaching new skills, although training certainly plays a part. During the current state assessment, an evaluation must be done on various aspects of the organisation that drive behaviours. Processes that drive behaviours need to be reinforced. Processes that are barriers to behaviours need to be changed or eliminated. Resistance to the change must be accounted for and expected. It must also be discouraged. The first time that portfolio management is utilised is the hardest and requires the most work as much of the up-front work in the definition and foundation processes will be required the first time. After that, the processes only need to be validated and updated where necessary. Also, once people see the results of the selection, prioritisation, authorisation and activation process, they will get real experience in how the model works. This will help them execute the entire process more successfully the second and subsequent times and change their attitude as they start to experience the benefits of portfolio management.

Overcoming portfolio management implementation problems

It is difficult to implement portfolio management in an organisation as it impacts people and how they do their jobs. The following areas describe reasons why it will be difficult to implement portfolio management and the areas of resistance that need to be overcome:

- **It is different and new.** Utilising portfolio management concepts is new and unknown, and managers are not sure how they will end up when the process is complete. All culture change, by definition, involves changing how people do their jobs. Most people have a natural tendency to resist change.
- **Managers may be uncomfortable subjecting their projects to additional scrutiny.** Every senior manager has projects they would like to complete. While many of them may make great business sense, some projects could be important to a senior manager, but they might not stand the test of outside scrutiny.
- **Some parts of the organisation may come out worse.** One of the basic implications of portfolio management is that projects that provide less value might not get funding which can have a major impact on that specific part of the organisation. This may cause resistance from managers who fear their part of the organisation will receive fewer resources as a result of the portfolio management process.

- **It is hard to reach group consensus.** Much of the work in portfolio management requires some level of consensus among senior managers. It starts early in the definition and foundation processes, and continues through the authorisation and activation processes. It is not easy to reach a consensus with senior managers, especially if they are not used to working together in this manner. The whole portfolio management process will break down if managers don't buy into the notion that they need to look out for the company's best interest rather than their own.
- **You never have all the information you need.** When starting the process of portfolio management, good information will probably not be available. When it comes time for selection and prioritisation of work the data will be raw - there will not a consistent set of information that everyone can use. When the steering committee makes prioritisation decisions, they will find many of the business cases will be weak and the estimates for costs and benefits very tenuous. Nevertheless, portfolio management requires that tough decisions be made with imperfect information.
- **There are tough decisions to make.** This point ties in with the lack of perfect data and the initial difficulty of consensus management. A group of senior executives needs to get together and make decisions on which work gets funded and which work does not get funded. This group need to make tough decisions, by consensus, with imperfect information.
- **Portfolio management takes the time and attention from the senior managers.** Some senior managers will say that they do not have the additional time to spend on ongoing portfolio management, but this time commitment is vital if portfolio management is going to succeed. Portfolio management will also require additional time from the portfolio management teams to manage their portfolios. It will also require additional time from the members of the steering committee as they will need to meet on a periodic basis throughout the year to monitor and provide guidance for the entire portfolio.

10.3.4.2 Steps for implementing portfolio management

Step 1 Portfolio setup

- **Define the portfolio organisational scope.** Define the scope of the portfolio.
- **Define the portfolio work scope.** Determine all of the elements that will compose the planned portfolio.
 - **Definition of a project.** Projects are not routine and ongoing work - they have a definite start and end-date.
 - **Definition of discretionary work.** Discretionary requests refer to work that can be scheduled and prioritised.
 - **Definition of support.** Support work is typically service oriented and does not result in the creation of tangible deliverables.

- **Define the balancing categories.** Determine the categories of work that are of importance.
 - **Define risk categories.** Example high, medium, low.
- **Portfolio balance points.** Guidelines for the actual balance in each category.
 - Balance points for operations and support.
 - Balance points for discretionary work.

Step 2 Identify needs and opportunities

- **Current state assessment.** Establish how the organisation looks today.
 - **Create an asset inventory.** Understand the assets for which you are responsible in the portfolio.
 - **Create an application inventory.** Business applications, which are the software systems used to run the organisation and manage the business.
 - **Create a project inventory.** Projects that are going on.
 - **Governance.** Common framework to guide what people work on and how they do the work. The framework consists of a commonly accepted set of processes, policies, procedures and standards.
 - **Department types.** Functional, project or matrix based.
- **Future state vision.** Describe what the organisation should look like in the future to meet the needs of future business.
- **Develop organisational goals, objectives and strategy.** Short-term direction-setting statements for the next one to three years.
 - **Goals and objectives.** Statements that describe what the portfolio will accomplish or the business value the portfolio will achieve.
 - **Strategy formulation.** High-level set of directions used to make decisions how the organisation will achieve its mission and move toward its vision. Provides context under which for making prioritisation decisions.
 - **Staffing strategy.** Established at an organisational level or a departmental level.
- **Identifying work for the portfolio.** Put forward all of the potential work in the portfolio.
 - **Identifying operations and support work.** Basic work functions required to keep your business going.
 - **Identifying project work.** Work that has a start date and an end date.
 - **Identifying discretionary work.** Work that fall between permanent support work and project work (e.g. process improvements).
 - **Identifying portfolio management and leadership work.** Time and cost to manage and lead your staff, in other words, the management overhead.

Step 3 Evaluate options

- **Validate importance and alignment** (internal cut #1). Cutting work, not prioritising work.
 - What is alignment? Making sure that people know what is important to the organisation.
- **Create value propositions** (internal cut #2). Information to compare the merits of the various work initiatives.

Step 4 Select the work

- **Portfolio work selection timing.** Usually done at the beginning of the annual business planning process.
- **Firm-up value propositions.** High-level categorisations and estimates around the proposed work.
- **Create business cases.** Enough supporting detail so that executive can prioritise the work against other competing interests.
- **Review the value propositions and business cases.** Decisions made by senior managers or a steering committee on the priority of the work based on value (benefits vs. costs), priorities and balance.

Step 5 Prioritise work

- **Prioritise work internally.** Work is internally prioritised first by all of the participating departments.
- **Consolidate work from each department.** Overall prioritisation is done by the organisation's steering committee.
- **Prioritise the work across the portfolio.** Portfolio steering committee is responsible for collectively determining the work that is most important and most valuable to the whole organisation.

Step 6 Balance and optimise the portfolio

- **First, cut the work to fit the available budget.** Cutting work based on the previous prioritisation process in order to get within budget.
- **Second, use balance points to balance the remaining work.** Cut back on some work and add back some work that was previously cut.
- **Cutting and adding work out of order.** Cut the lowest ranked work, and add the highest ranked work if required to cut and add work during the authorisation process.
- **Stretching out projects.** One way to have more projects authorised is to stretch them out to reduce the spending rate.
- **Optimising the portfolio.** Taking a further look across the whole portfolio content and making some further cuts and/or adjustments.

Step 7 Authorise the work

- **Submit request for funding.** Process customised for each organisation based on how the funding process works.
- **Receive budget parameters.** The executive provide budget parameters to the portfolio team.
- **Authorise the work.** Authorise the work and make the funding and other resources available.

Step 8 Plan and execute the work

- **Portfolio staffing.** Assemble and create a staffing plan for the year.
 - **Filling staff openings.** At least three staffing options available.
 - **Build portfolio work schedule.** Multiple iterations of staffing plan and work schedule to meet all expectations.
- **Manage the activated portfolio.** Monitor and manage the work of the activated portfolio throughout the year.

Step 9 Report on portfolio status

- **Measure the results of portfolio work.** Metrics are required to show how effectively the portfolio is being managed, and metrics are required to show the value of the work that the portfolio produces.
- **Integrate changes to authorised work.** When business conditions and business priorities change determine the best way to make the changes required.
- **Review and reforecast the portfolio work** (internal portfolio managers). Monitor and review the portfolio on a periodic basis to make sure that work proceeds according to the carefully laid plans.

Step 10 Improve the portfolio

- **Product launch.** Cannot start to properly gather benefits from the portfolio work or the products of projects unless they are properly launched and established.
- **Benefits harvesting.** Implementation of benefits realisation practices.
- **Benefits reporting.** Capturing of the benefits metrics by client department sponsoring the project.
- **Improving the portfolio.** Ongoing measuring and improving the portfolio.

10.4 PORTFOLIO MANAGEMENT IMPLEMENTATION CONSIDERATIONS

10.4.1 Strategic clarity

Skrabak (2015) wrote an article with the title: *It All Starts with Strategic Clarity*. According to Skrabak (2015) portfolio management is in large part of enabling innovation which starts with creativity. Srabak (2015) clarifies the difference between

innovation and creativity by referring to what an economist and Harvard Business School Professor Theodore Levitt said “*creativity is thinking up new things*” and “*innovation is doing new things*.” Skrabak (2015) further quotes from an article that Professor Levitt wrote in 1963 that stated that creativity is not enough, “*ideas are useless unless used*” and “*good ideas must be realised to mean something*.” Skrabak (2015) concludes that portfolio management enables innovation through projects and programmes that are the vehicles for creating value and realising benefits. Portfolio management translates the right ideas into reality while projects and programmes are used for implementing new ideas, creating new products or services.

10.4.2 Necessity of strategic change

Research from PMI (2014b) indicates that only 18% of organisations report being highly effective at organisational change management, while 64% are moderately effective, and 18% minimally effective. According to PMI (2014b) the primary causes of organisational change failure are insufficient communication (59%) and lack of leadership (56%). Organisations that are highly effective at change management incorporate certain practices (change enablers) that they deem important to the success of strategic initiatives:

- Having well-defined milestones and metrics.
- Having senior management committed to change.
- Establishing and communicating concrete ownership and accountability.
- Using standardised project management practices.
- Having engaged executive sponsors.

PMI (2014b) highlights that these practices are not frequently used within organisations that are not very good at change management as shown in Table 78.

Table 78: Change enabler practices (Source: PMI, 2014b)

Change enabler	Highly effective organisation (a)	Minimally effective organisation (b)	(a-b)
Well-defined milestones and metrics	86%	22%	64%
Senior management committed to change	86%	29%	57%
Concrete ownership and accountability	84%	24%	60%
Standardised project management practices	81%	21%	60%
Engaged executive sponsors	81%	25%	56%

PMI (2014b) mentions that communication is critical to effective organisational change management. Factors for effective communications management are:

- Effective communication plans (68%).
- Effective execution of the communication plans (64%).
- Effective identification, measurement and communication of the intended benefits of the change (62%).

PMI (2014b) refers to the PMI's *Profession In-Depth Report: The Essential Role of Communications* which found that many organisations fail to effectively communicate the business benefits of strategic initiatives to stakeholders at all levels of a project. PMI's research on the role of communications found that one half of unsuccessful projects are related to ineffective communications. Therefore, the importance of communicating a strategic initiative's alignment to organisational strategy should not be overlooked.

10.4.3 Enabling sustainable change

Survey data from PMI (2014b) reveal that among change enablers, twice as many strategic initiatives meet original goals, are completed on time and on budget compared to organisations that are not as good at organisational change management as shown in Table 79.

Table 79: Change enablers complete more strategic initiatives that meet original goals, are on time and are on budget (Source: PMI, 2014b)

	Highly effective organisation (a)	Minimally effective organisation (b)	(a-b)
Meet goals	65%	31%	34%
On time	64%	34%	30%
On budget	63%	36%	27%

This success comes from change enablers demonstrating certain practices that allow them to successfully implement and sustain change:

- **Standardised project and program management practices.** Change enablers instil a project and programme management culture and mind-set that enable the success of strategic initiatives. The PMI (2014b) research shows that 86% of them either always or usually use standardised project and programme management practices to implement organisational change, compared to just 12% of their less adept counterparts. So change enablers are seven times more likely to frequently use standardised project management for strategic initiatives, and it shows in their results.
- **Engaged sponsors actively rally senior management to commit to change.** The PMI (2014b) study shows that the top two factors that make an organisation effective at change management are support by senior management (72%) and stakeholder involvement in the initiative (70%). It is critical that senior management is on board to lead and manage people

through change by involving employees effectively in organisational decision-making and change initiatives. Sixty-four percent of strategic initiatives with change enablers have active executive sponsors, compared to just 41% at other organisations.

- **Managing people through change.** PMI (2014b) states that the success of strategic initiatives is also dependent on managing people through change and refers to Price Waterhouse Coopers (2012): *The Change Trifecta: Measuring ROI to Maximise Change Effectiveness* who emphasises that managing people through the process of adopting and embracing change is the best way to secure stakeholder engagement and create sustainable change. PMI (2014b) also refers to the McKinsey report, *Winning Hearts and Minds: The Secrets of Sustaining Change* that emphasises that the reshaping of employee attitudes and behaviours is just as critical to the success of a transformation as the implementation of process changes. The PMI (2014b) research mentions two important factors that make organisations effective at change (1) having a culture that embraces the change (59%) and (2) effectively managing employees through the change (58%).

According to PMI (2014b) PMOs and standardised project management practices are critical to sustaining change as shown in Table 80.

Table 80: Management of initiatives that result in sustained organisational change (Source: PMI, 2014b)

	Highly effective organisation (a)	Minimally effective organisation (b)	(a-b)
Project management office (PMO)	56%	16%	40%
Standardised project management practices	27%	9%	18%

Data from PMI (2014b) show that customer satisfaction (63%), cost reduction (62%) and sales/profits (50%) are the three metrics routinely used to evaluate the successful outcome of organisational change.

10.4.4 Key drivers and critical success factors for effective portfolio management

A study conducted by PMI (2012) among 443 portfolio managers around the world identified five key drivers for effective portfolio management which is shown in Table 81.

Table 81: Key drivers for effective portfolio management (Source: PMI, 2012)

Drivers for effective portfolio management	Percentage
Senior management receptivity	78%
Competent portfolio governance	66%
Standardised metrics and criteria	62%
Consistency and logic of organisational strategic objectives	59%
Mature project management office	58%

PMI (2012) found that 62% of projects at organisations that described themselves as highly effective in portfolio management met or exceeded the expected ROI. Yet despite the quantifiable benefits of portfolio management, relatively few organisations have perfected the practice. The report outlines a three-pronged approach for improving portfolio management:

- **Elevate portfolio management to a strategic level.** Understanding portfolio management at the highest levels is a major success driver. Among organisations that describe their portfolio management procedures as highly effective, 89% of respondents said senior management understands portfolio management at least moderately well. This stands in sharp contrast to organisations that describe their portfolio management as minimally effective. Only 25% of respondents said senior management understands portfolio management at least moderately well. By building an understanding of portfolio management among senior management, organisations are better able to ensure projects and programmes deliver on organisational strategy.
- **Prioritise portfolio management and position it as value-add.** Executives must be willing to show their support of portfolio management through communication and commitment to invest in the right talent. To fully reap the benefits of portfolio management, the entire organisation must have a solid understanding of how and why it works.
- **Implement appropriate tools and practices.** Highly effective organisations are nearly five times more likely than minimally effective ones to frequently use formal prioritisation tools, and twice as likely to have software designed specifically to support portfolio management (63% versus 13%). Organisations that frequently use formal portfolio management tools are 14% more likely to achieve projected ROI than those that don't. Organisations need not only tools, but also an established set of practices that help them achieve their strategic goals. By standardising portfolio management, organisations improve effectiveness. Minimally effective organisations are three times more likely to report great variability in their portfolio management practices (57% versus 16%).

PMI published a series of reports on portfolio management at the end of 2015 that provides insight into the critical success factors for the successful implementation of

strategic initiatives. The key findings of these three reports are discussed in the sections that follow.

According to the PMI (2015a) leading organisations establish and benefit from strong portfolio management by doing the following:

- **Connect project execution to strategy fulfilment.** A formal and disciplined portfolio management infrastructure that aligns projects and programmes to an organisation's strategic roadmap yields better results in achieving business goals and objectives.
- **Seek simplicity.** The less complicated the approach to portfolio management, the more likely an organisation can sustain its success. Organisations that excel in this area include the pieces of information they need, not everything available.
- **Create a portfolio-minded culture.** Senior leaders devote the time, education, and resources necessary to instil the practice into how everyone, from team members to executives, thinks, believes, and acts.
- **Develop strong capabilities.** Successful organisations cultivate competencies around specific portfolio management practices and portfolio decision-making capabilities in their journey to greater maturity.

PMI (2015b) identifies the areas in which effective strategic portfolio management brings value to a company and highlights the essential role of executives in that process. The key findings are:

- **Three key elements of portfolio management success require C-suite support.** Portfolio management requires extensive C-suite commitment in order to provide the necessary resources; cultural change to eradicate silos within companies; and effective communication and cooperation between those who formulate the strategy and those involved in executing it.
- **The C-suite needs to do more of the right things and fewer of the wrong ones.** The C-suite needs to focus on project selection, high-level monitoring, and evaluation. C-suite executives need to resist the temptation to micro-manage projects. Companies perform better if others handle the day-to-day tasks.
- **Deficiencies in project termination and resourcing are common and require C-suite attention.** The two most commonly acknowledged weaknesses in the management of strategic projects are project termination and resourcing. The C-suite must make hard decisions to discontinue struggling projects and create a culture where failure is seen as a valuable lesson rather than a wasteful disaster. The C-suite must be more active in initial prioritisation and resource allocation decisions so that it is clear which projects are the most important and why.

- **At a majority of companies, corporate politics impedes portfolio management.** If members of the C-suite follow their own interests and pet projects it undermines formal portfolio management.
- **Good data are lacking, but could bring multiple advantages.** The lack of collecting key performance indicators (KPIs) to measure the key attributes of the portfolio as a whole undermines the effectiveness of management of strategically relevant projects. Data can help with portfolio management, for example, reducing the negative effect of pet projects and helping to reduce the emotional barriers to project termination.

According to PMI (2015b) the participation of the C-suite is far from universal, even among portfolio management leaders. The portfolio management areas where C-suite involvement at leading companies differs noticeably from that of others are: selection of projects, ongoing monitoring of the portfolio, and post-project evaluation (see Table 82).

Table 82: C-suite involvement (Source: PMI, 2015b)

	Leading companies	Other
Selection of new projects.	54%	34%
Resource allocation between projects.	15%	19%
Allocation of projects into portfolio.	18%	17%
Prioritisation of projects.	26%	27%
Ongoing monitoring of portfolio.	23%	9%
Execution of “transform the business” projects.	22%	20%
Execution of “run the business projects”.	12%	8%
Periodic review of strategic projects in portfolio.	25%	24%
Project termination decisions.	33%	32%
Evaluation of projects after completion.	34%	18%

PMI (2015c) conducted an online survey of 466 portfolio management practitioners intended to give the portfolio manager’s view, and discuss specific ways that senior leaders can better support portfolio management in their organisations. The key summary findings of the practitioners’ perspectives include:

- **Portfolio management maturity correlates to organisational success.** High-maturity organisations have developed core competencies around specific portfolio management practices and decision-making capabilities that help them to be successful. They treat portfolio management as an organisational asset, and they invest in it over time in order to continuously improve.
- **Three key success factors in portfolio management.** Organisations that do portfolio management well differentiate themselves through:
 1. **Strong processes.** Processes are in place to make sure that project, programme, and portfolio decisions are based on objective, quantifiable facts, rather than gut instincts.

2. **Leadership, sponsorship, and support.** Leaders at highly mature organisations recognise the benefit of strong portfolio management and become visible champions for it, which sustains performance improvements over time.
3. **An enabling culture.** Cultural support for portfolio management is intellectual and emotional. High-maturity portfolio management addresses both dimensions, so that there is no stigma of failure in the organisation when a project gets terminated.
- **Finding success through portfolio management.** Superior portfolio management requires commitment from both practitioners and senior leaders. Organisations that recognise this opportunity and invest in improving their portfolio management capabilities are well positioned for the future. Optimising the ability to view, allocate, and adjust resources and time across a portfolio of critical, strategic projects provides a competitive advantage in an increasingly complex and dynamic business environment.

PMI (2015c) provides the following checklist to assess and improve portfolio management.

- Do we have the right level of support from senior leaders to build up our portfolio management capabilities?
- Are we delivering effective sponsorship and portfolio management to our most critical projects?
- Do our programme and portfolio managers have the abilities, tools, and resources they need to excel?
- Do we invest, as necessary, to develop smart and simple processes to build the link between strategy and projects/programmes?
- Do we have early indication mechanisms for problems in specific projects or portfolios, particularly those with the strongest link to our strategy, so that leaders are able to make proactive and timely course corrections?
- Do we have strong processes in place to support objective decision-making, to create transparency and enable engagement by senior leaders?
- Do we have a process in place for prioritising and/or terminating projects, and does the culture support this as a natural part of portfolio management?
- Does our culture support portfolio management by rewarding individuals who raise potential problems early?
- Finally, do we broadly recognise and support the value of portfolio management?

10.4.5 Enabling change through strategic initiatives

The PMI (2014b) *Pulse of the Profession In-Depth Report: Enabling Organizational Change Through Strategic Initiatives* mentions that change initiatives are time consuming and costly, significantly impacting an organisation's drive toward success and nearly half of them fail. Since the reality is that change is unavoidable,

organisations need to resolve how to successfully adapt and sustain change. PMI (2014b) views change management as an essential organisational capability that cascades across and throughout portfolio, programme and project management. All strategic change in organisations is delivered through programmes and projects, and successful organisations lead change by managing their projects and programmes effectively. To successfully implement organisational strategy, companies need project and programme managers with the skills to drive and navigate change, while ensuring that those changes are strategically aligned to business goals. The success or failure of a change initiative is not just about initiating, planning, monitoring, executing and evaluating the project that will drive the change, it also involves preparing the organisation for transformation, ensuring stakeholder buy-in, and engaging executive sponsors to champion and support the change before, during and after its implementation. This in-depth report provides insights from 723 project management practitioners with five or more years of project management experience from around the globe. The report seeks to help organisations identify where they can create more efficient, effective change management, and develop competencies to successfully implement and sustain change. Change is inevitable and organisations that manage it effectively will pull ahead of their competition.

10.5 PORTFOLIO MANAGEMENT PITFALLS AND CHALLENGES

A white paper from AtTask (2015) provides an overview of several project portfolio management pitfalls and how collaborative work management and portfolio management tools can avoid them.

- **Ad-hoc project initiation.** If an organisation's project initiation process is out of control, or non-existent, project teams quickly lose productivity when key resources shift to other "suddenly critical projects" and project stakeholders become frustrated with unfinished progress. The solution to avoiding this pitfall is to establish an integrated request management process that supports project portfolio management from project initiation through project execution.
- **Poor project estimation.** A root cause of budget problems is poor estimation and a lack of upfront planning. To avoid this pitfall, portfolio managers should consult with a repository of past project costs and estimates to support analogous estimation.
- **Project planning in a silo.** Portfolio managers are challenged with executives who make political commitments without confirming project feasibility with the portfolio manager and project teams. A solution to break the project planning silo is to adopt collaborative planning to ensure project budgets are realistic and reflects project team commitments.
- **Reporting stale and inaccurate status.** Projects are dynamic yet status reporting often tends to be static and risk becoming stale based on the timing of executive reviews. One solution to avoiding stale status is to facilitate portfolio status reviews using project management systems to support real time status.

- **Disparate portfolio status reporting.** This happens due to inconsistent status reporting across different projects in the organisation. Many projects apply the subjective traffic light approach of red, yellow and green for late, at risk or on track project status reporting. The PMO can produce a common status template that incorporate subjective status formats and objective performance indicators like task counts, issue aging, and earned value metrics.
- **Increased administrative burden with a centralised system.** Organisations often seek to solve portfolio management and project management issues with a centralised reporting system designed to appease the needs of the executive management team rather than the project team producing the work. Projects and portfolios need project management systems that enable work instead of enabling another administrative reporting tool. A solution is to base the project portfolio management processes and project management processes off the same source of data.
- **Benefit realisation failure.** Another challenge for portfolio managers is confirming benefit realisation after the project is completed. Projects are funded based on the benefits of the business case. The realised project benefits may take several months as the results of the project's new process, product or deliverable take time to fully execute in the organisation. The solution is to add a benefit realisation process after the project is completed and ensure the proper resources and prioritisation is provided in the portfolio. The PMO can champion the benefit realisation effort although resources need to be applied to confirm the benefits.

In a research article by Blomquist and Muller (2006) they refer to the following six major problem areas in business development portfolios that were identified by Elonen and Artto (2003):

- Inadequate project-level activities (e.g. through improper implementation of pre-project stages and infrequent progress monitoring).
- Lack of resources, competencies, and methods (e.g. through inadequate methods for portfolio evaluation, lack of resources, or extensive composition of steering groups and teams).
- Lack of commitment, unclear roles and responsibilities (e.g. at project level, but also between portfolio managers and other organisations, as well as a lack of management support).
- Inadequate portfolio-level activities (e.g. through overlapping tasks within and among portfolios, weak decision-making and reluctance to kill projects).
- Inadequate communication management regarding information about projects and its flow across the organisation.
- Inadequate management of project orientated business (e.g. through low prioritisation of projects, lack of project business strategies, and frequently changing roles, responsibilities, and organisational structures).

10.6 PORTFOLIO MANAGEMENT IMPLEMENTATION TIPS AND LESSONS

INNOTAS™ (2014) compiled six tips for PPM software implementation. INNOTAS™ (2014) points out that the following factors could be the difference between success and failure when implementing project portfolio software:

- **How much change will the PPM solution be creating?** One of the biggest reasons that PPM implementations fail is because organisations cannot cope with the amount of change required by the systems. If you are new to PPM, often a top down approach to the implementation can minimise organisational change and still contribute a large amount of value to the organisation.
- **Is the executive team strongly behind this initiative?** Often one of the most difficult duties of implementing a PPM solution is establishing the PPM tool as the de facto authority for managing and maintaining project information. It can be especially difficult to establish this clout if the PPM solution is being rolled-out with little organisational support or involvement. When implementing a PPM solution it is critical to ensure that C-Level executives are involved and understand the value and objectives of the roll-out.
- **Think about outputs before defining inputs.** Before starting to define fields in your PPM solution for managing and executing projects, think about what reporting outputs will be important for your stakeholders. Defining a concise list of outputs will help you better understand what information you need to capture in the PPM solution initially. This will ensure that you are only capturing relevant information in your PPM solution and will also minimise the amount of care and feeding required by your end-users, thus facilitating adoption.
- **Centralised or federated?** There are two main adoption approaches to consider when rolling out your PPM solution:
 - A **centralised** rollout is usually a great approach for larger organisations with hundreds of resources. In this approach the PMO team is responsible for meeting with different business leaders (usually weekly or monthly), collecting project and resource staffing information, and then updating the PPM solution for analysis, reporting, and planning.
 - A **federated** approach relies on end-users and/or non-PMO project owners to keep project and resource information in the PPM solution updated. This approach usually works well for small to mid-sized organisations. An effective way to encourage adoption in a federated PPM model is for the PMO to send a reminder email once per week for project owners to update their project and resource information in the PPM solution.
- **Avoid big-bang.** Many PPM solutions have a lot of bells and whistles and it can be tempting to try to take advantage of all of these features at the onset of

the PPM roll-out. However, more often than not, a big-bang approach to a PPM roll-out will set your organisation up for failure due to the amount of care and feeding required by end users to keep the PPM solution up to date. A better approach is to start small and to incrementally add capabilities to your PPM solution over time as the organisation matures and usage becomes ingrained in your process.

- **Ensure that you have the right personnel assigned to the implementation.** Often PPM implementations fail due to an organisation not assigning the right resources to own the implementation, or not being able to dedicate an appropriate amount of time to the implementation. Depending on the current PMO maturity level and the complexity of the tool to be implemented the effort and resources involved may vary.

Jordan (2015) conducted a research survey on improving performance by better portfolio planning and communication. According to this survey despite spending a lot of time, effort and money in improving the overall success of their portfolios many organisations are still consistently struggling to accurately demonstrate (and in some cases, deliver) the successes that their executives and boards demand. While there are many reasons for this, significant issues remain with the way that portfolios are planned and projects are approved. This survey aimed to explore the processes that organisations go through when selecting and approving projects, as well as the way that those processes are executed. The survey then explored the execution of the portfolio and analysed the amount of change and overall success for different planning approaches. The analysis also considered the way that organisations communicate performance against strategy to their teams, and if (and how) the use of tools assists with portfolio planning and execution. Very strong correlations were found between a number of survey factors and an organisation's ability to deliver consistently against business goals and objectives. Top tips were compiled from the analysis of the survey results and are shared in the sections that follow:

Top tips for planning in the organisation

- **Organisations must look to better engage their PMO and portfolio management functions into the annual planning process.** These functions are still consistently being excluded from planning, not only eliminating the value that they can add but also removing opportunities to understand the context of the portfolio that they must manage.
- **Many organisations are failing to embrace a comprehensive combination of objective and subjective factors when selecting projects.** This allows an organisation to gain a significant advantage over at least some of their competitors if they are able to implement a data-driven annual planning approach applied with sound business judgment.
- **A portfolio will stand a much better chance of delivering success if projects are select based on a combination of business judgment and**

scoring/analysis based methods. All other approaches increase the likelihood of project failure.

- **Project cancellation rates are a strong indicator of the ability of an organisation to deliver portfolio success.** Organisations that consistently achieve their business goals and objectives have significantly lower project cancellation rates than those that do not. Improving an organisation's planning to ensure that the right projects are selected in the first place will go a long way toward helping the organisation achieving their objectives.

Top tips for communication around project/portfolio performance

- **High performing organisations communicate more frequently.** Top performing organisations communicate portfolio progress monthly or at least quarterly. Communication helps to maintain an engaged and motivated workforce that is vital to portfolio success.
- **Helping project managers understand how their initiatives fit into the portfolio will deliver immediate benefits.** Not only will this allow them to provide context to their project teams, it will also help them to identify, escalate and help solve portfolio issues that first appear at the project frontline.

The following is recommended to significantly improve portfolio management from exploring the responses in the survey:

- **Spend time and effort to take the right approach prior to portfolio selection.** Organisations can lay a strong foundation for portfolio success by incorporating more structured tools and methods into their portfolio planning. Financial analysis and business casing should be seen as the “cost of entry” into this category, but scoring- based assessments supported by opinion-based assessment are important drivers of decisions. Those decisions should then be tested and validated using portfolio modelling and capacity and capability planning to provide the best possible start to the portfolio.
- **Communication is an important element of portfolio management, and a key indicator of success.** Communication is the tool for maintaining and building strong relationships with all portfolio stakeholders, especially project managers. Regular portfolio status communications should happen at least quarterly, and preferably monthly. All changes to the portfolio must be communicated in a timely manner with an explanation for why the change is happening, and project managers must be treated especially carefully from a communications standpoint. It is vital that project managers understand how their initiatives contribute to overall portfolio success so that they can manage their teams and work appropriately. The absence of this context alone can be enough to drive portfolio failure.
- **Organisations should not be afraid of making changes to their portfolios, but the drivers of change are important.** High- performing

organisations still deal with projects that must be cancelled and significantly changed. Neither of those events should be viewed negatively – they are a necessary part of delivering a portfolio that is capable of meeting the shifting organisational goals and objectives. However, organisations must work to minimise the change that is driven by factors that are in their control – inadequate planning being a major driver. Striving for a better understanding of real (versus perceived) customer needs is an area that still offers significant room for improvement.

- **Tools can play a valuable role in supporting organisations' portfolio management success.** PPM tool suites are real drivers of portfolio management improvement. If organisations have not yet implemented tools, then they should look to do so as soon as possible – and those that have tools already should look for ways to improve how they are leveraging them. Modern tools are extremely flexible and can grow with an organisation, so there is no reason to delay implementing a solution. Further, the benefits that a tool can deliver may well help an organisation to grow more rapidly than would otherwise be possible.

Nieto-Rodriguez (2015), the Vice Chair of PMI, shared his experience on portfolio management implementation in organisations and highlighted the following important points during an interview on the topic: Portfolio Management: Enhancing Strategic Dialogue:

- **Effective portfolio management is critical to strategy implementation.** One of the main reasons that many companies fail is due to a lack of mature portfolio management practices (e.g. Nokia went bankrupt due to the lack of portfolio management). The right portfolio management process and an execution mind-set in place contribute to successful strategy implementation.
- **Effective portfolio management enable projects and programmes to be more aligned to organisational strategy.** One of the most important benefits of implementing organisational portfolio management is that it helps align most of the projects and programmes to the organisation's strategies. If strategic objectives are not clear, or non-existent, there is a gap and lack of alignment between the corporate strategic objectives and the ones from the different business units, departments or functions. As it is almost impossible to match all the projects and programmes to strategic objectives it is important to ensure that at least the most important projects and programmes are fully aligned with the strategic objectives.
- **Ways to make portfolio management more effective.** Three techniques to make portfolio management practices more effective are:
 - Keep the approach simple and pragmatic.
 - Use executive business language when presenting to executives.
 - Focus on the most important initiatives instead of trying to cover the whole spectrum of projects.

- **Examples of improvements in companies as a result of applying effective portfolio management.** Major improvements include:
 - Cost reduction of about 15% in the area of project management from stopped projects (including reducing duplications, consolidating projects and decreasing budget overruns).
 - Increased success rates of the most strategic projects.
 - Increased alignment and focus of senior management teams around the strategic priorities and the strategic projects of the organisation.
 - An execution mind-set and culture.
- **Relationship between effective portfolio management and risk management.** Portfolio management should be always linked to two organisation-wide processes: the organisation's budgeting cycle and enterprise risk management process. Observing how executives make decisions revealed the following. If the risk appetite of the senior executive team is very low, they will tend to do as many projects as possible; they don't want to take the risk of not being compliant, missing a market opportunity, not having the latest technologies and so forth. On the other hand, if the executives are risk takers, they would tend to focus much more. It is another way of looking at risk management linked to portfolio management - doing the right projects. The purpose of portfolio management is to enhance the strategic dialogue at the top of the organisation, which is then cascaded to the rest of the organisation. Once the executive team understand this, portfolio management gets embedded in the organisation and its corporate culture
- **One of the issues in making portfolio management more effective is resourcing projects correctly.** This is one of the most complex matters when diving into the details of portfolio management. In large organisations, there are many people working full or part time on projects. The challenge comes for all those resources contributing to projects in addition to their day-to-day operational responsibilities. This is where most of the bottlenecks are found. It is recommended to focus on resourcing the most important projects and getting the commitment from the different departments on staffing for those projects. With their remaining resources, allow some flexibility and leave it up to each department to decide and execute their own projects as well.
- **Another issue that causes portfolio managers to lose sleep is decisions to terminate projects.** Stopping projects once in a while is very healthy for any organisation as long as the learnings are embedded back into the organisation for future projects. For every project stopped, the organisation becomes more focused and is an opportunity to learn and do better next time.

10.7 SUMMARY, INTEGRATION AND CONCLUSIONS

Many organisations struggle with portfolio management implementation due to poor preparation, inefficient execution, resource and budget constraints, and lack of support from leadership. Portfolio management implementation impacts people and

how they do their jobs and must therefore be deployed as a culture change. It is therefore crucial that the implementation of portfolio management best practices be executed as a major business transformation initiative to be successful.

There are some prerequisites that an organisation should meet in order to ensure that portfolio management implementation is successful. Questions to be answered are:

- What are the desired outputs and the positive and negative benefits to the organisation?
- How much change will the portfolio management solution create and what will the impacts (i.e. positive and negative) on the organisation be?
- Is the organisation ready to implement portfolio management and does it have the necessary organisation energy (i.e. emotional, cognitive and behavioural potential to pursue goals).
- Does the executive team strongly support the initiative?
- Are the right personnel with adequate time available to do the implementation/rollout?
- What is the best rollout approach for the organisation (big-bang, evolution or ad-hoc)?

The implementation of portfolio management by an organisation is an investment in resources and must therefore be justified to address the need, the benefits and the cost of the investment, as well as the alignment to the strategic objectives. Portfolio management implementation must start with strategic clarity to translate the right ideas into reality while projects and programmes are used for implementing new ideas, creating new products or services. Portfolio management enables innovation through projects and programmes that are the vehicles for creating business value and realising benefits. To do portfolio management well organisations need to put processes in place to make sure that project, programme, and portfolio decisions are based on objective, quantifiable facts, rather than gut instincts.

An organisation must determine the types of work that will be included as portfolio components or excluded from the portfolio, including criteria that must be used to identify portfolio components. Criteria for categorisation, evaluation and selection of portfolio components must be defined and must reflect defined portfolio objectives in alignment with the organisational strategy. The criteria must also reflect the values, principles, other organisational policies and targeted benefits.

The portfolio management processes being implemented must be aligned and integrated with existing organisational processes and systems. A portfolio management support system must be defined and established to provide visibility and relevant information to the decision-makers. In order to enable monitoring and tracking of both performance and the realisation of benefits over time, a performance reporting structure and associated measurement criteria must be established.

Governance of portfolios must be established to provide the authorities, processes, standards and accountability necessary to conduct the management and leadership of the portfolio. Stakeholder management is crucial for effective portfolio management.

There are various critical success factors to successfully implement strategic initiatives by applying portfolio management. It is essential that the portfolio of strategic initiatives is actively managed through risk and investment decisions, therefore portfolio management should be always linked to the organisation's budgeting cycle and the enterprise risk management processes. Business cases must be used to connect projects to strategy. Portfolio management implementation must be made more effective by keeping the approach simple and pragmatic by starting with something simple and usable and embrace a stepwise journey to maturity. Focus on the most important initiatives instead of trying to cover the whole spectrum of projects. A portfolio management mind-set must be created to provide strategic focus by positioning portfolio management as value-add; supporting resources and the right talent must be dedicated; and leaders and peers must be educated on the practice of portfolio management. Competencies around specific portfolio management practices and portfolio decision-making capabilities must be created. To make portfolio management more effective projects must be resourced correctly. As resourcing projects is a complex matter (e.g. bottlenecks) the focus must be on resourcing the most important projects and getting the commitment from the different departments on staffing for those projects.

Executives have an essential role to play when implementing portfolio management. They must lead from the top and exhibit commitment. Corporate leadership must clearly communicate what the company is trying to achieve and formulate a strategy at the right level so that portfolio management can be applied effectively. To overcome cultural barriers to portfolio management executives must eradicate silos and ensure effective communication and cooperation between those who formulate the strategy and those involved in executing it. Executives must focus on project selection, prioritisation and resource allocation decisions, high-level monitoring and post-project evaluation and not waste their time by micromanaging and undermining the authority of the project teams. Executives must make the hard decisions to discontinue struggling projects which is very healthy for an organisation as long as the learnings are embedded back into the organisation for future projects. Data and metrics (say four to five KPIs) must be in place to allow a project or programme to be quantified against the strategy to prevent executives own interests and pet projects.

Commitment is required from both practitioners and senior leaders to achieve the benefits of superior portfolio management. Organisations that are highly effective at organisational change management (change enablers) demonstrate that the success of strategic initiatives occurs through standardised project and programme management practices, engaged sponsors who actively rally senior management to commit to change and managing people through organisational change.

Capabilities most critical to a successful transformation execution is balanced scorecard showing key metrics and achievement toward goals, understanding the true impact of the proposed change on all other initiatives across the organisation and a clear summary of costs associated with the initiative. Top challenges to successful business transformation are related to the ability to accurately account for, predict and build contingencies around risk. Leaders in business transformation are significantly more active in leveraging EPPM methodologies and processes.

The following are considerations when implementing portfolio management in an organisation:

- Engage the EPMO and portfolio management functions in the annual planning and budgeting process.
- Select portfolio components based on a combination of business judgment and scoring/analysis-based methods.
- Communicate frequently to maintain an engaged and motivated workforce that is vital to portfolio success.
- Ensure that project managers understand how their initiatives fit into the portfolio and support the strategic objectives.
- Spend time and effort to develop portfolio management model and processes (PCMs) that are supported and accepted by all functions involved in portfolio management.
- Develop and implement a portfolio management solution from a leading vendor.

Problem areas in business development portfolios identified are inadequate project-level activities; lack of resources, competencies, and methods; lack of commitment, unclear roles and responsibilities; inadequate portfolio-level activities; inadequate communication management; and inadequate management of project orientated business. Portfolio management implementation pitfalls to be avoided are ad-hoc project initiation, poor project estimation, project planning in silos, stale and inaccurate reporting, disparate portfolio status reporting, increased administrative burden with a centralised system and benefit realisation failure.

The implementation of portfolio management should be managed as a project by following a phased approach. The researcher proposes the following phases taking into account his experience gained during the successful implementation of the SAP Plant Maintenance module in the Eskom Generation Division, his dissertation on project life cycle models, and his involvement in the development of project life cycle models since 2003:

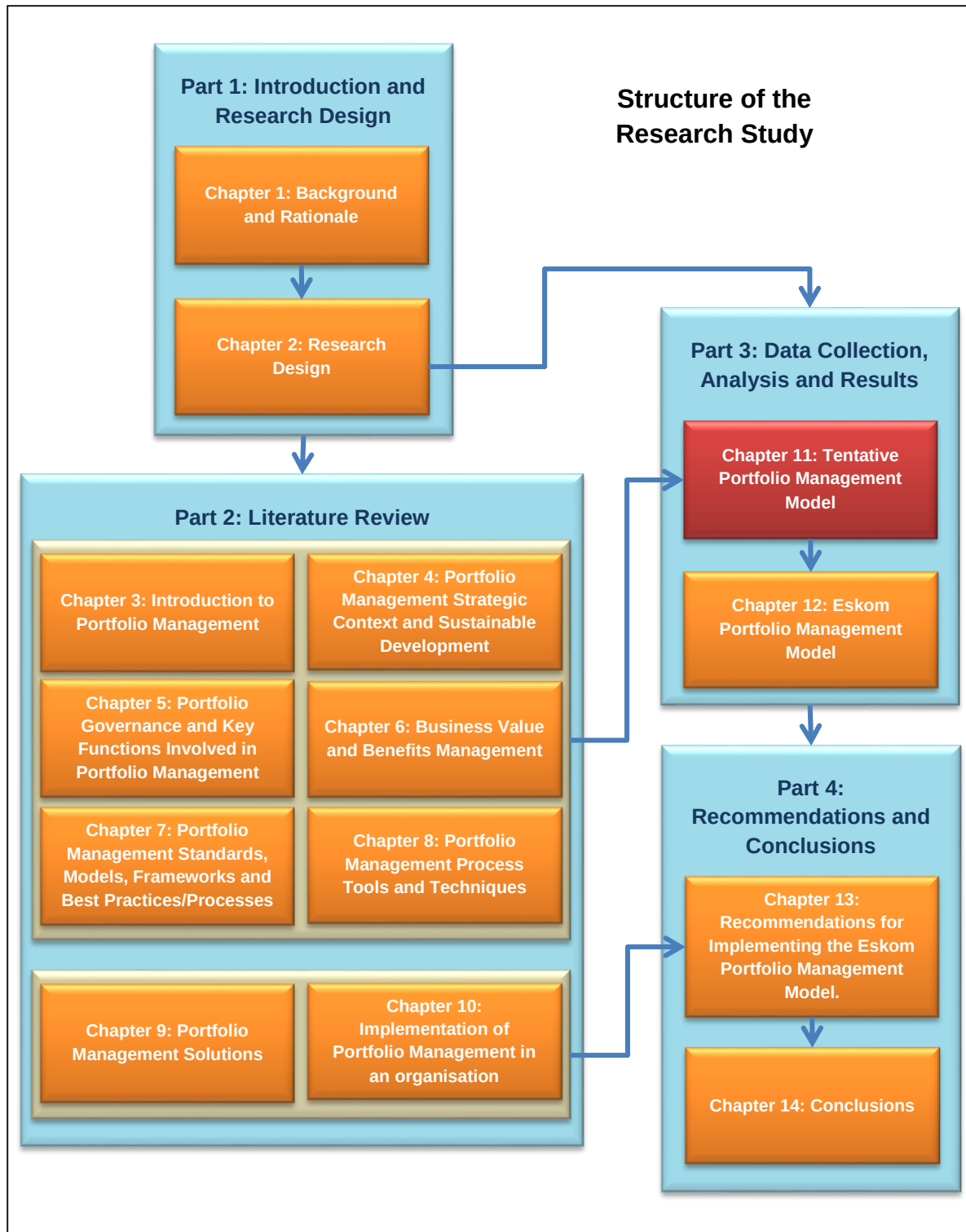
- **Mobilisation and planning phase.** Establish the drivers and hurdles for portfolio management implementation (e.g. implementation of portfolio management best practices and solution/systems). Set up the governance structure and mobilise the resources for implementing portfolio management.

Assess the current state of portfolio management and organisational readiness for implementing portfolio management. Define the portfolio management vision, implementation approach (big-bang, evolution or ad hoc), implementation roadmap and plan.

- **Design and development phase.** Design and agree the portfolio management organisational structures. Confirm/finalise the portfolio management model and processes (PCMs). Develop portfolio management tools and select/confirm the solution/systems required for effective portfolio management (e.g. SAP PPM and portfolio management SaaS). Do systems development, establish data conversion and purification approach, establish the training approach and develop the training material.
- **Roll-out phase.** Implement and establish the portfolio management organisational structures. Roll out the portfolio management model and processes (PCMs), tools/systems, convert and purify data and train users. Select a pilot site to implement and test the portfolio management model and processes (PCMs) followed by a phased roll-out approach in the Eskom Divisions and Subsidiaries.
- **Embedment phase.** Develop a portfolio management improvement plan and support system to sustain and improve the portfolio management model and processes (PCMs), tools, systems and maintenance of data to realise the benefits of portfolio management. Manage changes to the portfolio management model and processes (PCMs), procedures, tools and systems and monitor the achievement of expected results.

PART 3: DATA COLLECTION, ANALYSIS AND RESULTS

CHAPTER 11: TENTATIVE PORTFOLIO MANAGEMENT MODEL



11.1 INTRODUCTION

11.1.1 Background

In this chapter a tentative portfolio management model is developed (i.e. preparing a proposal) by integrating the elements as deduced from the summaries and conclusions from Chapters 3 to 8 in Part 2: Literature Review. The tentative portfolio management model is then used as a reference for developing a tentative portfolio management model for Eskom (i.e. proposal) in Chapter 12.

11.1.2 Aim

The purpose of this chapter is to:

- Develop an “integrated” tentative portfolio management model from the review of the literature (i.e. preparing a proposal).
- Describe each of the elements in the tentative portfolio management model.
- List the steps (i.e. activities, processes, roles and responsibilities, tools and techniques, etc.) that can be used as a reference by organisations to implement and embed portfolio management best practices.

11.2 TENTATIVE PORTFOLIO MANAGEMENT MODEL AND ELEMENTS (I.E. PREPARING A PROPOSAL)

The tentative portfolio management model in Figure 59 integrates the elements as deduced from the summaries and conclusions from Chapters 3 to 8 in Part 2: Literature Review. The portfolio management cycle is to be understood less as sequentially ordered but rather in the sense of recurring that can be overlapping or parallel.

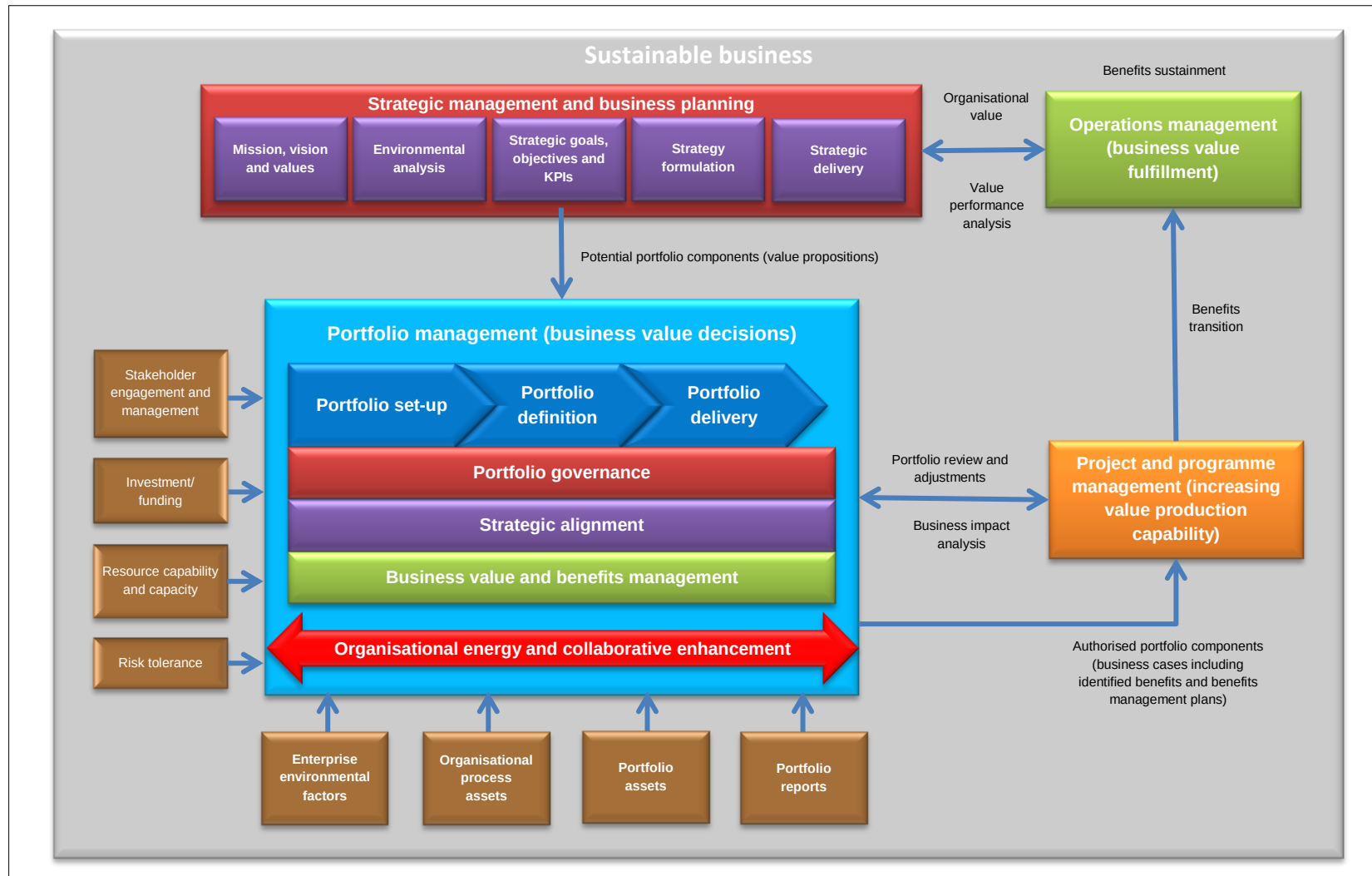


Figure 59: Tentative portfolio management model

The key elements of the tentative portfolio management model as shown in Figure 59 are described in the sections that follow.

11.2.1 Sustainable business

In order for a business to remain competitive and be successful it must be sustainable. To achieve sustainable development objectives, organisations must align strategic management and business planning with the three objectives of sustainable development which are economic efficiency, social equity and environmental performance.

11.2.2 Strategic management and business planning

Ideation is the understanding of an organisation of what it is and how it appears in the world, expressed through its purpose, identity and long-range intention. Mission is the purpose and priorities of an organisation to compete in a competitive business environment. Vision is an organisation's highest aspirations and ideals for success and includes the goals, metrics and strategy that form the foundation for the organisation. A key criterion for vision is to achieve a competitive advantage with the focus on customers and competitors. Core values, behaviour of the organisation and artefacts embodies an organisation's culture.

Organisations perform environmental analysis (internal and external) to establish strategic goals and objectives. Strategic goals set direction to obtain a competitive advantage. The most pressing issues in creating a competitive advantage in a volatile business environment are innovation, human capital and global expansion. Strategic objectives are specific results to be achieved in a given time period and include targets and measures (KPIs). Strategic objectives must be written in a way that they are understandable and worded according to the SMART technique (specific, measurable, attainable, realistic and time-bound) to facilitate the development of project objectives that align to organisational goals and strategies.

Strategy formulation establishes a roadmap to enable long term organisational decisions and includes policies, directives, plans and actions for achieving strategic goals and objectives, either through operations (on-going organisational activities) or programmes and projects. Effective strategy delivery requires a suitable organisational structure and system to react more quickly to external and internal shifts and supports the implementation of projects and programmes. To ensure success organisations need to empower management and staff with the tools, resources and insights to execute their strategies consistently and reliably in the midst of continuous business change.

Organisational objectives and strategies determine the potential portfolio components that should be addressed and prioritised to deliver value/benefits for the organisation. Value propositions are used as the basis for selecting potential portfolio components and describe the work and benefits that must be delivered. Adequate

strategic and operational controls must be in place to track strategy implementation, detect problems or changes and make adjustments.

11.2.3 Portfolio management

Portfolio management is the bridge between organisational strategy, programme and project management, and operations. Portfolio management is a systematic and continuous decision-making process by which an organisation evaluates, selects, and prioritises the work that is of the most value taking into consideration the allocation of scarce resources (financial, physical, human, technological) to best accomplish organisational objectives and strategies consistent with the organisation's vision, mission and values. Business cases are used as the basis for evaluating, selecting, prioritising and approving portfolio components (programmes, projects and other work) that will provide the maximum value/benefits for the organisation. Only projects and programmes that are aligned to strategic goals and objectives should be authorised for implementation.

Effective portfolio management is a major success driver for delivering more projects on-time, on-budget, and meeting their original business intent and forecasted ROI. Portfolio management thus should be elevated to a strategic level. Four possible strategic focusses for linking portfolio management, programme and project management to business strategy are cost advantage, customer focus, product advantage, and time advantage.

11.2.3.1 Portfolio management inputs

Stakeholder engagement and management

Stakeholders involved in portfolio management must be identified and engaged in portfolio management. Stakeholders may include those involved in executive management; strategic and business planning; investment and finance management; portfolio office; portfolio management, programme and project management; operations, etc. Engagement is a clear demonstration that an organisation is funding the right projects that will further the strategy.

Investment/funding

The selection, prioritisation and authorisation of portfolio components (programmes, projects and other work) are subject to investment approval and the availability funding.

Resource capacity and capability

The selection, prioritisation and authorisation of portfolio components must take into account the available resource capability and capacity.

Risk tolerance

The evaluation and selection, prioritisation and authorisation of portfolio components must also take into account the organisation's tolerance to risk.

Enterprise environmental factors

Enterprise environmental factors are internal or external conditions, not under the control of the portfolio organisation, which influence, constrain, or direct a portfolio's success. It is the nature of the organisation that embodies the culture and structure (i.e. the environment and context) within which an organisation operates.

Organisational process assets

Organisational process assets are plans, processes, policies, procedures, and knowledge bases, specific to and used by the performing organisation that can be leveraged by the portfolio manager.

Portfolio process assets

Portfolio process assets are formal and informal plans, policies, procedures, guidelines, portfolio related knowledge bases, such as lessons learned and historical information. It may also include information on tools, techniques, models, integrated schedules, and risk and performance data.

Portfolio reports

Portfolio reports include reports such as performance reports, feedback reports to organisational strategy and business planning, variance reports, resource capability and capacity reports, portfolio risks and issues, governance recommendations and decisions, and portfolio component recommendations.

11.2.3.2 Portfolio setup

The purpose of portfolio set-up is to evaluate the organisation's strategic objectives and strategies and develop a portfolio strategic plan to establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives.

11.2.3.3 Portfolio definition

The purpose of portfolio definition is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability.

11.2.3.4 *Portfolio delivery*

The purpose of portfolio delivery is to manage the execution of the portfolio and its authorised components in line with the portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives.

11.2.3.5 *Tentative portfolio management model activities*

The tentative portfolio management model activities as shown in Table 83 are derived from integrating the portfolio model elements in Figure 40 and the portfolio management model activities in Table 31 in Chapter 7.

Table 83: Tentative portfolio management model activities

Portfolio set-up	Portfolio definition	Portfolio delivery
	• Develop portfolio roadmap. • Develop portfolio change management plan. • Develop portfolio financial management plan. • Develop portfolio resource management plan. • Develop portfolio stakeholder and communications management plan. • Develop portfolio risk management plan. • Develop integrated portfolio management plan. • Create portfolio delivery plan.	• Activate portfolio components. • Manage portfolio finances. • Manage portfolio resources (i.e. supply and demand). • Manage portfolio stakeholders and communications. • Manage portfolio risks. • Report portfolio performance.
Portfolio governance		
• Establish portfolio governance structures. • Develop portfolio charter/s and setup portfolio/s.	• Develop portfolio governance management plan. • Authorise portfolio and changes.	• Provide portfolio oversight (i.e. management control). • Perform portfolio governance reviews.
Strategic alignment, business value and benefits management		
• Develop portfolio strategic plan. • Identify potential portfolio components and benefits and maintain the portfolio pipeline. • Categorise potential portfolio components.	• Assess and select portfolio components. • Develop portfolio performance and benefits management plan. • Prioritise portfolio components. • Balance, optimise and maintain the portfolio.	• Manage portfolio changes. • Manage portfolio performance and benefits. • Transfer benefits and allocate benefits accountability.

11.2.3.6 *Portfolio governance*

Four interrelated elements are required to support governance of projects and programmes. The elements are portfolio management; project sponsors; strategic PMO, and effective project and programme management. Portfolio management focuses on selecting the right projects and programmes and supports the overall governance processes by balancing the workload against the organisation's capability and capacity to undertake the work, and ensuring an appropriate mix of high risk high return projects. The project sponsor is a critical link between the executive and strategic levels to ensure that business benefits are identified and realised and also provides support to project managers and the project teams to fulfil their roles effectively. The contribution of the strategic PMO ranges from providing internal consulting experience, project management knowledge, and application of a clear set of project process performance standards for project and programme work; monitoring and controlling of project performance; and ensuring that accurate interpretive and predictive assessment information is available to senior and executive management to support the portfolio management decision-making process. Effective project and programme management requires that project and programme managers create the outputs and deliverables as efficiently as possible, while working ethically and in accord with the organisation's practices and procedures to achieve the organisation's strategic and tactical objectives.

11.2.3.7 *Strategic alignment*

Successful strategic execution requires tightly aligning the project portfolio to the corporate strategy. Achieving alignment and maximising performance of project-based work is critical to successfully execute the strategies an organisation has identified to deliver on key initiatives. The strategic plan is a key interface between the governing body and the management with shared responsibility to develop an effective strategy for management to implement.

11.2.3.8 *Business value and benefits management*

Business value is defined as the entire value of the business, the total sum of all tangible and intangible elements and is created through the effective management of on-going operations. Through the effective use of portfolio, programme, and project management, organisations will possess the ability to employ reliable, established processes to meet strategic objectives and obtain greater value from their project investments. Benefits management is a key aspect in the delivery of the value. A benefit is an outcome of actions and behaviours that provide utility, value, or a positive change to the intended recipient. Benefits must be stated with clarity and in a measureable form in the business case before a project is authorised. Benefits themselves are normally only achieved after a project is completed in the operational phase of the deliverables. Value must be retained throughout the project life-cycle using risk management, an appropriate procurement strategy, and ensuring that on-

going costs and schedules are in line with the original plan. The intended recipients of the benefits must be prepared for the resulting change to be able to sustain the incremental benefits through the completion of projects and programmes and beyond.

11.2.3.9 Organisational energy and collaborative enhancement

Organisational energy is the extent to which an organisation has mobilised the full available effort of its people in pursuit of its goals. It is the collective effort of the people and the effective management of that effort within the organisation that are the deciding factor on whether or not the strategic objectives are achieved. Organisational energy refers to a collection of critical organisational elements such as leadership, direction, management, motivation, well-being, effective communication, teamwork, skills and experience, all of which must come together in order to release the organisation's collective energy in the right direction. The demands of increased agility in planning require more effective collaboration between all functions involved in portfolio management.

11.2.3.10 Key roles of stakeholders and functions involved in portfolio management

The key roles of stakeholders and functions involved in portfolio management and the purpose of each role as summarised in Table 84 are deduced from the summaries and conclusions in Chapter 5 of Part B: Literature Review.

Table 84: Key roles of stakeholders and functions involved in portfolio management

Key role	Purpose of each role
Management board.	Accountable for the governance of the organisation. Part of the board's responsibility is to ensure appropriate delegations of authority are made to management so they can develop an effective system of management that meets the governance needs of the organisation. Responsible for the approval of the corporate plan, annual financial plan and portfolio budget.
Portfolio direction group.	Governance body where decisions about inclusion of portfolio components in the portfolio are made. Ensures that portfolio components are linked to the strategic objectives and benefits outlined in the business cases.
Portfolio process group/change delivery committee.	Governance body responsible for monitoring portfolio progress and resolving issues that may comprise delivery and benefits realisation.
Business change/portfolio director.	Management board member responsible for the portfolio strategy. Provides clear leadership and direction and leads the design and implementation of the portfolio governance structure with the assistance of the portfolio office.
Portfolio management sponsor.	Person or group responsible for the implementation of portfolio management and for enabling success. Provides resources and supports the project, programme, or portfolio. Champions the approval of portfolio components (projects, programmes, and operations). Once approved the sponsor helps ensure that the portfolio components perform according to the organisational

	strategy and objectives.
Strategic and business planning.	Function responsible for producing the annual corporate plan, strategies, strategic goals and objectives. Sets the context within which portfolio management operates by providing the basis for determining the scope of the portfolio and the prioritisation of individual portfolio components and the measures against which portfolio management will ultimately be assessed.
Strategic portfolio management office/portfolio office.	Works closely with strategic and business planning and other functions involved in portfolio management to achieve the strategic goals and objectives. Responsible for centralisation of support for portfolios, programmes and projects, maintains visibility and control on the performance and trends of the projects and programmes and provides interpretive and predictive assessments and accurate information to executive and senior management and stakeholders at the right time, enabling them to make effective decisions. Guardian of the portfolio process - monitoring their operation, reporting any non-compliance and providing an assurance on their effective operation.
Business analysis.	Function responsible to identify business needs, elicit and manage requirements, and recommends relevant solutions to meet organisational needs. Focus on the ability to accommodate rapid change and work in partnership and collaboration with portfolio management to ensure that projects and programmes deliver the required business value.
Portfolio/programme/project management office (PMO).	Entity that defines and maintains the process standards related to project, programme and portfolio management and may handle communication in the form of progress reporting. The PMO provides guidance on the practice of project, programme, and portfolio management and may be involved in execution such as facilitation, process management, and supporting implementation of project management methodologies. The PMO can function on an enterprise-wide level, or as one of many departmental PMOs.
Portfolio manager.	Person responsible for the execution of the portfolio management process with the focus on “doing the right work”. Coordinates the effective and efficient operation of the portfolio management practices, provides support to the business change/portfolio director and the portfolio process group/change delivery committee - including ensuring that they receive the information they require to enable them to discharge their responsibilities. The portfolio manager may be an individual, a group, or a governing body.
Portfolio management team.	Team responsible for the efficiency and effectiveness of the internal running of the portfolio.
Portfolio benefits manager.	Person responsible for ensuring that a consistent approach to benefits management is applied across the portfolio and that benefits realisation is optimised from the organisation's investment in change.
Finance.	Function responsible for providing guidance for business case preparation, development of the annual portfolio financial plan and budget, tracking the spent in a year, and ensuring the realisation of financial benefits by adjusting budgets where appropriate.
Project sponsor/senior responsible owner (SRO).	Person who owns the project business case. Responsible for agreeing the project objectives with the relevant stakeholders. Responsible for ensuring decisions are in line with the organisation's strategy and governance framework; providing feedback to strategic decision-makers; and directing and

	supporting the projects and programmes being sponsored. The project sponsor/SRO is the route through which a project manager directly reports and from which the project manager obtain formal authority, remit and decisions.
Programme and project management.	Function responsible for the management and delivery of portfolio components (e.g. programmes and projects).
Performance management.	Function responsible for designing and implementing portfolio performance metrics and driver-based models linking portfolio components and their benefits to the organisation's strategic objectives. Validating performance against business cases and designing the content and format of portfolio reporting for effective decision-making.
Procurement/commercial.	Function must have an early sight of proposed new portfolio components and is responsible for providing procurement and commercial advice and early commercial input to business case development, so ensuring more reliable scheduling to realistic commercial timescales.
Human resources (HR).	Function must have a view of the anticipated impact of the portfolio components on staff. Function is responsible to provide assistance with workforce planning, recruitment and training.
Communications.	Function must ensure management and staff has a clear and consistent understanding of the organisational strategy and their role in delivering it, engage staff in considering how best to implement the changed ways of working, improve the ability of management and staff to make aligned and consistent decisions, improve understanding of decisions made elsewhere in the organisation, ensure consistency in messages and facilitate effective ongoing staff engagement.

Table 84 above is used in Chapter 12 to do a comparative analysis to:

- Establish which positions and/or bodies in Eskom perform these roles.
- Develop a responsibility matrix (RACI) for each of activities/steps in the tentative portfolio management model for Eskom.
- Describe the roles and responsibilities for each of the positions and/or bodies for each of the steps/activities in the tentative portfolio management model for Eskom.

11.2.3.11 Portfolio management phases and steps/activities

The purpose of each of the portfolio management phases and associated steps/activities is deduced from the summaries and conclusions from Chapter 7 in Part B: Literature Review and is described in Table 85.

Table 85: Description of portfolio management phases and associated steps/activities

Step/activity	Description of step/activity
Portfolio set-up. The purpose of portfolio set-up is to evaluate the organisation's strategic objectives and strategies to develop a portfolio strategic plan, establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives.	
Develop portfolio strategic plan.	Evaluate the organisation's strategic objectives and strategies. Describe what portfolio management is designed to achieve. Establish

	the vision of the portfolio(s) and define the strategy in portfolio-related strategic goals and objectives. Define and capture the criteria and measures, key processes and methods to select and align portfolio components to enable a balanced portfolio to maximise the probability of achieving the organisational strategic objectives. Such actions must optimise the organisation's return on investment, maintain risk exposure within the organisation's risk tolerance and should match resource demand. Define and document the portfolio management governance structures.
Establish portfolio governance structures.	Prepare terms of reference for the portfolio governance bodies (e.g. portfolio direction group(s), portfolio progress group(s), investment committee(s), etc.) and establish the portfolio governance structures. Use the business change life-cycle and stage/phase gates, from the start gate to post-implementation review, to ensure that potential portfolio components are identified, assessed and selected, categorised, prioritised, authorised, executed, monitored and evaluated consistently based on their demonstrable strategic contribution and risk. Define escalation paths with control/tolerance limits. Monitor the operation of the portfolio(s) process, report any non-compliance and provide an assurance on their effective operation.
Identify potential portfolio components and maintain the portfolio pipeline.	Continually identify and map potential portfolio components to the organisation's strategic objectives and strategies. Obtain a clear and transparent view of what is in the current portfolio(s) and the portfolio pipeline(s), performance to date together with their forecast impact on organisational performance. Collect consistent data on all potential portfolio components to aid with categorisation, assessment and selection, prioritisation, balance and optimisation, and authorisation. Collate the information on the potential portfolio components into an interim report to provide a clear view on the contents of the portfolio(s), any apparent overlaps and duplication, and the associated costs, dependencies, resource requirements, forecast benefits, risks, and strategic contribution. Identify the potential portfolio components for the coming business cycle and develop value propositions describing the scope, value and alignment to the organisation's strategic objectives and strategies.
Categorise potential portfolio components.	Setup the terms, scope and definition of the portfolio(s) as decided in the portfolio strategic plan of how potential portfolio components will be grouped into categories and define the divisions/departments covered, the type of work included (e.g. programmes/projects, operations, support, etc.), the categorisation scheme (e.g. categories such as: mandatory, strategic, business support, experimental, infrastructure, maintenance, and cross-functional), the balance points (e.g. for each category set guidelines as how the work should be balanced) and the financial models (i.e. models to be used to assess and select the portfolio components that are aligned to the strategic goals and strategies). Organise potential portfolio components into groups, segments or sub-portfolios based on the strategic objectives and strategies or other groupings to aid in strategic alignment and to ensure that resource allocation reflects the relative organisational priorities. The purpose of the categorise practice is to make it easier for senior decision-makers to understand the make-up of their portfolio(s) and thus to make decisions on balance and on the optimum use of available funding and other resources.
Develop portfolio charter(s) and setup portfolio(s).	Identify objectives for the portfolio(s) using past and current performance and future goals of the organisation. Set objectives for different time periods, ranging from immediate to longer term taking into account constraints such as the organisation's risk tolerance. Keep the objectives under change control. Create the portfolio charter(s), develop the portfolio management structure(s) and appoint

	the portfolio management team(s).
Portfolio definition. The purpose of portfolio definition is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability.	
Develop portfolio roadmap.	Create a high-level schedule showing the potential portfolio components to be implemented over time with any dependencies between them so that any conflicts or gaps between the roadmap and the organisational objectives and strategies can be evaluated.
Develop portfolio governance management plan.	Document the governance structures, processes, escalation routes, tolerance/control limits and role descriptions for the portfolio.
Develop portfolio change management plan.	Define a portfolio change control approach to develop and implement recommendations for portfolio changes, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment.
Develop portfolio performance and benefits management plan.	Develop the portfolio performance management plan as to how portfolio value is defined and realised through the portfolio measurements and targets, alignment to organisational objectives and strategies, and roles and responsibilities in executing the plan. Develop a portfolio benefits management framework encompassing the following main elements: • Benefits eligibility rules including a consistent approach to benefits categorisation (e.g. financial and non-financial benefits, cashable and non-cashable benefits, efficiency/productivity and effectiveness/performance benefits and economy, efficiency and effectiveness benefits). • The existing and potential portfolio components and their mapping to the strategic objectives and strategies. • The targeted benefits and capabilities to be achieved by the portfolio components within the costs and timescales. • Portfolio benefits realisation plan. • Re-appraisal of business cases and benefits at stage/phase gates and portfolio-level reviews. • Clear arrangements for benefits tracking and reporting at a portfolio level. • Robust post implementation reviews and feeding lessons learned back into forecasting and benefits management processes.
Develop portfolio financial management plan.	Develop a financial management plan to ensure that the portfolio management processes and decisions are aligned to the financial management cycle. Financial considerations form a key element in all decisions regarding the commencement and ongoing viability of potential portfolio components, both at an individual and at a collective level. The main elements of the financial management plan are: • Selection of appropriate investment criteria including metrics such as NPV and hurdle rates of return. • Clear rules for compiling cost forecasts in business cases and adjusting for optimism bias or the tendency for business case writers to under-estimate costs and project durations, and overestimate benefits. • Clear rules for valuing savings and other benefits in business cases. • Clear control limits for reporting variances from budget and approving additional funding requests. • Incorporation of a financial plan within every business case. • The application of the concept of staged release of funding linked to the stage/phase gates to ensure that funding allocations remain aligned to strategic objectives and minimising the risks. • The portfolio delivery plan should include a portfolio-level financial

	plan showing the profiled capital and operating expenditure budgets in the forthcoming period. The plan should show in summary the impact on operating expenditure in future. • Monitoring spend in the year against the portfolio-level financial plan via portfolio dash-board. • Deciding how much financial contingency is retained at portfolio level to: • Address cost escalation on current programmes and projects (retained centrally rather than at individual portfolio component budget). • Fund new portfolio components during the year.
Develop portfolio resource management plan.	Develop mechanisms to understand and manage the amount of resources available and required to balance the demand and supply for any constraint resource that limits capacity of the organisation to deliver its potential portfolio components. Define portfolio wide standards for resource forecasting. Resources include but are not limited to skilled programme and project staff, other specialists, required equipment and accommodation, and the organisation's capacity to absorb business changes.
Develop portfolio stakeholder and communications management plan.	Identify key portfolio stakeholders, categorise them, and develop a portfolio stakeholder engagement and communication approach to ensure that: • The needs of the portfolio's stakeholders (both internal and external) are identified and managed appropriately. • Stakeholder support for the portfolio is gained by effective consultation and involvement in the definition and delivery of the portfolio.
Develop portfolio risk management plan.	Develop a risk management strategy at portfolio level that aligns to the organisational risk management policy to ensure consistent and effective management of the portfolio's exposure to risk at both individual portfolio component and collective portfolio level to: • Determine the level and tolerance of risk that is acceptable within the portfolio. • Develop or adapt an analysis technique for risks held at the portfolio level. • Identify risks at the portfolio level based on identified risks for each portfolio component. • Analyse and prioritise the portfolio risks considering such items as priority of strategic objectives, benefits, and the relationships among portfolio components. • Evaluate the risks over time including changes that should be monitored for risk impact and changes in portfolio composition.
Develop integrated portfolio management plan.	Compile the integrated portfolio management plan that includes the following: • Portfolio organisation structure. • The existing and potential portfolio components, interdependencies between portfolio components, and their mapping to the strategic objectives and strategies. • The targeted benefits and capabilities of the portfolio components to be achieved by the costs and timescales. • Portfolio management subsidiary plans. Portfolio management plan development is an iterative process. The subsidiary plans are considered as part of the portfolio management plan although they may be separate documents and contain reference to the portfolio management plan.
Assess and select portfolio components.	Do a meticulous and rigorous review of the value propositions to assess the current list of categorised potential portfolio components and decide which will move forward and which will get cut. Evaluate the current resource allocation, availability and constraints and identify

	interdependencies among the portfolio components. Create more detailed business cases for all the portfolio components that survived the initial cut and organise them for on-going evaluation, selection, and prioritisation.
Prioritise portfolio components.	Use the business cases and rank the portfolio components within the portfolio (or portfolio segment) based on the measures as agreed with relevant portfolio governance bodies to answer the following questions: • Which initiatives should the organisation invest in? • What are the most important initiatives? • What initiatives must be resourced above others? Where segmentation is used tailor the criteria for prioritising portfolio components to suit particular portfolio segments. Combine financial metrics with some form of multi-criteria analysis considering factors under two main headings to prevent financial appraisal bias: • The “return of attractiveness” of each portfolio component including such factors as financial return on investment, political need, strategic impact, etc. • The “risk of achievability” of each portfolio component including such factors as reputational risk, likelihood of product delivery, likelihood of benefits realisation, complexity, etc. Select and assign a priority to each of the portfolio components for inclusion in the portfolio by the results of: • The contribution to achieve strategic objectives. • The exposure to inherent risk. • The impact on available resources. • The capacity and capability of the organisation to absorb the totality of the changes from all portfolio components.
Balance, optimise and maintain the portfolio.	Establish if the resulting prioritised portfolio components and mix satisfies the overall direction of the organisation and its overall priorities by adding up the estimated work under each of the categories and comparing that with the strategic objectives and strategies. Review, analyse, and change prioritised portfolio components to create the optimal balance in terms of factors such as timing; coverage of all strategic objectives; impact across the business; stage of portfolio component development; overall risk; return profile; and available resources. Maintain the portfolio by continually evaluating potential portfolio components for inclusion in the portfolio, moving, modifying, closing or terminating portfolio components within the portfolio and balancing resources and other assets throughout the portfolio.
Create portfolio delivery plan.	Create a portfolio delivery plan to provide a clear view on: • Which portfolio components are included in the portfolio for execution. • Scheduling/timing of the portfolio components. • Resource and financial requirements. • Key milestones. • Risks.
Authorise portfolio and changes.	Present the optimised portfolio with list of balanced portfolio components to the relevant portfolio governance body and obtain authorisation for the coming year. This process lists and sets aside requisite budget and resources to carry out the authorised portfolio components. It is not necessarily a guarantee that the authorised portfolio components will be funded because changes in business conditions or newly surfaced portfolio components during the year could bump some authorised portfolio components off the authorised list. Communicate the decisions regarding the authorised portfolio components and changes to the relevant portfolio stakeholders.
Portfolio delivery. The purpose of portfolio delivery is to manage the execution of the portfolio and its	

authorised components in line with the portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives.	
Activate portfolio components.	Schedule and initiate the execution of the authorised portfolio components throughout the year based on business urgency, availability of staff and/or the logical relationships between portfolio components.
Manage portfolio changes.	Evaluate and determine the responses to ongoing changes in organisational objectives and strategies or portfolio components. Update the portfolio management and delivery plans and portfolio baseline to reflect the impacts and responses to the changes. Control changes to the portfolio: • Develop and implement recommendations for the portfolio, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment. • Develop and implement recommendations regarding the adding, moving, modifying or removing of portfolio components. • Communicate decisions regarding changes to the portfolio baseline and plans to the portfolio stakeholders.
Manage portfolio performance and benefits.	Track, validate and capture actual benefits and forecast future investment gains or losses. Identify gaps where forecast benefits will not meet expectations and implement corrective actions. When portfolio components slip, consider the impact on the benefits realisation plan, operational performance and strategic objectives and include it in the reporting to the portfolio governance body. Report portfolio value at an aggregate level delivered by portfolio components with the goal of maximising return on investment within an acceptable level of risk.
Manage portfolio finances.	Incrementally release funds for activated portfolio components in line with the business change life-cycle to maintain strategic alignment and minimise risk of wasted expenditure. Monitor the actual spent in the year against the portfolio-level financial plan. Report the financial information of all the portfolio components and the portfolio as a whole on a regular basis. Ensure that the spent against the portfolio financial plan is included in the portfolio dash-board report.
Manage portfolio resources (i.e. supply and demand).	Amalgamate the resource plans of the authorised portfolio components to understand and manage the portfolio resource requirements (i.e. what resources (people, skills and capacity) are required and for what time periods). Regularly review and update the resource schedule as part of the periodic portfolio-level reviews (e.g. during each portfolio component stage/phase gate) to understand the resource requirements changes. Identify changes required to be made in regard to the portfolio components such as de-scoping, cancelling, rescheduling, or other related actions to achieve optimisation. Resolve conflicts in resource utilisation and where shortages in supply are forecasted, take corrective action such as recruitment, negotiating contracts with external agencies, staff development and re-scheduling delivery.
Manage portfolio stakeholders and communications.	Identify stakeholders' needs and proactively engage them in the decision-making process to identify, assess and select, prioritise, balance and optimise, and authorise portfolio components (including portfolio changes). Execute the stakeholder and communication plan by collecting data, translating data into meaningful information, and supplying it to the identified stakeholders in a timely and effective manner. Establish two-way engagement and incorporate a feedback loop so that stakeholders can see how their comments and feedback are dealt with. Pay particular attention to ensure continued senior management commitment as senior management support is essential to effectively implement portfolio management.
Manage portfolio risks.	Identify risks at the portfolio level based on identified risks for each portfolio component. Analyse and prioritise the portfolio risks

	considering items such as priority of strategic objectives; benefits; changes in portfolio components; inaccurate forecasting and variability in returns; slippage of key dependencies; ineffective management of dependencies across the portfolio components; over exposure to a single supplier; negative impact on operational performance; etc. Evaluate the risks over time and develop and implement risk mitigation actions. Ensure that risk mitigation actions are reviewed regularly and updated and that the status of each of the top portfolio-level risks is incorporated into the portfolio dash-board. Escalate and report key risks and issues to the relevant portfolio governance body.
Provide portfolio oversight (i.e. management control).	Monitor progress at an individual portfolio component and portfolio level against the portfolio baseline as outlined in the portfolio management and delivery plans to ensure that the delivery stays on track. Track contributions of portfolio benefits and compare them with the current strategic objectives and strategies. Provide forecasting, including but not limited to resource and capacity utilisation and strategy and risk. Analyse both top-down and bottom-up portfolio component composition, alignment and performance, the impact of individual portfolio component performance on the performance of the entire portfolio and achievement of prioritised strategic objectives. Ensure that governance decisions are made in response to portfolio performance, portfolio component changes, risks and issues to ensure the delivery of the portfolio is in line with the portfolio management and delivery plans, current progress and conditions (including resources).
Report portfolio performance.	Integrate and maintain the reporting cycle across the portfolio, Collate and report overall portfolio status to the relevant stakeholders and governance bodies via the portfolio dash-board.
Transfer benefits and allocate benefits accountability.	Make sure that the benefits are transferred to operations and that someone is held accountable for the realisation of benefits.
Perform portfolio governance reviews.	Monitor the operation of the portfolio(s) process, report any non-compliance and provide an assurance on their effective operation. Perform regular governance reviews both at the individual portfolio component level (e.g. stage/phase gate reviews) and for the portfolio as a whole to ensure continued business justification and strategic alignment. When benefits have been transferred to operations and the realisation of benefits commenced, the results must be thoroughly examined and analysed to enable an organisation to assess and improve the effectiveness of the portfolio management process. Post implementation reviews should assess: • Were forecast benefits realised? • What unplanned benefits were realised and is there scope to leverage additional benefits? • Did the initiative represent value for money (i.e. actual cost compared with benefits realised)? • What lessons can be learned to improve the way benefits realisation is managed?

11.2.3.12 List of portfolio management process tools, techniques, templates, etc. as derived from international standards

The portfolio management process tools, techniques, templates, etc. in Table 86 are grouped according to the portfolio management steps/activities as deduced in Chapter 8. These process tools, techniques, templates, etc. can be used when executing the activities of the portfolio management model.

Table 86: Portfolio management process tools, techniques, templates, etc.

Steps/activities	Portfolio management process tools, techniques, templates, etc.
Develop portfolio strategic plan.	• PMI - Strategic alignment analysis (integrated view of overall portfolio). • PMI – Prioritisation analysis (prioritisation model or approach). • PMI - Readiness assessment. • PMI - Portfolio organisational structure analysis. • PMI - Quantitative and qualitative analysis (scenario analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI - Gap analysis. • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Portfolio management framework document contents. • OGC - Portfolio strategy document contents. • TenStep – Define financial models. • TenStep - Implementing PortfolioStep in an organisation. • TenStep - Deploying portfolio management as a culture change.
Establish portfolio governance structures.	• OGC - Portfolio management framework document contents. • OGC - Example organisational governance. • OGC – Example portfolio governance. • TenStep – Define portfolio roles.
Identify potential portfolio components and maintain the portfolio pipeline.	• PMI - Component inventory. • PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Programme and project information template. • TenStep – Define financial models. • TenStep – Value of architecture. • TenStep – Application architecture example (current application portfolio, application technical models, application technical design, development tools). • TenStep – Joint application development (JAD). • TenStep – Interviewing techniques. • TenStep – Requirements gathering techniques. • TenStep – Gap analysis (detailed and summary). • TenStep – Current state assessment template. • TenStep - Future state vision template.

Steps/activities	Portfolio management process tools, techniques, templates, etc.
	• TenStep - Detailed gap analysis template. • TenStep - Summary gap analysis template. • TenStep – Value proposition template.
Categorise potential portfolio components.	• PMI - Component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI - Graphical analytical methods (portfolio balancing using indicators or criteria and portfolio balancing using strategic categories and impacted business unit). • PMI - Portfolio component categorisation techniques. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • OGC - Portfolio management framework document contents. • OGC - Programme and project information template. • OGC - Simplified portfolio categorisation model. • OGC - Number of changes within portfolio categories graph. • OGC - Example of categorisation and tailored investment criteria. • TenStep – Define financial models. • TenStep – Portfolio examples. • TenStep – Portfolio definition template.
Develop portfolio charter/s and setup portfolio/s.	• PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI – Organisational structure analysis. • OGC - Portfolio strategy document contents. • OGC - Portfolio management framework document contents. • TenStep – Define portfolio roles. • TenStep – Portfolio examples. • TenStep – Portfolio definition template.
Develop portfolio roadmap.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • OGC - Programme and project information template. • OGC - Simplified portfolio categorisation model. • OGC - Number of changes within portfolio categories graph.
Develop portfolio governance management plan.	• OGC - Portfolio management framework document contents. • OGC - Example organisational governance. • OGC – Example portfolio governance. • TenStep – Define portfolio roles.
Develop portfolio change management plan.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Scenario analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Programme and project information template.
Develop portfolio performance and	• PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, business value analysis,

Steps/activities	Portfolio management process tools, techniques, templates, etc.
benefits management plan.	investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • OGC – Portfolio benefits management framework document contents. • OGC – Portfolio benefits realisation plan document contents. • OGC – Example of portfolio benefits categorisation. • OGC - Benefits management guidelines example. • OGC – Example of performance approval KPIs. • OGC – Example of portfolio-level benefits management. • TenStep – Define financial models. • TenStep - Establishing a metrics program. • TenStep – Investment science. • TenStep – Value proposition template. • TenStep - Business case template.
Develop portfolio financial management plan.	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, business value analysis, investment choice analysis). • OGC - Portfolio financial plan document contents. • TenStep – Define financial models.
Develop portfolio resource management plan.	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Portfolio organisational structure analysis. • OGC - Portfolio resource schedule document contents. • OGC - Example resource management. • OGC - Other possible graphical representations. • TenStep – Define portfolio roles. • TenStep – Staffing plan template. • TenStep - Staffing strategy template.
Develop portfolio stakeholder and communications management plan.	• PMI - Stakeholder analysis. • PMI – Stakeholder communication strategy matrix. • PMI – Stakeholder matrix example. • PMI - Communication requirements analysis. • PMI – Communication matrix. • PMI - Communication methods (dash-boards, resource histograms, communication calendar). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • OGC - Project stakeholder engagement and communication plan document contents. • OGC - Focus on senior management. • OGC - Example classifying stakeholders. • OGC – Example stakeholder workshop. • OGC – Embrace modern communication. • TenStep – Define portfolio roles.
Develop portfolio risk management plan.	• PMI – Graphical analytical methods (Probability and impact matrix). • PMI - Quantitative and qualitative analysis (probability analysis, portfolio risk exposure charts, sensitivity analysis, modelling and simulation).

Steps/activities	Portfolio management process tools, techniques, templates, etc.
	• PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • OGC - Example of portfolio-level risk management. • OGC - Key challenges and sample solution for managing dependencies. • OGC - Example of the contents of a dependency matrix.
Compile integrated portfolio management plan.	• PMI - Integration of portfolio management plans. • OGC - Portfolio management framework document contents.
Assess and select portfolio components.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, value measurement techniques, portfolio efficient frontier). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • OGC – Example of investment appraisal template. • TenStep – Define financial models. • TenStep – Establish a metrics program (structured approach, unstructured approach, client satisfaction). • TenStep - Investment science. • TenStep - Scoring competing projects. • TenStep – Decision analysis (Kepner-Tregoe matrix, value management) • TenStep - Quantifying business benefits (profit/loss, quality, customer satisfaction, business goals and strategy, internal process improvement, tangible versus intangible benefits, calculating potential value of business range value). • TenStep - Quantifying project cost when reviewing value propositions and business cases (calculating business costs using PERT, decide to include full client cost and support cost). • TenStep - Business case template.
Prioritise portfolio components.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, value measurement techniques, portfolio efficient frontier). • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques).

Steps/activities	Portfolio management process tools, techniques, templates, etc.
	• PMI – Prioritisation analysis (prioritisation model or approach). • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC - Example of calculating financial metrics. • OGC - Delivery confidence criteria. • OGC - Example of assessing the likelihood of change initiatives success and failure. • OGC – Example of bubble matrix of change initiatives on benefits and risks. • OGC - Example of scoring a proposed change initiative using weighted prioritisation criteria. • OGC - Example of a ranked list of change initiatives. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • TenStep – Define financial models. • TenStep – Ranking projects (simple comparative ranking and multi criteria weighted ranking). • TenStep – Consolidated work summary spreadsheet. • Transparent Choice - Sample criteria for project prioritisation.
Balance, optimise and maintain the portfolio.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Capability and capacity analysis (human resources, financial and asset). • PMI - Graphical analytical methods (portfolio balancing using indicators or criteria and portfolio balancing using strategic categories and impacted business unit). • PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Gap analysis. • PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • OGC - Programme and project information template. • OGC - Number of changes within portfolio categories graph. • OGC - Portfolio map bubble matrix of change initiatives. • OGC - Tornado diagram. • OGC - Example of portfolio map and balancing. • OGC – Example on reliable business cases. • OGC – Business case guidance and templates. • TenStep – Define financial models. • TenStep – Cost benefit analysis. • TenStep – Probability analysis. • TenStep – Quantitative analysis. • TenStep - Scenario analysis.
Create portfolio delivery plan.	• PMI - Portfolio component inventory. • PMI - Interdependency analysis. • PMI - Portfolio management info system. • OGC - Programme and project information template.

Steps/activities	Portfolio management process tools, techniques, templates, etc.
	OGC - Portfolio delivery plan document contents.
Authorise portfolio and changes.	- PMI - Portfolio component inventory. - PMI - Interdependency analysis. - PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). - PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, value measurement techniques, portfolio efficient frontier). - PMI - Portfolio authorisation tools and techniques. - PMI – Elicitation techniques (facilitation, survey and collaboration techniques). - PMI - Portfolio management info system. - OGC - Programme and project information template. - OGC - Number of changes within portfolio categories graph. - OGC - Example of investment appraisal template. - TenStep – Define financial models.
Activate portfolio components.	- PMI - Portfolio component inventory. - PMI - Interdependency analysis. - PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, business value analysis, investment choice analysis). - PMI - Capability and capacity analysis (human resources, financial and asset). - PMI – Portfolio management information system. - OGC - Programme and project information template. - OGC - Number of changes within portfolio categories graph. - OGC - Example of investment appraisal template. - TenStep – Define financial models. - TenStep – Staffing strategy template. - TenStep - Portfolio staffing plan template. - TenStep - Portfolio resource requirement worksheet.
Manage portfolio changes.	- PMI - Portfolio component inventory. - PMI - Interdependency analysis. - PMI - Scenario analysis. - PMI - Capability and capacity analysis (human resources, financial and asset). - PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). - PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). - PMI – Elicitation techniques (facilitation, survey and collaboration techniques). - PMI – portfolio management information system. - OGC - Programme and project information template. - OGC - Number of changes within portfolio categories graph. - TenStep – Define financial models.
Manage portfolio performance and benefits.	- PMI - Portfolio component inventory. - PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis).

Steps/activities	Portfolio management process tools, techniques, templates, etc.
	• PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • PMI - Portfolio review meetings. • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Programme and project information template. • PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). • OGC – Portfolio benefits management framework document contents. • OGC – Portfolio benefits realisation plan document contents. • OGC – Example of portfolio benefits categorisation. • OGC - Benefits management guidelines example. • OGC – Example of performance approval KPIs. • OGC – Example of portfolio-level benefits management.
Manage portfolio finances.	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI – Value scoring and measurement analysis (scoring models, cost/benefit analysis, comparative advantage analysis, progress measurement techniques, value measurement techniques, portfolio efficient frontier). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Portfolio financial plan document contents. • TenStep – Estimate to complete. • TenStep – Earned value.
Manage portfolio resources (i.e. supply and demand).	• PMI - Capability and capacity analysis (human resources, financial and asset). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Portfolio resource schedule document contents. • OGC - Example resource management. • OGC - Other possible graphical representations.
Manage portfolio stakeholders and communications.	• PMI - Stakeholder analysis. • PMI – Stakeholder communication strategy matrix. • PMI – Stakeholder matrix example. • PMI - Communication requirements analysis. • PMI – Communication requirements analysis. • PMI – Communication matrix. • PMI - Communication methods (dash-boards, resource histograms, communication calendar). • PMI – Elicitation techniques (facilitation, survey and collaboration techniques). • PMI – portfolio management information system. • OGC - Project stakeholder engagement and communication plan document contents • OGC - Focus on senior management. • OGC - Example classifying stakeholders. • OGC – Example stakeholder workshop.

Steps/activities	Portfolio management process tools, techniques, templates, etc.
	- OGC - Programme and project information template. - OGC – Embrace modern communication.
Manage portfolio risks.	- PMI - Graphical analytical methods (probability and impact matrix). - PMI - Quantitative and qualitative analysis (probability analysis, portfolio risk exposure charts, sensitivity analysis, modelling and simulation). - PMI – Weighted ranking and scoring techniques (single criterion and multi-criteria weighted ranking, multi-criteria scoring model). - PMI – Elicitation techniques (facilitation, survey and collaboration techniques). - PMI – portfolio management information system. - OGC - Example of portfolio-level risk management. - OGC - Key challenges and sample solution for managing dependencies. - OGC - Example of the contents of a dependency matrix.
Provide portfolio oversight (i.e. management control).	- PMI - Quantitative and qualitative analysis (cost/benefit analysis, scenario analysis, probability analysis, SWOT analysis, market/competitor analysis, business value analysis, investment choice analysis). - PMI – Value scoring and measurement analysis (progress measurement techniques, value measurement techniques, portfolio efficient frontier). - PMI – Benefits realisation analysis (results chain, outcomes probability analysis of the portfolio). - PMI - Portfolio review meetings. - PMI – Elicitation techniques (facilitation, survey and collaboration techniques). - PMI – portfolio management information system. - OGC – Business change life-cycle (i.e. PLCM). - OGC – Example on reliable business cases. - OGC – Business case guidance and templates. - OGC – Example of investment appraisal template. - OGC – Escalation procedures. - OGC – Stage/phase gate reviews. - OGC – Portfolio level review. - TenStep – Example of quality assurance questions. - TenStep – Quality assurance on outsourced projects. - TenStep – Estimate to complete. - TenStep – Earned value.
Report portfolio performance.	- PMI - Portfolio component inventory. - PMI – Elicitation techniques (facilitation, survey and collaboration techniques). - PMI - Communication methods (dash-boards, resource histograms, communication calendar). - PMI – portfolio management information system. - OGC - Programme and project information template. - OGC - Number of changes within portfolio categories graph. - OGC - Regular progress reporting. - OGC - Portfolio dash-board document contents. - OGC - Example of a portfolio dash-board report. - TenStep – Estimate to complete. - TenStep – Earned value. - TenStep – Consolidated portfolio status report template. - TenStep – All projects consolidated status report template.
Transfer benefits and	PMI - Portfolio component inventory.

Steps/activities	Portfolio management process tools, techniques, templates, etc.
allocate benefits accountability.	• PMI - Benefits realisation analysis. • OGC - Portfolio benefits management framework document contents. • OGC - Portfolio benefits realisation plan document contents. • OGC - Example of portfolio benefits categorisation. • OGC - Benefits management guidelines example.
Perform portfolio governance reviews.	• PMI - Portfolio review meetings. • OGC - Stage/phase gate reviews. • OGC - Portfolio-level review. • OGC – Example organisational governance. • OGC – Example portfolio governance. • TenStep – Define portfolio roles. • TenStep – Example of quality assurance questions. • TenStep – Quality assurance on outsourced projects.

11.2.4 Project and programme management

Synthesis is where engagement meets execution, ensuring successful execution of projects and programmes in alignment with the portfolio. Project and programme management are disciplines for managing the capacity to deliver business value. Programme management harmonises its projects and programme components and controls interdependencies in order to realise specific benefits. Project management develops and implements plans to achieve a specific scope that is driven by the objectives of the programme or portfolio it is subjected to, and, ultimately, to organisational strategies.

Projects must be treated in a strategic way to ensure strategic alignment with organisational strategies and sustainability. Project strategies must be developed to focus project teams on the strategic value of their projects and to get them to make decisions that support the strategic objectives. Projects must be selected based on their strategic impact and categorised accordingly (e.g. operational projects, strategic projects, external projects, and projects for internal customers). Resource allocation among the categories must be based on expected impact from each category in the organisation, current strategies, infrastructure needs, etc. The criteria for individual project selection must be based among other things on risk and opportunity, difficulty, and existing resources and skills. To create a competitive advantage a project strategy must be developed prior to developing the project management plan. A project strategy involves the following seven elements namely business perspective, objective, product definition, competitive advantage/value, success and failure criteria, project definition, and strategic focus.

11.2.5 Operations management

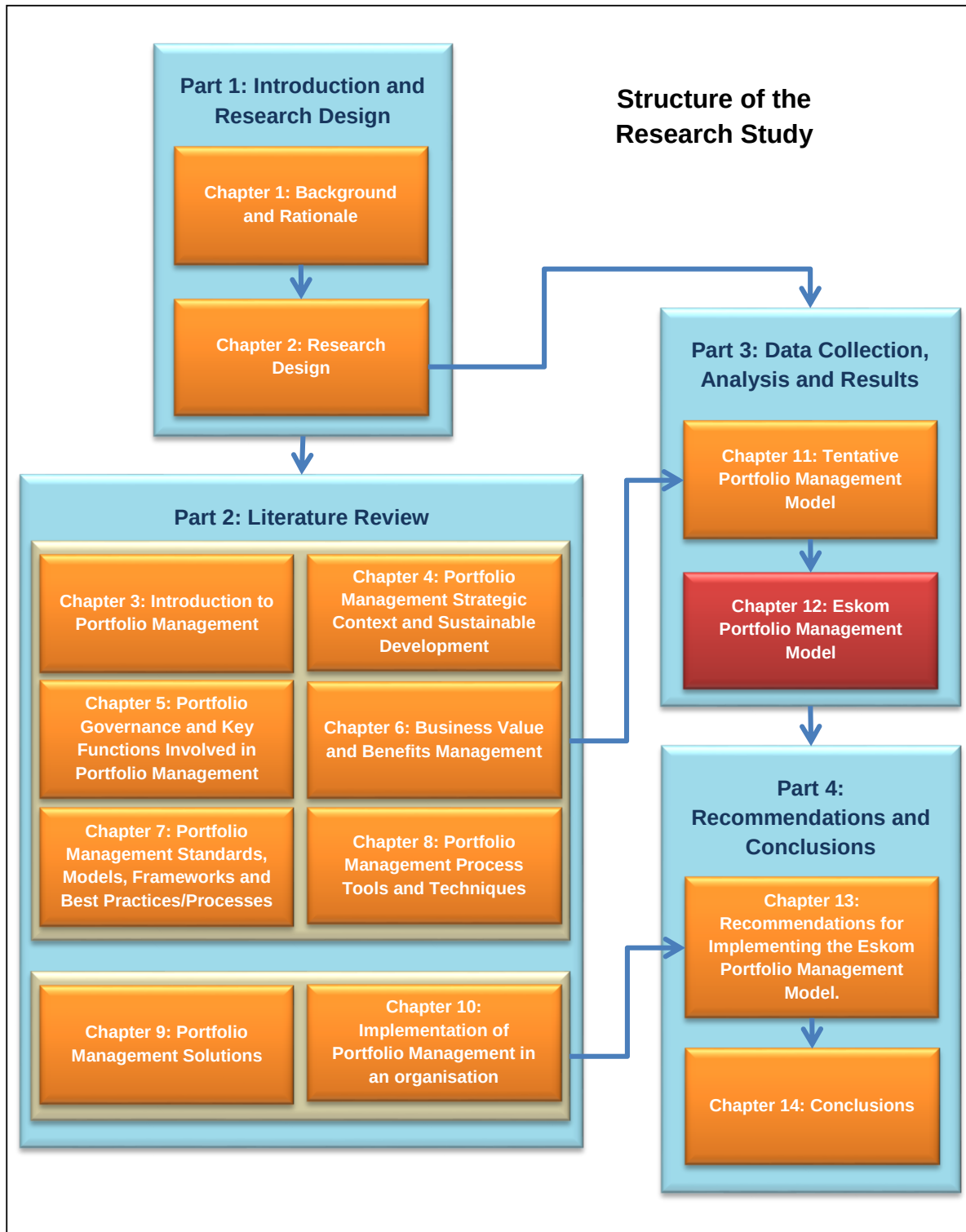
It is in operations management where delivery of value is realised through day-to day processes. After the completion of programmes and projects, benefits are transitioned to operational areas to ensure continued realisation of the benefits (i.e. sustainment of benefits). Transition is the ultimate measure of success, where the

results of project-based work are moved into the mainstream of the organisation's operations.

11.3 SUMMARY AND CONCLUSIONS

In this chapter a tentative portfolio management model was developed (i.e. preparing a proposal) by integrating the elements as deduced from the summaries and conclusions from Chapters 3 to 8 in Part 2: Literature Review. Each of the elements of the tentative portfolio management is described. The tentative portfolio management model can be used as a reference model by organisations to develop a portfolio management model in order to implement and embed portfolio management best practices. This tentative portfolio management model is used for developing a tentative portfolio management model for Eskom in Chapter 12 (i.e. proposal). The tentative portfolio management model for Eskom is then updated iteratively during one-to-one and group interviews to develop a final portfolio management model for Eskom (i.e. final proposal).

CHAPTER 12: ESKOM PORTFOLIO MANAGEMENT MODEL



12.1 INTRODUCTION

12.1.1 Background

In this chapter a tentative portfolio management model for Eskom (i.e. proposal) is developed by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, governance documents and templates related to portfolio management into the tentative portfolio management model (Figure 59) developed in Chapter 11. The tentative portfolio management model for Eskom (i.e. proposal) is then used as the reference document to collect, analyse and record the data by means of one-to-one and group interviews to develop a final portfolio management model for Eskom (i.e. assessing the proposal and developing a final proposal). The process to develop a final portfolio management model for Eskom (i.e. final proposal) is summarised in Figure 60.

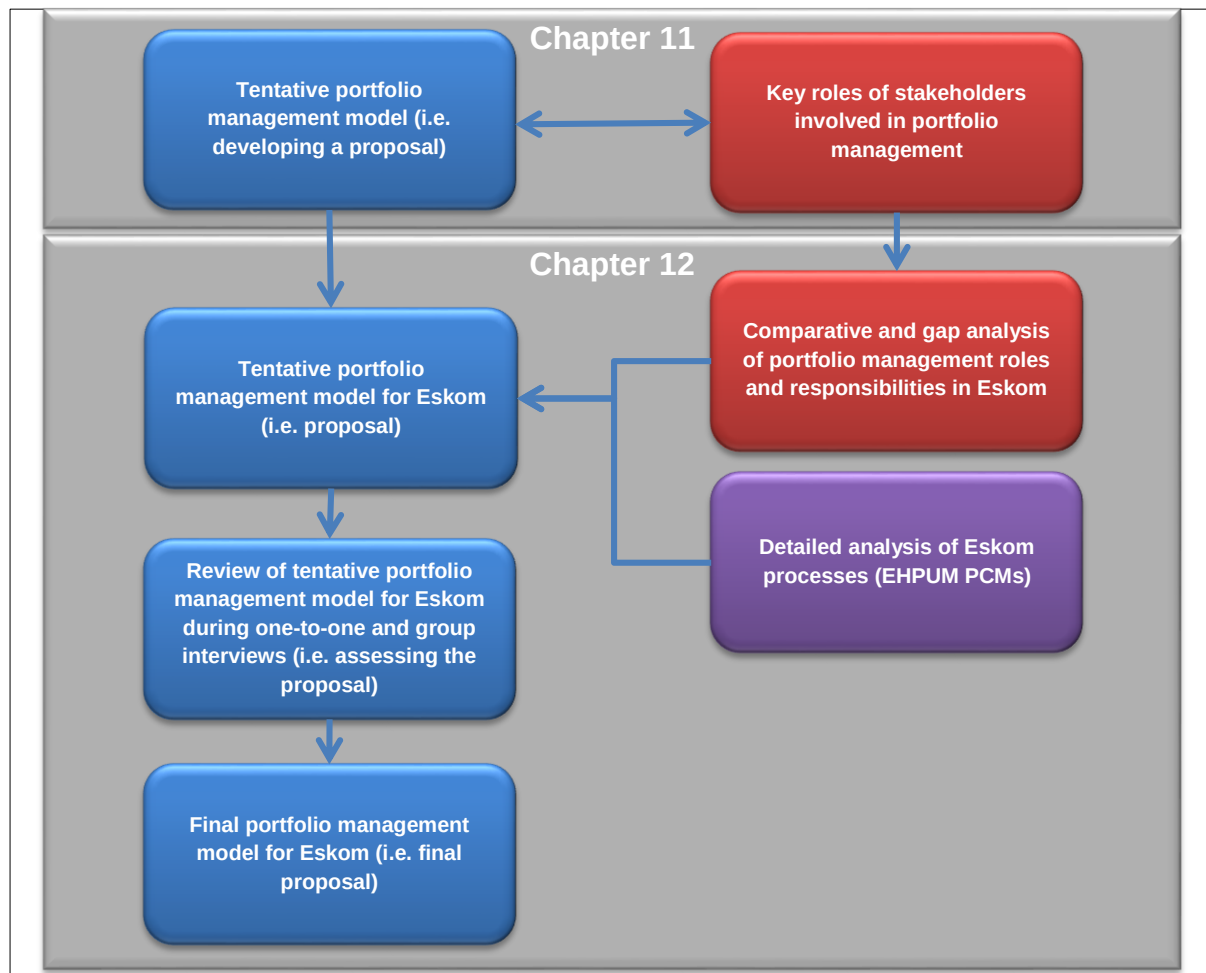


Figure 60: Process followed to develop a final portfolio management model for Eskom

12.1.2 Aim

The goal of this chapter is to:

- Do a detailed analysis of the Eskom processes to establish which processes and artefacts are applicable to the activities in the tentative portfolio management model developed in Chapter 11 (Figure 59).
- Do a comparative and gap analysis to establish which position/body in Eskom is responsible for performing the roles as outlined in Table 84 in Chapter 11.
- Establish a RACI and describe the roles and responsibilities in Eskom for each activity in the tentative portfolio management model developed in Chapter 11 (Figure 59).
- Integrate and capture the information of the Eskom processes and artefacts, RACI, roles and responsibilities into the tentative portfolio management model developed in Chapter 11 (Figure 59) to develop a tentative portfolio management model for Eskom (i.e. proposal).
- Give an overview of data collection, analysis and validation to review the tentative portfolio management model for Eskom (i.e. proposal) in order to develop a final portfolio management model for Eskom (i.e. final proposal).
- Document the details of the final portfolio management model for Eskom (i.e. final proposal).
- Discuss if the research question has been answered.

12.2 TENTATIVE PORTFOLIO MANAGEMENT MODEL FOR ESKOM (I.E. PROPOSAL)

12.2.1 Overview of Eskom's standardised business processes

Eskom initiated the Back2Basics programme in 2010 to improve overall business performance across Eskom by standardising, simplifying and optimising all processes and systems. The programme aimed to drive efficiencies by applying standardised business processes and using uniform systems across Eskom to ensure that management information is complete, accurate, reliable, accessible and timely. The Back2Basics processes were documented in detailed Process Control Manuals (PCMs) which was a major step towards achieving an Eskom that follows one process across the organisation. The PCMs are contained and maintained in Eskom's High Performance Utility Model (EHPUM) (see Figure 61).

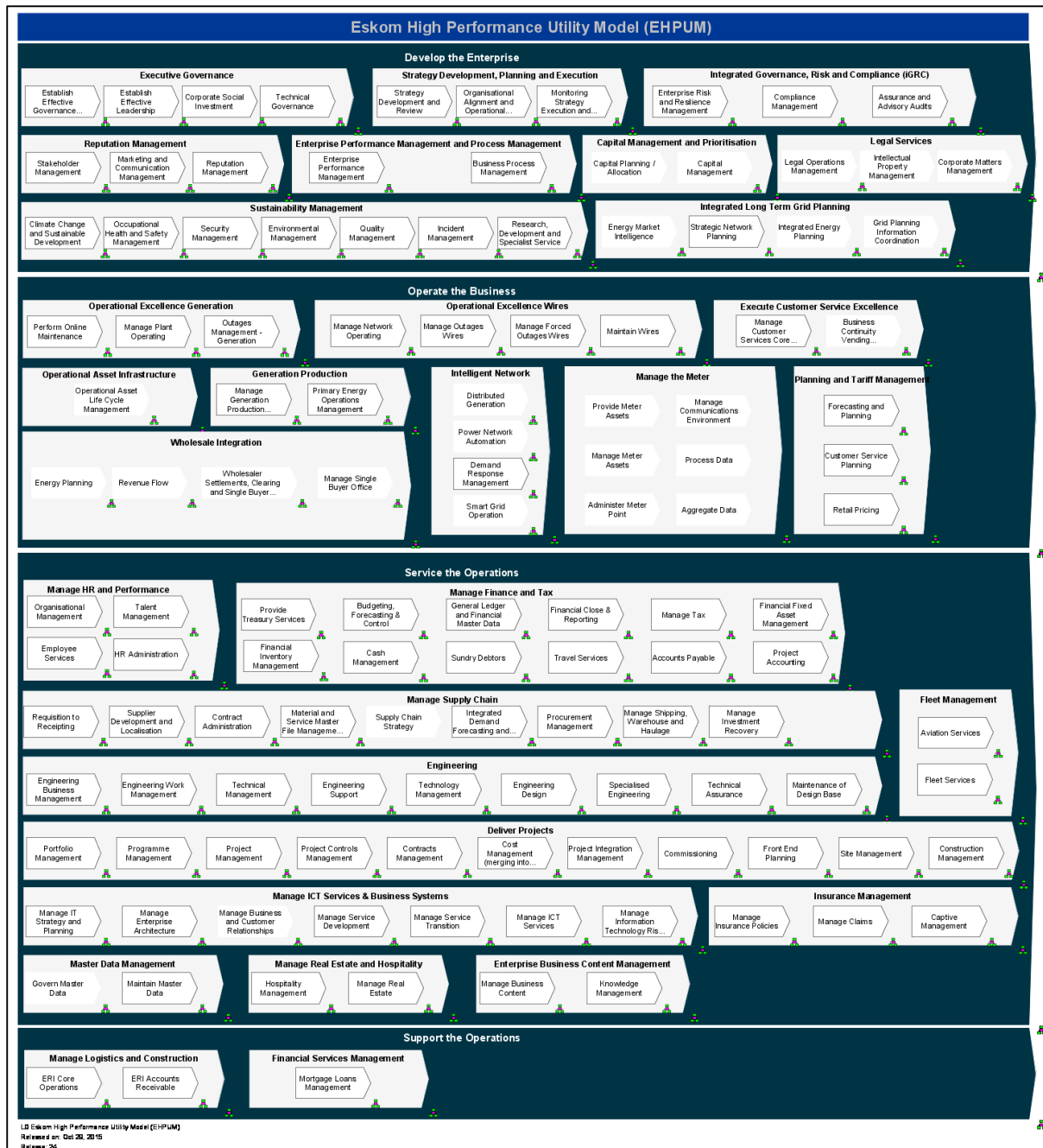


Figure 61: Eskom's High Performance Utility Model (EHPUM)

The EHPUM is broken down into the following levels:

- Level 1. High performance areas (e.g. service the operations).
- Level 2. Business functions (e.g. deliver projects).
- Level 3. Business capabilities (e.g. portfolio management).
- Level 4. Process flows (e.g. establish portfolio management).
- Level 5. Activity flows (e.g. setup portfolio management structure) and activities (e.g. appoint portfolio owner).
- Level 6. Task flows and tasks. This level is optional.

Figure 62 outlines the process decomposition of the EHPUM into the levels described above.

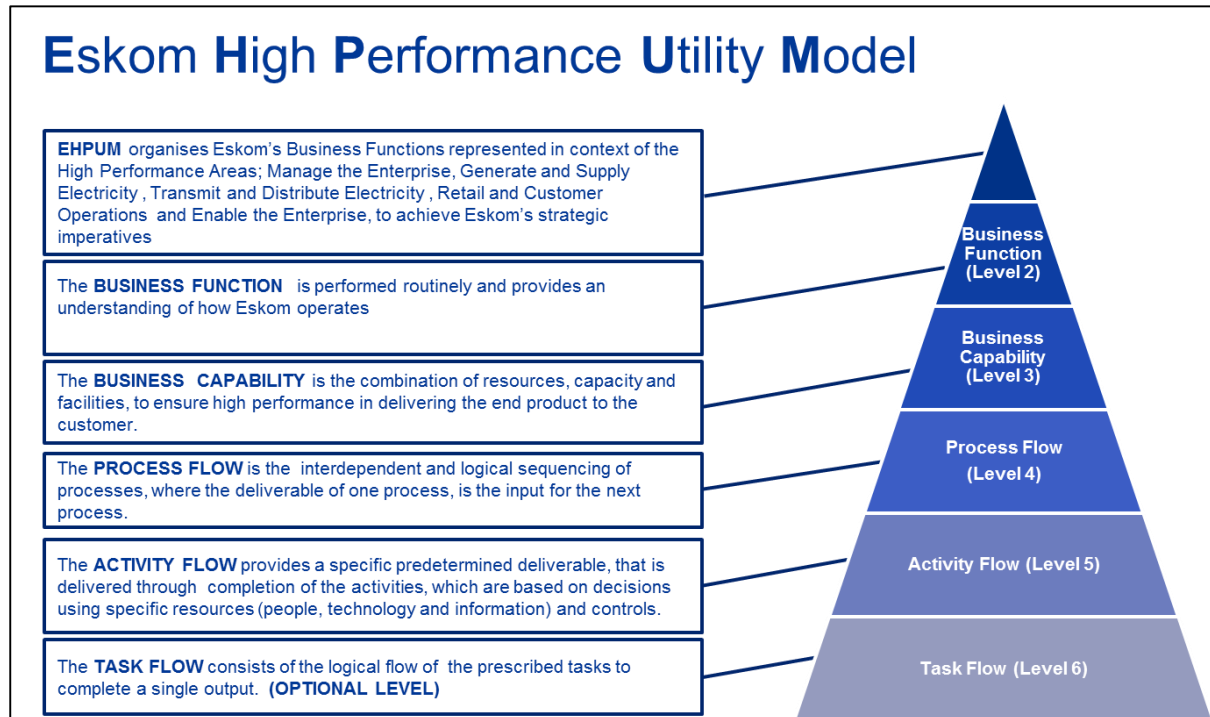


Figure 62: EHPUM process decomposition

The intention of the PCMs is to provide a holistic view of all the key elements of the processes including business objectives, process objectives, business roles, key risks and controls, technology requirements, process requirements, reporting requirements and process measures (KPIs). A key principle that applies in the development of the PCMs is that process-, activity-, and task-flows that applies to various business functions or capabilities are only documented once (e.g. manage risk, manage stakeholders, manage communication, manage performance, etc.). Interfaces between the processes in the PCMs are documented showing the incoming and outgoing process names for each process within a PCM.

Table 87 is derived following a detailed analysis of the EHPUM PCMs by the researcher to establish which business functions (level 2), capabilities (level 3), process flows (level 4), activity flows and activities (level 5), and governance documents are applicable to the activities in the tentative portfolio management model for Eskom. Task flows and tasks (level 6) were not considered as these are optional in the EHPUM, mostly not developed and are at a too detailed level. Table 87 also outlines the process objectives for each of the business capabilities (level 3) and process flows (level 4).

Table 87: EHPUM PCMs applicable to portfolio management

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
Business function (L2): Strategy development, planning and execution.			
240-50204588 Strategy development and review. Process objectives: To ensure that an approved strategy that will guide the organisation on the way forward in meeting the shareholder expectations is arrived at.	8.1 Define/review strategy direction. Process objectives: To ensure that the strategic direction for the organisation is defined, i.e. its purpose, values and vision.	240-50271525: Strategy Development and Review Procedure. Public Finance Management Act.	8.1.1 Attain strategic intent 8.1.2 Affirm purpose, vision and values
	8.2 Conduct strategic analysis. Process objectives: To ensure that a set of issues (strategic/operational), opportunities and risks that must be addressed, tracked and monitored by the organisation are identified.	240-47464601: Corporate Plan Policy. 240-50271525: Strategy Development and Review Procedure. Public Finance Management Act.	8.2.1 Perform strategic environmental analysis 8.2.2 Develop/review scenarios
	8.3 Develop/review strategy. Process objectives: To ensure that the necessary approved strategies are in place to meet the shareholder expectations and deliver on business objectives. This includes taking into account the business position relative to the environment and related risks, including specific strategic objectives to be met and related key performance areas.	240-47464601: Corporate Plan Policy. 240-50271525: Strategy Development and Review Procedure. Public Finance Management Act.	8.3.1 Develop/review key strategic issues 8.3.2 Develop/review strategic objectives 8.3.3 Develop/review strategy
240-50204477 Organisational alignment and operational Planning. Process objectives: To ensure the alignment of the organisation to the strategy and shareholder requirements as determined and reflected during the strategy translation, as well as it ensures integrated long	8.1 Strategy translation. Process objectives: To ensure that the strategic direction statement is converted into measures and targets that can be linked to the Balanced Scorecard thereby mobilising the organisation to deliver the strategic objectives.	240-47464601: Eskom Corporate Plan Policy. 240-50271525: Strategy Development and Review Procedure. Public Finance Management Act.	8.1.1 Develop strategy map 8.1.2 Prioritise strategic initiatives 8.1.3 Align business to strategy map
	8.2 Establish/review business and operational plans. Process objectives: To ensure that the strategy is current and relevant by	240-47464601: Eskom Corporate Plan Policy. 240-50271525: Strategy Development and Review	8.2.1 Develop shareholder compact 8.2.2 Develop business planning directive 8.2.3 Develop/review business plans

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
term, corporate, business and operational planning execution.	reviewing the effectiveness of strategy execution (strategic initiatives, core and support key/critical processes), making proposals for strategy and plan enhancement and communicate learnings.	Procedure. Public Finance Management Act.	
240-50204628 Monitoring strategy execution and learning. Process objectives: To ensure that strategic reviews are achieved by monitoring the implementation of the Strategy, conducting reviews, learn what is working and what needs to change and to provide feedback to the strategic intelligence process so as to close the Strategy loop.	8.1 Monitor strategy execution. Process objectives: To ensure that the strategy and plan are appropriate in achieving the strategic objectives by monitoring events, forces and experiences that could inform and influence (impact and modify) the strategic direction (for existing strategies), business environment, operations (KPA's and KPI's) and to update the Strategic Intelligence accordingly.	240-47464601: Eskom Corporate Planning Policy. 240-50271525: Eskom Strategy Development and Review Procedure. Public Finance Management Act (external).	8.1.1 Monitor strategic and operational environment 8.1.2 Monitor key strategic processes
	8.2 Review strategy execution and learning. Process objectives: To ensure that the strategy is current and relevant by reviewing the effectiveness of strategy execution (strategic initiatives, core and support key/critical processes), making proposals for strategy and plan enhancement and communicate learnings.	240-47464601: Eskom Corporate Planning Policy. 240-50271525: Eskom Strategy Development and Review Procedure. Public Finance Management Act (external).	8.2.1 Conduct strategy and operations execution reviews 8.2.2 Consolidate results and trigger actions & learnings 8.2.3 Communicate actions and learnings
Business function (L2): Deliver projects.			
240-42364544 Portfolio management. Process objectives: Ensure execution of Eskom strategy through adequate portfolio management resulting in an optimised, aligned portfolio of projects to meet strategic	240-98784255 Establish portfolio management. Process objectives: To ensure an implemented portfolio management and delivery framework, in which portfolios are set up and mandated, supported by the bottom up collated business needs.	240-52879467: Project Delivery Policy. 240-85261844: Eskom Project Classification and Categorisation Standard. 240-85549806: Governance Standard for Gate Management in Eskom.	9.1.1 Setup portfolio management structure 9.1.1.1 Confirm portfolio management justification 9.1.1.2 Appoint portfolio owner 9.1.1.3 Analyse portfolio management objectives 9.1.1.4 Define portfolio management

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
business objectives within the business and capital investment constraints.		240-89947081: MMPOS Methodology for the Implementation of Project Controls for Capital Projects. 240-95401790: Eskom Reference Project Life Cycle Model [PLCM].	and delivery framework 9.1.1.5 Define portfolio management governance 9.1.1.6 Define performance parameters 9.1.1.7 Develop portfolio strategic plan 9.1.1.8 Approve portfolio strategic plan 9.1.2 Establish portfolio 9.1.2.1 Define portfolio components 9.1.2.2 Appoint portfolio delivery manager 9.1.2.3 Develop portfolio charter 9.1.2.4 Approve portfolio charter 9.1.2.5 Review portfolio component structure 9.1.2.6 Develop portfolio governance plan 9.1.2.7 Develop portfolio risk management approach 9.1.2.8 Develop portfolio resource plan 9.1.2.9 Develop portfolio stakeholder management plan 9.1.2.10 Develop portfolio communication plan 9.1.2.11 Determine portfolio value 9.1.2.12 Develop portfolio performance management plan 9.1.2.13 Consolidate portfolio management plan 9.1.2.14 Approve portfolio management plan 9.1.3 Setup portfolio 9.1.3.1 Request project office setup 9.1.3.2 Plan project office setup

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.3.3 Approve project office setup plan 9.1.3.4 Set up processes, systems and tools 9.1.3.5 Setup project office 9.1.4 Collate business needs 9.1.4.1 Receive list of projects addressing business needs 9.1.4.2 Determine project assignment to portfolio components 9.1.4.3 Link project to portfolio components 9.1.4.4 Classify project 9.1.4.5 Determine high-level project requirements 9.1.4.6 Capture project in portfolio investment plan 9.1.4.7 Obtain client office agreement 9.1.4.8 Support portfolio investment plan 9.1.5 Manage portfolio change 9.1.5.1 Initiate portfolio change request 9.1.5.2 Assess portfolio change impact 9.1.5.3 Request portfolio change request approval 9.1.5.4 Inform initiator of change disapproval 9.1.5.5 Terminate portfolio 9.1.5.6 Implement portfolio change solution 9.1.5.7 Close out portfolio change request
	240-98784191 Deliver portfolio. Process objectives: To ensure Portfolio funnel management, the timely release of	240-52879467: Project Delivery Policy. 240-85261844: Eskom Project	9.2.1 Manage portfolio funnel 9.2.1.1 Draw list of projects in opportunity pipeline

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
	programmes and projects and the effective management of an optimised Portfolio, in accordance with the approved Portfolio Investment Plan.	Classification and Categorisation Standard. 240-85549806: Governance Standard for Gate Management in Eskom. 240-95401790: Eskom Reference Project Life Cycle Model [PLCM]. Delegation of Authority / Responsibility Structure (To be Developed).	9.2.1.2 Check strategic alignment of project 9.2.1.3 Communicate non-alignment to sustainability dimensions 9.2.1.4 Allocate divisional priority score to project 9.2.1.5 Determine portfolio forecasted capital expenditure 9.2.1.6 Determine project resource requirements 9.2.2 Initiate programmes and projects 9.2.2.1 Optimise portfolio components 9.2.2.2 Appoint programme manager 9.2.2.3 Release projects 9.2.2.4 Revisit business case (value proposition?) 9.2.2.5 Determine business case strategy 9.2.2.6 Prepare business case 9.2.2.7 Obtain business case approval 9.2.3 Manage portfolio 9.2.3.1 Collate portfolio management information 9.2.3.2 Manage resources within portfolio 9.2.3.3 Manage portfolio governance 9.2.3.4 Manage portfolio performance 9.2.3.5 Manage portfolio information 9.2.3.6 Manage portfolio communication 9.2.3.7 Manage portfolio value 9.2.3.8 Review and report on portfolio status 9.2.3.9 Review portfolio management plan 9.2.3.10 Approve reviewed portfolio

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			management plan 9.2.4 Optimise portfolio 9.2.4.1 Retrieve divisional target 9.2.4.2 Allocate portfolio target 9.2.4.3 Manage scrubbing 9.2.4.3.1 Propose ideas for scrubbing 9.2.4.3.2 Evaluate accuracy of scrubbing idea 9.2.4.3.3 Engage stakeholders for scrubbing 9.2.4.3.4 Practice value improvement for scrubbing 9.2.4.3.5 Prepare idea(s) for scrubbing proposal 9.2.4.3.6 Obtain approval for scrubbing idea(s) 9.2.4.3.7 Implement scrubbing idea(s) 9.2.4.3.8 Capture value of scrubbing idea(s) 9.2.4.4 Revisit portfolio target allocation 9.2.4.5 Revisit divisional priority (risk) score 9.2.4.6 Prioritise projects 9.2.4.7 Balance portfolio 9.2.4.8 Optimise project list 9.2.4.9 Delay the project 9.2.4.10 Cancel the project
	240-70041694 Manage capital investment. Process objectives: To ensure that the investment criteria and the Capital Investment Model in Eskom are defined to manage the allocation of targets and to	240-52879467: Project Delivery Policy. 240-7668703: Wires Project Life Cycle Model and Work Package Standard. 240-82737649: Generation Project	9.3.1 Setup investment rules 9.3.1.1 Analyse each divisional prioritisation model 9.3.1.2 Determine Eskom investment criteria 9.3.1.3 Align investment criteria to

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
	manage governance in line with the baseline Portfolio target.	Life Cycle Model and Work Package Standard. 240-85261844: Eskom Project Classification and Categorisation Standard. 240-85549806: Governance Standard for Gate Management in Eskom. 240-95401790: Eskom Reference Project Life Cycle Model [PLCM].	Eskom imperatives 9.3.1.4 Categorise funds 9.3.1.5 Define investment governance bodies 9.3.1.6 Establish portfolio reporting requirements 9.3.1.7 Develop investment model 9.3.1.8 Obtain approval for investment model 9.3.2 Set capital target for divisional portfolios 9.3.2.1 Receive allocated target value to capital projects (top down) 9.3.2.2 Draw Pre-Project Planning phase report 9.3.2.3 Draw active projects (within core PLCM) report 9.3.2.4 Determine divisional allocation 9.3.2.5 Obtain divisional target allocation approval 9.3.2.6 Allocate target value per division 9.3.2.7 Consolidate divisional target value 9.3.2.8 Baseline the capital plan 9.3.2.9 Communicate the baseline capital plan 9.3.3 Manage governance gate 9.3.3.1 Plan gate readiness review 9.3.3.2 Submit project for gate readiness review 9.3.3.3 Submit project for investment review 9.3.3.4 Approve project gate release 9.3.3.5 Update project status 9.3.4 Manage Eskom as a portfolio

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.3.4.1 Consolidate divisional portfolio performance reports 9.3.4.2 Manage escalated portfolio management issues 9.3.4.3 Manage escalated project delivery framework issues 9.3.4.4 Assess portfolio component structure 9.3.4.5 Review divisional performance 9.3.4.6 Assess divisional value creation 9.3.4.7 Reallocate divisional targets
240-42366125 Programme management. Process objectives: To ensure the initiation and the effective management and control of the delivery and close-out of programmes, and enabling the alignment of multiple components to achieve programme goals (outcomes and benefits) and allowing for optimised or integrated cost, schedule and effort in accordance with the programme management performance domains and knowledge areas (supporting processes).	24 240-107393243 R1 Define Programme. Process objectives: To ensure the initiation of the programme and the development of the Programme Management and Benefits Realisation Plans.	240-112292436: Deliver Project Policy 240-85261844: Eskom Project Classification and Categorisation Standard 240-85549806: Governance Standard for Gate Management in Eskom 240-95401790: Eskom Reference Project Life Cycle Model [PLCM] Project Delivery Framework (PDF) Standard (to be developed)	9.1.1 Initiate Programme 9.1.1.1 List identified programme benefits 9.1.1.2 Profile programme benefits 9.1.1.3 Link projects to programme benefits 9.1.1.4 Determine programme benefits realisation report date 9.1.1.5 Confirm programme establishment budget 9.1.1.6 Assess programme environment 9.1.1.7 Develop Programme Roadmap 9.1.1.8 Identify programme stakeholders 9.1.1.9 Develop Programme Charter 9.1.1.10 Approve Programme Charter 9.1.2. Plan Programme 9.1.2.1 Establish Programme Delivery Office 9.1.2.2 Plan programme stakeholder engagement 9.1.2.3 Plan programme communications

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.2.4 Plan programme scope and funding 9.1.2.5 Plan programme procurement 9.1.2.6 Plan programme quality 9.1.2.7 Plan programme resources 9.1.2.8 Plan programme risk management 9.1.2.9 Plan programme governance 9.1.2.10 Consolidate Programme Management Plan 9.1.2.11 Approve Programme Management Plan 9.1.2.12 Collect benefits realisation information 9.1.2.13 Define progress measurement process 9.1.2.14 Define change interventions 9.1.2.15 Define benefits realisation measurement process 9.1.2.16 Compile Benefits Realisation Plan 9.1.2.17 Approve Benefits Realisation Plan
	240-69126454 Deliver programme. Process objectives: To ensure the effective management and control of the delivery of the programme through the execution of the Programme Management Plan including the oversight of projects within the programme.	240-112292436: Deliver Project Policy 240-85261844: Eskom Project Classification and Categorisation Standard 240-85549806: Governance Standard for Gate Management in Eskom 240-95401790: Eskom Reference Project Life Cycle Model [PLCM]	9.1.1 Manage Programme Components 9.1.1.1 Appoint Project Manager 9.1.1.2 Clarify project request 9.1.1.3 Oversee projects within programme 9.1.1.4 Conduct integration between projects 9.1.1.5 Collate programme performance 9.1.1.6 Ensure transfer of responsibilities between Project Managers 9.1.1.7 Review business solution

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.2 Manage Programme Delivery 9.1.2.1 Engage programme stakeholders 9.1.2.2 Manage programme governance 9.1.2.3 Manage programme communications 9.1.2.4 Manage programme scope and funding 9.1.2.5 Manage programme procurement 9.1.2.6 Manage programme quality 9.1.2.7 Manage programme resources 9.1.2.8 Manage Benefits Realisation Plan during programme delivery 9.1.2.9 Manage programme risk management 9.1.2.10 Re-assess programme environment 9.1.2.11 Review Programme Management Plan 9.1.2.12 Approve Programme Management Plan
	240-69126754 Close programme. Process objectives: To ensure the timely and accurate transfer of responsibility for ongoing benefits realisation, Benefits Realisation Approval gate (BRA), and programme closure.	240-85261844: Eskom Project Classification and Categorisation Standard 240-85549806: Governance Standard for Gate Management in Eskom 240-95401790: Eskom Reference Project Life Cycle Model [PLCM]	9.1.1 Transfer Responsibility to Business 9.1.1.1 Conduct benefits realisation handover 9.1.1.2 Ensure continued measurement and benefits realisation 9.1.1.3 Prepare for benefits realisation gate 9.1.1.4 Conduct Benefits Realisation Approval (BRA) 9.1.2 Close-out Programme 9.1.2.1 Evaluate programme performance

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.2.2 Compile Programme Close-out Report 9.1.2.3 Obtain programme close-out approval
240-42366126 Project management. Process objectives: To ensure proper management of the work of the project in terms of scope, cost, time and quality to the required specification, fit for purpose. (Note: During the time of the research study the project management PCMs were due for revision and strategies were discussed on a revision approach).	240-69119443 Initiate the project. Process objectives: To ensure that the project is formally authorised to commence work through definition and introduction of governance structures.	Project documents mentioned at lower levels.	9.1.1 Define project governance 9.1.1.1 Identify Client Representative 9.1.1.2 Set up Governance Framework 9.1.1.3 Identify Controls 9.1.1.4 Compile Governance Plan 9.1.1.5 Submit Governance plan for approval 9.1.2 Define core project team 9.1.2.1 Identify Core Functions 9.1.1.2 Prioritise Core Functions 9.1.2.3 Draw Preliminary Organogram 9.1.2.4 Define Roles and Responsibilities 9.1.2.5 Update Organogram 9.1.2.6 Review Organogram 9.1.2.7 Submit Organogram for approval 9.1.2.8 Load Approved Organogram on SAP 9.1.2.9 Create project in all systems 9.1.3 Develop project charter 9.1.3.1 Obtain Relevant Information 9.1.3.2 Compile the Charter 9.1.3.3 Review Current Charter 9.1.3.4 Update Current Charter 9.1.3.5 Submit Charter for approval 9.1.3.6 Project Charter Approved 9.1.3.7 Decide on charter action
	240-69119603 Start up project. Process objectives: To ensure the project is adequately organised and resourced in	Project documents mentioned at lower levels.	9.1.1 Establish core project team 9.1.1.1 Determine source of resources 9.1.1.2 Initiate Recruitment With

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
	order to compile the scope statement to enable project planning.		HR/Resource management 9.1.1.3 Allocate from Internal Pool of Resources 9.1.1.4 Interview Candidates 9.1.1.5 Select and Request Appointment 9.1.1.6 Initiate External Recruitment 9.1.1.7 Interview Candidates 1 9.1.1.8 On board Contractor 9.1.1.9 Induct Core Team 9.1.1.10 Deploy Team 9.1.2 Establish governance 9.1.2.1 Establish Governance Organisation 9.1.2.2 Obtain Agreement 9.1.2.3 Communicate to Team 9.1.2.4 Implement Control Measures 9.1.3 Approval of Project Governance 9.1.3.1 Receive Documents for Approval 9.1.3.2 Review Documents for Approval 9.1.3.3 Approval by Project manager 9.1.3.4 Inform requestor 9.1.4 Define approach to planning 9.1.4.1 Meet with Project Management Team 9.1.4.2 Determine Standards to Be Used 9.1.4.3 Determine Methodology to Use 9.1.4.4 Determine Planning Requirements 9.1.4.5 Decide on Systems to Use 9.1.4.6 Decide on Project Planning Approach 9.1.4.7 Confirm Agreement

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.5 Compile scope statement 9.1.5.1 Collect Functional Requirements 9.1.5.2 Update Project Limitations & Exclusions 9.1.5.3 Update Project Boundaries & Constraints 9.1.5.4 Compile Preliminary Scope Statement 9.1.5.6 Submit to Relevant Stakeholders for Review 9.1.5.7 Identify Project Risks and Assumptions 9.1.5.8 Compile Final Scope Document 9.1.5.9 Submit scope statement for approval
	240-69120383 Plan the project. Process objectives: To ensure the project strategy is established through proper and accurate planning and estimating of project deliverables and requirements.	Project documents mentioned at lower levels.	9.1.1 Develop project baseline plan 9.1.1.1 Collect Relevant Information 9.1.1.2 Receive Technical Baseline 9.1.1.3 Receive schedule baseline 9.1.1.4 Receive cost baseline 9.1.1.5 Compile Baseline Document 9.1.1.6 Submit baseline plan for approval 9.1.2 Develop detailed project management plan 9.1.2.1 Consider Capability Requirements 9.1.2.2 Develop Project Management Plan 9.1.2.3 Update Existing Plan 9.1.2.4 Review Plan with Stakeholder 9.1.2.5 Submit Detailed plan for approval
	240-69120191 Manage project delivery.	Project documents mentioned at	9.1.1 Establish delivery organisation

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
	Process objectives: Ensure that all changes are managed in a formalised, integrated and controlled manner.	lower levels.	9.1.1.1 Understand the Resource Requirements 9.1.1.2 Acquire the project resources 9.1.1.3 On board Project Resources 9.1.1.4 Set up Project Infrastructure 9.1.1.5 Set up Project Processes and Systems 9.1.1.6 Set up ICT Infrastructure 9.1.1.7 Deploy project resources 9.1.2 Manage delivery of the project 9.1.2.1 Identify the work 9.1.2.2 Issue the Work 9.1.2.3 Co-ordinate Delivery of the Work 9.1.2.4 Supervise the Work 9.1.2.5 Review work of project 9.1.2.6 Sign off the Work 9.1.2.7 Report on project performance 9.1.3 Execute project hand-over 9.1.3.1 Meet with Core Team 9.1.3.2 Facilitate Stakeholder Review Session 9.1.3.3 Issue Interim Take Over Certificate 9.1.3.4 Update Defect Log 9.1.3.5 Discuss Conditional Acceptance 9.1.3.6 Ensure Take Over Conditions are Met 9.1.3.7 Issue Final Take Over Document 9.1.3.8 Execute Hand Over 9.1.3.9 Issue Completion document 9.1.4 Manage package integration and boundaries 9.1.4.1 Interpret Break Down Structure

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.4.2 Define Package 9.1.4.3 Review Defined Packages 9.1.4.4 Ensure Assurance Review 9.1.4.5 Submit Integration plan for approval 9.1.4.6 Manage Package Implementation 9.1.5 Manage project changes 9.1.5.1 Initiate change 9.1.5.2 Categorise the Exception 9.1.5.3 Inform initiator of disapproval 9.1.5.4 Request Change approval 9.1.5.5 Analyse design change solution 9.1.5.6. Request approval 9.1.5.7 Acquire change solution 9.1.5.8 Implement change 9.1.5.9 Close out change
	240-42366126 Close out project. Process objectives: To ensure the completion of all projects in Eskom through the effective close out of the project.	Project documents mentioned at lower levels.	9.1.1 Manage project close-out 9.1.1.1 Finalise Close Out Requirements 9.1.1.2 Draft Close Out Requirement Plan 9.1.1.3 Ensure Technical review signed off 9.1.1.4 Perform Legal / Statutory Close Out 9.1.1.5 Perform Guarantees & Contract Close Out 9.1.1.6 Raise Non-Conformance 9.1.1.7 Perform Financial Close Out 9.1.1.8 Identify Issues to be Addressed 9.1.1.9 Generate close out report 9.1.1.10 Release Project Staff 9.1.1.11 Review Compliance to

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			Governance 9.1.1.12 Obtain Project Close out Approval 9.1.2 Compile project performance data 9.1.2.1 Assess Project Data 9.1.2.2 Compile Project Evaluation Report 9.1.2.3 Review Project Evaluation Report
	240-69119251 Post project evaluation. Process objectives: To ensure proper knowledge management data are captured for future reference through an effective project review process. Learning points are documented, assessed and disseminated. To ensure that lessons learnt will result in continuous improvement of projects, processes, policies and procedures.	Project documents mentioned at lower levels.	9.1.1 Post implementation review and critique 9.1.1.1 Schedule Meeting 9.1.1.2 Feedback and Lessons Learned 9.1.1.3 Identify Contractor Performance Lessons Learnt 9.1.1.4 Identify In House Lessons Learnt 9.1.1.5 Identify Overall Project Lessons Learnt 9.1.1.6 Compile Post Implementation Review Report 9.1.1.7 Sign off Review and Critique 9.1.2 Distribute post evaluation reports 9.1.2.1 Extract Key Lessons Learnt 9.1.2.2 Compile Distribution List 9.1.2.3 Issue Instruction to Document Management
	240-42366126 Control change on the project. Process objectives: To ensure that all changes are managed in a formalised, integrated and controlled manner.	Project documents mentioned at lower levels.	9.1.1 Initiate change 9.1.1.1 Register request 9.1.1.2 Assess request for validity 9.1.1.3 Assign change priority 9.1.1.4 Assign change responsibility 9.1.1.5 Distribute change request for scoping 9.1.1.6 Review motivation for declined

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			request 9.1.1.7 Re-submit change request 9.1.2 Assess change impact 9.1.2.1 Establish scope of change request 9.1.2.2 Request risk assessment for change request 9.1.2.3 Request cost assessment for change request 9.1.2.4 Request schedule estimate for change request 9.1.2.5 Request engineering and design for change request 9.1.2.6 Request project quality assessment for change request 9.1.2.7 Request project Integrated Resource assessment change request 9.1.2.8 Request project contract assessment for change request 9.1.2.9 Compile change request proposal 9.1.3 Compile and implement change solution 9.1.3.1 Compile detailed change scope of work 9.1.3.2 Update change proposal 9.1.3.3 Approve Change Proposal 9.1.3.4 Initiate change request implementation activities 9.1.3.5 Escalate decision 9.1.3.6 Accept non-approval 9.1.3.7 Decision on non-approval 9.1.4 Closeout change request 9.1.4.1 Validate change implementation 9.1.4.2 Close change request

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.4.3 Record change knowledge for re-use
	240-66991940 Setup the project. Process objectives: To deliver project set-up in accordance with Eskom standards and customer specifications.	Project Set-Up Manual (to be developed).	9.1.1. Setup the project office 9.1.1.1 Specify the Project Office design 9.1.1.2 Develop the Project Office Set-Up Plan 9.1.1.3 Approve the Project Office Design and set up plan 9.1.1.4 Issue Governance Approval 9.1.1.5 Plan the Project Office Resource Requirements 9.1.1.6 Acquire the Project Office Resources 9.1.1.7 On board Project Office Resources 9.1.1.8 Deploy Project Office Resources 9.1.1.9 Establish office infrastructure 9.1.1.10 Establish DRM and Knowledge Management 9.1.1.11 Complete Set-up the Project Office 9.1.2 Setup processes, systems and tools 9.1.2.1 Define the application landscape and functionality 9.1.2.2 Develop the PST plan 9.1.2.3 Approve the landscape functionality and PST plan 9.1.2.4 Issue Governance Approval 9.1.2.5 Deliver PCM training 9.1.2.6 Mobilize Systems and Tools Set-Up resources 9.1.2.7 Provide IT infrastructure 9.1.2.8 Deliver the application

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			landscape and functionality 9.1.3 Setup project support 9.1.3.1 Specify support services 9.1.3.2 Develop Set-Up Support Plan 9.1.3.3 Approve the Set-Up Support Plan 9.1.3.4 Deliver on support plan 9.1.3.5 Issue Governance Approval 9.1.4 Setup project management processes 9.1.4.1 Initiate the Set-Up Project 9.1.4.2 Start up the set-up project 9.1.4.3 Plan the Project Set-Up 9.1.4.4 Approve Project Set-Up Master Plan 9.1.4.5 Manage Project Set-Up delivery 9.1.4.6 Close out Project Set-Up 9.1.4.7 Post evaluation of Project Set-Up
	240-66523971 Project deliverable management. Process objectives: To ensure proper management of deliverables on a project and that deliverables agreed upon are accepted and delivered at the end of the project.	No Eskom specific documents.	9.1.1 Plan deliverable management 9.1.1.1 Establish project deliverable requirements 9.1.1.2 Define deliverable baseline 9.1.1.3 Review deliverable baseline 9.1.1.4 Approve deliverable baseline 9.1.1.5 Update Project Management Plan 9.1.1.6 Communicate Deliverable Management Plan to relevant stakeholders 9.1.1.7 Include deliverable requirements in enquiry document 9.1.1.8 Receive contract award notification 9.1.1.9 Confirm contractor deliverable

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			schedule and scope of work 9.1.1.10 Pre-allocate and communicate unique numbers 9.1.2 Expedite deliverables 9.1.2.1 Issue reminders for critical deliverables 9.1.2.2 Determine if expected deliverables have been received 9.1.2.3 Update register with deliverables not received 9.1.2.4 Review progress of deliverables 9.1.2.5 Determine status of deliverable 9.1.2.6 Rejection based on format 9.1.2.7 Update Project Deliverable Register 9.1.2.8 Accept deliverables 9.1.2.9 Coordinate review of deliverables 9.1.2.10 Review deliverables 9.1.2.11 Report deliverables accepted 9.1.2.12 Report deliverables rejected 9.1.2.13 Communicate deliverables not received 9.1.3 Manage commissioning and handover pack 9.1.3.1 Validate deliverable readiness for commissioning 9.1.3.2 Check pack for completion 9.1.3.3 Issue pack for Cold commissioning 9.1.3.4 Receive updated pack after cold commissioning 9.1.3.5 Check updated cold commissioning and hand over pack for completeness

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
			9.1.3.6 Issue pack for Hot commissioning 9.1.3.7 Receive updated pack after Hot commissioning 9.1.3.8 Check Updated Hot commissioning pack for completeness 9.1.4 Handover deliverables 9.1.4.1 Ensure that commissioning and hand over pack is at "As Built" status 9.1.4.2 Receive information for Hand over pack 9.1.4.3 Compile commissioning and hand over pack as per Hand over index 9.1.4.4 Check commissioning and hand over pack for completion 9.1.4.5 Co-ordinate review of hand over pack by client 9.1.4.6 Review commissioning and hand over Pack 9.1.4.7 List rejected Commissioning and hand over pack review actions 9.1.4.8 List provisionally accepted pack review actions 9.1.4.9 Conduct final plant inspection 9.1.4.10 List rejected plant defects 9.1.4.11 Correct plant defects 9.1.4.12 List provisionally accepted plant defects 9.1.4.13 Accept plant with defects 9.1.4.14 Client signs hand over certificate 9.1.4.15 Hand over to the client 9.1.4 16 Close out deliverable register
Business function (L2): Executive governance.			
240-51093680 Establish	8.1 Develop governance policies.	Companies Act of 2008	8.1.1 Develop governance body

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
executive governance framework. Process objectives: To ensure that the organisation is well governed.	Process objectives: To ensure standardised, efficient governance policies are implemented throughout the Eskom Group.	Delegation of Authority framework within the Eskom Group. King Code and report on Governance for South Africa 2009. Memoranda of Incorporation of Companies within the Eskom Group. Protocol on Corporate Governance in the Public Sector. Subsidiary Governance Framework Policy. Subsidiary Governance Framework Procedure.	principles 8.1.2 Develop draft policy 8.1.3 Formalise policies
	8.2 Develop governance structures. Process objectives: To ensure that effective decision-making occurs at the correct level and delegated limit.	Companies Act of 2008. Delegation of Authority framework within the Eskom Group. King Code and report on Governance for South Africa 2009. Memoranda of Incorporation of Companies within the Eskom Group. Protocol on Corporate Governance in the Public Sector. Subsidiary Governance Framework Policy. Subsidiary Governance Framework Procedure.	8.2.1 Develop structure principles 8.2.2 Develop mandate and delegation of authority 8.2.3 Approve governance structure
240-51093640 Establish effective leadership. Process objectives: To ensure the appropriate leaders are appointed to deliver the mandate and thereby provide value to stakeholders.	8.1 Appoint leaders to governance structures. Process objectives: To ensure that the Eskom Group is directed and controlled by the most appropriate and effective leaders.	Companies Act of 2008. Delegation of Authority framework within the Eskom Group. King Code and report on Governance for South Africa 2009. Memoranda of Incorporation of Companies within the Eskom Group. Protocol on Corporate Governance	8.1.1 Conduct gap analysis 8.1.2 Obtain approval of appointment of leaders

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
		in the Public Sector. Subsidiary Governance Framework Policy. Subsidiary Governance Framework Procedure.	
	8.2 Evaluate leadership performance. Process objectives: To ensure that the leaders appointed to governance structures have been effective in delivering on mandates of the legal entities and decision-making bodies on which they serve and to ensure that corrective action is taken, if necessary.	Delegation of Authority framework within the Eskom Group. King Code and report on Governance for South Africa 2009. Memoranda of Incorporation of Companies within the Eskom Group. Protocol on Corporate Governance in the Public Sector.	8.2.1 Perform evaluation process 8.2.2 Finalise evaluation report
240-54126157 Technical governance. Process objectives: Process objectives: To ensure standardised, consistent and efficient governance of Technical Work is implemented and monitored throughout Eskom.	8.1 Management of governance bodies. Process objectives: Process objectives: To ensure standardised, consistent and efficient governance of technical work is implemented and monitored throughout Eskom.	474-194 TOR: Technical Governance Committee.	8.1.1 Establish governance body 8.1.2 Operations of governance body
Business function (L2): Integrated governance, risk and compliance.			
240-96851726 Enterprise risk and resilience management. Process objectives: To ensure that risks are managed adequately within Eskom.	8.1 Manage enterprise risk. Process objectives: To ensure that Risks are managed adequately within Eskom.	240-66532132: Eskom Holding Enterprise Risk Management Plan. 240-77194678: Eskom Holdings SOC Limited Integrated Enterprise Risk & Resilience Framework. 240-81728505: Eskom Risk Appetite and Tolerance Statement. 32-391: Integrated Risk Management Standard. 32-86: Enterprise Risk and Resilience Policy.	8.1.1 Establish the context 8.1.2 Identify risk 8.1.3 Analyse risk 8.1.4 Evaluate risk 8.1.5 Treat risk 8.1.6 Monitor/review risk
240-47430334 Compliance	8.1 Establish compliance management	240-66532132: Eskom Holding	8.1.1 Establish compliance functions

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
management. Process objectives: To ensure that risks are managed adequately within Eskom.	capability. Process objectives: To ensure effective compliance and compliance risk management alignment across Eskom.	Enterprise Risk Management Plan. 240-77194678: Eskom Holdings SOC Limited Integrated Enterprise Risk & Resilience Framework. 240-81728505: Eskom Risk Appetite and Tolerance Statement. 32-391: Integrated Risk Management Standard. 32-86: Enterprise Risk and Resilience Policy.	8.1.2 Establish compliance management support capability
	8.2 Scope compliance universe. Process objectives: To ensure that the business has a complete record of what to comply with and has access to associated guidance documents.	240-50806067: Compliance Management Manual. Compliance Governance Manual (to be developed). Compliance Management: Strategic Framework (to be developed). Compliance Management: Compliance Charter (to be developed).	8.2.1 Identify compliance content 8.2.2 Conduct initial exposure assessment 8.2.3 Conduct detailed assessment 8.2.4 Develop action plan
	8.3 Assess compliance level. Process objectives: To ensure identification of areas compliance, non-compliance or possible risk that may negatively impact on business operations and the image of Eskom, locally and internationally.	240-50806067: Compliance Management Manual. Compliance Governance Manual (to be developed). Compliance Management: Strategic Framework (to be developed). Compliance Management: Compliance Charter (to be developed).	8.3.1 Plan compliance assessment 8.3.2 Perform compliance assessment(s) 8.3.3 Monitor exception
240-51367318 Assurance and advisory audits. Process objectives: No detail in document.	No detail in document.	No detail in document.	No detail in document.
Business function Level 2: Finance and tax.			
32-1228 Budgeting forecasting and control. Process objectives: To	8.1. Set targets. Process objectives: To ensure that the results of the budget and forecast are	240-42362963: Financial Planning & Budgeting Procedure. 32-1082: Financial Planning &	8.1.1 Set budget/forecast performance objectives 8.1.2 Set budget and forecast targets

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
produce a robust and justifiable short term and medium term outlook of Eskom's financial position and the results of its operations that is aligned to the strategic direction and objectives of Eskom, with an optimal allocation of available resources that ultimately engenders the ownership and support of its stakeholders.	aligned to Eskom's strategy, operational plans, financial and regulatory requirements, but which reflects financial stability in key ratios that are used by current and potential future investors.	Budgeting Policy.	8.1.3 Develop budget and forecast directives
	8.2. Develop budget and forecast. Process objectives: To ensure a consistent approach throughout the Eskom Group in compiling the budget and forecast such that the budget and forecast are based on justifiable assumptions, within the targets that are set and that fosters business ownership and accountability by the relevant stakeholders.	240-42362963: Financial Planning & Budgeting Procedure. 32-1082: Financial Planning & Budgeting Policy.	8.2.1 Perform sales and revenue budgeting and forecasting 8.2.2 Perform primary energy budgeting and forecasting 8.2.3 Perform employee benefits budgeting and forecasting 8.2.4 Perform maintenance cost budgeting and forecasting 8.2.5 Perform operational cost, Income and non-treasury interest budgeting and forecasting 8.2.6 Perform depreciation planning 8.2.7 Perform capital expenditure budgeting and forecast 8.2.8 Prepare budget/forecast balance sheet 8.2.9 Perform treasury interest/fair value budgeting and forecasting 8.2.10 Perform budgets/forecast reviews 8.2.11 Perform budget/forecast reporting and approval
240-69061188 Project accounting. Process objectives: To ensure compliance with applicable accounting standards, statutory laws and Eskom governance processes throughout the project life cycle.	8.1 Initiate project accounting for projects. Process objectives: To ensure the accurate creation of a financial project structure to enable accurate planning, budgeting and monitoring of future projects.	240-42362878: Operational Resources Management (Fixed Assets) Procedure Manual. 240-42362963: Procedure manual for financial planning, budgeting and control. 240-68833261: Assets Under Construction Procedure Manual. 32-1050: Fixed Assets Policy Document.	8.1.1 Set up project accounting project 8.1.2 Manage project accounting planning 8.1.3 Manage project accounting budgeting

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
	8.2 Execute project accounting for projects. Process objectives: To ensure timely monitoring and reporting of projects to enable complete and accurate project costing information.	2001: International Financial Reporting Standards (IFRS). 240-42362878: Operational Resources Management (Fixed Assets) Procedure Manual. 240-68833261: Assets Under Construction Procedure Manual. 32-1050: Fixed Assets Policy Document. Financial Closing Management Procedure (to be developed).	8.2.1 Monitor project accounting 8.2.2 Manage project accounting month end reporting 8.2.3 Close out project accounting project
Business function (L2): Reputation management.			
240-48663560 Stakeholder management. Process objectives: To build trust with internal and external stakeholders through strategic action-driven Stakeholder Management in order to solicit and enhance stakeholder support, buy -in, and leadership commitment.	8.1 Relationship management. Process objectives: To develop and maintain sound relationships with relevant stakeholders through open dialogue and understanding of stakeholders' expectations as well as to share Eskom's business imperatives.	32-115: Internal Communication Policy. 32-116: Eskom Corporate Language Policy. 32-256: Emergency Communication Procedure. 32-85: Information Security Policy. 32-86: IRM Policy V1. 470-119: Civil Society, Organised Business, Labour, Engagement Procedure.	8.1.1 Identify stakeholder 8.1.2 Develop stakeholder engagement framework 8.1.3 Implement stakeholder engagement framework 8.1.4 Review stakeholder engagement
	8.2 Issue management. Process objectives: To proactively monitor and manage issues that may escalate to a risk and negatively impact the organisation.	No Eskom specific documents.	8.2.1 Identify issue 8.2.2 Develop response plan 8.2.3 Execute response plan
240-51317020 Marketing and communications management. Process objectives: To ensure that marketing and communication management is aligned to Eskom's strategic business objectives	8.1 Manage sponsorship.	N/A	N/A
	8.2 Manage strategic marketing.	N/A	N/A
	8.3 Manage business communication. Process objectives: To ensure that Eskom's strategic objectives are met through the management of information that is shared with its stakeholders, thereby positively affecting attitude and	N/A No Eskom specific documents.	8.3.1 Conduct situational analysis 8.3.2 Develop communication plan 8.3.3 Execute communication plan 8.3.4 Evaluate results

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
through the management of information that is shared with its stakeholders, thereby positively affecting attitude and behaviour, building relationships, creating strategic partnerships, creating a stable working environment, generating goodwill, integrity and ensuring all marketing and communication initiatives are executed as planned.	behaviour, building relationships, creating a stable working environment, generating goodwill and integrity.		
Business function (L2): Enterprise performance management and process management.			
240-42872394 Enterprise performance management. Process objectives: To ensure modelling and monitoring of current performance through the interrogation of results, reviewing and tweaking the value driver models, defining, recommending and initiating process improvement opportunities to achieve incremental end-to-end business performance improvements which ultimately result in a step change in enterprise performance.	8.1 Manage performance measures. Process objectives: To ensure Eskom's strategic objectives are translated into actionable business measurements in order to provide line-of-sight which results in top-down direction and bottom-up control.	240-46979482: Enterprise Performance Management Policy. 240-54462093: Developing and Maintaining Measures Procedure.	8.1.1 Develop and maintain measures 8.1.2 Develop visualisation model
	8.2 Monitor and report business performance. Process objectives: To monitor that business performance remains within set targets, ensure actions are taken where it deviates and report business performance to all levels of the organisation.	240-46979482: Enterprise Performance Management Policy.	8.2.1 Setup business performance reporting framework 8.2.2 Measure business performance 8.2.3 Report business performance 8.2.4 Identify business performance improvement opportunity
	8.3 Manage business performance improvement. Process objectives: To define methodologies to be used for business and performance improvement to increase output, efficiency, or effectiveness and to monitor business	240-46979482: Enterprise Performance Management Policy. 240-76757195: Business Performance Improvement Procedure.	8.3.1 Motivate business and Performance improvement methodology 8.3.2 Monitor business performance improvement actions

Capabilities (L3 PCMs)	Process flows (L4 PCMs)	Governance documents	Activity flows and activities (L5)
	improvement actions from start to completion.		
Business function (L2): Operations management.			

12.2.2 Analysis of the portfolio management roles in Eskom

In Table 88 a comparative and gap analysis is done to establish which position/body in Eskom is responsible to perform the roles as outlined in Table 84: Key roles of stakeholders and functions involved in portfolio management.

Table 88: Portfolio management roles in Eskom

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
Management board (MB).	Accountable for the governance of the organisation and delegation of authority of the portfolio direction group, portfolio process group/change delivery committee, business change/portfolio director, portfolio management sponsor and investment committees. Responsible for the approval of the corporate plan, annual financial plan and portfolio budget.	Board people and governance committee.	Custodian of corporate governance.
		Strategy support division - organisational governance (SS).	Oversees Eskom's corporate governance framework by providing thought leadership and strategic direction on corporate governance matters.
Business change/portfolio director.	Management board member responsible for the portfolio strategy and provides clear leadership and direction through its life cycle. Leads the design and implementation of the portfolio governance structure with the assistance of the portfolio office.	Chief Financial Officer (CFO).	The CFO is the Chairperson of the EXCO Capital Committee with the following purpose: • Investment decisions to support Eskom strategy. • Commercial process decisions. • Impact of decisions on the funding plan, equity, key financial and investment ratios. The CFO is the Chairperson of the EXCO Finance Committee with the following purpose: • Decisions on financial strategy and budget. • Business and Treasury integration. • Monitoring funding pipeline, cash-flow position and financial risk management. The CFO also is the Chairperson of the EXCO Regulation, Policy & Economic Committee with the following purpose: • Review of the impact of

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
			regulatory and economic policies and the development of response strategies. • Eskom regulated licences. • Long-term energy policy. • Tariff outlook and regulatory strategy. • Approach to environmental policies. • Eskom's economic impact.
Strategic management and planning.	Function responsible for producing the annual corporate plan, strategies, strategic goals, objectives and KPIs. Sets the context within which portfolio management operates by providing the basis for determining the scope of the portfolio and the prioritisation of individual initiatives and the measure against which portfolio management will ultimately be assessed.	Strategy support division - corporate strategy (SS).	Develops, maintains and implements a sustainable and long-term business model and related effective strategy development process and capability for Eskom that supports delivery of Eskom's strategic framework, its vision and the organisation values.
		Strategy support division - corporate planning (SS).	Directs, aligns and enables Eskom Holdings Corporate Plan at an Eskom Group, operating, strategic and support unit level through the development and implementation of effective strategy execution process and system.
Business analysis and planning (BAs).	Function responsible to identify business needs, elicit and manage requirements, and recommend relevant solutions to meet organisational needs. Need to focus on the ability to accommodate rapid change and work in partnership and collaborate with portfolio management to ensure that projects and programmes deliver the required business value.	Divisional/operating unit asset management/planning departments.	Manages the process to develop the five/ten year plans (e.g. Gx technical plan) and repots (Wires planning reports) to identify portfolio components.
		According to the draft Eskom Project Delivery Framework Conceptual Design for Standard Projects (Eskom, 2016) it is proposed to establish Client Offices.	Timely plans and prioritises projects.
Strategic portfolio management office/portfolio office (SPfMO).	Works closely with strategic and business planning and other functions involved in portfolio management to achieve the strategic goals and objectives.	Currently such a role does not exist in Eskom. Parts of this role are performed by various functions	Ensures that capital plans at all levels of Eskom are determined using a standardised approach.

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
	Responsible for centralisation of support for portfolios, programmes and projects, maintains visibility and control on the performance and trends of the projects and programmes and provides interpretive and predictive assessments and accurate information to executive and senior management and stakeholders at the right time, enabling them to make effective decisions. Guardian of the portfolio process – monitoring their operation, reporting and any non-compliance and providing an assurance on their effective operation.	such as Asset Management/Divisional Planning Departments, Finance: GCIA, Monitoring and Oversight, etc. Eskom is targeting the establishment of a centralised capital delivery factory. The function is envisaged to form part of the Group Capital Division (GCD) with a capital efficiency team in Finance, which will be tasked with ensuring the prioritisation of projects across Eskom.	
Portfolio direction group (PDG).	Governance body where decisions about inclusion of portfolio components in the portfolio are made. Ensures that portfolio components are linked to the strategic objectives and benefits outlined in the business cases.	Group capital and divisional executive committees (Div. EXCOs).	Supports the optimisation of division-specific project portfolios.
Portfolio management sponsor.	Person or group responsible for the implementation of portfolio management and for enabling success. Provides resources and supports the project, programme, or portfolio. Champions the approval of portfolio components (projects, programmes, and operations). Once approved the sponsor helps ensure that the portfolio components perform according to the organisational strategy and objectives.	According to the draft Eskom Project Delivery Framework (PDF) Conceptual Design for Standard Projects (Eskom, 2016) it is proposed to introduce a new business role namely portfolio owner within each division (Pf Owner).	Oversees effective and efficient capital expenditure within the division/operating units to ensure investment plans are aligned to business strategy. Provides support, guidance, expertise and insight to the portfolio delivery managers to enable successful portfolio delivery. The portfolio owner is assisted by the divisional delivery office with divisional capital investment as informed by the Eskom Corporate Plan, including target setting, target allocation and performance measurement, and provides corporate support strategies and practices to remove

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
			obstacles to enable portfolio delivery.
Portfolio process group/change delivery committee or portfolio delivery board (PDB).	Governance body responsible for monitoring portfolio progress and resolving issues that may comprise delivery and benefits realisation.	Board recovery and build programme committee (RBP).	Provides governance, monitoring review and oversight role for the build and recovery programmes of Eskom.
		Generation division (Gx) programme/project governance board/s (PGBs). The different Divisions apply this role differently.	Reviews and approves TP projects during phase/stage gate reviews prior to Investment Committee submission, monitor the progress of the Power Station/Business Unit (BU) programme of TP projects, approves changes to the Power Station/BU programme of TP projects with the consent of the Power Station/BU Manager, manages key programme risks and addresses issues elevated by project managers.
Finance: Group Capital Integration and Assurance (GCIA) and Investment committee/s (IC).	Function responsible for providing guidance for business case preparation, development of the annual portfolio financial plan and budget, tracking the actual spend in a year, and ensuring the realisation of financial benefits by adjusting budgets where appropriate.	Board investment and finance committee (IFC).	Investment and financial decision-making.
		Eskom EXCO.	Defines the capital strategy and prioritisation of projects for allocation of funding.
		Eskom EXCO finance committee.	Makes decisions on financial strategy and budget; Business and Treasury integration; monitors funding pipeline, cash-flow position and financial risk management.
		Investment committee/s.	Authorises funds for portfolio components during phase/stage gate reviews.
Portfolio manager.	Person responsible for the execution of the portfolio management process with the focus on “doing the right work”. Co-ordinates the effective and efficient operation of the portfolio management practices, provides support to the business change/portfolio director and the portfolio process group/change delivery committee or portfolio delivery board (PDB). – including ensuring	Individual portfolio managers in divisions/ operating units. The draft Eskom Project Delivery Framework Conceptual Design for Standard Projects (Eskom, 2016) refers to the portfolio delivery manager (PfDM) and the portfolio	Focuses on the execution of programmes and projects to achieve their mandates/scope. The portfolio delivery office assists the portfolio delivery manager to align with BU strategies and allocated capital targets, provides support and tracks the performance of programmes and projects, including the identification of appropriate support strategies to effectively deliver the capital

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
	that they receive the information they require to enable them to discharge their responsibilities. The portfolio manager may be an individual, a group, or a governing body.	delivery office.	plan while continually liaising with portfolio stakeholders and ensuring the application of lessons learnt.
Portfolio benefits manager (PbBM).	Person responsible for ensuring that a consistent approach to benefits management is applied across the portfolio and that benefits realisation is optimised from the organisation's investment in change.	No such position currently exists in Eskom. While there is some clarification given in the activities associated with benefits realisation in the various Subset PLCMs, there is still a lot of uncertainty who should perform this function.	
Project sponsors/senior responsible owner (SRO).	Person owns the project business case and is responsible for agreeing the project objectives with the relevant stakeholders. Responsible for ensuring decisions are in line with the organisation's strategy and governance framework, providing feedback to strategic decision makers, and directing and supporting the projects and programmes being sponsored. The project sponsors/SRO is the route through which project managers directly report and from which project managers obtain their formal authority, remit and decisions.	Gx - sponsor. There are different views in the Eskom Division about who is responsible for this role.	The sponsor is the business unit (BU) manager (e.g. Power Station Manager) and is responsible for obtaining and providing the funds for the project. The sponsor is ultimately accountable for all projects within the BU.
		Gx - accountable manager. There are different views in the Eskom Division about who is responsible for this role.	Person appointed by the Programme/Project Governance Board (PGB) to represent the sponsor on the project. In most cases the accountable manager is the engineering discipline manager responsible for the plant on which the project is done.
Programme and project management.	Function responsible for the management delivery of change initiatives (e.g. programmes and projects).	Project office/s (PO) (i.e. programme and project management in divisions/ operating units). The draft Eskom Project Delivery Framework (PDF) Conceptual	Implements programmes and projects. Programme delivery offices and project delivery teams assist the programme and project managers to deliver on the programme and project management plans while ensuring the application of lessons learnt.

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
		Design for Standard Projects (Eskom, 2016) refers to Programme offices and project delivery teams.	
		Gx Project Governance Boards (PGB).	The programme manager is the chairman of the PGB. The PGB is responsible for ensuring that all projects are prioritised, initiated, reviewed during the phase/stage gates and adequately staffed. The programme manager oversees the work of the project managers and is responsible for ensuring that the project benefits are realised. Project managers are appointed by the PGB to manage the delivery of projects.
		Project development department (PDD).	Leads the front-end project planning process, business case development and capital project governance for all projects within the group capital mandate.
Performance management.	Function responsible for designing and implementing portfolio performance metrics and driver-based models linking change initiatives, and their benefits, to the organisation's strategic objectives. Validating performance against business cases and designing the content and format of portfolio reporting for effective decision-making.	Strategy support division - performance management and assurance (SS).	Drives performance and strategic shifts through tracking and monitoring of identified KPIs and strategic initiatives and ensuring benefits realisation for strategic initiatives.
		GCD performance monitoring, oversight and assurance.	Provides independent strategic assurance of capital performance through monitoring and reporting across the project life cycle model for stakeholder benefit.
Project management office (PMO).	Entity responsible for defining and maintaining the process standards related to project, programme and portfolio management and providing guidance on the practice of project, programme, and portfolio management. May be involved in execution such as facilitation, process	Eskom Project Management Office (EPMO).	Defines, develops and implements standardised Eskom Project Management Systems (EPMS), which include methods, tools, structures, and governance to enable the project management community to deliver programmes and projects.

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
	management, and supporting implementation of project management methodologies. PMO either functions on an enterprise-wide level, or as one of many departmental PMOs that manage different projects from different departments or divisions within an organisation.		
Procurement/commercial.	Function must have an early sight of proposed new initiatives and is responsible for providing procurement and commercial advice and early commercial input to business case development, so ensuring more reliable scheduling to realistic commercial timescales.	Group commercial (GC).	Provides an appropriate platform for effective and efficient performance to ensure the right product/service at the right time without causing production interruptions.
Human resources (HR).	Function must have a view of the anticipated impact of the change initiatives on staff. Function is responsible to provide assistance with workforce planning, recruitment and training.	Eskom EXCO people committee.	Human resources issues, processes, procedures and decisions; talent management and staffing issues; strategic workforce planning.
Risk management.		Eskom EXCO risk committee.	Consolidation and monitoring of overall business risks and processes, operational risk monitoring within compliance guidelines; safety, health and environmental compliance; reputational risk management.
Communications.	Function must ensure management and staff has a clear and consistent understanding of the organisational strategy and their role in delivering it, engage staff in considering how best to implement the changed ways of working, improve the ability of management and staff to make aligned and consistent decisions improve understanding of decisions made elsewhere in the organisation, ensure	Corporate affairs division.	Effective communication and stakeholder management.

Role	Description of role	Position/body responsible for this role in Eskom	Purpose of this position/role in Eskom
	consistency in messages and facilitate effective ongoing staff engagement.		

12.2.3 Finalisation of the tentative portfolio management model for Eskom

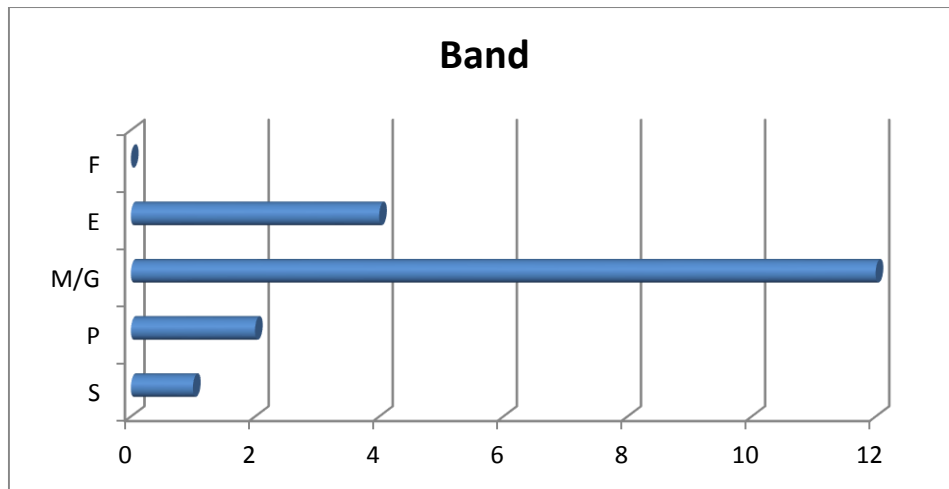
The information of the EHPUM PCMs applicable to portfolio management (Table 87) and the portfolio management roles in Eskom (Table 88) are integrated into the tentative portfolio management model (Figure 59) developed in Chapter 11 to develop a tentative portfolio management model for Eskom (i.e. proposal). The tentative portfolio management model for Eskom (i.e. proposal) is captured in a detailed spreadsheet and is used as the baseline document to collect, analyse and report the data obtained during one-to-one and group interviews to develop a final portfolio management model for Eskom (i.e. final proposal). The tentative portfolio management model for Eskom (i.e. proposal) is reviewed and iteratively updated during the one-to-one and group interviews with stakeholders representing the key functions involved in portfolio management (e.g. strategic management, finance, portfolio management, EPMO, programme and project management, operations, etc.) The tentative portfolio management model for Eskom (i.e. proposal) is not documented in this research report, only the final portfolio management model for Eskom (i.e. final proposal) due to the amount of detail involved. See section 12.4 for details of the final portfolio management model for Eskom (i.e. final proposal).

12.3 DATA COLLECTION, ANALYSIS AND VALIDATION

According to the research design in Chapter 2 a normative case study is selected as the research strategy and methodology. The actual process followed to develop the final portfolio management for Eskom (i.e. final proposal) is discussed in the sections that follow.

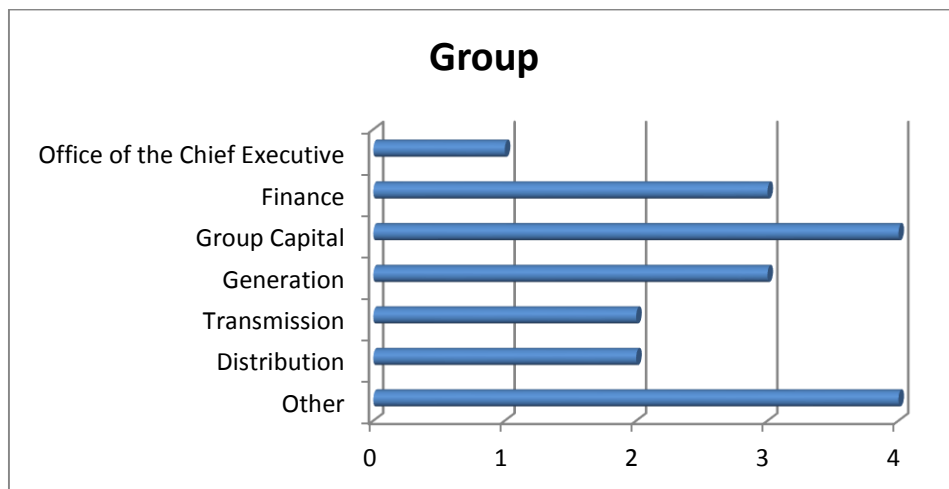
12.3.1 Sampling

Information about the respondents interviewed to review the tentative portfolio management model for Eskom (i.e. proposal) and develop the final portfolio management model for Eskom (i.e. final proposal) is shown in the following graphs:



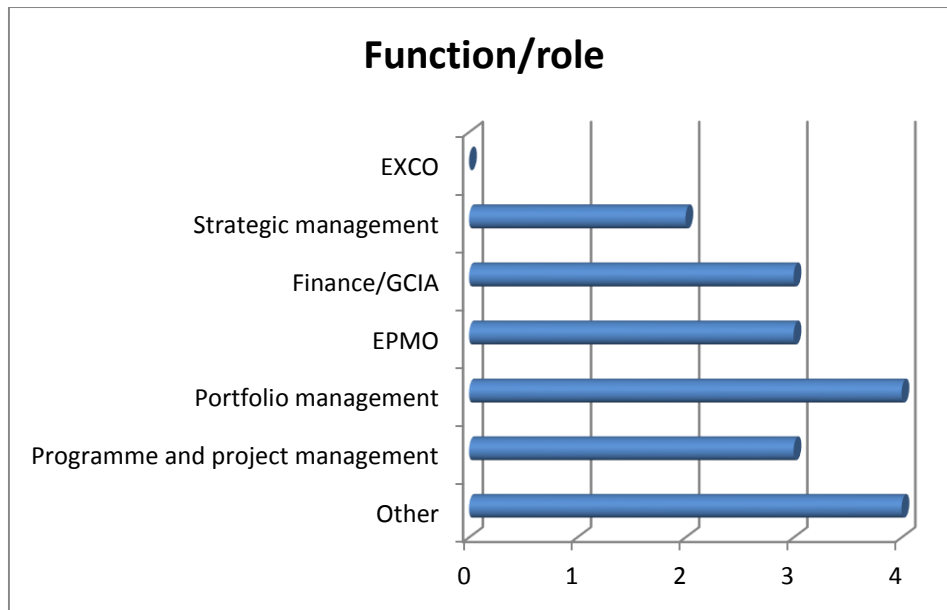
Where:

- F-band = executive/top management.
- E-band = senior management.
- M/G-band = middle management.
- P-band = professionals.
- S-band = consultants.



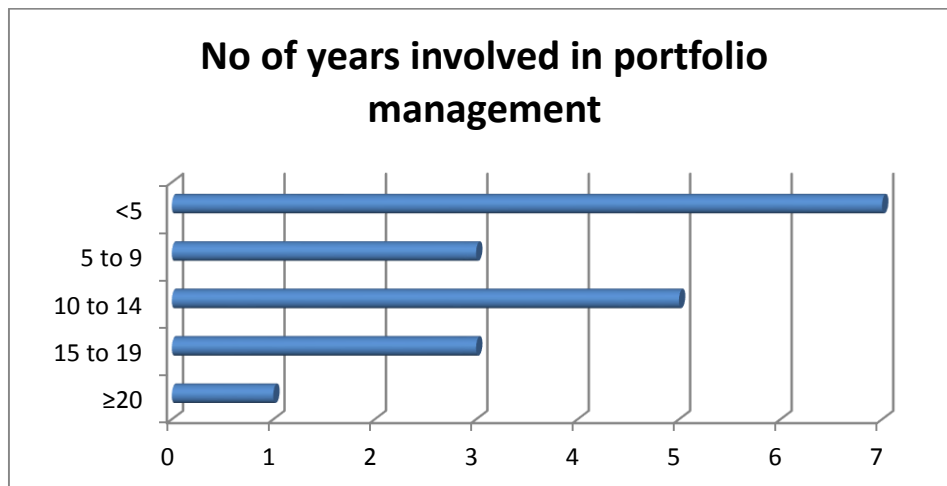
Other groups include:

- Eskom Rotek Industries (ERI).
- Telecommunications.
- Group IT.
- Generation operations.



Other functions/roles include:

- Programme/project management office.
- Asset management.
- System enablement.



12.3.2 Data collection and analysis

Data collection and analysis to review the tentative portfolio management model for Eskom and develop a final portfolio management model for Eskom took place during a period of five months.

12.3.2.1 *Semi-structured one-to-one and group interviews*

The presentation as shown in Annexure D was developed by the researcher to facilitate the one-to-one and group interviews. The purpose and background of developing a portfolio management model for Eskom were firstly shared with the persons interviewed. The researcher then gave a detailed explanation of tentative

portfolio management model figure and allowed for questions and discussion. Each of the interviewees was then requested to complete the survey questionnaire (Annexure C) on the current state of portfolio management in Eskom. The data collected during the survey on the current state of portfolio management in Eskom are documented in Annexure E. The analysis of the survey data is discussed in section 12.3.2.2.

The researcher then facilitated the review of tentative portfolio management model for Eskom (i.e. proposal). The portfolio management elements and activities, key roles and responsibilities and portfolio management steps were discussed. Changes proposed by the persons interviewed were discussed and the tentative portfolio management model for Eskom was updated after agreement between the interviewee and the researcher. The researcher then gave an overview the detailed portfolio management steps for each of the portfolio management model elements:

- Activity names.
- Detailed activity descriptions.
- Activity inputs and outputs.
- RACI, roles and responsibilities.
- PCM process flows, activity flows and activities.
- Related Eskom documents, templates, etc.

Due to the detail of the portfolio management steps and the time required to review it each of the interviewees was requested to review the detailed portfolio management model steps after the interview. Each interview was concluded by documenting the following:

- Benefits of the interview for both the interviewee and researcher.
- Concerns.
- Next steps (what, who, when).
 - A date was agreed with each interviewee to:
 - Review the detailed portfolio management model steps for workability/applicability/efficacy.
 - Provide an opinion on the validity/completeness of the portfolio management model for Eskom.
 - Provide comments/improvement proposals to the researcher.
 - A date was also agreed by the researcher to study the comments/improvement proposals of the interviewee and get agreement on the changes made to the tentative portfolio management model for Eskom.
 - Actions to address the concerns raised during the interview.

The tentative portfolio management model for Eskom (i.e. proposal) was iteratively updated after agreement was reached on the changes proposed by the interviewees.

The researcher coordinated and managed the completion of all the next steps till all actions were closed out.

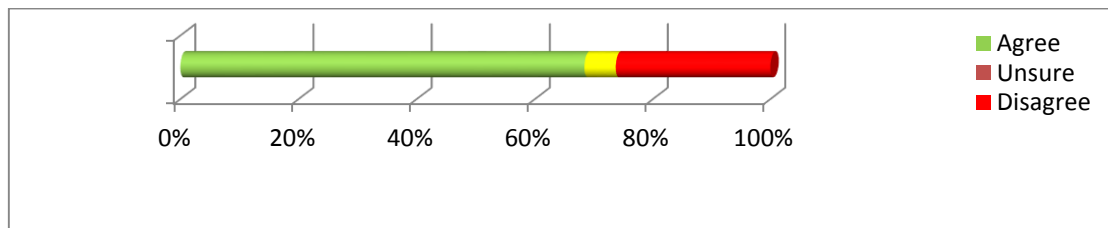
12.3.2.2 *Current state of portfolio management in Eskom*

The current state of portfolio management in Eskom was established from a questionnaire survey conducted during the one-to-one and group interviews. The following questions are derived from the preliminary portfolio management model elements as shown in Figure 59 in section 11.2 and used to develop the survey questionnaire in Annexure C:

- Are the strategic objectives adequately defined in order to align all programmes and projects to these strategic objectives?
- Are all programmes and projects aligned to the strategic objectives?
- Do executive and senior management take accountability for portfolio management (e.g. provision of direction and active involvement in portfolio management decisions)?
- Does the culture in the organisation actively support effective portfolio management?
- Are portfolio management governance, portfolio management structures, roles and responsibilities clearly defined?
- Does the organisation have adequate portfolio management capacity and capability (competence)?
- Are the standardised portfolio management practices/processes (PCMs) adequate (e.g. identification, categorisation, prioritisation, balancing and optimisation, planning, authorisation, controlling, etc.)?
- Have the standardised portfolio management practices/processes (PCMs) been successfully rolled out and embedded?
- Are the standardised portfolio management practices/processes (PCMs) effectively applied?
- Is there effective collaboration between all functions involved in portfolio management to ensure that the strategic objectives are achieved?
- Is the portfolio management solution and IT support adequate to support portfolio management?
- Are all projects and programmes properly justified, benefits identified and managed, and business value verified to ensure the achievement of strategic results?

The data collected during the survey on the current state of portfolio management in Eskom is documented in Annexure E. Analysis of the data of the 12 questions asked during the survey reveals the following about the current state of portfolio management in Eskom:

Q1. Eskom's strategic objectives are adequately defined in order to align all programmes and projects to these strategic objectives.

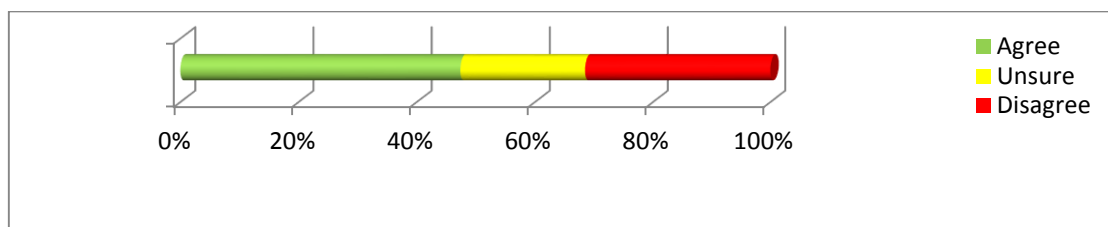


68.4% of the respondents agree that Eskom's strategic objectives are adequately defined in order to align all programmes and projects to these strategic objectives. 26.3% of the respondents disagree, and 5.3% are unsure.

Comments:

- Timeous compilation of corporate and business plans is an issue, not able to apply to Gx plans.
- I do not believe we look well enough where CAPEX should be spent at Eskom level.
- Alignment does exist between the strategic objectives.
- Short term but not for longer term.
- Although the communication aspect of these strategic imperatives /drivers needs to be improved especially when Board and EXCO review them on a quarterly basis. If they then reduce them down to 3/4, this needs to be communicated fully.
- In our role as Finance/capital efficiency we are too far removed and not involved in Eskom strategic objectives and thus struggle to provide assurance on alignment of programmes/projects to strategic objectives.
- The objectives are not aligned to the project delivery. Operating units have their own definition and the network definition and network development plans do not align.

Q2. All programmes and projects are aligned to the strategic objectives.

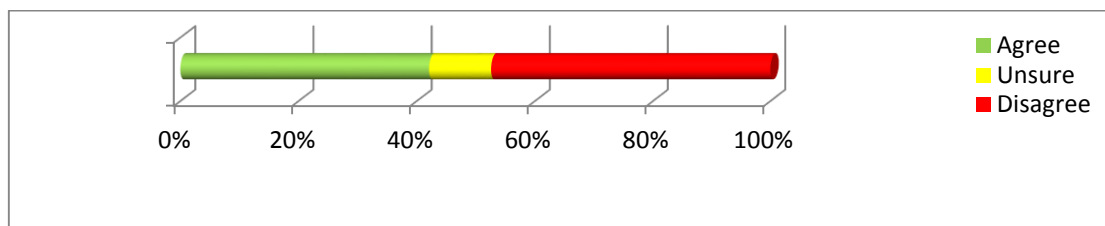


47.4% of the respondents agree that all programmes and projects are aligned to the strategic objectives. 31.5% of the respondents disagree, and 21.1% are unsure.

Comments:

- Timeous compilation of corporate and business plans is an issue, not able to apply to Gx plans.
- Have experienced incidents where projects are not aligned to strategic objectives.
- Mostly yes but there are still programmes which are not aligned to strategic objectives.
- Short term but not for longer term.
- I do not have a view of whether programmes apart from the capital optimisation (DTC II) are aligned. I do not have sight of their risk registers.
- In our role as Finance/Capital Efficiency we are too far removed and not involved in Eskom strategic objectives and thus struggle to provide assurance on alignment of programmes/projects to strategic objectives.
- About 20% of our projects do not talk to our strategic objectives.
- These are done to align to the operating units' objectives and the KPIs they need to manage.

Q3. Executive and senior management take accountability for portfolio management (e.g. provision of direction and active involvement in portfolio management decisions).



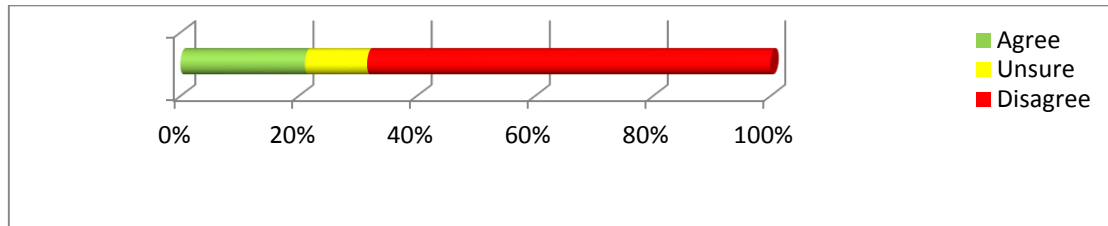
47.4% of the respondents disagree that executive and senior management take accountability for portfolio management. 42.1% of the respondents agree, and 10.5% are unsure.

Comments:

- Portfolio management is not institutionalised.
- I believe there is a deficiency in the understanding of the concept of portfolio management that gives rise to lack of accountability.
- In Generation the concept of portfolio management is not supported and therefore not implemented. There is also a lack of understanding.
- I do not think that senior management has played an active role in rolling out portfolio management.
- Structure is in such a way that the portfolio management take accountability.
- Silos still exist in some areas.
- Not always due to misalignment in governance process to be followed.

- I agree to an extent but not totally sure if executive and senior management take accountability apart from when they have to answer to DOE/National Treasury.
- Need more consistency in this area.
- We fail at execution.

Q4. The culture in the organisation actively supports effective portfolio management.

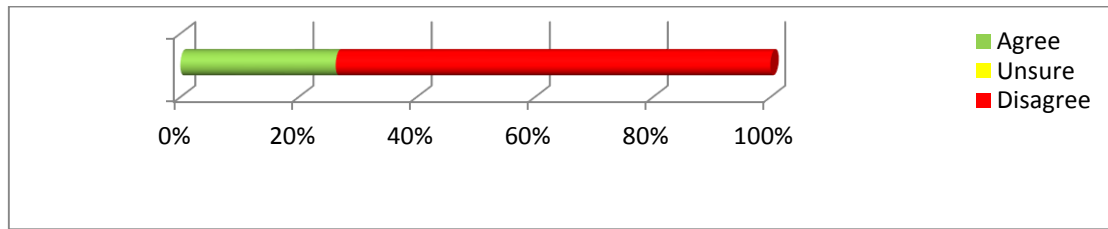


68.4% of the respondents disagree that the culture in the organisation actively supports effective portfolio management. 21.1% of the respondents agree, and 10.5% are unsure.

Comments:

- There is no formally organised portfolio management structure.
- Portfolio management not fully established and resourced.
- It is improving with the gaps inherent but still far off.
- In Generation the concept of portfolio management is not supported and therefore not implemented. There is also a lack of understanding.
- Can be improved in the way portfolio management is done.
- Collaboration not always practiced.
- In our engagement with the Divisions as Capital Efficiency the Divisions expressed concern when we embarked on the capital optimisation model and project scrubbing. Journey last year to say that they cannot or are battling to get project management right and that the roll-out of portfolio management in Eskom is something they have not started thinking about. First they need to resolve the project planning and execution challenge before they can think of portfolio optimisation.
- I think a lot can be done in the area of change management and cohesiveness and working as one as opposed to in silos.
- Tendency to add more to your portfolio.
- It is individual projects that are managed rather than the portfolio and the measurement of whether the budget was met and not the benefits.

Q5. Portfolio management governance, portfolio management structures, roles and responsibilities are clearly defined.

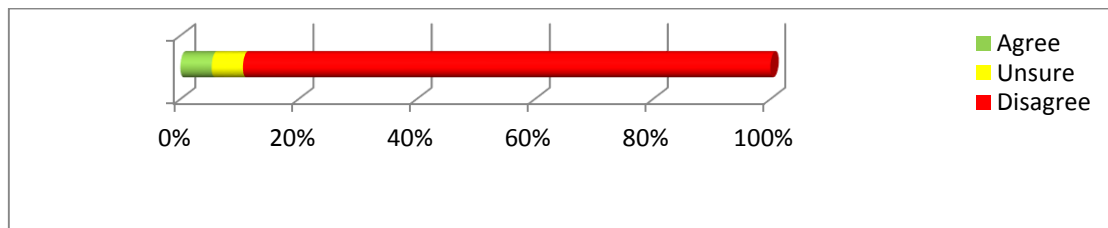


73.7% of the respondents disagree that portfolio management governance, portfolio management structures, roles and responsibilities are clearly defined. 26.3% of the respondents agree, and 0% is unsure.

Comments:

- Portfolio management not fully established and resourced.
- I believe that the roles of portfolio managers in Eskom adopt senior project management duties, just providing oversight only.
- They are becoming defined but not at stage of maturity you would want to see in existing Groups. New build most mature.
- Not normally defined even if portfolio management takes place.
- Problem is disruptions to process.
- When a project or programme is raised initially to follow a certain PLCM subset governance framework is not clearly defined that it must also follow all its governance processes.
- The governance around portfolio management has been affected and since evolved because of the new delegation of authority (DOA). This allows and has granted Group/Divisional Executives authority to approve projects and we have been battling to execute controls of the Capex on the system. The new DOA has not yet been introduced or launched properly in Eskom and has created a bit of inconsistencies in how Divisions control their Capex.
- I think they have been defined in theory; however it is practically impossible to implement due to lack of resource capacity and capability, tools and systems (business is not using SAP PPM).
- Room for improvement.
- This is not defined or understood. Portfolio management are doing projects rather than managing the portfolio.

Q6. Eskom has adequate portfolio management capacity and capability (competence).

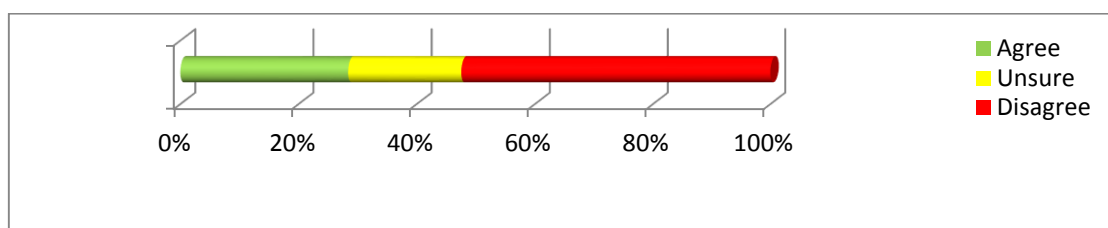


89.4% of the respondents disagree that Eskom has adequate portfolio management capacity and capability. Only 5.3% of the respondents agree, and 5.3% are unsure.

Comments:

- Portfolio management not fully established and resourced.
- From my interactions thus far, we have inadequate capacity and capability.
- Maturity low due to the lack of understanding and support in Generation.
- Eskom has the competence to perform portfolio management.
- Portfolio management capability still needs to be developed in the organisation.
- Not sure we have enough skills in the right places.
- Resources need to be trained and more facilitators are required. Mentorship programmes not in place.
- I do not think that it is adequate hence there are consulting houses employed (PWC/Deloitte) to come up with portfolio management (capital optimisation models). The consulting houses are meant to assist with building these capabilities: scrubbing and optimisation use/usage.
- Implemented before career path developed.
- Many managers are appointed in these roles with adequate experience or qualifications. In Eskom the feeling is that anyone can do portfolio management.

Q7. The standardised portfolio management practices/processes (PCMs) are adequate (e.g. identification, categorisation, prioritisation, balancing and optimisation, planning, authorisation, controlling, etc.).

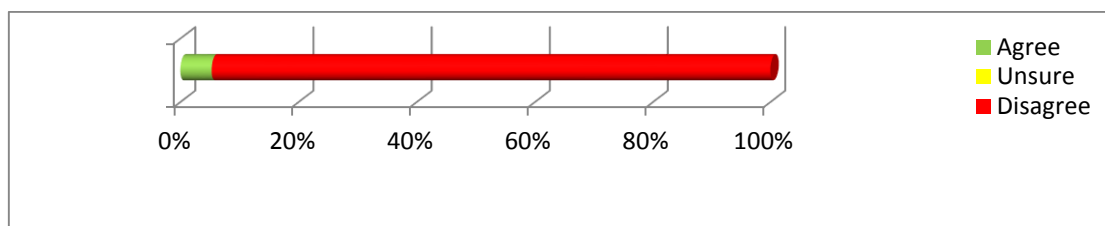


57.8% of the respondents disagree that the standardised portfolio management practices/processes (PCMs) are adequate. 21.1% of the respondents agree, and 21.1% are unsure.

Comments:

- Certain elements not provided for, also not resourced. PCM links not followed at business functions level and the capabilities level.
- Firstly I think that key aspects making up a portfolio process is not present and this creates a level that would make it hard for an immature organisation.
- Needs more development.
- If developed not implemented in Generation.
- PCM's not integrated.
- Prioritisation, balancing and optimisation process is not standardised. Generation has recently developed a tool that has 1-30 score. We don't know what informed it. How did they change from 1-40? Stakeholder engagement not done properly.
- EPMO has not been able to roll-out portfolio management PCMs because of the challenges I mentioned previously with the Divisions. My view is that are not yet even using project and programme management PCMs correctly.
- Has not been properly rolled out. Segregation between Budgeting in Finance CoE and Planning in Finance/Capital Efficiency. No alignment. My view is that the PCMs are focussed on major new build as opposed to current maintenance. Do not have a tool to support prioritisation, balancing and optimisation.
- Not 100% aligned to Dx.
- The PCMs are not clearly defined and needs to be more activity based and aligned to the processes.

Q8. The standardised portfolio management practices/processes (PCMs) have been successfully rolled out and embedded.



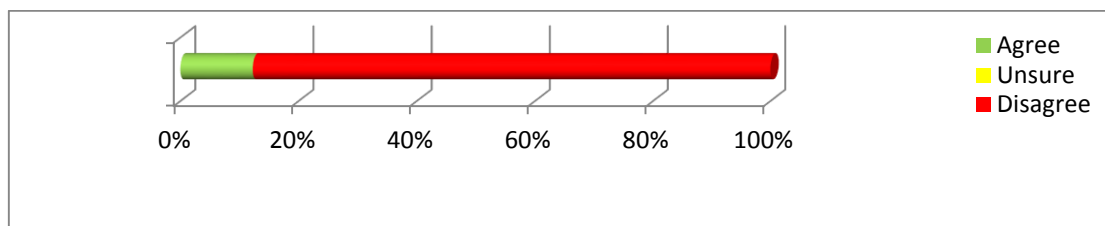
94.7% of the respondents disagree that the standardised portfolio management practices/processes (PCMs) have been successfully rolled out and embedded. Only 5.3% of the respondents agree, and 0% is unsure.

Comments:

- Not fully functional.
- Management need to be adequately trained.
- This has not been done in Generation.
- The PCMs need to be embedded and become a way of doing things.
- Not reviewed in light of roles and responsibilities.

- They were not finalised?
- Only rolled out slowly but not yet fully embedded in all operating units/business areas.
- EPMO is working closely with GCIA to enable the roll-out of portfolio management PCMs through the DTC II capital optimisation "fit for the future" programme by PWC. For portfolio management roll-out to be successful it needs an "Executive Sponsor" who is committed and available.
- Has not been properly rolled out. Segregation between Budgeting in Finance CoE and Planning in Finance/Capital Efficiency. No alignment. My view is that the PCMs are focussed on major new build as opposed to current maintenance. Do not have a tool to support prioritisation, balancing and optimisation.
- Training done in order to comply.
- This has been rolled out. The PCMs have not been fully accepted in the organisation and mainly due to poor change management. It was back fitted on the Dx value chains and the value chains are still being used but not updated.

Q9. The standardised portfolio management practices/processes (PCMs) are effectively applied.



89.5% of the respondents disagree that the standardised portfolio management practices/processes (PCMs) are effectively applied. Only 10.5% of the respondents agree, and 0% is unsure.

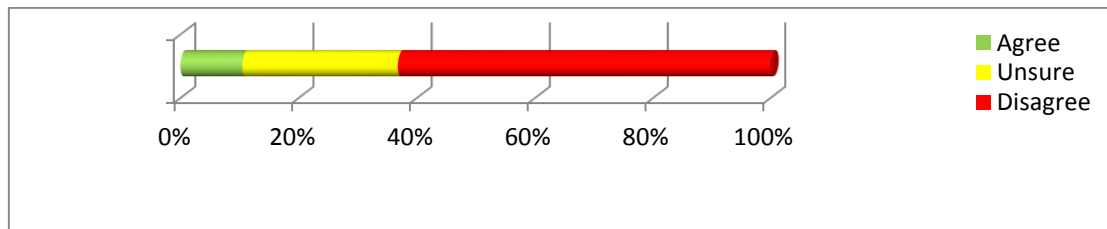
Comments:

- Shortfall in system functionalities and data integrity e.g. SAP PPM.
- It has not been rolled out.
- People are not adequately trained.
- They are not effectively applied again due to the differing understanding of the portfolio methodology.
- Not reviewed in light of roles and responsibilities.
- Some business areas still do their own things and do not follow the PCM process.
- EPMO is working closely with GCIA to enable the roll-out of portfolio management PCMs through the DTC II capital optimisation "fit for the future"

programme by PWC. I am not sure about programme and project management PCMs.

- There is no Eskom wide prioritisation, balancing and optimisation done - only within Divisional portfolios, we are unable to identify interdependencies across Divisional portfolios.
- Limited in order to comply. No value adding.
- These are being applied but only in some areas and then only partly.

Q10. There is effective collaboration between all functions involved in portfolio management to ensure that the strategic objectives are achieved.



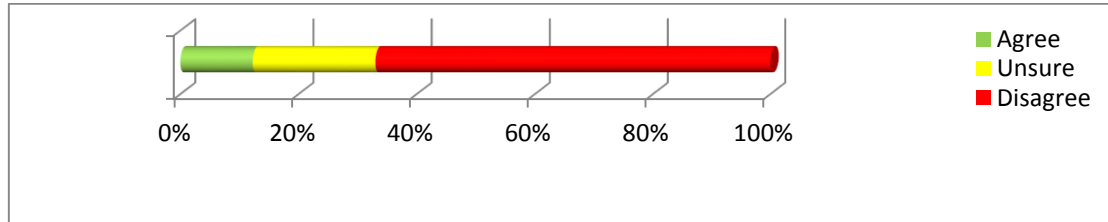
63.2% of the respondents disagree that there is effective collaboration between all functions involved in portfolio management to ensure that the strategic objectives are achieved. Only 10.5% of the respondents agree, and 26.3% are unsure.

Comments:

- Collaboration is perceived in Eskom as just feedback and progress reporting - collaboration in a portfolio focuses specifically on using synergy cohesively to achieve strategic objectives.
- In most cases strategic objectives are met related to short term objectives but long term objectives are compromised due to the lack of good portfolio management.
- There is room for improvement as there still exist silos within different functions.
- Different stakeholders need to be identified and engaged included as per effective collaboration.
- To some extent e.g. corporate planning but not in execution phase.
- There is no adoption yet of the work that Deloitte and PWC have embarked on in terms of change management. I believe we are still in the early phases of adoption as this roll-out is still in its early stages and business is still resistant.
- With the Back2Basics Programme it took 18 months to try and collaborate between all functions to reduce their R400 billion plus capital requirement into the NERSA allocated R251 billion. Eventually as this could not be done through collaboration we applied proportional cuts.
- Great improvement. Problem still conflicting KPIs.

- There is no integration or poor integration within the support functions and it is mainly because people do not understand the company objectives.

Q11. The portfolio management solution and IT support are adequate to support portfolio management.

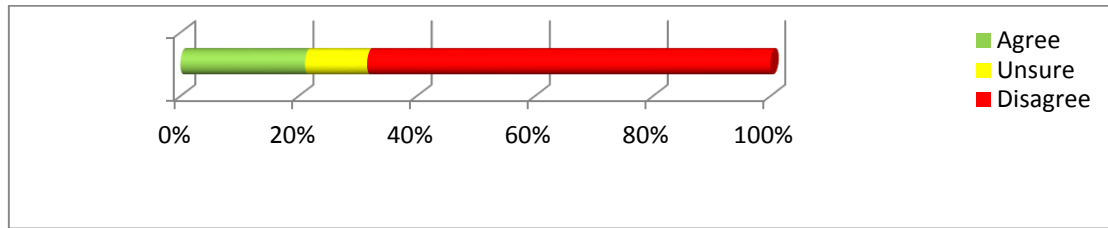


68.4% of the respondents disagree that the portfolio management solution and IT support are adequate to support portfolio management. Only 10.5% of the respondents agree, and 21.2% are unsure.

Comments:

- SAP PPM not being utilised, overlap with committee (GCAC) functions.
- Portfolio management solution is not adequate.
- IT support is adequate.
- There are good platforms out there to support portfolio management. SAP is inadequate.
- It is adequate but not effectively used.
- I have not been exposed to IT support system/solution to portfolio management.
- Not sure we have enough skills.
- The system takes long to effectively apply the change request that will support to manage portfolio effectively.
- We have not found a system solution to enable the new DOA implementation across division capital optimisation and or quarterly review or monthly review of the capital plan.
- SAP PPM is not functioning as intended. It is a combination of business discipline and system issues. The SAP modules are not integrated as we are not able to identify if a project in SAP PS/PPM is committed in SAP MM (i.e. contract in place). Cannot draw Eskom wide reports - SAP BW not working.
- SAP PPM not working.
- There are not systems for portfolio management.

Q12. All projects and programmes are properly justified, benefits identified and managed, and business value verified to ensure achievement of strategic results.



68.4% of the respondents disagree that all projects and programmes are properly justified, benefits identified and managed, and business value verified to ensure achievement of strategic results. 21.1% of the respondents agree, and 10.5% are unsure.

Comments:

- Not all, only some of the projects and programmes.
- Benefits are identified, unsure if benefits are managed, benefits are not verified.
- Most projects and programmes are bottom up approach, benefits are done retrospectively.
- Often projects are justified when already in a concept phase.
- If one sees a portfolio at power station level then reasonably well looked at but not at Eskom or Generation level.
- Benefits realisation not adequately measured or tracked.
- Control points of the PCMs not fully followed.
- PWC is in the process of defining value drivers for the (portfolio) capital optimisation model. Some benefits have been identified but not all and also not agreed to with Divisional stakeholders.
- Very few business cases have benefits and business value properly identified/quantified. We do not do benefits realisation.
- Projects are still done for own benefits rather than part of the strategic objectives. Legacy projects are still on the system without any benefit.

12.3.3 Recording of data

The data collected during the review of the tentative portfolio management model for Eskom are document in a master record index (see Table 89). The names of the persons that participated in the one-to-one and group interviews are masked as the researcher undertook to keep all information about the persons that participated in the interviews confidential.

Table 89: Master record index

Document number	Document title/name	Revision	Interview date	Storage medium
PFM001	Attendance Register [REDACTED]	No Rev	2017/03/14	Electronic and hardcopy
PFM002	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/03/14	Electronic
PFM003	Survey [REDACTED]	No Rev	2017/03/14	Electronic and hardcopy
PFM004	Tentative PfM Model 20170314 [REDACTED]	No Rev	2017/03/14	Electronic
PFM005	Attendance Register [REDACTED]	No Rev	2017/04/26	Electronic and hardcopy
PFM006	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/04/26	Electronic
PFM007	Survey [REDACTED]	No Rev	2017/04/26	Electronic and hardcopy
PFM008	Tentative PfM Model 20170314 [REDACTED]	No Rev	2017/04/26	Electronic
PFM009	Attendance Register [REDACTED]	No Rev	2017/05/02	Electronic and hardcopy
PFM010	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/02	Electronic
PFM011	Survey [REDACTED]	No Rev	2017/05/02	Electronic and hardcopy
PFM012	Tentative PfM Model 20170314 [REDACTED]	No Rev	2017/05/02	Electronic
PFM013	Attendance Register [REDACTED]	No Rev	2017/05/02	Electronic and hardcopy
PFM014	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/02	Electronic
PFM015	Survey [REDACTED]	No Rev	2017/05/02	Electronic and hardcopy
PFM016	Tentative PfM Model 20170314 [REDACTED]	No Rev	2017/05/02	Electronic
PFM017	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/05/03	Electronic and hardcopy
PFM018	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/05/08	Electronic and hardcopy
PFM019	Attendance Register [REDACTED]	No Rev	2017/05/15	Electronic and hardcopy
PFM020	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/15	Electronic
PFM021	Survey [REDACTED]	No Rev	2017/05/15	Electronic and hardcopy
PFM022	Tentative PfM Model 20170505 [REDACTED]	No Rev	2017/05/15	Electronic
PFM023	Attendance Register [REDACTED]	No Rev	2017/05/18	Electronic and hardcopy
PFM024	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/18	Electronic
PFM025	Survey [REDACTED]	No Rev	2017/05/18	Electronic and hardcopy
PFM026	Tentative PfM Model 20170516 [REDACTED]	No Rev	2017/05/18	Electronic
PFM027	Attendance Register [REDACTED]	No Rev	2017/05/18	Electronic and hardcopy

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PFM028	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/18	Electronic
PFM029	Survey [REDACTED]	No Rev	2017/05/18	Electronic and hardcopy
PFM030	Tentative PfM Model 20170516 [REDACTED]	No Rev	2017/05/18	Electronic
PFM031	Attendance Register [REDACTED]	No Rev	2017/06/05	Electronic and hardcopy
PFM032	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/06/05	Electronic
PFM033	Survey [REDACTED]	No Rev	2017/06/05	Electronic and hardcopy
PFM034	Tentative PfM Model 20170529 [REDACTED]	No Rev	2017/06/05	Electronic
PFM035	Attendance Register [REDACTED]	No Rev	2017/05/25	Electronic and hardcopy
PFM036	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/25	Electronic
PFM037	Survey [REDACTED]	No Rev	2017/05/25	Electronic and hardcopy
PFM038	Tentative PfM Model 20170516 [REDACTED]	No Rev	2017/05/25	Electronic
PFM039	Attendance Register [REDACTED]	No Rev	2017/05/30	Electronic and hardcopy
PFM040	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/05/30	Electronic
PFM041	Survey [REDACTED]	No Rev	2017/05/30	Electronic and hardcopy
PFM042	Tentative PfM Model 20170516 [REDACTED]	No Rev	2017/05/30	Electronic
PFM043	Attendance Register Implementation Recommendations and Steps [REDACTED]	No Rev	2017/05/31	Electronic and hardcopy
PFM044	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/06/07	Electronic
PFM045	Attendance Register [REDACTED]	No Rev	2017/06/12	Electronic and hardcopy
PFM046	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/06/12	Electronic
PFM047	Survey [REDACTED]	No Rev	2017/06/12	Electronic and hardcopy
PFM048	Survey [REDACTED]	No Rev	2017/06/12	Electronic and hardcopy
PFM049	Tentative PfM Model 20170607 [REDACTED]	No Rev	2017/06/12	Electronic
PFM050	Attendance Register [REDACTED]	No Rev	2017/06/13	Electronic
PFM051	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/06/13	Electronic
PFM052	Survey [REDACTED]	No Rev	2017/06/13	Electronic and hardcopy
PFM053	Tentative PfM Model 20170607 [REDACTED]	No Rev	2017/06/13	Electronic
PFM054	Attendance Register [REDACTED]	No Rev	2017/06/22	Electronic and hardcopy
PFM055	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/06/22	Electronic

Chapter 12: Eskom Portfolio Management Model

PFM056	Survey [REDACTED]	No Rev	2017/06/22	Electronic and hardcopy
PFM057	Survey [REDACTED]	No Rev	2017/06/22	Electronic and hardcopy
PFM058	Tentative PfM Model 20170607 [REDACTED]	No Rev	2017/06/22	Electronic
PFM060	Attendance Register [REDACTED]	No Rev	2017/06/27	Electronic and hardcopy
PFM061	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/06/27	Electronic
PFM062	Tentative PfM Model 20170626 [REDACTED]	No Rev	2017/06/27	Electronic
PFM063	Survey [REDACTED]	No Rev	2017/06/27	Electronic and hardcopy
PFM064	Survey [REDACTED]	No Rev	2017/06/27	Electronic and hardcopy
PFM065	Attendance Register [REDACTED]	No Rev	2017/07/06	Electronic and hardcopy
PFM066	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/07/06	Electronic
PFM067	Survey [REDACTED]	No Rev	2017/07/06	Electronic and hardcopy
PFM068	Tentative PfM Model 20170626 [REDACTED]	No Rev	2017/07/06	Electronic
PFM069	Attendance Register [REDACTED]	No Rev	2017/07/07	Electronic and hardcopy
PFM070	Eskom PfM Model Presentation Benefits Concerns Next Steps [REDACTED]	No Rev	2017/07/07	Electronic
PFM071	Survey [REDACTED]	No Rev	2017/07/07	Electronic and hardcopy
PFM072	Tentative PfM Model 20170626 [REDACTED]	No Rev	2017/07/07	Electronic
PFM073	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/06/26	Electronic
PFM074	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/06/26	Electronic
PFM079	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/07/10	Electronic
PFM080	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/07/11	Electronic
PFM081	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/07/26	Electronic
PFM082	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/08/08	Electronic
PFM083	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/08/16	Electronic
PFM086	E-mail to [REDACTED] on finalisation of portfolio management model for Eskom	No Rev	2017/08/23	Electronic
PFM087	E-mail to [REDACTED] on finalisation of portfolio management model for Eskom	No Rev	2017/08/23	Electronic
PFM088	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/08/23	Electronic
PFM089	E-mail to [REDACTED] on finalisation of portfolio management model for Eskom	No Rev	2017/08/23	Electronic
PFM090	E-mail from [REDACTED] on validity of Eskom PfM Model	No Rev	2017/08/23	Electronic

12.3.4 Validation and reporting

Creswell (2007) mentions eight validation strategies for qualitative research and clarifies that researchers usually engage in at least two of these eight strategies in any given study. The researcher has engaged in the following validation strategies:

- **Prolonged engagement and persistent observation in the field include building trust with participants, learning the culture, and checking for misinformation that stems from distortions introduced by the researcher or informants.** The researcher engaged with the participants involved in portfolio management activities representing the key functions (e.g. strategic management, finance/capital efficiency, portfolio management, EPMO, divisional representatives, etc.) over a period of five months during various one-to-one or group interviews to verify each of the portfolio management model elements, activities and processes in detail.
- **Clarifying researcher bias from the outset of the study is important so that the reader understands the researcher's position and any biases or assumptions that impact the inquiry.** The researcher clarified and commented on his past experiences, biases, prejudices, and orientations that could likely shape the interpretation and approach to this study in section 2.4.3 of the thesis (i.e. key scientific beliefs/philosophical assumptions and paradigm/worldviews).
- **In member checking, the researcher solicits participants' views of the credibility of the findings and interpretations.** This technique is considered by Lincoln and Guba (1985) to be "the most critical technique for establishing credibility". The researcher solicited the participants' views of the credibility of the findings and interpretations. During each one-to-one and group interview concerns were elicited and documented and next steps were established to address these concerns. The researcher managed and coordinated the close out of the all these next steps and ensured that all the actions to address the concerns were resolved. The tentative portfolio management model for Eskom was reviewed and verified by stakeholders representing various functions from all the Eskom Groups, Divisions and subsidiaries (see section 12.3.1 in the thesis). The final portfolio management model for Eskom was converted into an official Eskom document (i.e. detailed spreadsheet document 240-129590275 Eskom Portfolio Management Model) and was sent to each of the persons that participated in the one-to-one and group interviews for final verification.
- **Rich, thick description allows readers to make decisions regarding transferability because the writer describes in detail the participants or setting under study.** A final portfolio management model (i.e. 240-129590275 Rev 1 Eskom Portfolio Management Model) and manual (i.e.

240-130606825 Rev 1 Eskom Portfolio Management Model Manual) were developed and can be used as an exemplar by other organisations to develop a portfolio management models to suit them (i.e. transferability).

- **External audits allow an external consultant, the auditor, to examine both the process and the product of the account, assessing their accuracy.** The final portfolio management model (i.e. 240-129590275 Rev 1 Eskom Portfolio Management Model) and manual (i.e. 240-130606825 Rev 1 Eskom Portfolio Management Model Manual) were presented to the Eskom Portfolio Management Study Committee for final validation. These documents were accepted and authorised by the Chairman for adoption in Eskom.

A normative case study was selected as the research strategy and methodology. The evaluation criteria are discussed in section 2.5.7.2 of the thesis. Routio (2007) discusses three methods for evaluating normative proposals namely, *collective evaluation, theoretical evaluation and testing*. The method chosen for evaluating the portfolio management model was *collective evaluation* (i.e. same as member checking as per Creswell (2007)). Routio (2007) explains that every normative study is made from start to end from somebody's point of view. The researcher ensured that all relevant interest groups were heard in the evaluation as he engaged with the participants involved in portfolio management activities representing the key functions (e.g. strategic management, finance/capital efficiency, portfolio management, EPMO, divisional representatives, etc.) during various one-to-one or group interviews to verify each of the portfolio management model elements, activities and processes.

The researcher has also presented the portfolio management model at the Project Management Institute Gauteng Branch meeting, Eskom Project Management Imbizo, 5th South African Project and Construction Management Professions Conference, and the Project Management South Africa (PMSA) Western Cape Conference. The student has also published a featured paper in the PM World Journal. The model was well received and the validity of the model was never questioned.

12.4 FINAL PORTFOLIO MANAGEMENT MODEL FOR ESKOM

The final portfolio management model for Eskom as documented in a spreadsheet contains the following sheets.

12.4.1 Cover page

The cover page includes the document title, document identifier, area of applicability, revision number, next review date, disclosure classification and authorisation signatures.

12.4.2 Change log

The change log contains the revision history.

12.4.3 Portfolio management model figure

The portfolio management model figure is shown in Figure 63.

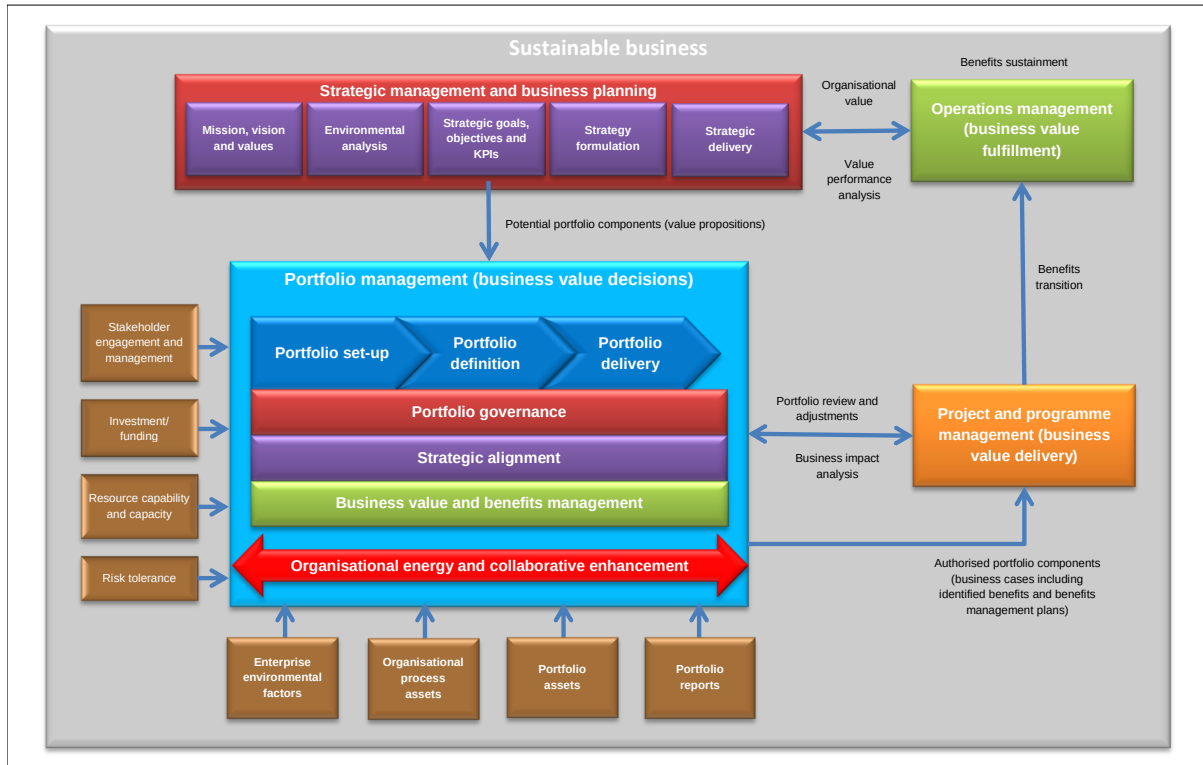


Figure 63: Portfolio management model figure

12.4.4 Portfolio management model elements and activities

The elements and activities of the portfolio management model for Eskom are shown in Table 90.

Table 90: Portfolio management model elements and activities

Portfolio set-up	Portfolio definition	Portfolio delivery
	• Develop portfolio roadmap. • Develop portfolio change management plan. • Develop portfolio financial management plan. • Develop portfolio resource management plan. • Develop portfolio stakeholder and communications management plan.	• Activate portfolio components. • Manage portfolio finances. • Manage portfolio resources (i.e. supply and demand). • Manage portfolio stakeholders and communications. • Manage portfolio risks. • Report portfolio performance.

Portfolio set-up	Portfolio definition	Portfolio delivery
	- Develop portfolio risk management plan. - Develop integrated portfolio management plan. - Create portfolio delivery plan.	
Portfolio governance		
- Establish portfolio governance and organisational structures. - Develop portfolio charter/s and setup portfolio/s.	- Develop portfolio governance management plan. - Authorise portfolio and changes.	- Provide portfolio oversight (i.e. management control). - Perform portfolio governance reviews.
Strategic alignment, business value and benefits management		
- Develop portfolio strategic plan. - Identify potential portfolio components and benefits and maintain the portfolio pipeline. - Categorise potential portfolio components.	- Assess and select portfolio components. - Develop portfolio performance and benefits management plan. - Prioritise portfolio components. - Balance, optimise and maintain the portfolio.	- Manage portfolio changes. - Manage portfolio performance and benefits. - Transfer benefits and allocate benefits accountability.

12.4.5 Key roles involved in portfolio management in Eskom and purpose of each role

Table 91 is derived from Table 88: Portfolio management roles in Eskom and summarises the key roles involved in portfolio management in Eskom and the purpose of each role.

Table 91: Summary of key roles involved in portfolio management in Eskom and purpose of each role

Key role	Purpose of role
Management Board and EXCO (MB & EXCO).	Ensure appropriate delegation of authority to Portfolio Director, Portfolio Direction Groups, Portfolio Management Sponsors/Portfolio Owners, Portfolio Delivery Boards and Investment Committees. Approve the corporate plan, annual investment and financial plans and portfolio budget.
Portfolio Director (i.e. Chief Financial Officer (CFO)) (PD).	Management board member responsible for the portfolio strategy. Provides clear leadership and direction and leads the design and implementation of the portfolio governance structure with the assistance of the strategic portfolio management office. Champions the implementation and development of portfolio-level benefits management (i.e. value delivery) across the organisation.
Strategy Support (SS).	Oversees Eskom's corporate governance framework by providing thought leadership and strategic direction on corporate governance matters. Develops, maintains and implements a sustainable and long-term business model and related effective strategy development process and capability for Eskom that supports delivery of Eskom's strategic framework, its vision and the organisation values. Directs, aligns and enables Eskom Holdings Corporate Plan at an Eskom Group, operating, strategic and support unit level through the development and implementation of effective strategy execution processes and system.

Key role	Purpose of role
Business Analysis and Planning (e.g. divisional/operating unit asset management/planning departments) (BA&P).	Identifies business needs, elicits and manages requirements and recommends relevant solutions to meet organisational needs. Develops value propositions and business cases. Manages the process to develop the five/ten year plans (e.g. Gx technical plan) and reports (e.g. Wires planning reports) to identify potential portfolio components.
Strategic Portfolio Management Office (SPfMO). (Such a role currently does not exist in Eskom. Results Management Office (RMO) performs some of these roles).	Works closely with Strategy Support and Business Analysis and Planning and other functions involved in portfolio management to establish portfolios in order to achieve the organisation's strategic goals and objectives. Maintains visibility and control on the performance and trends of the portfolios and provides interpretive and predictive assessments and accurate information to executive and senior management and stakeholders at the right time, enabling them to make effective decisions.
Eskom Project Management Office (EPMO).	Establishes, develops, implements and embeds standardised portfolio, programme and project management best practices (i.e. guardian of the Eskom Project Management Systems (EPMS)). Monitors and provides assurance on their effective operation and reports any non-compliance. Provides centralised support for portfolios, programmes and projects.
Portfolio Direction Group/s (e.g. Div. EXCOs) (PDG).	Makes decisions as governance body about inclusion of potential portfolio components in the portfolio. Ensures that potential portfolio components are linked to the strategic objectives and benefits outlined in the business cases.
Portfolio Management Sponsor/s or Portfolio Owner/s (Pf Owner).	Person or group responsible for the implementation of portfolio management in a Division and for enabling success. Provides resources and supports the project, programme, or portfolio. Champions the approval of portfolio components (projects, programmes, and operations). Once approved the sponsor helps ensure that the portfolio components perform according to the organisational strategy and objectives. Oversees effective and efficient capital expenditure within the division/operating unit to ensure investment plans are aligned to business strategy. Provides support, guidance, expertise and insight to the portfolio delivery managers to enable successful portfolio delivery.
Portfolio Delivery Board(s) (e.g. Gx Project Governance Boards (PGBs)) (PDB). Delivery Steering Committees being established in Eskom.	Reviews portfolio component definition readiness during phase/stage gate reviews prior to Investment Committee submission. Monitors the progress of portfolio components and approve changes to the portfolio and portfolio components. Resolves issues and risks that may comprise portfolio delivery and benefits realisation.
Finance: Group Capital Integration and Assurance (GCIA).	Sets up the investment rules and develops the capital investment model for Eskom. Sets capital targets for divisional portfolios and coordinates the development of the annual budget giving consideration to the strategic objectives and strategies of the organisation and NERSA agreements. Creates financial project structures against which the project plans, budgets, commitments, actual expenditure and revenues are monitored and controlled. Gives guidance on monitoring and reporting project costs, coordinates forecasting and does financial reporting against the budget.
Investment Committee/s (IC).	Reviews the scope, cost, time and the justification (i.e. business case) of portfolio components during phase/stage gate reviews and approves the budget for the release of funds.
Portfolio Delivery Manager/s (PfDM).	Focuses on the execution of portfolio components to achieve their mandates/scope/benefits. Coordinates the effective and efficient operation of the portfolio management practices. Provides support to the Portfolio Director and the Portfolio Delivery Board and ensure that they receive the information they require to enable them to discharge their responsibilities. Manages the allocation of funds between portfolio

Key role	Purpose of role
	components; resource capacity planning; optimisation and balancing; and portfolio risks.
Portfolio Benefits Manager (PfBM). (<u>Such a role currently does not exist in Eskom</u>).	Ensures that that a consistent approach to benefits management is applied across all the portfolios in Eskom and that benefits realisation is optimised. Develops, maintains and advises on the benefits management framework. Provides assurance on the efficiency and effectiveness of benefits management practices across the portfolios.
Project Office/s (PO).	Implements authorised portfolio components.

12.4.6 Detail of each step in the portfolio management model for Eskom

The detail of each step in the portfolio management model for Eskom is documented in sections 12.4.6.1 to 12.4.6.4.

12.4.6.1 Activity number, activity name, activity inputs, detailed activity description, and activity outputs

The activity numbers, activity names, activity inputs, detailed activity descriptions, and activity outputs finalised during an iterative review of the tentative portfolio management model for Eskom during one-to-one and group interviews are shown in Table 92.

Table 92: Activity numbers, activity names, activity inputs, detailed activity descriptions, and activity outputs

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
1. Portfolio set-up: The purpose of portfolio set-up is to evaluate the organisation's strategic objectives and strategies to develop a portfolio strategic plan, establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives.				
1.1	Establish portfolio governance and organisation structures.	Portfolio management implementation and embedment initiative plan.	Establish roles (e.g. Portfolio Director, Portfolio Direction Group(s), Portfolio Progress Group(s), Investment Committee(s), etc.) and prepare terms of reference for the portfolio governance bodies and establish the portfolio governance bodies. Design, develop and establish portfolio management organisational structures to support portfolio governance (e.g. Strategic Portfolio Management Office, Portfolio Owners, Portfolio Delivery Managers, Portfolio Benefits Manager).	Established portfolio governance structures. Established portfolio organisation structures.
1.2	Develop portfolio strategic plan.	Eskom corporate plan (i.e. vision, mission, values, strategic goals and objectives, strategies, KPIs, etc.). Divisional/Operating Units business plans. Established portfolio governance structures. Established portfolio management structures.	Evaluate the organisation's short, medium and long term objectives strategic objectives and strategies. Describe what portfolio management is designed to achieve. Establish the vision of the portfolio/s and define the strategy in portfolio-related strategic goals and objectives. Define and capture the criteria and measures, key processes and methods to select and align portfolio components to enable a balanced portfolio to maximise the probability of achieving the organisational strategic objectives. Such actions must optimise the organisation's return on investment, maintain risk exposure within the organisation's risk tolerance and should match resource demand.	Authorised portfolio strategic plan. Authorised list of portfolios.
1.3	Identify potential portfolio	Eskom's corporate plan.	Continually identify and map potential portfolio	List of potential portfolio

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
	components and maintain the portfolio pipeline.	Divisional/Operating Units business plans. Portfolio strategic plan. List of portfolios. Portfolio governance structures.	components to the organisation's strategic objectives and strategies. Obtain a clear and transparent view of what is in the current portfolio/s and the portfolio pipeline/s, performance to date together with their forecast impact on organisational performance. Collect consistent data on all potential portfolio components to aid with categorisation, assessment and selection, prioritisation, balance and optimisation, and authorisation. Collate the information on the potential portfolio components into an interim report to provide a clear view on the contents of the portfolio/s, any apparent overlaps and duplication, and the associated costs, dependencies, resource requirements, forecast benefits, risks, and strategic contribution. Identify the potential portfolio components for the coming business cycle and develop value propositions describing the scope, value and alignment to the organisation's strategic objectives and strategies.	components and value propositions.
1.4	Categorise potential portfolio components.	Authorised portfolio strategic plan. List of portfolios. List of potential portfolio components and value propositions. Portfolio governance structures.	Setup the terms, scope and definition of the portfolio/s as decided in the portfolio strategic plan of how potential portfolio components will be grouped into categories and define the divisions/departments covered, the type of work included (e.g. programmes/projects, operations, support, etc.), the categorisation scheme (e.g. categories such as: mandatory, strategic, business support, experimental, infrastructure, maintenance, and cross-functional), the balance points (e.g. for each category set guidelines as how the work should be balanced) and the financial models (i.e. models to be used to assess and select the portfolio components that are aligned to the strategic goals and strategies). Organise potential portfolio components into groups, segments or sub-portfolios based on the strategic objectives and strategies or	List of categorised potential portfolio components.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			other groupings to aid in strategic alignment and to ensure that resource allocation reflects the relative organisational priorities. The purpose of the categorise practice is to make it easier for senior decision-makers to understand the make-up of their portfolio/s and thus to make decisions on balance and on the optimum use of available funding and other resources.	
1.5	Develop portfolio charter/s and setup portfolio/s.	Eskom's corporate plan. Divisional/Operating Units business plans. Portfolio strategic plan. List of portfolios. Portfolio governance structures. Established portfolio organisation structures. List of categorised potential portfolio components.	Identify objectives for the portfolio(s) using past and current performance and future goals of the organisation. Set objectives for different time periods, ranging from immediate to longer term taking into account constraints such as the organisation's risk tolerance and keep the objectives under change control. Create the portfolio charters and appoint the portfolio management teams.	Authorised portfolio charter/s. Approved portfolio organisation structure/s. Appointed portfolio management team/s. Portfolio strategic plan updates.
2. Portfolio definition: The purpose of portfolio definition is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability.				
2.1	Develop portfolio roadmap.	Portfolio strategic plan. List of portfolios. Portfolio charter. Portfolio organisation structure. Portfolio management team. List of categorised potential portfolio components.	Create a high-level schedule showing the current and potential portfolio components to be implemented over time with any dependencies between them so that any conflicts or gaps between the roadmap and the organisational objectives and strategies can be evaluated.	Portfolio roadmap.
2.2	Develop portfolio governance management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap.	Document the governance structures, processes, escalation routes, tolerance/control limits and role descriptions.	Portfolio governance management plan. Integrated portfolio

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
				management plan updates.
2.3	Develop portfolio change management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap.	Define a portfolio change control approach to develop and implement recommendations for portfolio changes, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment.	Portfolio change management plan. Integrated portfolio management plan updates.
2.4	Develop portfolio performance and benefits management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap.	Develop the portfolio performance management plan as to how portfolio value is defined and realised through the portfolio measurements and targets, alignment to organisational objectives and strategies, and roles and responsibilities in executing the plan. Develop a portfolio benefits management framework encompassing the following main elements: - Benefits eligibility rules including a consistent approach to benefits categorisation (e.g. financial and non-financial benefits, cashable and non-cashable benefits, efficiency/productivity and effectiveness/performance benefits and economy, efficiency and effectiveness benefits). - The existing and potential portfolio components and their mapping to the strategic objectives and strategies. - The targeted benefits and capabilities to be achieved by the portfolio components within the costs and timescales. - Portfolio benefits realisation plan. - Re-appraisal of business cases and benefits at stage/phase gates and portfolio-level reviews. - Clear arrangements for benefits tracking and reporting at a portfolio level. - Robust post implementation reviews and feeding lessons learned back into forecasting and benefits management processes.	Portfolio performance and benefits management plan. Integrated portfolio management plan updates.
2.5	Develop portfolio financial	Portfolio strategic plan.	Develop a financial management plan to ensure that	Portfolio financial

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
	management plan.	Portfolio charter. Portfolio roadmap.	the portfolio management processes and decisions are aligned to the financial management cycle. Financial considerations form a key element in all decisions regarding the commencement and ongoing viability of potential portfolio components, both at an individual and at a collective level. The main elements of the financial management plan are: - Selection of appropriate investment criteria including metrics such as NPV and hurdle rates of return. - Clear rules for compiling cost forecasts in business cases and adjusting for optimism bias or the tendency for business case writers to underestimate costs and project durations, and overestimate benefits. - Clear rules for valuing savings and other benefits in business cases. - Clear control limits for reporting variances from budget and approving additional funding requests. - Incorporation of a financial plan within every business case. - The application of the concept of staged release of funding linked to the stage/phase gates to ensure that funding allocations remain aligned to strategic objectives and minimising the risks. - The portfolio delivery plan should include a portfolio-level financial plan showing the profiled capital and operating expenditure budgets in the forthcoming period. The plan should show in summary the impact on operating expenditure in future. - Monitoring spend in the year against the portfolio-level financial plan via portfolio dash-board. - Deciding how much financial contingency is retained at portfolio level to:	management plan. Integrated portfolio management plan updates.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			- Address cost escalation on current programmes and projects (retained centrally rather than at individual portfolio component budget). - Fund new portfolio components during the year.	
2.6	Develop portfolio resource management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap. Established portfolio organisation structures.	Develop mechanisms to understand and manage the amount of resources available and required to balance the demand and supply for any constraint resource that limits capacity of the organisation to deliver its potential portfolio components. Define portfolio wide standards for resource forecasting. Resources include but are not limited to skilled programme and project staff, other specialists, required equipment and accommodation, and the organisation's capacity to absorb business changes.	Portfolio stakeholder and communications management plan. Integrated portfolio management plan updates.
2.7	Develop portfolio stakeholder and communications management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap.	Identify key portfolio stakeholders, categorise them, and develop a portfolio stakeholder engagement and communication approach to ensure that: - The needs of the portfolio's stakeholders (both internal and external) are identified and managed appropriately. - Stakeholder support for the portfolio is gained by effective consultation and involvement in the definition and delivery of the portfolio.	Portfolio resource management plan. Integrated portfolio management plan updates.
2.8	Develop portfolio risk management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap.	Develop a risk management strategy at portfolio level that aligns to the organisational risk management policy to ensure consistent and effective management of the portfolio's exposure to risk at both individual portfolio component and collective portfolio level to: - Determine the level and tolerance of risk that is acceptable within the portfolio. - Develop or adapt an analysis technique for risks held at the portfolio level. - Identify risks at the portfolio level based on identified risks for each portfolio component. - Analyse and prioritise the portfolio risks	Portfolio risk management plan. Integrated portfolio management plan updates.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			considering such items as priority of strategic objectives, benefits, and the relationships among portfolio components. - Evaluate the risks over time including changes that should be monitored for risk impact and changes in portfolio composition.	
2.9	Develop integrated portfolio management plan.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap. List of categorised potential portfolio components. Portfolio governance management plan. Portfolio change management plan. Portfolio performance and benefits management plan. Portfolio financial management plan. Portfolio resource management plan. Portfolio stakeholder and communications management plan. Portfolio risk management plan.	Compile the integrated portfolio management plan that includes the following: - Portfolio organisation structure. - The existing and potential portfolio components, interdependencies between portfolio components, and their mapping to the strategic objectives and strategies. - The targeted benefits and capabilities of the portfolio components to be achieved by the costs and timescales. - Portfolio management subsidiary plans. Portfolio management plan development is an iterative process. The subsidiary plans are considered as part of the portfolio management plan although they may be separate documents and contain reference to the portfolio management plan.	Authorised integrated portfolio management plan. Portfolio strategic plan updates.
2.10	Assess and select portfolio components.	Portfolio strategic plan. Portfolio charter. Portfolio roadmap. Integrated portfolio management plan. List of categorised potential portfolio components.	Do a meticulous and rigorous review of the value propositions to assess the current list of categorised potential portfolio components and decide which will move forward and which will get cut. Evaluate the current resource allocation, availability and constraints and identify interdependencies among the portfolio components. Create more detailed business cases for all the portfolio components that	List of selected portfolio components. Maintained portfolio roadmap. Integrated portfolio management plan updates. Business cases.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			survived the initial cut and organise them for on-going evaluation, selection, and prioritisation.	
2.11	Prioritise portfolio components.	Integrated portfolio management plan. Portfolio roadmap. List of selected portfolio components.	Use the business cases and rank the portfolio components within the portfolio (or portfolio segment) based on the measures as agreed with relevant portfolio governance bodies to answer the following questions: - Which initiatives should the organisation invest in? - What are the most important initiatives? - What initiatives must be resourced above others? Where segmentation is used tailor the criteria for prioritising portfolio components to suit particular portfolio segments. Combine financial metrics with some form of multi-criteria analysis considering factors under two main headings to prevent financial appraisal bias: - The “return of attractiveness” of each portfolio component including such factors as financial return on investment, political need, strategic impact, etc. - The “risk of achievability” of each portfolio component including such factors as reputational risk, likelihood of product delivery, likelihood of benefits realisation, complexity, etc. Select and assign a priority to each of the portfolio components for inclusion in the portfolio by the results of: - The contribution to achieve strategic objectives. - The exposure to inherent risk. - The impact on available resources. - The capacity and capability of the organisation to absorb the totality of the changes from all portfolio components.	List of prioritised portfolio components. Maintained portfolio roadmap. Integrated portfolio management plan updates.
2.12	Balance, optimise and maintain the portfolio.	Integrated portfolio management plan. Portfolio roadmap. List of prioritised portfolio	Establish if the resulting prioritised portfolio components and mix satisfies the overall direction of the organisation and its overall priorities by adding up the estimated work under each of the categories	Optimised portfolio with list of balanced portfolio components. Maintained portfolio

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
		components.	and comparing that with the strategic objectives and strategies. Review, analyse, and change prioritised portfolio components to create the optimal balance in terms of factors such as timing; coverage of all strategic objectives; impact across the business; stage of portfolio component development; overall risk; return profile; and available resources. Maintain the portfolio by continually evaluating potential portfolio components for inclusion in the portfolio, moving, modifying, closing or terminating portfolio components within the portfolio and balancing resources and other assets throughout the portfolio.	roadmap. Integrated portfolio management plan updates.
2.13	Authorise portfolio and changes.	Optimised portfolio with list of balanced portfolio components. Portfolio roadmap. Integrated portfolio management plan.	Present the optimised portfolio with list of balanced portfolio components together with the portfolio delivery plan (take out) to the relevant portfolio governance body and obtain authorisation for the coming year. This process lists and sets aside requisite budget and resources to carry out the authorised portfolio components. It is not necessarily a guarantee that the authorised portfolio components will be funded because changes in business conditions or newly surfaced portfolio components during the year could bump some authorised portfolio components off the authorised list. Communicate the decisions regarding the authorised portfolio components and changes to the relevant portfolio stakeholders.	Authorised portfolio and changes. Maintained portfolio roadmap. Integrated portfolio management plan updates.
2.14	Create portfolio delivery plan.	Authorised portfolio and changes. Portfolio roadmap. Integrated portfolio management plan.	Create a portfolio delivery plan to provide a clear view on: - Which portfolio components are included in the portfolio for execution. - Scheduling/timing of the portfolio components. - Resource and financial requirements. - Key milestones. - Risks.	Authorised portfolio delivery plan. Maintained portfolio roadmap. Integrated portfolio management plan updates.
3. Portfolio delivery: The purpose of portfolio delivery is to manage the execution of the portfolio and its authorised components in line with the				

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives.				
3.1	Activate portfolio components.	Authorised portfolio and changes. Portfolio roadmap. Authorised portfolio delivery plan.	Schedule and initiate the execution of the authorised portfolio components throughout the year based on business urgency, availability of staff and/or the logical relationships between portfolio components.	Initiated portfolio components. Maintained portfolio roadmap.
3.2	Manage portfolio changes.	Initiated portfolio components. Portfolio roadmap. Portfolio change management plan. Portfolio and portfolio component change requests.	Evaluate and determine the responses to ongoing changes in organisational objectives and strategies or portfolio components. Update the portfolio management and delivery plans and portfolio baseline to reflect the impacts and responses to the changes. Control changes to the portfolio: - Develop and implement recommendations for the portfolio, including but not limited to, schedule, risk, cost, resources, impact and degree of strategic alignment. - Develop and implement recommendations regarding the adding, moving, modifying or removing of portfolio components. - Communicate decisions regarding changes to the portfolio baseline and plans to the portfolio stakeholders.	Portfolio strategic plan updates. Portfolio charter updates. Integrated portfolio management plan updates. Initiated portfolio components. Maintained portfolio roadmap.
3.3	Manage portfolio performance and benefits.	Portfolio performance and benefits management plan. Initiated portfolio components. Portfolio roadmap. Portfolio reports. Benefits register.	Track, validate and capture actual benefits and forecast future investment gains or losses. Identify gaps where forecast benefits will not meet expectations and implement corrective actions. When portfolio components slip, consider the impact on the benefits realisation plan, operational performance and strategic objectives and include it in the reporting to the portfolio governance body. Report portfolio value at an aggregate level delivered by portfolio components with the goal of maximising return on investment within an acceptable level of risk.	Integrated portfolio management plan updates. Maintained portfolio benefits register. Portfolio reports.
3.4	Manage portfolio	Portfolio financial	Incrementally release funds for activated portfolio	Maintained portfolio

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
	finances.	management plan. Updated portfolio roadmap.	components in line with the business change life-cycle to maintain strategic alignment and minimise risk of wasted expenditure. Monitor the actual spend in the year against the portfolio-level financial plan. Report the financial information of all the portfolio components and the portfolio as a whole on a regular basis. Ensure that the spent against the portfolio financial plan is included in the portfolio dash-board report.	financial report.
3.5	Manage portfolio resources (i.e. supply and demand).	Resource management plan. Portfolio delivery plan. Updated portfolio roadmap.	Amalgamate the resource plans of the authorised portfolio components to understand and manage the portfolio resource requirements (i.e. what resources (people, skills and capacity) are required and for what time periods). Regularly review and update the resource schedule as part of the periodic portfolio-level reviews (e.g. during each portfolio component stage/phase gate) to understand the resource requirements changes. Identify changes required to be made in regard to the portfolio components such as de-scoping, cancelling, rescheduling, or other related actions to achieve optimisation. Resolve conflicts in resource utilisation and where shortages in supply are forecasted, take corrective action such as recruitment, negotiating contracts with external agencies, staff development and re-scheduling delivery.	Maintained portfolio resource schedule.
3.6	Manage portfolio stakeholders and communications.	Initiated portfolio components. Portfolio stakeholder and communications management plan.	Identify stakeholders' needs and proactively engage them in the decision-making process to identify, assess and select, prioritise, balance and optimise, and authorise portfolio components (including portfolio changes). Execute the stakeholder and communication plan by collecting data, translating data into meaningful information, and supplying it to the identified stakeholders in a timely and effective manner. Establish two-way engagement and incorporate a feedback loop so that stakeholders	Maintained portfolio stakeholder register and communications. Engaged stakeholders. Integrated portfolio management plan updates. Portfolio reports.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			can see how their comments and feedback are dealt with. Pay particular attention to ensure continued senior management commitment as senior management support is essential to effectively implement portfolio management.	
3.7	Manage portfolio risks.	Portfolio risk management plan. Initiated portfolio components. Portfolio reports.	Identify risks at the portfolio level based on identified risks for each portfolio component. Analyse and prioritise the portfolio risks considering items such as priority of strategic objectives; benefits; changes in portfolio components; inaccurate forecasting and variability in returns; slippage of key dependencies; ineffective management of dependencies across the portfolio components; over exposure to a single supplier; negative impact on operational performance; etc. Evaluate the risks over time and develop and implement risk mitigation actions. Ensure that risk mitigation actions are reviewed regularly and updated and that the status of each of the top portfolio-level risks is incorporated into the portfolio dash-board. Escalate and report key risks and issues to the relevant portfolio governance body.	Maintained portfolio risk register. Integrated portfolio management plan updates. Portfolio reports.
3.8	Provide portfolio oversight (i.e. management control).	Portfolio delivery plan. Portfolio roadmap. Portfolio reports. Benefits realisation plan. Benefits register.	Monitor progress at an individual portfolio component and portfolio level against the portfolio baseline as outlined in the portfolio management and delivery plans to ensure that the delivery stays on track. Track contributions of portfolio benefits and compare them with the current strategic objectives and strategies. Provide forecasting, including but not limited to resource and capacity utilisation and strategy and risk. Analyse both top-down and bottom-up portfolio component composition, alignment and performance, the impact of individual portfolio component performance on the performance of the entire portfolio and achievement of prioritised strategic	Portfolio and portfolio component progress analysis and forecasting. Initiated response actions to ensure that governance decisions are made in order to achieve the strategic objectives. Integrated portfolio management plan updates. Maintained portfolio roadmap. Portfolio reports.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			objectives, Ensure that governance decisions are made in response to portfolio performance, portfolio component changes, risks and issues to ensure the delivery of the portfolio is in line with the portfolio management and delivery plans, current progress and conditions (including resources).	
3.9	Report portfolio performance.	Initiated portfolio components. Portfolio roadmap. Portfolio benefits register. Portfolio financial report. Portfolio resource schedule. Portfolio stakeholder register and communications. Portfolio risk register. Portfolio and portfolio component progress analysis and forecasting. Initiated response actions to ensure that governance decisions are made in order to achieve the strategic objectives.	Integrate and maintain the reporting cycle across the portfolio, Collate and report overall portfolio status to the relevant stakeholders and governance bodies via the portfolio dash-board.	Maintained portfolio status report and dash-board.
3.10	Transfer benefits and allocate benefits accountability.	Portfolio benefits realisation plan. Benefits register.	Make sure that the benefits are transferred to operations and that someone is held accountable for the realisation of benefits.	Maintained benefits register.
3.11	Perform portfolio governance reviews.	Perform portfolio governance reviews.	Monitor the operation of the portfolio/s process, report any non-compliance and provide an assurance on their effective operation. Perform regular governance reviews both at the individual portfolio component level (e.g. stage/phase gate reviews) and for the portfolio as a whole to ensure continued business justification and strategic alignment. When benefits have been transferred to	Governance review reports and documents such as authorised phase gate documents (e.g. CRA, DRA, ERA, FRA, BRA), phase gate review minutes, audit/review reports, etc.

Act no	Activity name	Activity inputs	Detailed activity description	Activity outputs
			operations and the realisation of benefits commenced, the results must be thoroughly examined and analysed to enable an organisation to assess and improve the effectiveness of the portfolio management process. Post implementation reviews should assess: - Were forecast benefits realised? - What unplanned benefits were realised and is there scope to leverage additional benefits? - Did the initiative represent value for money (i.e. actual cost compared with benefits realised)? - What lessons can be learned to improve the way benefits realisation is managed?	

12.4.6.2 RACI, roles and responsibilities for each activity

The RACI, roles and responsibilities for each activity in the portfolio management model for Eskom are shown in Table 93.

Table 93: RACI, roles and responsibilities for each activity

LEGEND: MB & EXCO = Management Board and Eskom Executive Committee. PD = Portfolio Director (i.e. Chief Financial Officer). SS = Strategy Support. BA&P = Business Analysis and Planning (e.g. divisional/OU asset management/planning departments). SPfMO/RMO = Strategic Portfolio Management Office/Results Management Office. EPMO = Eskom Project Management Office. PDG = Portfolio Direction Group (e.g. Div. EXCOs).		Pf Owner = Portfolio Owner (e.g. SGM or GM in Division). PDB = Portfolio Delivery Board (e.g. Gx Project Governance Boards (PGBs)). GCIA = Finance: Group Capital Integration and Assurance. IC = Investment Committee. PfDM = Portfolio Delivery Manager. PfBM = Portfolio Benefits Manager. PO = Project Office.														A - Accountable R, R1 - Primary Responsible R2 - Secondary Responsible C - Consult I - Inform
Act No	Activity Name	EXCO & MB	PD (I.e. CFO)	SS	BA&P	SPfMO/RMO	EPMO	PDG	Pf Owner	PDB	GCIA	IC	PfDM	PfBM	PO	Roles and Responsibilities
1. Portfolio set-up: The purpose of portfolio set-up is to evaluate the organisation's strategic objectives and strategies and develop a portfolio strategic plan to establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives.																
1.1	Establish portfolio governance and organisation structures.	R	A	C	C	C	C	I	I	I	I	I	I	I	I	The MB and EXCO are responsible for identifying the EXCO member to perform the role of the Portfolio Director. The Portfolio Director is accountable for establishing the portfolio governance and organisation structures.
1.2	Develop portfolio strategic plan.	I	A	C	C	R1	C	C	R2	I	C	I	I	I	I	The Strategic Portfolio Management Office/Results Management Office is responsible for facilitating and developing the Eskom portfolio strategic plan. The Project Director is accountable for authorising the Eskom portfolio strategic plan. The Portfolio Owner is responsible for ensuring that

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																the Divisional/Operating Unit portfolio strategic plan is compiled and authorised.
1.3	Identify potential portfolio components and maintain the portfolio pipeline.	I	I	C	A/R	R2	C	C	C	C	C	I	C	C	C	The Strategic Portfolio Management Office/Results Management Office is responsible for facilitating the process to identify potential portfolio components. Business Analysis and Planning are accountable and responsible for identifying potential portfolio components, aligning it to the strategic objectives and developing value propositions.
1.4	Categorise potential portfolio components.	I	A	C	C	R1	C	C	C	I	R2	I	I	I	I	The Strategic Portfolio Management Office/Results Management Office is responsible for coordinating the process to establish the categorisation scheme, balancing points, financial models and organising potential portfolio components into groups, segments or sub-portfolios. Finance: Group Capital Integration and Assurance is responsible for developing the financial models to be used to assess and select the portfolio components that are aligned to the strategic goals and strategies. The Portfolio Director is accountable for authorising the categorisation scheme, balancing points and financial models.
1.5	Develop portfolio charter/s and setup portfolio/s.	I	I	C	C	R2	C	C	A/R	C	C	I	I	I	I	The Strategic Portfolio Management Office/Results Management Office is responsible for coordinating the process to identify objectives for the portfolios and creating the portfolio charters. The Portfolio Owner is accountable for authorising the portfolio management charter. The Portfolio Delivery Manager is responsible for appointing the portfolio management team.
2. Portfolio definition: The purpose of portfolio definition is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability.																
2.1	Develop portfolio roadmap.	I	I	C	C	C		C	A	C	C	I	R1	I	I	The Portfolio Delivery Manager is responsible for developing the high-level schedule showing the potential portfolio components to be implemented over time with any dependencies between them.

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																The Portfolio Owner is accountable for accepting the portfolio roadmap.
2.2	Develop portfolio governance management plan.			C	I	C		C	C	C	C	C	A/R	C	I	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio governance management plan.
2.3	Develop portfolio change management plan.			C	C	C		C	C	C	C	C	A/R	C	C	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio change management plan.
2.4	Develop portfolio performance and benefits management plan.			C	C	C		C	C	C	R2	C	A/R	R2	C	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio performance and benefits management plan. Finance: Group Capital Integration and Assurance and the Portfolio Benefits Manager are responsible to assist with the development of the portfolio performance and benefits management plan.
2.5	Develop portfolio financial management plan.			C	C	C		C	C	C	R2	I	A/R	C	C	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio financial management plan. Finance: Group Capital Integration and Assurance is responsible to assist with developing of the portfolio financial management plan.
2.6	Develop portfolio resource management plan.			C	C	C		C	C	C	C	I	A/R	I	R2	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio resource management plan. The Project Offices are responsible for assisting with the development of the portfolio resource management plan.
2.7	Develop portfolio stakeholder and communications management plan.		C	C	C	C		C	C	C	C	C	A/R	C	C	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio stakeholder and communications management plan.
2.8	Develop portfolio risk management plan.			C	C	C		C	C	C	C	C	A/R	C	C	The Portfolio Delivery Manager is responsible and accountable for developing the portfolio risk management plan.
2.9	Develop integrated portfolio management plan.			I	I	I		I	A	I	I	I	R	I	I	The Portfolio Delivery Manager is responsible for developing the integrated portfolio management plan. The Portfolio Owner is accountable for authorising the portfolio integrated management plan.

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2.10	Assess and select portfolio components.			I	R2	I		C	A	C	C	I	R1	R2	C	The Portfolio Delivery Manager is responsible for coordinating the process within the portfolio to review the value propositions to assess the current list of categorised potential portfolio components and decide which will move forward and which will get cut. The Portfolio Benefits Manager is responsible to participate in the review of the value propositions to assess the current list of categorised potential portfolio components. The Portfolio Owner is accountable for accepting the current list of potential portfolio components selected to move forward. Business Analysis and Planning are responsible for creating detailed business cases for the portfolio components that survived the initial cut.
2.11	Prioritise portfolio components.			I	C	I		R2	A	C	R2	I	R1	R2	C	The Portfolio Delivery Manager is responsible for coordinating the process within the portfolio to rank the portfolio components in the selected list. The Portfolio Direction Group, Capital Efficiency and Finance, and the Portfolio Benefits Manager are responsible to participate in the ranking of the portfolio components. The Portfolio Owner is accountable for accepting the final list of prioritised portfolio components.
2.12	Balance, optimise and maintain the portfolio.		I	R2	2	A/ R		C	R2	C	R2	I	R2	C	C	The Strategic Portfolio Management Office/Results Management Office is responsible and accountable for coordinating the process to create the optimal balance of portfolio components to cover all strategic objectives. Strategy Support, Business Analysis and Planning, Portfolio Owners, Finance: Group Capital Integration and Assurance and Portfolio Delivery Managers are responsible for participating in the process to create the optimal balance of portfolio components to cover all strategic objectives.

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2.13	Authorise portfolio and changes.	A	R1	I	I	R2		I	I	R2	I	I	R2	I	I	The Strategic Portfolio Management Office/Results Management Office is responsible for: -Coordinating the process to obtain authorisation for the balanced and optimised portfolio for the coming year as well as key changes -Communicating the decisions regarding the authorised portfolio components and changes to the relevant stakeholders. The Project Director is responsible for ensuring that the balanced and optimised portfolio and key changes are presented to EXCO and the Management Board for authorisation for the coming year. EXCO and the Management Board are accountable for authoring the portfolio for the coming year and the key changes. The Portfolio Delivery Manager is responsible to evaluate portfolio change request and recommend portfolio changes. The Portfolio Delivery Board is responsible for approving portfolio changes within their delegation of authority.
2.14	Create portfolio delivery plan.		I	I	I	I		I	A	C	C	I	R	I	C	The Portfolio Delivery Manager is responsible for creating the portfolio delivery plan. The Portfolio Owner is accountable for authorising the portfolio delivery plan.
3. Portfolio delivery: The purpose of portfolio delivery is to manage the execution of the portfolio and its authorised components in line with the portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives.																
3.1	Activate portfolio components.			I	I	I		C	C	R2	C	A	R1	I	C	The Portfolio Delivery Manager is responsible for ensuring that portfolio components are scheduled and initiated. The Portfolio Delivery Board is responsible to do the technical approval of portfolio components. The Investment Committee is accountable for approving the budget for the release of funds.
3.2	Manage portfolio changes.			R2	R2	R2		C	R2	A	I	I	R1	C	R2	Strategy Support and Business Analysis and Planning are responsible for evaluating and determining

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																responses to ongoing changes in organisational objectives and strategies. The Strategic Portfolio Management Office/Results Management Office is responsible for coordinating the key changes to the portfolio/s and communicating the decisions regarding changes to the portfolio stakeholders. The Project Office is responsible for identifying and recommending changes to portfolio components. The Portfolio Delivery Board is accountable for authorising changes to the portfolio and portfolio components. The Portfolio Delivery Manager is responsible for controlling changes to the portfolio and portfolio components.
3.3	Manage portfolio performance and benefits.			I	I	I		I	I	I	I	I	A/R	R2	R2	Project and Programme Management are responsible for tracking, validating, capturing benefits, forecasting and reporting future gains or losses at a portfolio component level. The Portfolio Benefits Manager is responsible for ensuring that a consistent approach to benefits management is applied across the portfolio and that benefits realisation is optimised. The Portfolio Delivery Manager is responsible and accountable for tracking and reporting portfolio value at an aggregate level, identifying gaps where forecast benefits will not meet expectations and implementing corrective actions.
3.4	Manage portfolio finances.			I	I	I		I	A	I	R2	R2	A/R	I	R2	The Investment Committee is responsible for the incremental release funds for the activated portfolio components. The Project Office is responsible for monitoring and reporting the actual spend in the year of the individual portfolio components. The Portfolio Delivery Manager is responsible and accountable for monitoring and reporting the actual spend in the year against the portfolio-level financial

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																plan. Finance: Group Capital Integration and Assurance is responsible to assist with monitoring and reporting the actual spend in the year against the portfolio-level financial plan.
3.5	Manage portfolio resources (i.e. supply and demand).				I	I		I	I	R2	I	I	A/ R	I	R2	The Portfolio Delivery Manager is responsible and accountable for amalgamating the resource plans of the authorised portfolio components to understand and manage the portfolio resource requirements and resolving conflicts in resource utilisation. The Portfolio Direction Group and Project Office are responsible to assist the Portfolio Delivery Manager in identifying portfolio resource requirements and resolving conflicts in resource utilisation.
3.6	Manage portfolio stakeholders and communications.		C	C	C	C		C	R2	C	C	C	A/ R	C	R2	The Portfolio Delivery Manager is responsible and accountable for executing the stakeholder and communications plan. The Portfolio Owner and Project Office are responsible to assist the Portfolio Delivery Manager with the management of portfolio stakeholders and communications.
3.7	Manage portfolio risks.	I	I	I	I	I		R2	R2	R2	C	C	A/ R	C	R2	The Project Office is responsible for escalating and reporting key portfolio component risks and issues to the Portfolio Delivery Manager. The Portfolio Delivery Manager is responsible and accountable for the identification, mitigating, reporting and escalating key portfolio risks and issues to the relevant portfolio governance bodies. The Portfolio Delivery Board, Portfolio Owner and Portfolio Direction Group are responsible for assisting the Portfolio Delivery Manager to resolve key risks and issues.
3.8	Provide portfolio oversight (i.e. management control).	I	I	I	I	I		R2	R2	R2	C	C	A/ R	C	R2	The Project Office is responsible for tracking, forecasting and reporting progress at the portfolio component level. The Portfolio Delivery Manager is responsible and accountable for monitoring, forecasting and reporting

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																progress at the portfolio level and ensuring that governance decisions are made in response to portfolio performance, portfolio component changes, risks and issues to ensure the delivery of the portfolio. The Portfolio Delivery Board, Portfolio Owner and Portfolio Direction Group are responsible for making governance decisions referred to them for resolution.
3.9	Report portfolio performance.	I	I	I	I	I		I	I	I	C	I	A/R	C	C	The Portfolio Delivery Manager is responsible and accountable for Integrating and maintaining the reporting cycle across the portfolio, collating and reporting overall portfolio status to the relevant stakeholders and governance bodies via the portfolio dash-board.
3.10	Transfer benefits and allocate benefits accountability.	I	I	I	I	I		I	I	I	C	A	R1	R2	R2	The Portfolio Delivery Manager is responsible for making sure that the benefits are transferred to operations and that someone is held accountable for the realisation of the benefits. The Project Office is responsible for submitting the required submission documents to the Investment Committee in order to transfer the completed portfolio components to operations. The Investment Committee is accountable for approving the stage/phase gate to confirm that the benefits have realised during operations. The Portfolio Benefits Manager is responsible for ensuring that a consistent approach to benefits management is applied across the portfolio and that benefits realisation is optimised.
3.11	Perform portfolio governance reviews.	I	A/R	R2	R2	R2	R2	R2	R2	R2	C	R2	C	C	C	The EPMO is responsible for: -Monitoring the operation of the portfolio management process, reporting any non-compliance and providing an assurance on their effective operation. -Facilitating lessons learnt, maintaining a lessons learned database and implementing betterment actions (e.g. changes to portfolio management processes and systems). The Portfolio Delivery Board is responsible for

																	performing the technical review of the portfolio components during the stage/phase gate approvals. The Investment Committee is responsible for authoring the funds for the portfolio components during the stage/phase gate approvals. Strategic Support, Business Analysis and Planning and the Strategic Portfolio Management Office/Results Management Office are responsible for monitoring the achievement of the strategic objectives. The Portfolio Director is ultimately responsible and accountable for effective portfolio management in the organisation.

12.4.6.3 Eskom PCMs applicable to each activity

The Eskom PCMs (i.e. capabilities (level 3), process flows (level 4) and activity flows and activities (level 5)) applicable to each activity in the portfolio management model for Eskom are shown in Table 94.

Table 94: Eskom PCMs applicable to each activity

Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
1. Portfolio set-up: The purpose of portfolio set-up is to evaluate the organisation's strategic objectives and strategies and develop a portfolio strategic plan to establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives.				
1.1	Establish portfolio governance and organisation structures.	240-51093680 Establish Executive Governance Framework 240-51093640 Establish Effective Leadership 240-54126157 Technical Governance 240-47430334 Compliance Management 240-42364544 Portfolio Management 240-42366125 Programme Management	8.1 Develop governance policies 8.2 Develop governance structures 8.1 Appoint leaders to governance structures 8.2 Evaluate leadership performance 8.1 Management of governance bodies 8.1 Establish compliance management capability 8.2 Scope compliance universe 240-98784255 Establish Portfolio Management 240-70041694 Manage Capital Investment 240-107393243 Define Programme	8.1.1 Develop governance body principles 8.1.2 Develop draft policy 8.1.3 Formalise policies 8.2.1 Develop structure principles 8.2.2 Develop mandate and delegation of authority 8.2.3 Approve governance structure 8.1.1 Conduct gap analysis 8.1.2 Obtain approval of appointment of leaders 8.2.1 Perform evaluation process 8.2.2 Finalise evaluation report 8.1.1 Establish governance body 8.1.2 Operations of governance body 8.1.1 Establish compliance functions 8.1.2 Establish compliance management support capability 8.2.1 Identify compliance content 8.2.2 Conduct initial exposure assessment 8.2.3 Conduct detailed assessment 8.2.4 Develop action plan 9.1.1 Setup portfolio management structure 9.1.1.2 Appoint portfolio owner 8.3.1 Setup investment rules 8.3.1.5 Define investment governance bodies 9.1.2. Plan Programme 9.1.2.9 Plan programme governance

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Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
1.2	Develop portfolio strategic plan.	240-50204477 Organizational Alignment and Operational Planning 240-50204588 Strategy Development and Review 240-42364544 Portfolio Management	8.1 Define/review strategy direction 8.2 Conduct strategic analysis 8.3 Develop/review strategy 8.1 Strategy translation 8.2 Establish/review business and operational plans 240-70041694 Manage Capital Investment. 240-98784255 Establish Portfolio Management	8.1.1 Attain strategic intent 8.1.2 Affirm purpose, vision and values 8.2.1 Perform strategic environmental analysis 8.2.2 Develop/review scenarios 8.3.1 Develop/review key strategic issues 8.3.2 Develop/review strategic objectives 8.3.3 Develop/review strategy 8.1.1 Develop strategy map 8.1.2 Prioritise strategic initiatives 8.1.3 Align business to strategy map 8.2.1 Develop shareholder compact 8.2.2 Develop business planning directive 8.2.3 Develop/review business plans 9.3.1 Setup investment rules 9.3.1.1 Analyse each divisional prioritisation model 9.3.1.2 Determine Eskom investment criteria 9.3.1.3 Align investment criteria to Eskom imperatives 9.3.1.4 Categorise funds 9.3.1.5 Define investment governance bodies 9.3.1.6 Establish portfolio reporting requirements 9.3.1.7 Develop investment model 9.3.1.8 Obtain approval for investment model 9.1.1 Setup portfolio management structure 9.1.1.1 Confirm portfolio management justification 9.1.1.3 Analyse portfolio management objectives 9.1.1.4 Define portfolio management and delivery framework 9.1.1.5 Define portfolio management governance 9.1.1.6 Define performance parameters 9.1.1.7 Develop portfolio strategic plan 9.1.1.8 Approve portfolio strategic plan
1.3	Identify potential portfolio components and maintain the portfolio pipeline.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management 240-98784191 Deliver Portfolio	9.1.2 Establish portfolio 9.1.2.1 Define portfolio components 9.1.4 Collate business needs 9.1.4.1 Receive list of projects addressing business needs 9.1.4.2 Determine project assignment to portfolio components 9.1.4.3 Link project to portfolio components 9.2.1 Manage portfolio funnel 9.2.1.1 Draw list of projects in opportunity pipeline 9.2.1.2 Check strategic alignment of project 9.2.1.3 Communicate non-alignment to sustainability dimensions

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Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
1.4	Categorise potential portfolio components.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management	9.1.4 Collate business needs 9.1.4.4 Classify project 9.1.4.5 Determine high-level project requirements???
1.5	Develop portfolio charter/s and setup portfolio/s.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management	9.1.2 Establish portfolio 9.1.2.2 Appoint portfolio delivery manager 9.1.2.3 Develop portfolio charter 9.1.2.4 Approve portfolio charter 9.1.2.5 Review portfolio component structure 9.1.3 Setup portfolio 9.1.3.1 Request project office setup 9.1.3.2 Plan project office setup 9.1.3.3 Approve project office setup plan 9.1.3.4 Set up processes, systems and tools 9.1.3.5 Setup project office
2. Portfolio definition: The purpose of portfolio definition is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability.				
2.1	Develop portfolio roadmap.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management	9.1.4 Collate business needs 9.1.4.6 Capture project in portfolio investment plan
2.2	Develop portfolio governance management plan.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management 240-70041694 Manage Capital Investment	9.1.2 Establish portfolio 9.1.2.6 Develop portfolio governance plan 9.3.3 Manage governance gate 9.3.3.1 Plan gate readiness review 9.3.3.1.6 Compile gate management plan
2.3	Develop portfolio change management plan. <u>Not covered in portfolio management PCMs.</u>			
2.4	Develop portfolio performance and benefits management plan.	240-42872394 Enterprise Performance Management 240-42364544 Portfolio Management	8.1 Manage performance measures 9.1.2 Establish portfolio	8.1.1 Develop and maintain measures 8.1.2 Develop visualisation model 9.1.2 Establish portfolio 9.1.2.11 Determine portfolio value 9.1.2.12 Develop portfolio performance management plan
2.5	Develop portfolio financial management plan. <u>Not covered in portfolio management</u>	32-1228 Budgeting Forecasting and Control	8.1. Set targets	8.1.1 Set budget/forecast performance objectives 8.1.2 Set budget and forecast targets 8.1.3 Develop budget and forecast directives

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Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
	PCMs.			
2.6	Develop portfolio resource management plan.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management	9.1.2 Establish portfolio
2.7	Develop portfolio stakeholder and communications management plan.	240-48663560 Stakeholder Management 240-51317020 Marketing and Communications Management 240-42364544 Portfolio Management	8.1 Relationship management 8.3 Manage business communication 240-98784255 Establish Portfolio Management	8.1.1 Identify stakeholder 8.1.2 Develop stakeholder engagement framework 8.3.1 Conduct situational analysis 8.3.2 Develop communication plan 9.1.2 Establish portfolio 9.1.2.9 Develop portfolio stakeholder management plan 9.1.2.10 Develop portfolio communication plan
2.8	Develop portfolio risk management plan. <u>Not covered in portfolio management PCMs.</u>	240-96851726 Enterprise Risk and Resilience Management 240-42364544 Portfolio Management	8.1 Manage enterprise risk 240-98784255 Establish Portfolio Management	8.1.1 Establish the context 9.1.2 Establish portfolio 9.1.2.7 Develop portfolio risk management approach
2.9	Develop integrated portfolio management plan.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management 240-98784191 Deliver Portfolio	9.1.2 Establish portfolio 9.1.2.13 Consolidate portfolio management plan 9.1.2.14 Approve portfolio management plan 8.2.3 Manage portfolio 8.2.3.9 Review portfolio management plan 8.2.3.10 Approve reviewed portfolio management plan
2.10	Assess and select portfolio components.	240-42364544 Portfolio Management	240-98784191 Deliver Portfolio	9.2.2 Initiate programmes and projects 9.2.2.4 Revisit business case 9.2.2.5 Determine business case strategy 9.2.2.6 Prepare business case 9.2.2.7 Obtain business case approval
2.11	Prioritise portfolio components.	240-42364544 Portfolio Management	240-98784191 Deliver Portfolio 240-70041694 Manage Capital Investment	9.2.1 Manage portfolio funnel 9.2.1.4 Allocate divisional priority score to project 9.2.1.5 Determine portfolio forecasted capital expenditure 9.2.1.6 Determine project resource requirements 9.2.4 Optimise portfolio 9.2.4.1 Retrieve divisional target 9.2.4.2 Allocate portfolio target 9.2.4.3 Manage scrubbing 9.2.4.4 Revisit portfolio target allocation 9.2.4.5 Revisit divisional priority (risk) score 9.2.4.6 Prioritise projects
2.12	Balance, optimise and maintain the	240-42364544 Portfolio Management	240-98784191 Deliver Portfolio	9.2.2 Initiate programmes and projects 9.2.2.1 Optimise portfolio components

Chapter 12: Eskom Portfolio Management Model

Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
	portfolio.		240-70041694 Manage Capital Investment	9.3.2 Set capital target for divisional portfolios 9.3.2.1 Receive allocated target value to capital projects (top down) 9.3.2.2 Draw Pre-Project Planning phase report 9.3.2.3 Draw active projects (within core PLCM) report 9.3.2.4 Determine divisional allocation 9.3.2.5 Obtain divisional target allocation approval 9.3.2.6 Allocate target value per division 9.2.4 Optimise portfolio 9.2.4.7 Balance portfolio 9.2.4.8 Optimise project list 9.2.4.9 Delay the project 9.2.4.10 Cancel the project
2.13	Authorise portfolio and changes.	240-42364544 Portfolio Management 240-42366125 R3 Programme Management	240-70041694 Manage Capital Investment. 240-107393243 R1 Define Programme	9.3.2 Set capital target for divisional portfolios 9.3.2.7 Consolidate divisional target value 9.3.2.8 Baseline the capital plan 9.3.2.9 Communicate the baseline capital plan 9.1.1 Initiate Programme 9.1.1.1 List identified programme benefits 9.1.1.2 Profile programme benefits 9.1.1.3 Link projects to programme benefits 9.1.1.4 Determine programme benefits realisation report date 9.1.1.5 Confirm programme establishment budget 9.1.1.6 Assess programme environment 9.1.1.7 Develop Programme Roadmap 9.1.1.8 Identify programme stakeholders 9.1.1.9 Develop Programme Charter 9.1.1.10 Approve Programme Charter
2.14	Create portfolio delivery plan. <u>Not covered in portfolio management PCMs.</u>			
3. Portfolio delivery: The purpose of portfolio delivery is to manage the execution of the portfolio and its authorised components in line with the portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives.				
3.1	Activate portfolio components.	240-42364544 Portfolio Management	240-98784191 Deliver Portfolio	9.2.2 Initiate programmes and projects 9.2.2.2 Appoint programme manager 9.2.2.3 Release projects 9.2.2.4 Revisit business case 9.2.2.5 Determine business case strategy 9.2.2.6 Prepare business case

Chapter 12: Eskom Portfolio Management Model

Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
		240-42366126 Project Management	240-70041694 Manage Capital Investment. 240-69119443 Initiate the Project	9.2.2.7 Obtain business case approval 9.3.3 Manage governance gate 9.3.3.2 Submit project for gate readiness review 9.3.3.3 Submit project for investment review 9.3.3.4 Approve project gate release 9.3.3.5 Update project status 9.1.3 Develop project charter 9.1.3.1 Obtain Relevant Information 9.1.3.2 Compile the Charter 9.1.3.3 Review Current Charter 9.1.3.4 Update Current Charter 9.1.3.5 Submit Charter for approval 9.1.3.6 Project Charter Approved
3.2	Manage portfolio changes.	240-42364544 Portfolio Management	240-98784255 Establish Portfolio Management	9.1.5 Manage portfolio change 9.1.5.1 Initiate portfolio change request 9.1.5.2 Assess portfolio change impact 9.1.5.3 Request portfolio change request approval 9.1.5.4 Inform initiator of change disapproval 9.1.5.5 Terminate portfolio 9.1.5.6 Implement portfolio change solution 9.1.5.7 Close out portfolio change request 9.2.3 Manage portfolio 9.2.3.9 Review portfolio management plan 9.2.3.10 Approve reviewed portfolio management plan
3.3	Manage portfolio performance and benefits.	240-42872394 Enterprise Performance Management 240-42364544 Portfolio Management 240-42366125 Programme Management	8.2 Monitor and report business performance 8.3 Manage business performance improvement 240-98784191 Deliver Portfolio 240-69126454 Deliver Programme	8.2.1 Setup business performance reporting framework 8.2.2 Measure business performance 8.3.1 Motivate business and performance improvement methodology 8.3.2 Monitor business performance improvement actions 9.2.3.4 Manage portfolio performance 9.2.3.7 Manage portfolio value 9.1.5 Manage Benefits Realisation
3.4	Manage portfolio finances. <u>Not covered in portfolio management PCMs.</u>	32-1228 Budgeting Forecasting and Control 240-69061188 Project Accounting	8.2. Develop budget and forecast 8.1 Initiate project accounting for projects 8.2 Execute project accounting for projects	8.2.7 Perform capital expenditure budgeting and forecast 8.2.10 Perform budgets/forecast reviews 8.2.11 Perform budget/forecast reporting and approval 8.1.1 Set up project accounting project 8.1.2 Manage project accounting planning 8.1.3 Manage project accounting budgeting 8.2.1 Monitor project accounting 8.2.2 Manage project accounting month end reporting

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Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
				8.2.3 Close out project accounting project
3.5	Manage portfolio resources (i.e. supply and demand).	240-42364544 Portfolio Management	240-98784191 Deliver Portfolio	9.2.3 Manage portfolio 9.2.3.2 Manage resources within portfolio
3.6	Manage portfolio stakeholders and communications.	240-48663560 Stakeholder Management 240-51317020 Marketing and Communications Management 240-42364544 Portfolio Management	8.1 Relationship management 8.2 Issue management 8.3 Manage business communication 240-98784191 Deliver Portfolio	8.1.3 Implement stakeholder engagement framework 8.1.4 Review stakeholder engagement 8.2.1 Identify issue 8.2.2 Develop response plan 8.2.3 Execute response plan 8.3.3 Execute communication plan 8.3.4 Evaluate results 9.2.3 Manage portfolio 9.2.3.1 Collate portfolio management information 9.2.3.5 Manage portfolio information 9.2.3.6 Manage portfolio communication
3.7	Manage portfolio risks. <u>Not covered in portfolio management PCMs.</u>	240-96851726 Enterprise Risk and Resilience Management	8.1 Manage enterprise risk	8.1.2 Identify risk 8.1.3 Analyse risk 8.1.4 Evaluate risk 8.1.5 Treat risk 8.1.6 Monitor/review risk
3.8	Provide portfolio oversight (i.e. management control).	240-42872394 Enterprise Performance Management 240-42364544 Portfolio Management	8.2 Monitor and report business performance 8.3 Manage business performance improvement 240-98784191 Deliver Portfolio 240-70041694 Manage Capital Investment	8.2.2 Measure business performance 8.2.4 Identify business performance improvement opportunity 8.3.1 Motivate business and performance improvement methodology 8.3.2 Monitor business performance improvement actions 9.2.3 Manage portfolio 9.2.3.8 Review and report on portfolio status 9.3.4 Manage Eskom as a portfolio 9.3.4.2 Manage escalated portfolio management issues 9.3.4.3 Manage escalated project delivery framework issues 9.3.4.4 Assess portfolio component structure 9.3.4.5 Review divisional performance 9.3.4.6 Assess divisional value creation 9.3.4.7 Reallocate divisional targets
3.9	Report portfolio performance.	240-42872394 Enterprise Performance Management 240-42364544 Portfolio Management	8.2 Monitor and report business performance 240-98784191 Deliver Portfolio 240-70041694 Manage Capital Investment	8.2.1 Setup business performance reporting framework 8.2.3 Report business performance 9.2.3 Manage portfolio 9.2.3.8 Review and report on portfolio status 9.3.4 Manage Eskom as a portfolio 9.3.4.1 Consolidate divisional portfolio performance reports
3.10	Transfer benefits and	240-42366125 Programme	240-69126754 Close	9.1.1 Transfer Responsibility to Business

Act no	Activity name	Capabilities (level 3)	Process flows (level 4)	Activity flows and activities (level 5)
	allocate benefits accountability.	Management	Programme	9.1.1.1 Conduct benefits realisation handover 9.1.1.2 Ensure continued measurement and benefits realisation 9.1.1.3 Prepare for benefits realisation gate 9.1.1.4 Conduct Benefits Realisation Approval (BRA)
3.11	Perform portfolio governance reviews.	240-42364544 Portfolio Management 240-50204628 Monitoring Strategy Execution and Learning 240-54126157 Technical Governance 240-47430334 Compliance Management 240-51367318 Assurance and Advisory Audits	240-98784191 Deliver Portfolio 8.1 Monitor strategy execution 8.2 Review strategy execution and learning 8.1 Management of governance bodies 8.3 Assess compliance level No detail in document	9.2.3 Manage portfolio 9.2.3.3 Manage portfolio governance 8.1.1 Monitor strategic and operational environment 8.1.2 Monitor key strategic processes 8.2.1 Conduct strategy and operations execution reviews 8.2.2 Consolidate results and trigger actions & learnings 8.2.3 Communicate actions and learnings 8.1.2 Operations of governance body 8.3.1 Plan compliance assessment 8.3.2 Perform compliance assessment/s No detail in document

12.4.6.4 *Related Eskom documents, forms and templates applicable for each activity*

The related Eskom documents, forms and templates applicable for each activity are shown in Table 95.

Table 95: Related Eskom documents, forms and templates applicable for each activity

Act no	Activity name	Eskom tools and techniques	Related Eskom documents	Templates
1. Portfolio set-up: The purpose of portfolio set-up is to evaluate the organisation's strategic objectives and strategies and develop a portfolio strategic plan to establish portfolio governance, identify and categorise potential portfolio components and their benefits, and setup portfolios to deliver the strategic objectives.				
1.1	Establish portfolio governance and organisation structures.		240-112292436 Deliver Projects Policy	240-126141839 Portfolio Owner Appointment Template
1.2	Develop portfolio strategic plan.		240-112292436 Deliver Projects Policy	240-123583474 Portfolio Strategic Plan Template
1.3	Identify potential portfolio components and maintain the portfolio pipeline.		240-112292436 Deliver Projects Policy	
1.4	Categorise potential portfolio	Capital Optimisation Model	240-85261844 Eskom Project Classification	

Chapter 12: Eskom Portfolio Management Model

Act no	Activity name	Eskom tools and techniques	Related Eskom documents	Templates
	components.	being developed by PWC.	and Categorisation Standard	
1.5	Develop portfolio charter/s and setup portfolio/s.		240-112292436 Deliver Projects Policy	240-126142898 Portfolio Delivery Manager Appointment Template 240-126135967 Portfolio Charter Template 240-126132585 Project Office Setup Plan
2. Portfolio definition: The purpose of portfolio definition is to plan, assess and select, prioritise, balance and optimise, and authorise the portfolio and portfolio components for execution which will deliver the greatest contribution to the strategic objectives, subject to consideration of risk/achievability, resource constraints and cost/affordability.				
2.1	Develop portfolio roadmap.			240-126137385 Portfolio Investment Plan Template
2.2	Develop portfolio governance management plan.		240-112292436 Deliver Projects Policy 240-95232993 Eskom PLCM Governance Framework 240-85549806 Governance Standard for Gate Management in Eskom	240-126132367 Gate Management Plan Template
2.3	Develop portfolio change management plan.			240-123583474 Portfolio Management Plan Template
2.4	Develop portfolio performance and benefits management plan.			240-123583474 Portfolio Management Plan Template
2.5	Develop portfolio financial management plan.	Capital Optimisation Model being developed by PWC.		240-123583474 Portfolio Management Plan Template
2.6	Develop portfolio resource management plan.			240-123583474 Portfolio Management Plan Template
2.7	Develop portfolio stakeholder and communications management plan.			240-123583474 Portfolio Management Plan Template
2.8	Develop portfolio risk management plan.			240-123583474 Portfolio Management Plan Template
2.9	Develop integrated portfolio management plan.			240-123583474 Portfolio Management Plan Template
2.10	Assess and select portfolio components.	Capital Optimisation Model being developed by PWC.		240-87840388 Business Case Template
2.11	Prioritise portfolio components.	Capital Optimisation Model being developed by PWC.		
2.12	Balance, optimise and maintain the portfolio.	Capital Optimisation Model being developed by PWC.		
2.13	Authorise portfolio and changes.			240-126046006 Programme Manager Appointment Template

Act no	Activity name	Eskom tools and techniques	Related Eskom documents	Templates
				Portfolio Change Request Template - future development
2.14	Create portfolio delivery plan.			
3. Portfolio delivery: The purpose of portfolio delivery is to manage the execution of the portfolio and its authorised components in line with the portfolio management and delivery plans and to ensure that the delivery of benefits is transferred to operations in order to achieve the strategic objectives.				
3.1	Activate portfolio components.			240-86846209 CRA/DRA/ERA Form 240-86846759 FRA Form 240-89517956 Project Cancellation Approval (PCA) Form
3.2	Manage portfolio changes.			
3.3	Manage portfolio performance and benefits.	Portfolio Change Request Template - future development		
3.4	Manage portfolio finances.	Portfolio Change Request Template - future development		
3.5	Manage portfolio resources (i.e. supply and demand).			
3.6	Manage portfolio stakeholders and communications.			
3.7	Manage portfolio risks.			
3.8	Provide portfolio oversight (i.e. management control).			
3.9	Report portfolio performance.	Portfolio Change Request Template - future development		Portfolio Performance Report Template - to be developed TBD Divisional Performance Report - to be developed
3.10	Transfer benefits and allocate benefits accountability.			
3.11	Perform portfolio governance reviews.		240-112292436 Deliver Projects Policy 240-95232993 Eskom PLCM Governance Framework 240-85549806 Governance Standard for Gate Management in Eskom	240-86846209 CRA/DRA/ERA Form 240-86846759 FRA Form 240-89517956 Project Cancellation Approval (PCA) Form

12.4.7 Detail of the related Eskom EHPUM PCMs

This sheet contains a table that provides detail of the Eskom EHPUM PCMs applicable to portfolio management as shown in Table 87.

12.5 DISCUSSION IF THE RESEARCH QUESTION HAS BEEN ANSWERED

The following research question has been fully answered:

What steps (activities, processes, roles and responsibilities, tools and techniques, etc.) should be followed to implement and embed portfolio management best practices in Eskom to successfully execute the strategies as outlined in Eskom's Corporate Plan?

The detail of each step to be followed to implement and embed portfolio management best practices in Eskom is described in the final portfolio management model for Eskom and was reviewed and validated during one-to-one and group interviews by persons from the various functions involved in portfolio management.

12.6 SUMMARY AND CONCLUSIONS

A final portfolio management model for Eskom was developed, reviewed, validated, documented and authorised and can now be applied to implement and embed portfolio management best practices that will contribute towards the successful delivery of Eskom's strategies and strategic objectives as outlined in Eskom's Corporate Plan. This model also expands and/or enhances the theory/body of knowledge on the steps to be followed to successfully implement and embed portfolio management best practices.

The following gaps and issues were identified during the detailed analysis of the Eskom PCMs related to portfolio management:

- The portfolio management PCMs do not have activities or interfaces to activities in other PCMs for:
 - Develop portfolio change management plan.
 - Develop portfolio financial management plan.
 - Create portfolio delivery plan.
 - Manage portfolio finances.
 - Manage portfolio risk.
- Interfaces of processes between portfolio management, programme management and project management PCMs must be properly clarified and agreed e.g.:
 - Initiation (activation) of projects and programmes belongs in the portfolio management PCMs.
 - Development and authorisation of programme and project charters belongs in the portfolio management PCMs.
 - All phase gate approvals belong in the portfolio management PCMs.

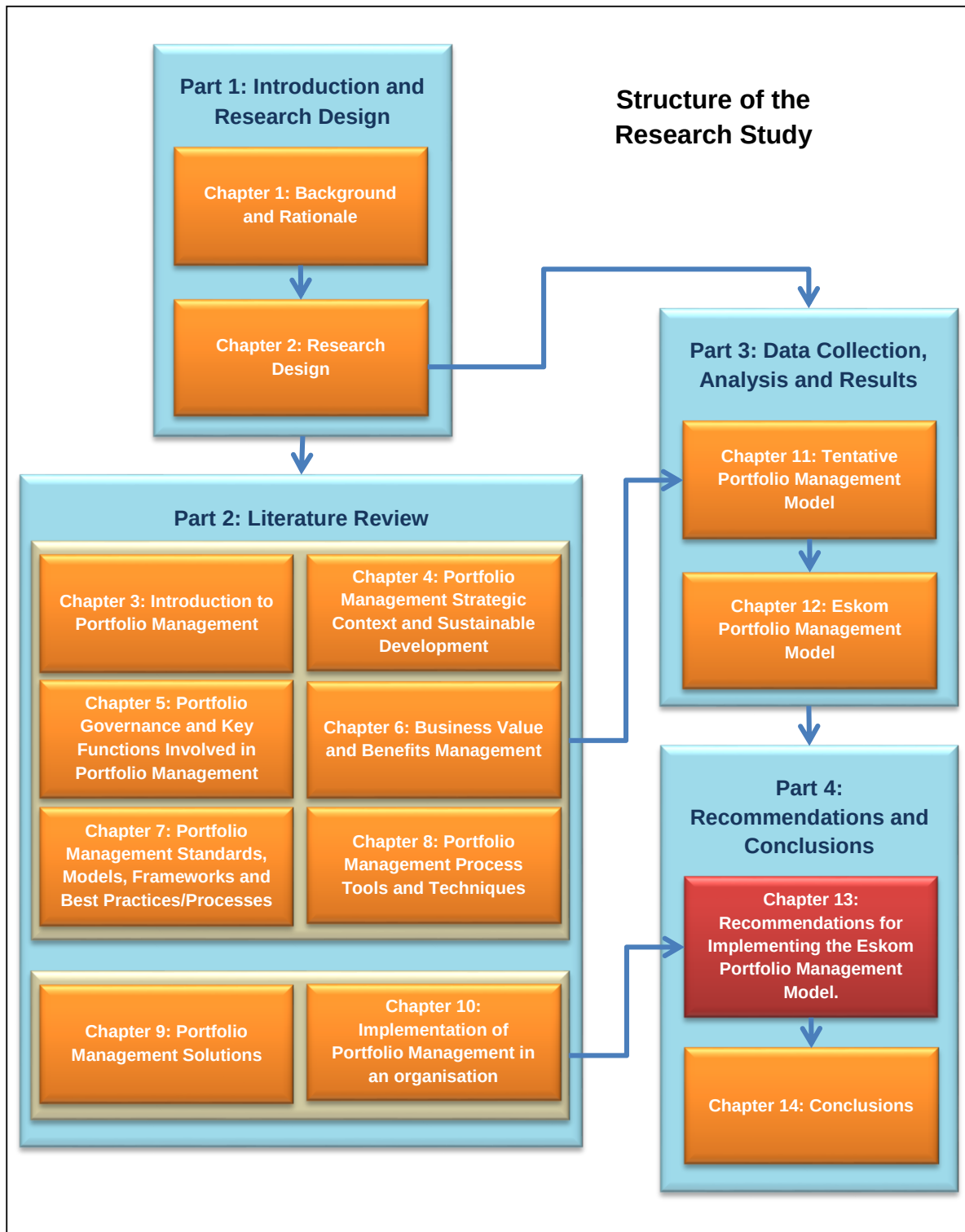
- The submission of projects and programmes for phase gate approvals belongs in the project and programme management PCMs.

From the comparative and gap analysis done to establish which position/body in Eskom is responsible to perform the activities in the final portfolio management model for Eskom the following gaps were identified in the current Eskom structures:

- A strategic portfolio management office must be established to lead and coordinate the portfolio management processes in Eskom and ensure proper integration with strategic management and planning and portfolio management in order to achieve Eskom's strategic goals and objectives.
- The new business role of portfolio owner (i.e. portfolio sponsor) as identified in the portfolio management PCMs must be implemented and the persons identified to fulfil this role must be appointed.
- A portfolio benefits manager position must be established to ensure that a consistent approach to benefits management is applied across all portfolios in Eskom.
- A portfolio process group/change delivery committee/portfolio delivery board (e.g. Gx Programme Governance Boards) must be established in each Division to monitor portfolio progress and resolve issues that may compromise the delivery and realisation of benefits.
- Agreement to be reached on the roles and responsibilities of the accountable manager and project sponsor in the Eskom Reference PLCM and Subset PLCMs so that there is a common understanding across all Eskom Divisions.

PART 4: RECOMMENDATIONS AND CONCLUSIONS

CHAPTER 13: RECOMMENDATIONS FOR IMPLEMENTING THE ESKOM PORTFOLIO MANAGEMENT MODEL



13.1 INTRODUCTION

13.1.1 Background

A structured and well planned implementation approach will help Eskom to successfully implement and embed portfolio management best practices and solution/system in order to deliver the strategic objectives and strategies as outlined in Eskom's Corporate Plan. The key recommendations and detailed steps in this chapter are deduced from the summaries and conclusions from Chapters 9, 10 and 12, the experience of the researcher, and various workshops with knowledgeable persons and the project team responsible for the implementation of portfolio management in Eskom.

13.1.2 Aim

The purpose of this chapter is to propose key recommendations and detailed implementation steps to successfully implement and embed the portfolio management best practices and solution/system in Eskom.

13.2 KEY RECOMMENDATIONS

The following is recommended:

- Manage the implementation of portfolio management as a major transformation project under the executive sponsorship of the CFO or the EXCO member allocated to fulfil the role of portfolio director.
- Manage the implementation of the portfolio management best practices as a portfolio management solution/system re-implementation project.
- Appoint a senior general manager/general manager as portfolio management implementation sponsor and a steering committee to guide and oversee the portfolio management implementation project.
- Appoint an experienced organisational transformation specialist to successfully guide the organisation through the transformation.
- Appoint a capable senior project/programme manager and team with the relevant portfolio management implementation experience to manage the portfolio management implementation project.
- Consider the appointment of an implementation partner with a proven track record of successful portfolio management implementations if capable in-house resources are not available.
- Assess the adequacy of the current portfolio management PCMs and the interfaces to the PCMs of the other business functions and capabilities. Include the revision of the PCMs as part of the portfolio management implementation project scope.
- Assess if the functionality of the current SAP PPM solution/system is adequate. Give consideration to implement and integrate a leading portfolio management Software-as-a-Service (SaaS) solution with SAP PPM if it is

found that the functionality SAP PPM solution is not fully adequate. Select a leading vendor with the capability and a proven track record of successful portfolio management solution implementations.

- Assess the state of the current data in the SAP PPM solution/system. Include data purification and conversion as part of the portfolio management implementation project scope.
- Use the survey questionnaire in Appendix C periodically during the implementation of portfolio management in Eskom as a KPI measure of progress. This will also validate the methodology.

13.3 PORTFOLIO MANAGEMENT MODEL IMPLEMENTATION APPROACH

Following an evaluation of the PMI PMBoK processes, Eskom project life cycle model and the activities in the final portfolio management model for Eskom it is proposed to implement the final portfolio management model for Eskom using a phased approach consisting of the following phases:

- **Mobilisation and planning phase.** Establish the drivers and hurdles for portfolio management implementation (e.g. implementation of portfolio management best practices and solution/systems). Set up the governance structure and mobilise the resources for implementing portfolio management. Assess the current state of portfolio management and organisational readiness for implementing portfolio management. Define the portfolio management vision, implementation approach (big-bang, evolution or ad hoc), implementation roadmap and plan.
- **Design and development phase.** Design and agree the portfolio management organisational structures. Confirm/finalise the portfolio management model and processes (PCMs). Develop portfolio management tools and select/confirm the solution/systems required for effective portfolio management (e.g. SAP PPM and portfolio management SaaS). Do systems development, establish data conversion and purification approach, establish the training approach and develop the training material.
- **Roll-out phase.** Implement and establish the portfolio management organisational structures. Roll out the portfolio management model and processes (PCMs), tools/systems, convert and purify data and train users. Select a pilot site to implement and test the portfolio management model and processes (PCMs) followed by a phased roll-out approach in the Eskom Divisions and Subsidiaries.
- **Embedment phase.** Develop a portfolio management improvement plan and support system to sustain and improve the portfolio management model and processes (PCMs), tools, systems and maintenance of data to realise the benefits of portfolio management. Manage changes to the portfolio management model and processes (PCMs), procedures, tools and systems and monitor the achievement of expected results.

13.4 DETAILED IMPLEMENTATION STEPS

Table 96 proposes the phases and detailed steps to implement and embed portfolio management best practices in Eskom. The detailed steps are derived from the key recommendations in section 13.2; the implementation approach in section 13.3; the experience of the researcher in the development, implementation and application of project life cycle methodologies and his role as project manager that successfully led the implementation of the SAP Plant Maintenance (PM) module in the Eskom Generation Division; inputs from a senior system analyst with vast experience in process and system development and implementation; and various workshops held by the project team that has been appointed to implement portfolio management in Eskom. It must be noted that Eskom already has implemented the SAP PPM module for project, programme and portfolio management and therefore the steps in Table 96 do not include the implementation of a total new portfolio management solution from scratch.

Table 96: Proposed detailed steps to implement and embed portfolio management best practices in Eskom

Mobilisation and planning phase. Establish the drivers and hurdles for portfolio management implementation (e.g. implementation of portfolio management best practices and solution/systems). Set up the governance structure and mobilise the resources for implementing portfolio management. Assess the current state of portfolio management and organisational readiness for implementing portfolio management. Define the portfolio management vision, implementation approach (big-bang, evolution or ad hoc), implementation roadmap and plan.
Business need • Appoint responsible person and team to define the business need. ○ Develop a task order for the development of the need statement to implement and embed portfolio management best practices in Eskom. ○ Approve the task order for the development of the need statement to implement and embed portfolio management best practices in Eskom. ○ Appoint a responsible person and team to develop the need statement and alternatives for implementing and embedding portfolio management best practices in Eskom. • Define business need. ○ Compile the need statement that describes the problem area or need that the implementation and embedment of portfolio management best practices will address. ○ Establish the drivers and hurdles for portfolio management implementation. ○ Assess the current state of portfolio management and organisational readiness for implementing portfolio management. ○ Define the portfolio management vision for Eskom, implementation approach (big-bang, evolution or ad hoc), implementation roadmap and plan. ○ Obtain acceptance and sign-off of the business need. • Do stakeholder analysis. ○ Identify the individuals or groups that are likely to affect or be affected by implementing portfolio management in Eskom. ○ Sort stakeholders according to their impact on the initiative and the impact the initiative will have on them (this includes both internal and external stakeholders). ○ Identify representatives for each stakeholder group to represent their interests and to participate in the initiative. • Identify and quantify benefits. ○ Identify the quantifiable and measurable benefits resulting from the implementation and embedment of portfolio management in Eskom that add value as perceived by the stakeholders.

○ Obtain acceptance and sign-off of the benefits identified.
Identify alternatives
• Develop high-level business case. ○ Capture the reasons for implementing and embedding portfolio management in Eskom, the value it will add to Eskom and/or the risk it will mitigate. ○ Obtain acceptance and sign-off of the high level business case. • Develop milestone schedule. ○ Provide an estimated duration how long it will take to implement and embed portfolio management best practices in Eskom. Include a list of all gates, major milestones and completion dates for the span of the initiative. ○ Obtain agreement and acceptance for the milestone schedule. • Compile preliminary cost estimate. ○ Compile a high-level estimate of the total estimated cost to completion to implement and embed portfolio management best practices in Eskom e.g. in-house resources, implementation partners, possible new tools (e.g. portfolio management SaaS solution, data conversion, capital optimisation model, etc.), additional hardware, etc. ○ Obtain agreement and acceptance for the preliminary cost estimate. • Identify business risks. ○ Identify events that, if they occur, will have a negative impact on the implementation and embedment of portfolio management best practices in Eskom. ○ Develop mitigation actions to address business risks. ○ Obtain agreement and acceptance of the business risks and mitigation actions. • Establish funding strategy. ○ Clarify the source of funding (whether budgeted/un-budgeted, internal or external funding, in full or partial) for the total initiative estimated cost to completion. ○ Obtain agreement and acceptance of the funding strategy. • Establish preliminary contracting and procurement strategy. ○ Outline how this initiative intends to issue contracts and conduct possible procurement. Take into account how implementation partners will be contracted and possible new tools, software and hardware procured (if required). ○ Obtain agreement and acceptance of the preliminary contracting and procurement strategy. • Identify alternatives. ○ Establish possible implementation approaches e.g. big-bang, evolution or ad-hoc. ○ Consider various solution options e.g. SAP PPM, leading portfolio management SaaS integration, tools (e.g. capital optimisation tool), etc. ○ Obtain agreement and acceptance of the alternatives identified. • Establish governance. ○ Establish the management framework for the initiative within which decisions are made and how it will be governed and controlled. ○ Identify and confirm an EXCO member to act as executive sponsor. ○ Identify and appoint a senior general manager/general manager as portfolio management implementation sponsor. ○ Develop the terms of reference for a steering committee to assist the portfolio management implementation sponsor to guide and oversee the portfolio management best practices implementation and embedment initiative. ○ Identify and appoint a steering committee representing the various functions involved in portfolio management to assist the sponsor to guide and oversee the portfolio management best practices implementation and embedment initiative. • Develop project charter. ○ Describe the scope of the initiative and outline the project objectives. ○ Define the authority of the project/programme manager and provide a preliminary delineation of roles and responsibilities. ○ Document the main stakeholders and their interests. ○ Obtain agreement and authorisation of the portfolio charter. • Record project decisions. ○ Decide how significant decisions, issues, activities, events or processes that occur during the life of the initiative will be recorded and documented. ○ Record and document all significant decisions, issues, activities, events or processes

that occur during the life of the initiative in a central document management system. - Analyse lessons learned. - Analyse previous lessons learned concerning similar initiatives from the Knowledge Management Hub. - Ensure that the lessons learned that are applicable are integrated into the planning of the initiative. - Obtain approval to develop the alternatives and select a single solution. - Finalise and submit the required documentation to the steering and investment committees. - Obtain authority to commit resources and funding to develop the alternatives and select a single solution.
Develop alternatives
- Develop stakeholder requirements specification. - Solicit and document application architecture requirements (i.e. the Eskom Groups/Divisions/Industries included in the initiative). - Solicit and document organisational architecture requirements (e.g. portfolio management governance and organisational structures). - Solicit and document process architecture requirements (portfolio management model activities, processes and interfaces applicable (PCMs), tools and techniques, templates, etc.). - Solicit and document solution functional requirements (e.g. master data, data purification and conversion, software and tools functionality, version and licencing strategies, etc.). - Solicit and document technical architecture requirements such as user numbers, server hardware, system performance, IT and LAN/WAN topology, work stations, desktop/laptop hardware, etc. - Solicit and document operations and IT support services requirements. - Solicit training requirements. - Solicit organisational change management requirements. - Develop the project delivery strategy i.e. the way the project will be structured, organised, managed, executed and controlled to best ensure project success. - Do competitive analysis of alternatives. - Assess the respective strengths and weaknesses of the identified alternatives and compare them in order to aid selection of the most suitable alternative for the specific need. - Develop a high level schedule for each alternative that includes a list of all the key (major) deliverables, summary work activities and milestones. - Do a detailed cost analysis and cost estimate for each of the identified alternatives. - Identify quantifiable risks specific to each of the identified alternatives. - Identify and determine the licencing requirements (e.g. software licences).
Select single solution
- Select preferred alternative. - Assess the respective strengths and weaknesses of the implementation and embedment approaches (e.g. big-bang, evolution or ad-hoc) and various solution options e.g. SAP PPM, leading portfolio management SaaS integration (if required), tools (e.g. portfolio optimisation model), etc. - Do a comparison of the identified alternatives and select the most suitable alternative to address the need. - Develop scope statement. - Finalise scope statement for the preferred solution. - Obtain agreement and acceptance of the scope statement. - Compile integrated work breakdown structure. - Develop master schedule. - Define activities. - Sequence activities. - Estimate activity resources. - Estimate activity durations. - Develop schedule. - Obtain agreement and acceptance of the master schedule.

- Compile detailed cost estimate.
 - Estimate design and development cost for:
 - Organisational architecture.
 - Process architecture.
 - Technical architecture such as solution architecture e.g. software and tools, version and licencing strategies, server hardware, IT and LAN/WAN topology, additional desktop/laptop hardware, operations and IT support services, etc.
 - Data purification and conversion.
 - Training.
 - Organisational change management.
 - Estimate roll-out cost.
 - Estimate pilot site roll-out cost.
 - Estimate roll-out cost for each phase.
 - Determine contingency to allow for risk.
 - Compile estimate at completion.
 - Obtain agreement and acceptance of the detailed cost estimate.
 - Determine budget.
- Do detailed risk analysis and quantification.
 - Identify risks.
 - Perform risk analysis.
 - Plan risk responses and establish contingencies.
- Obtain approval to design the solution.
 - Finalise and submit the required documentation to the steering and investment committees.
 - Obtain authority to commit resources and funding to design and develop the solution.

Design and development phase. Design and agree the portfolio management organisational structures. Confirm/finalise the portfolio management model and processes (PCMs). Develop portfolio management tools and select/confirm the solution/systems required for effective portfolio management (e.g. SAP PPM and portfolio management SaaS). Do systems development, establish data conversion and purification approach, establish the training approach and develop the training material.

Manage design and development

- Establish the resources and logistics to do design and development.
 - Appoint a capable senior project/programme manager and identify the core functions, roles and responsibilities to enable the successful delivery of the initiative.
 - Obtain resources with the relevant portfolio management experience from existing pool of internal Eskom resources and/or pre-approved professional services contracts.
 - Plan, execute and control the movement and stationing of personnel, material, and other resources.
- Develop the project management plan (PMP) for design and development.
 - Determining the way the initiative will be structured, organised, managed, executed and controlled to best ensure project success.
 - Confirm schedule and cost baselines.
 - Compile the PMP and subsidiary plans for integration management, scope management, time management, cost management, quality management, human resources management, communications management (including documentation management), risk management, procurement management, stakeholder management, etc.
- Direct and manage the work for the design and development.
 - Develop and manage the project team.
 - Manage communications, stakeholder engagements and conduct procurement (if applicable).
- Monitor and control the work for the design and development.
 - Validate and control design and development scope.
 - Control schedule, costs, quality, communications (including documentation management), risks, issues, procurements (if applicable), and stakeholder engagements.
 - Report the progress of the initiative to the portfolio management implementation sponsor and steering committee.

Design solution
• Confirm/establish application architecture. • Design organisational architecture. ○ Design portfolio governance roles and responsibilities. ▪ Agree the role and responsibilities of the portfolio director. ▪ Agree the roles and responsibilities of the portfolio direction groups for the Eskom portfolio and sub-portfolios. ▪ Agree the roles and responsibilities of the sub-portfolio process groups. ▪ Confirm the roles and responsibilities of the investment committees. ○ Design portfolio management organisational structures. ▪ Agree the structure, roles and responsibilities of the strategic portfolio management office manager and staff. ▪ Agree the roles and responsibilities of the Eskom portfolio benefits manager. ▪ Agree the roles and responsibilities of the portfolio owners. ▪ Agree the roles and responsibilities of the portfolio delivery managers. ▪ Agree the structure, roles and responsibilities of the portfolio management office support staff for each sub-portfolio. • Design process architecture. ○ Confirm/finalise the portfolio management model activities (i.e. activity names, inputs, outputs, detailed activity descriptions, RACI, roles and responsibilities, process and activity flows (PCMs). ○ Confirm/establish the portfolio management tools and techniques as well as the templates for each activity in the portfolio management model. • Confirm/identify/procure suitable software solution. ○ Confirm/define master and key configuration data. ○ Establish/confirm if the current SAP PPM solution and current tools under development (e.g. portfolio management optimisation model) have adequate functionality. ○ Procure portfolio management SaaS if the current SAP PPM solution and current tools under development are not adequate. ▪ Identify leading portfolio management SaaS vendors and initiate request for proposal. ▪ Evaluate the functionality of the leading portfolio management SaaS of the vendors selected. ▪ Initiate purchase request to procure the portfolio management SaaS from the selected vendor. ○ Establish current state of the data in SAP PPM and agree the data purification and conversion strategy. ○ Confirm/design extensions, reports, and interfaces. • Confirm/design technical environment. ○ Confirm/establish IT and LAN/WAN topology, work stations, desktop/laptop hardware, etc. ○ Confirm/establish system performance. ○ Confirm/establish/procure server hardware (if required). ▪ Confirm/design production environment. ▪ Confirm/design development environment. • Confirm/design operations and IT support services. • Design training approach. • Design organisational change management approach. • Design roll-out approach. • Obtain approval to develop the solution. ○ Finalise design and submit the required documentation to the steering and investment committees. ○ Obtain authority to commit resources and funding to develop the solution.
Develop solution
• Develop terms of reference for the portfolio governance bodies. ○ Prepare terms of reference for the portfolio direction groups for the Eskom portfolio and sub-portfolios. ○ Prepare terms of reference for the sub-portfolio process groups.

○ Confirm the terms of reference of the investment committees. • Develop portfolio management organisational structures. ○ Develop job descriptions for the strategic portfolio management office manager and staff. ○ Develop job description for the Eskom benefits manager. ○ Develop/confirm job descriptions/roles for the portfolio owners. ○ Develop/confirm job descriptions for the portfolio delivery managers. ○ Develop/confirm job descriptions for the portfolio management support staff for each sub-portfolio. • Confirm/develop tools and techniques and templates. • Confirm/enhance/build solution. ○ Confirm/develop reports. ○ Confirm/develop extensions and interfaces to tools. ○ Prepare and execute SAP system and integration to SaaS (if required). ○ Build conversion architecture. ○ Confirm/establish Q&A environment. ○ Confirm/establish production and operations environment. ○ Manage development and Q&A environments. ○ Perform system, integration and conversion tests. • Confirm/establish operations and IT support services. • Establish training environment. ○ Develop training material. ○ Establish training infrastructure. ○ Train the trainers. • Develop organisational change management approach. • Develop roll-out approach. • Obtain approval to roll-out the solution. ○ Finalise development and submit the required documentation to the steering and investment committees. ○ Obtain authority to commit resources and funding to roll-out the solution.
Close design and development phase
• Manage and document lessons learned. • Audit design and development phase. • Compile design and development phase close-out report. • Obtain design and development phase close-out report authorisation.
Roll-out phase. Implement and establish the portfolio management organisational structures. Roll out the portfolio management model and processes (PCMs), tools/systems, convert and purify data and train users. Select a pilot site to implement and test the portfolio management model and processes (PCMs) followed by a phased roll-out approach in the Eskom Divisions and Subsidiaries.
Manage roll-out
• Establish the resources and logistics for roll-out. ○ Confirm/appoint a capable senior project/programme manager and identify the core functions, roles and responsibilities to enable the successful delivery of the initiative. ○ Confirm/obtain resources with the relevant portfolio management experience from existing pool of internal Eskom resources or pre-approved professional services contracts. ○ Appoint an experienced organisational transformation specialist to successfully guide the organisation through the transformation. ○ Plan, execute and control the movement and stationing of personnel, material, and other resources. • Develop the project management plan (PMP) for roll-out. ○ Determining the way the initiative will be structured, organised, managed, executed and controlled to best ensure project success. ○ Confirm schedule and cost baselines. ○ Compile the PMP and subsidiary plans for integration management, scope management, time management, cost management, quality management, human resources management, communications management (including documentation management), risk management, procurement management, stakeholder management, etc.

• Direct and manage the work for roll-out. ○ Develop and manage the project team. ○ Manage communications, stakeholder engagements and conduct procurement (if applicable). • Monitor and control the work for roll-out. ○ Validate and control roll-out scope. ○ Control schedule, costs, quality, communications (including documentation management), risks, issues, procurements (if applicable), and stakeholder engagements. ○ Report the progress of the initiative to the portfolio management implementation sponsor and steering committee. • Manage the organisational transformation. ○ Assess and interpret organisational change acceptance status. ○ Build and sustain executive leadership. ○ Build and sustain ownership and commitment in the organisation.
Deploy solution (pilot site followed by phased implementation)
• Mobilise for roll-out. ○ Assess site environment. ○ Mobilise the roll-out team(s). • Train the users. • Customise solution to meet divisional specific requirements. • Perform divisional interface tests. • Confirm profiles. • Deploy technology infrastructure. • Perform business simulation. • Prepare and execute dress rehearsal. • Deploy the application. ○ Roll out the portfolio management model and processes (PCMs), tools/systems. ○ Purify and convert data for each sub-portfolio. • Provide post conversion support. • Conduct post conversion review to verify solution performance. • Conduct final technical evaluation. • Hand-over solution to custodian.
Set-up portfolios
• Set-up Eskom portfolio ○ Establish/confirm portfolio governance bodies for Eskom portfolio. ▪ Establish portfolio direction group for Eskom. ○ Establish portfolio management organisation for Eskom portfolio. ▪ Confirm or recruit and appoint Eskom strategic portfolio management office manager and staff. ▪ Recruit and appoint Eskom portfolio benefits manager. ▪ Train Eskom strategic portfolio office manager and staff and Eskom portfolio benefits manager. ○ Develop the portfolio strategic plan for Eskom. ○ Categorise potential portfolio components. ▪ Define the divisions/departments covered, the type of work included (e.g. programmes/projects, operations, support, etc.), the categorisation scheme (e.g. categories such as: operational projects, strategic projects, external projects, internal customers, etc.), the balance points (e.g. for each category set guidelines as how the work should be balanced) and the financial models (i.e. models to be used to assess and select the portfolio components that are aligned to the strategic goals and strategies). ▪ Organise potential portfolio components into groups, segments or sub-portfolios based on the strategic objectives and strategies or other groupings to aid in strategic alignment and to ensure that resource allocation reflects the relative organisational priorities. ○ Develop sub-portfolio charters. ▪ Identify objectives for the each sub-portfolio using past and current performance and future goals of the organisation.

- Set objectives for different time periods, ranging from immediate to longer term taking into account constraints such as the organisation's risk tolerance and keep the objectives under change control.
 - Obtain agreement and authorisation of each sub-portfolio charter.
- Set-up sub-portfolios.
 - Establish portfolio governance bodies for each sub-portfolio.
 - Establish/confirm portfolio direction group for each sub-portfolio.
 - Establish/confirm portfolio process group for each sub-portfolio.
 - Establish portfolio management organisation for each sub-portfolio.
 - Confirm/recruit and appoint portfolio owner for each sub-portfolio.
 - Confirm/recruit and appoint portfolio delivery manager for each sub-portfolio.
 - Confirm/recruit and appoint support staff for each sub-portfolio.
 - Develop portfolio strategic plan for each sub-portfolio.
 - Identify/verify portfolio components for each sub-portfolio and maintain the sub-portfolio pipelines.
 - Obtain a clear and transparent view of what portfolio components are in the current portfolio, performance to date together with their forecast impact on organisational performance.
 - Collate the information of the portfolio components into an interim report to provide a clear view on the contents of the portfolio.
 - Identify the potential portfolio components in the portfolio pipeline for the coming business cycle and develop value propositions describing the scope, value and alignment to the organisation's strategic objectives and strategies.
- Define sub-portfolios.
 - Develop sub-portfolio roadmap.
 - Create a high-level schedule showing the current and potential portfolio components to be implemented over time with any dependencies between them so that any conflicts or gaps between the roadmap and the organisational objectives and strategies can be evaluated.
 - Develop sub-portfolio governance management plan.
 - Develop sub-portfolio change management plan.
 - Develop sub-portfolio performance and benefits management plan.
 - Develop the sub-portfolio performance management plan as to how portfolio value is defined and realised through the portfolio measurements and targets, alignment to organisational objectives and strategies, and roles and responsibilities in executing the plan.
 - Develop a sub-portfolio benefits management framework.
 - Develop sub-portfolio financial management plan.
 - Develop sub-portfolio resource management plan.
 - Develop sub-portfolio stakeholder and communications management plan.
 - Develop sub-portfolio risk management plan.
 - Develop integrated sub-portfolio management plan.
 - Assess and select sub-portfolio components.
 - Do a meticulous and rigorous review of the value propositions to assess the current list of categorised potential portfolio components and decide which will move forward and which will get cut.
 - Evaluate the current resource allocation, availability and constraints and identify interdependencies among the sub-portfolio components.
 - Create more detailed business cases for all the sub-portfolio components that survived the initial cut and organise them for on-going evaluation, selection, and prioritisation.
 - Prioritise sub-portfolio components.
 - Use the business cases and rank the sub-portfolio components based on the measures as agreed with relevant sub-portfolio governance bodies.
 - Select and assign a priority to each of the sub-portfolio components for inclusion in the sub-portfolio.
 - Balance, optimise and maintain the sub-portfolio.
 - Establish if the resulting prioritised sub-portfolio components and mix satisfies the overall direction of the organisation and its overall priorities by adding up the estimated work under each of the categories and comparing

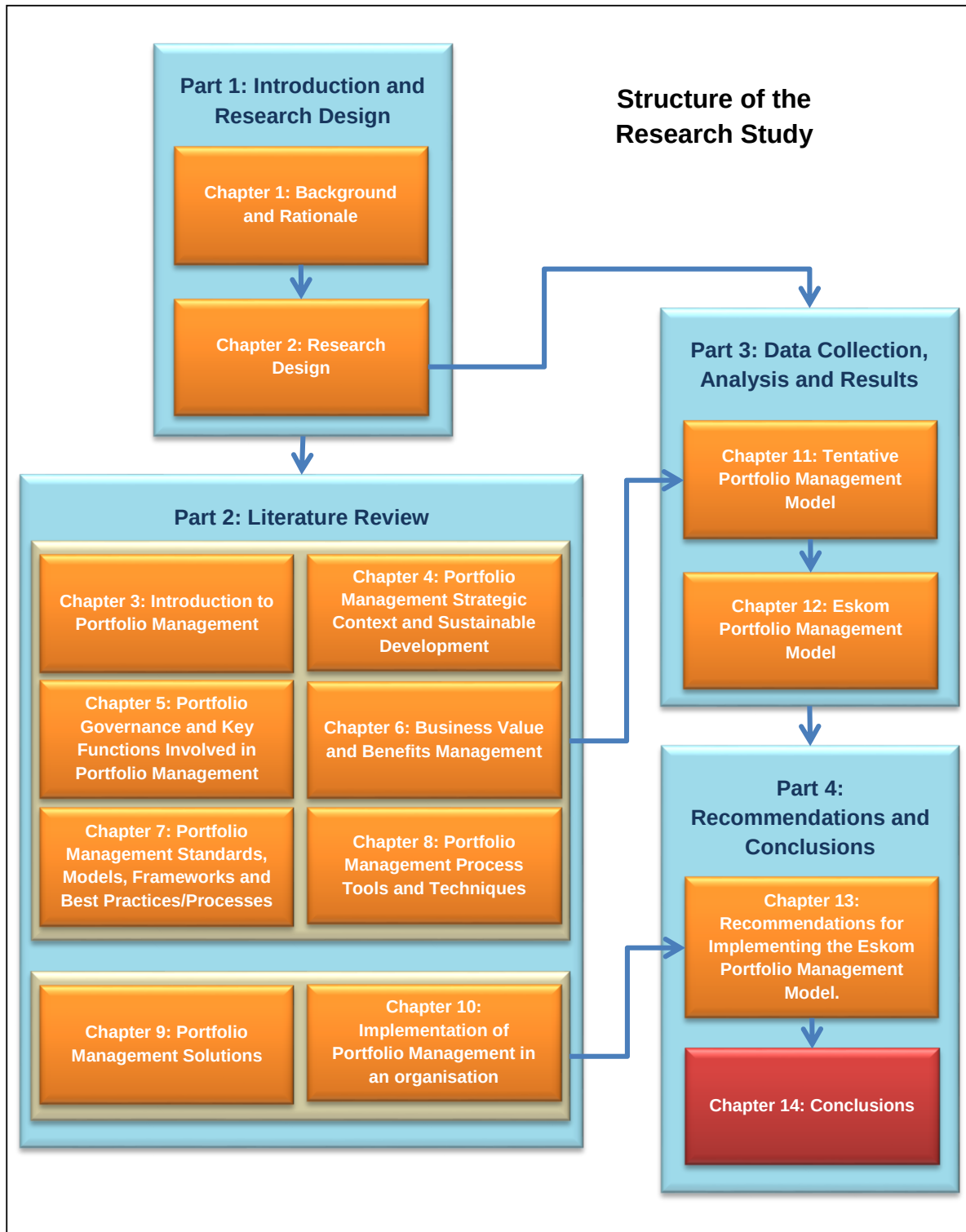
- that with the strategic objectives and strategies. ▪ Review, analyse, and change prioritised sub-portfolio components to create the optimal balance in terms of factors such as timing; coverage of all strategic objectives; impact across the business; stage of portfolio component development; overall risk; return profile; and available resources. ▪ Maintain the sub-portfolio by continually evaluating potential portfolio components for inclusion in the portfolio, moving, modifying, closing or terminating portfolio components within the portfolio and balancing resources and other assets throughout the portfolio. ○ Authorise sub-portfolio and changes. ▪ Present the optimised sub-portfolio with list of balanced portfolio components to the relevant sub-portfolio governance body and obtain authorisation for the coming year. ▪ Communicate the decisions regarding the authorised sub-portfolio components and changes to the relevant sub-portfolio stakeholders. ○ Create sub-portfolio delivery plan. Provide a clear view on: ▪ Which portfolio components are included in the sub-portfolio for execution. ▪ Scheduling/timing of the sub-portfolio components. ▪ Resource and financial requirements. ▪ Key milestones. ▪ Risks. • Obtain approval for the embedment and benefits realisation phase. ○ Prepare the embedment and benefits realisation phase charter. ○ Develop benefits realisation plan. ○ Finalise roll-out and submit the required documentation to the steering and investment committees. ○ Obtain authority to commit resources and funding to embed the solution.
Close roll-out phase
• Document lessons learned. • Audit roll-out phase. • Close procurements. • Do financial reconciliation and closure. • Compile roll-out phase close-out report. • Obtain roll-out phase close-out report authorisation. • Close-out project and hand-over benefits tracking.
Embedment and benefits realisation phase. Develop a portfolio management improvement plan and support system to sustain and improve the portfolio management model and processes (PCMs), tools, systems and maintenance of data to realise the benefits of portfolio management. Manage changes to the portfolio management model and processes (PCMs), procedures, tools and systems and monitor the achievement of expected results. Track the realisation of benefits.
Manage embedment and benefits realisation phase
• Mobilise the resources for the embedment and benefits realisation phase. • Sustain executive leadership, ownership and commitment. • Develop portfolio management sustainment and improvement plan. • Direct and manage the embedment and benefits realisation phase and report progress. • Monitor the effectiveness of portfolio management governance. • Monitor the effectiveness of the functioning of the Eskom portfolio. • Monitor the effectiveness of the functioning of the sub-portfolios. • Monitor the achievement of expected results. • Perform integrated change control.
Make improvements
• Solicit/identify and record issues/change requests (e.g. governance and organisational structures, people/culture, roles and responsibilities, processes, tools and techniques, solution/system, data, reports, etc.). • Analyse/assess issues/change requests and recommend solutions. • Obtain authorisation to implement recommended solutions. • Affect and communicate improvements.
Provide on-going user support

• Enhance/deploy user support mechanisms. • Perform ongoing training/re-training to embed portfolio management best practices.
Realise and sustain benefits
• Report benefits. • Maintain benefits register. • Monitor performance of benefits. • Ensure continual realisation of benefits.
Close embedment and benefits realisation phase
• Document lessons learned. • Perform compliance and advisory audits. • Compile embedment and benefits realisation phase close-out report. • Obtain embedment and benefits realisation phase close-out report authorisation.

13.5 SUMMARY

The key recommendations and detailed implementation steps to successfully implement and embed the portfolio management best practices and solution/system in Eskom is published in an Eskom report (240-129589639 Recommendations and High Level Steps to Implement and Embed Portfolio Management in Eskom). This report serves as input for the project team responsible for the implementation of portfolio management best practices in Eskom.

CHAPTER 14: CONCLUSIONS



14.1 INTRODUCTION

14.1.1 Background

Buys (2014) clarifies that the purpose of research is to generate new knowledge that not only enables us to better understand nature and our environment, including our interactions with others, but also to enable us to better manipulate, use and manage the environment to our advantage. Buys (2014) continuous that the purpose of science of engineering and technology management is to provide theoretical knowledge and practical techniques to better manage technology-based organisations and further believes that engineering and technology management links the engineering, science, and management disciplines. Buys (2014) mentions that it provides an interface between technology and other corporate functions and addresses the issues involved in the planning, development, and implementation of technological capabilities to shape and accomplish strategic and operational objectives of an organisation which covers the entire spectrum of managerial concerns in technology-based organisations. Buys (2014) explains that the building of new or improved theories, models and methods is one of the possible aspects to a research project in the science of engineering and technology management.

14.1.2 Aim

The purpose of this chapter is to discuss the significance and limitations of the research study. Recommendations are also made for further research to be undertaken and a final conclusion is made.

14.2 SIGNIFICANCE OF THE RESEARCH STUDY

This research study resulted in the following significant contributions:

- The research design guidance table in Annexure A as adapted from Neville (2007) can be used by other researchers for developing their research proposals.
- The literature review resulted in the publication of a detailed portfolio management research report/knowledge document for Eskom (i.e. 240-102758470 Project Portfolio Management Research Report/Knowledge Document). This document can be used by portfolio management practitioners as a portfolio management “handbook”.
- The researcher has expanded on the theory/body of knowledge on portfolio management by developing a tentative portfolio management model in Chapter 11. This model can be used by academics and practitioners for education, training and application in practice. Organisations can use this model as an exemplar or roadmap to develop a suitable portfolio management model which they can use for implementing and embedding portfolio management best practices in their organisations.

- During the one-to-one and group interviews the portfolio management model figure (Figure 63) provided excellent context to the persons that participated in the interviews to understand the key elements of portfolio management. This figure clarifies the key inputs and the interactions between strategic management and business planning; portfolio management; project and programme management; operations; and it also shows how these functions contribute towards a sustainable business.
- The survey questionnaire in Annexure C developed by the researcher can be used by other organisations to establish the current state of portfolio management in their organisations.
- The researcher developed and published a final portfolio management model (i.e. 240-129590275 Eskom Portfolio Management Model) and manual (i.e. 240-130606825 Eskom Portfolio Management Model Manual) for Eskom. The portfolio management model and manual can now be used by Eskom to implement and embed portfolio management best practices in order to execute the strategies as outlined in Eskom's Corporate Plan.
- The key recommendations and detailed implementation steps developed in Chapter 13 were published by the researcher (i.e. 240-129589639 Recommendations and High Level Steps to Implement and Embed Portfolio Management in Eskom Report) and serves as input for the project team responsible to implement and embed portfolio management best practices in Eskom. The implementation of these recommendations will make a major contribution towards optimising Eskom's capital expenditure which is one of Eskom's five priorities. The key recommendations and detailed implementation steps can also be used by other organisations as roadmap to implement and embed portfolio management best practices in their organisations.

Eskom and other state owned enterprises in South Africa have a huge responsibility and significant role to play to support the economic recovery of South Africa and enable industrial growth across Southern Africa to stabilise, turnaround and grow the South African economy that is currently in a technical recession. The selection of the "right" projects and programmes (i.e. portfolio management) in Eskom and executing these projects and programmes "right" (i.e. project and programme management) are of paramount importance to maximise business value to support the economic recovery of South Africa and enable industrial growth across Southern Africa.

The tentative Portfolio Management Model developed in Chapter 11 can be used by other large organisations for developing their own models to suit them.

14.3 STUDY LIMITATIONS

A limitation of this study is that it is a single case only (i.e. Eskom). It must however be noted that the final portfolio management model for Eskom was reviewed for validity by various functions and Groups/Divisions in Eskom. As the final portfolio

management model for Eskom must still be implemented and embedded in Eskom it should be further improved as lessons are learned.

14.4 FURTHER RESEARCH

The researcher sees the following streams of work stemming from this research study:

- The portfolio management model for Eskom must be refined during the implementation and embedment of portfolio management best practices in Eskom as lessons are learned during the implementation of the model.
- The tentative portfolio management model in Chapter 11 can also be applied and validated in other state owned enterprises and other organisations.
- The tentative portfolio management model in Chapter 11 can also be used as the basis for further improvement of portfolio management theories, models and methods.

14.5 FINAL CONCLUSION

The research study was concluded successfully. The research question below was fully answered as a final portfolio management model for Eskom was developed, reviewed and accepted during one-to-one and group interviews.

Research question: What steps (activities, processes, roles and responsibilities, tools and techniques, etc.) should be followed to implement and embed portfolio management best practices in Eskom to successfully execute the strategies as outlined in Eskom's Corporate Plan?

Each of the main and sub-objectives was achieved - see evidence in Table 97.

As the implementation of portfolio management in an organisation is a major transformation project involving development and changes to the organisational culture and structures, processes, techniques and tools, systems and data, etc., it is estimated that the recommendations and detailed implementation steps to successfully implement and embed the portfolio management best practices in Eskom it will take approximately three to five years.

Table 97: Achievement of research objectives and evidence

Research objective	Objective achieved (yes/no)	Evidence
Main objective		
Develop a portfolio management model for Eskom that can be applied to implement and embed portfolio management best practices that will contribute towards the successful delivery of Eskom's strategies as outlined in Eskom's Corporate Plan.	Yes.	Section 12.4.
Expand and/or enhance the theory/body of knowledge on the steps to be followed to successfully implement and embed portfolio management best practices in an organisation.	Yes	Chapters 11 and 12.
Sub-objectives		
Review the theory/body of knowledge of existing portfolio management international standards, related research studies and articles and develop a tentative portfolio management model (i.e. preparing a proposal).	Yes	Part 2 Literature Review Chapters 3 to 10.
Develop a tentative portfolio management model for Eskom (i.e. proposal) by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, templates, etc. related to portfolio management into the tentative portfolio management model.	Yes	Chapter 12 section 12.2.
Review the tentative portfolio management model for Eskom (i.e. proposal) and develop a final portfolio management model for Eskom (i.e. assessing the proposal and developing a final proposal).	Yes	Chapter 12 sections 12.3 and 12.4.
Develop detailed recommendations to implement and embed the portfolio management model for Eskom to successfully deliver the strategies and strategic objectives as outlined in Eskom's Corporate Plan.	Yes	Chapter 13.

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ANNEXURES

Annexure A: Research models (Source: Adapted from Routio, 2007)

Research model	Description and clarification	Types of studies	Applicable to research study?
Exploratory Research	Research is exploratory when you use no earlier model as a basis of your study. The most usual reason for using this approach is that you have no other choice. Normally you would like to take an earlier theory as a support, but there perhaps is none, or all available models come from wrong contexts.		
Research on the basis of earlier theory.	Many of the problems of exploratory research can be avoided if the researcher can start with a model, developed in earlier studies, which he uses as a "working hypothesis". The model can either consist of cases (holistic model) or of concepts (analytic model). During the analysis, the researcher tries to see whether the collected material conforms to the model or must he correct the model or look for a more suitable one.	In a descriptive study the project is often arranged as distinct phases. First you demarcate the population about which you need knowledge, then select a sample, gather the empirical data, analyse them, perhaps with the same method as in the earlier study from which the model was taken, and finally assess the findings.	
		In a normative study models are used for describing the existing problems and defining the improvements to the object of study. If you can find an existing descriptive model of the object, made in an earlier study, you can often transform it into a normative model by adding an evaluative dimension to it.	A normative study is selected to develop a tentative portfolio management model from the existing theory (body of knowledge) of portfolio management. The tentative portfolio management model is then used for developing a portfolio management model that Eskom can apply to implement and embed portfolio management. The development of the tentative portfolio management model also enhances the theory/body of knowledge on portfolio management models.
Hypothesis	Sometimes the object of		

Research model	Description and clarification	Types of studies	Applicable to research study?
based study	study is already well known and you just want to investigate its behaviour in a specific situation. In such a situation you can choose to construct a hypothesis , i.e. an expectation of the behaviour of the object, or a preliminary answer to the question that you are studying.		

Annexure B: Research design guidance table (Source: Adapted from Neville, 2007)

Research design elements	Research term	Description and clarification	Applicable to research study?
Types of research	Exploratory research	Exploratory research is undertaken when few or no previous studies exist. The aim is to look for patterns, hypotheses or ideas that can be tested and will form the basis for further research. Typical research techniques would include case studies, observation and reviews of previous related studies and data.	
	Descriptive research	Descriptive research can be used to identify and classify the elements or characteristics of the subject, e.g. number of days lost because of industrial action. Quantitative techniques are most often used to collect, analyse and summarise data.	
	Analytical research	Analytical research often extends the descriptive approach to suggest or explain why or how something is happening, e.g. underlying causes of industrial action. An important feature of this type of research is in locating and identifying the different factors (or variables) involved.	
	Predictive	The aim of predictive research is to speculate intelligently on future possibilities, based on close analysis of available evidence of cause and effect, e.g. predicting when and where future industrial action might take place.	
Research approaches	Quantitative/ qualitative	The emphasis of quantitative research is on collecting and analysing numerical data; it concentrates on measuring the scale, range, frequency etc. of phenomena. This type of research, although harder to design initially, is usually highly detailed and structured and results can be easily collated and presented statistically.	
		Qualitative research is more subjective in nature than quantitative research and	A qualitative research approach is followed to examine current portfolio

		involves examining and reflecting on the less tangible aspects of a research subject, e.g. values, attitudes, perceptions. Although this type of research can be easier to start, it can be often difficult to interpret and present the findings; the findings can also be challenged more easily.	management models and best practices to develop a portfolio management model that Eskom can be applied to successfully implement and embed portfolio management best practices.
	Applied/basic	The primary aim of basic research is to improve knowledge generally, without any particular applied purpose in mind at the outset.	
		Applied research is designed from the start to apply its findings to a particular situation.	The existing theory/body of knowledge on portfolio management is expanded or refined by developing a portfolio management model that can be applied in Eskom to successfully implement and embed portfolio management best practices. Recommendations are made that can be applied to implement the portfolio management model in Eskom in order to roll out and embed portfolio management best practices.
	Deductive/inductive	Deductive research moves from general ideas/theories to specific particular situations: the particular is deduced from the general, e.g. broad theories.	A deductive approach is followed to develop a tentative portfolio management model from the current theory/body of knowledge on portfolio management.
		Inductive research moves from particular situations to make or infer broad general ideas/theories.	An inductive approach is then followed by discussing, reviewing and revising the tentative portfolio management model during one-to-one and group interviews to develop a final portfolio management model for Eskom.
	Research philosophies (or positions).		
	Positivistic	Positivistic approaches are founded on a belief that the study of human behaviour should be conducted in the same way as studies conducted in the natural sciences (Collis and Hussey, 2003).	
	Phenomenological	Phenomenological approaches are particularly concerned with understanding behaviour from the participants' own subjective frames of	A phenomenological philosophy (position) is adopted for this research study. The phenomenon that is studied in this

		reference.	research case is portfolio management i.e. the development of a portfolio management model and the activities and processes that should be followed to implement and embed portfolio management best practices in Eskom to successfully execute the Eskom strategies as outlined in Eskom's Corporate Plan. The tentative portfolio management model developed from the current theory/body of knowledge of portfolio management is used as the starting point for developing a portfolio management model for Eskom. The views and experience (subjective frames of reference) of the stakeholders (participants) of the various functions involved in portfolio management is used to develop a final portfolio management model for Eskom.
Research methodology.	Positivistic methodologies	Surveys involve selecting a representative and unbiased sample of subjects drawn from the group you wish to study. The main methods of asking questions are by face-to-face or telephone interviews, by using questionnaires or a mixture of the two. There are two main types of survey: a descriptive survey : concerned with identifying and counting the frequency of a particular response among the survey group, or an analytical survey : to analyse the relationship between different elements (variables) in a sample group.	A survey is done to establish the current state of portfolio management in Eskom in order to get a good understanding of the current level of knowledge about the problem.
		Experimental studies are done in carefully controlled and structured environments and enable the causal relationships of phenomena to be identified and analysed. The variables can be manipulated or controlled to observe the effects on the subjects studied.	
		Longitudinal studies are studies over an extended period	

		to observe the effect that time has on the situation under observation and to collect primary data (data collected at first hand) of these changes.	
		Cross-sectional studies are studies involving different organisations or groups of people to look at similarities or differences between them at any one particular time. Cross-sectional studies are done when time or resources for more extended research, e.g. longitudinal studies, are limited. It involves a close analysis of a situation at one particular point in time to give a “snap-shot” result.	
	Phenomenological methodologies	A case study offers an opportunity to study a particular subject, e.g. one organisation, in depth, or a group of people, and usually involves gathering and analysing information; information that may be both qualitative and quantitative. Case studies can be used to formulate theories, or be: • Descriptive (e.g. where current practice is described in detail). • Illustrative (e.g. where the case studies illustrate new practices adopted by an organisation). • Experimental (e.g. where difficulties in adopting new practices or procedures are examined). • Explanatory (e.g. where theories are used as a basis for understanding and explaining practices or procedures).	A normative case study methodology is selected as discussed in Appendix A.
		Action research involves an intervention by a researcher to influence change in any given situation and to monitor and evaluate the results. The researcher, working with a client, identifies a particular objective, e.g. ways of improving telephone responses to “difficult” clients, and explores ways this might be done. The researcher enters into the situation, e.g. by introducing new techniques, and monitors the results. This research requires active co-	

		operation between researcher and client and a continual process of adjustment to the intervention in the light of new information and responses to it from respondents.	
		Ethnography is more usually described as participant observation , and this is where the researcher becomes a working member of the group or situation to be observed. The aim is to understand the situation from the inside: from the viewpoints of the people in the situation. The researcher shares the same experiences as the subjects, and this form of research can be particularly effective in the study of small groups/small firms. Participant observation can be overt (everyone knows it is happening) or covert (when the subject(s) being observed for research purposes are unaware it is happening).	The researcher's role is to facilitate the one-to-one and group interviews to develop a final portfolio management model for Eskom.
		Participative enquiry is about research within one's own group or organisation and involves the active involvement and co-operation of people who you would normally work and associate with on a daily basis. The whole group may be involved in the research and the emphasis is on sharing, agreeing, cooperating and making the research process as open and equal as possible.	Stakeholders from all the functions involved in portfolio management (e.g. strategic management, finance/capital efficiency, portfolio management, Eskom project management office (EPMO), divisional representatives, etc.) are selected participate in the review of the final portfolio management model for Eskom.
		Feminist perspectives focus on knowledge grounded in female experiences and is of benefit to everyone, but particularly women.	
		Grounded theory reverses approaches in research that collected data in order to test the validity of theoretical propositions, in favour of an approach that emphasises the generation of theory from data. Theory is generated from observations made, rather than being decided before the study. This approach seeks to challenge research approaches that unwittingly or wittingly look for evidence in the data to confirm or deny established	

		theories or practices; the feeling behind this is that you will often find out in research what you are looking for! But if an open mind is kept, new ways of perceiving a subject or new ways of categorising or applying data gathered may be discovered or advanced. The aim of grounded theory is to approach research with no preconceived ideas about what might be discovered or learned.	
Data collection methods	One-to-one interviews with key informants in an organisation (these might be face to face or by telephone).	Structured interviews involve the use of questionnaires based on a predetermined and identical set of questions. The questions are usually read out by a researcher in a neutral tone of voice to avoid influencing or prompting a particular response from a participant.	
		Semi-structured interviews. The interviewer will have a list of themes and areas to be covered and there may be some standardised questions, but the interviewer may omit or add to some of these questions or areas, depending on the situation and the flow of the conversation.	The key data collection method to review a final portfolio management model for Eskom is one-to-one and group interviews with portfolio management stakeholders (e.g. strategic management, finance/capital efficiency, portfolio management, Eskom project management office (EPMO), operations, asset management, etc.).
		Unstructured interviews. These are informal discussions where the interviewer wants to explore in-depth a particular topic with another person in a spontaneous way. However, even in unstructured interviews it is likely that the researcher would have a pre-decided range of topics to cover in the discussion.	
	Focus groups: discussion & interviews	Focus groups are used to gather data, usually in the forms of opinions, from a selected group of people on a particular and pre-determined topic, e.g. consumer topic; political topic etc. Focus groups can be a useful way of finding out what the main issues and concerns of any group are. This can help in questionnaire design or to develop a future interview strategy. They can be a useful way too, of bringing to the	

		surface issues that might not otherwise have been discovered: the dynamics of a group can often make people bolder in advancing their opinions.	
	Participant observation is when a researcher attempts to observe in some way in the group being researched and to share in the experiences being recorded and analysed. It can be used in association with other research approaches or as the primary way of gathering data. It can be a good way of getting below the surface of any situation and to help reveal or unravel complex causal social processes. The researcher can play an overt or covert role.	Complete participant. The identity and purpose of researcher is not revealed to other group members. The researcher attempts to become a full covert member of the group.	
		Complete observer. The purpose of research activity not revealed to those being Observed. The researcher does not take part in the activities being observed.	
		Observer as participant. The researcher's role is known to others in the group. Researchers participate in activities, but their engagement with group activities may be fairly superficial or spasmodic, as their role is to observe the "real" participants.	
		Participant as observer. The researcher's role is known to all others in the group. The researcher would engage fully in all the activities and experience it totally themselves, plus observe and talk to other participants about their experiences.	The researcher is a complete participant in the research study. The researcher's role is to develop a tentative portfolio management model from the current theory/body of knowledge and to facilitate and participate in the one-to-one and group interviews to discuss, review and revise the tentative portfolio management model in order to develop a final portfolio management model for Eskom.
	Questionnaire survey , e.g. of relevant people in an organisation, or of consumers, customers etc. This can be done using printed or electronic questionnaires. There are five types of questionnaire approaches: on-	Open questions. A question is posed, but space is left for the respondent's own answer.	
		Closed questions. Where a limited number of alternative responses to the set question are provided. These can be in list, category, ranking, scale/rating, grid or other quantitative form. They can be pre-coded on a questionnaire to facilitate analysis.	A questionnaire survey with closed questions applying a Likert-scale (strongly agree, agree, unsure, disagree, strongly disagree) and allowing for comments is developed from the literature analysis to establish the current state of portfolio management in Eskom. The analysis of the results of the survey is used to describe the current level

	line (electronic), postal (printed), delivery and collection (printed), telephone (electronic/printed), interview face to face/group (electronic or printed).		of knowledge about the problem in Eskom.
	Others e.g. autobiography, diary methods, Internet etc.		
Size and sampling strategies.	Probability sampling is where the researcher has a significant measure of control over who is selected and on the selection methods for choosing them.	Simple random sampling. Selection at random by the researchers from a choice of subjects.	
		Systematic sampling. Selection by the researcher at numbered intervals, e.g. every one person in five in the target group.	
		Stratified sampling. Sampling within particular sections of the target groups, e.g. you target a specific number of people based on the percentage of the total group that share the same characteristics.	
		Cluster sampling. Surveying a particular cluster of the subject group.	
	Non-probability sampling. Where the researcher has little initial control over the choice of who is presented for selection, or where controlled selection of participants is not a critical factor.	Convenience sampling. Sampling those most convenient; those immediately available.	
		Voluntary sampling. The sample is self-selecting; they come forward voluntarily in response to an appeal.	
		Purposive sampling. Enables you to use your judgement to choose people that are presented or are available that best meet your objectives or your target groups.	Persons willing and available from the various functions involved in portfolio management (e.g. strategic management, finance/capital efficiency, portfolio management, Eskom project management office (EPMO), operations, project and programme management, etc.) are approached and requested to participate in the review of the final portfolio management model for Eskom.
		'Snowball' sampling. Building	

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		up a sample through informants. You start with one person – who then suggests another & so on.	
		Event sampling. Using the opportunity presented by a particular event, e.g. a conference, to make contacts.	
		Time sampling. Recognising that different times or days of the week or year may be significant and sampling at these times or days.	

Annexure C: Survey questionnaire to get an understanding of the current state of portfolio management in Eskom

INTRODUCTION

Research proposes the following high level steps for portfolio management implementation:

- Assess the current state of the portfolio management practices/processes.
- Define the portfolio management vision and plan.
- Implement the portfolio management practices/processes.
- Improve the portfolio management practices/processes.

The purpose of this high-level survey is to get an understanding of the current state of portfolio management in Eskom.

SECTION 1. RESPONDENT INFORMATION

1. Band (please tick ✓).

☐ F	☐ E	☐ M	☐ P	☐ S

2. Group (please tick ✓).

☐ Office of the Chief Executive ☐ Finance ☐ Group Capital ☐ Generation ☐ Transmission ☐ Distribution ☐ Other please specify: _____

3. Function/role (please tick ✓).

☐ EXCO ☐ Strategic management ☐ Finance/capital efficiency ☐ EPMO ☐ Portfolio owner (i.e. manager of portfolio managers) ☐ Portfolio management ☐ Programme and project management ☐ Other please specify: _____

4. No of years involved in portfolio management related activities (please tick ✓).

☐ <5	☐ 5-9	☐ 10-14	☐ 15-19	☐ ≥20

SECTION 2. WHAT IS THE CURRENT STATE OF PORTFOLIO MANAGEMENT IN ESKOM?Please rate as follows and tick ☐:

5	Strongly agree
4	Agree
3	Unsure
2	Disagree
1	Strongly disagree

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
1	Eskom's strategic objectives are adequately defined in order to align all programmes and projects to these strategic objectives.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
2	All programmes and projects are aligned to the strategic objectives.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
3	Executive and senior management take accountability for portfolio management (e.g. provision of direction and active involvement in portfolio management decisions).	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
4	The culture in the organisation actively supports effective portfolio management.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

Annexures

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
5	Portfolio management governance, portfolio management structures, roles and responsibilities are clearly defined.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
6	Eskom has adequate portfolio management capacity and capability (competence).	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
7	The standardised portfolio management practices/processes (PCMs) are adequate (e.g. identification, categorisation, prioritisation, balancing and optimisation, planning, authorisation, controlling, etc.).	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
8	The standardised portfolio management practices/processes (PCMs) have been successfully rolled out and embedded.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
9	The standardised portfolio management practices/processes (PCMs) are effectively applied.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

Annexures

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
10	There is effective collaboration between all functions involved in portfolio management to ensure that the strategic objectives are achieved.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
11	The portfolio management solution and IT support are adequate to support portfolio management.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

		Strongly agree	Agree	Unsure	Disagree	Strongly disagree
12	All projects and programmes are properly justified, benefits identified and managed, and business value verified to ensure achievement of strategic results.	5 ☐	4 ☐	3 ☐	2 ☐	1 ☐

Comments: _____

Thank you very much for your participation in this survey.

Martin Smit

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Annexure D: Portfolio management model presentation and next steps



Development of a portfolio management model for Eskom – interview/focus groups

Date

Interviewee/Focus Group – BU/Area

Purpose of interview/focus group



- A research study is undertaken in Eskom to develop a portfolio management model that can be applied to implement and embed portfolio management best practices in Eskom.
- Proper implementation and embedment of portfolio management best practices will enhance effective decision-making in Eskom to select, prioritise, optimise/balance, authorise, plan and manage the “right” projects and programmes and allocate the limited resources (e.g. funds and manpower) available to deliver strategic results effectively and maximise business value.
- The purpose of the interview/focus group is to discuss, review and agree a portfolio management model for Eskom that can be used to implement and embed portfolio management best practices.
- Ethics – The researcher undertakes to keep all information about the persons participating in the interview/focus group confidential.

2

Background



- Various research studies show that organisations struggle to bridge the gap between strategy formulation and its day-by-day implementation (Project Management Institute, 2014a & 2015b; Morris and Jamieson, 2004; Sull, Homkes, and Sull, 2015).
- These studies also show that organisations are not effectively implementing and applying portfolio management best practices to achieve strategic results.
- Understanding the value of portfolio management, implementing and applying best practices are vital to successfully execute business strategies and strategic objectives.

3

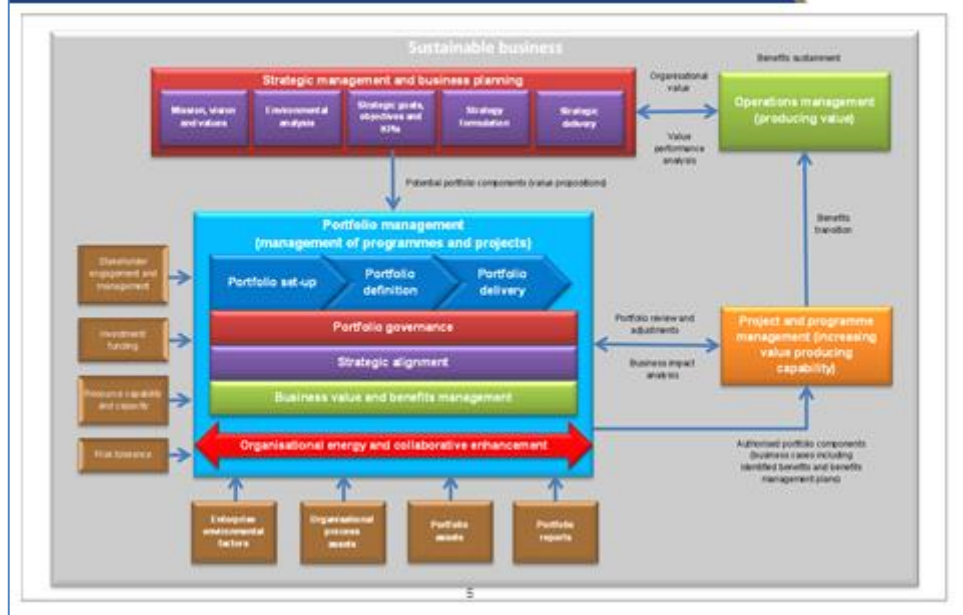
Background



- A tentative portfolio management model was developed (i.e. preparing a proposal) during the review of the literature (e.g. international best practices) (see next slide).
- A tentative portfolio management model for Eskom (i.e. proposal) was developed by analysing and integrating the current Eskom processes, key roles and responsibilities, tools and techniques, governance documents and templates related to portfolio management into the tentative portfolio management model and documented in a detailed spreadsheet.
- The detailed spreadsheet is discussed, reviewed and updated during interviews/focus groups to develop a final portfolio management model for Eskom (i.e. assessing the proposal and developing a final proposal).
- The final portfolio management model for Eskom (i.e. final proposal) will be converted into a portfolio management model manual to be used for implementing and embedding portfolio management best practices in Eskom.

4

Tentative portfolio management model



Survey questionnaire and review portfolio management model spreadsheet



- Complete survey questionnaire (i.e. to get an understanding of the current state of portfolio management in Eskom).
- Discuss and review portfolio management model for Eskom (spreadsheet):
 - Discuss portfolio management figure.
 - Discuss and review portfolio management elements and activities.
 - Discuss summary of key roles and responsibilities.
 - Discuss and review portfolio management steps.
 - Activity name.
 - Detailed activity description.
 - Activity inputs and outputs.
 - RACI, roles and responsibilities.
 - PCM process flows, activity flows and activities.
 - Related Eskom documents, templates, etc.

Benefits and concerns



- Benefits
 - Interviewer
 -
 - Researcher
- Concerns

7

Next steps



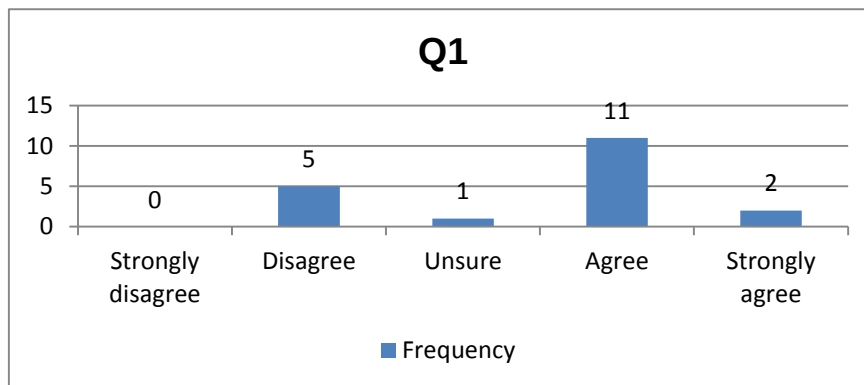
What	Who	When
1. 1. Review detailed portfolio management model steps for workability/applicability/efficacy and provide an opinion on the validity/completeness of the portfolio management model for Eskom. Provide comments/improvement proposals and give feedback to Martin.		
2. Study feedback from Name , update tentative portfolio management model for Eskom and give feedback on changes made.	Martin Smit	
3.		
4.		
5.		
6.		
7.		

8

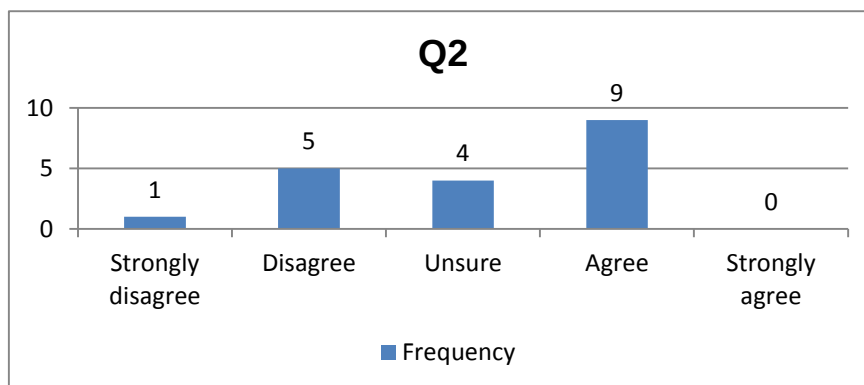


Annexure E: Current state of portfolio management survey data

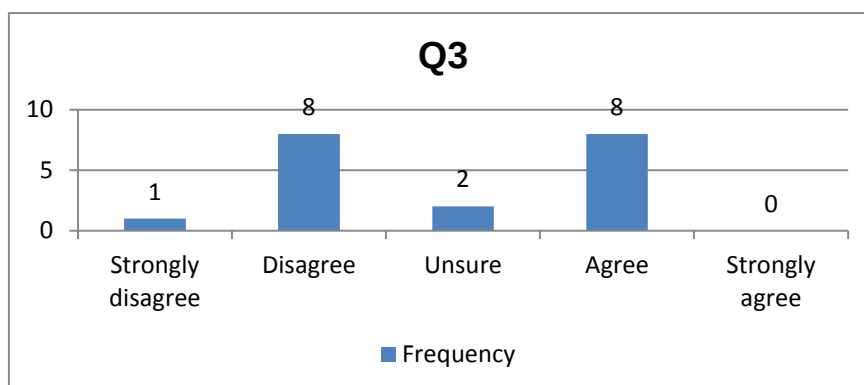
Q1. Eskom's strategic objectives are adequately defined in order to align all programmes and projects to these strategic objectives.



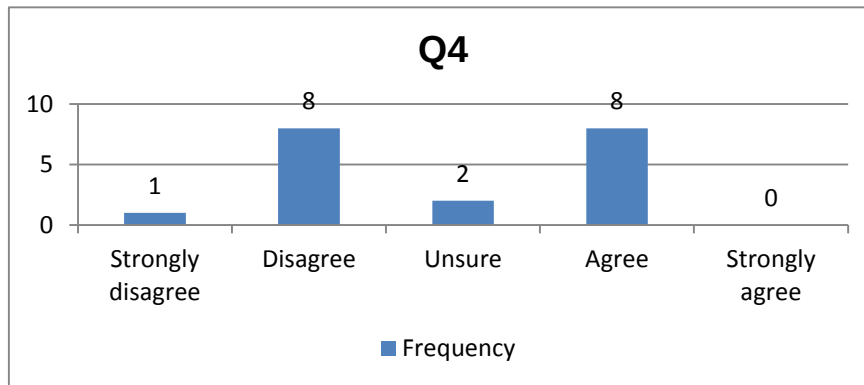
Q2. All programmes and projects are aligned to the strategic objectives.



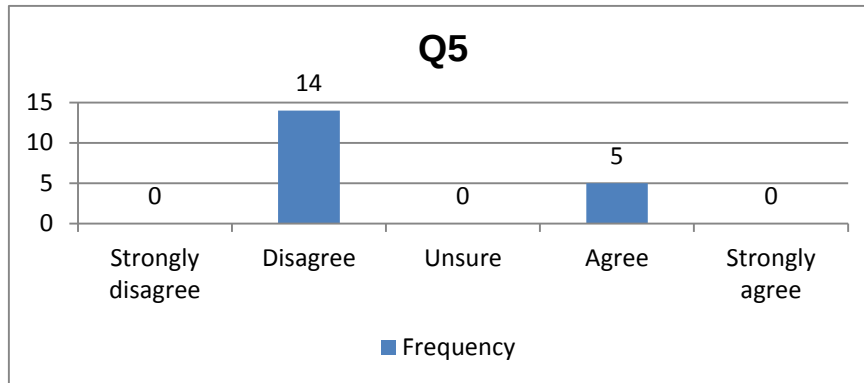
Q3. Executive and senior management take accountability for portfolio management (e.g. provision of direction and active involvement in portfolio management decisions).



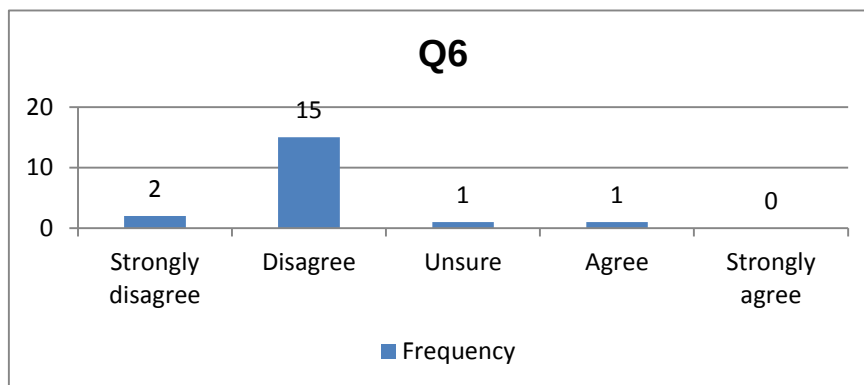
Q4. The culture in the organisation actively supports effective portfolio management.



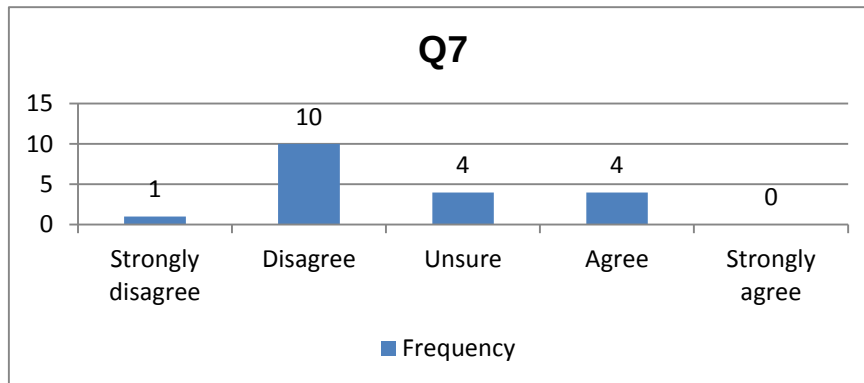
Q5. Portfolio management governance, portfolio management structures, roles and responsibilities are clearly defined.



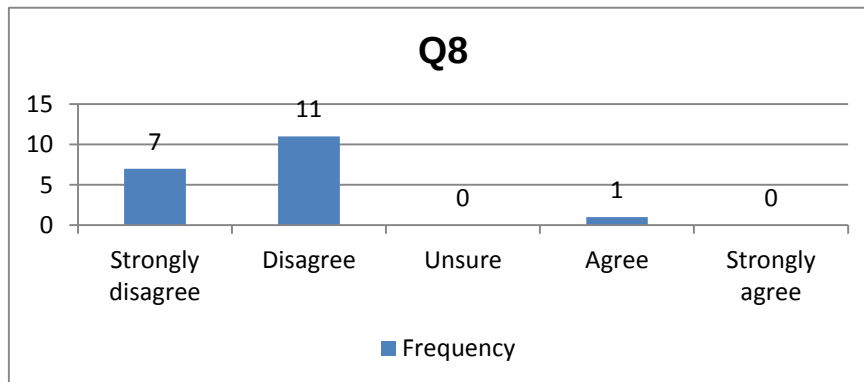
Q6. Eskom has adequate portfolio management capacity and capability (competence).



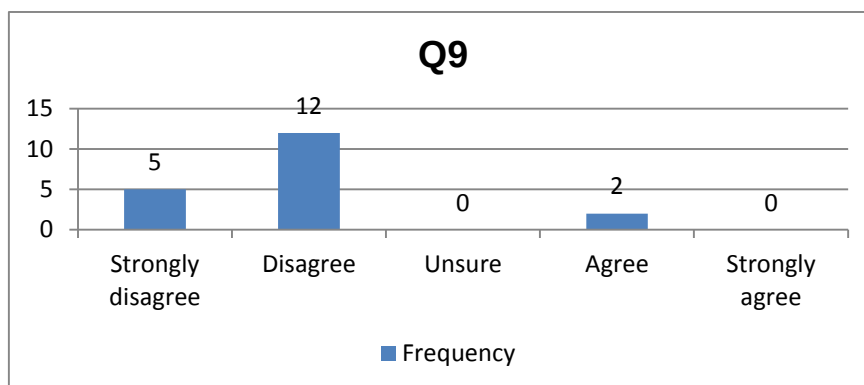
Q7. The standardised portfolio management practices/processes (PCMs) are adequate (e.g. identification, categorisation, prioritisation, balancing and optimisation, planning, authorisation, controlling, etc.).



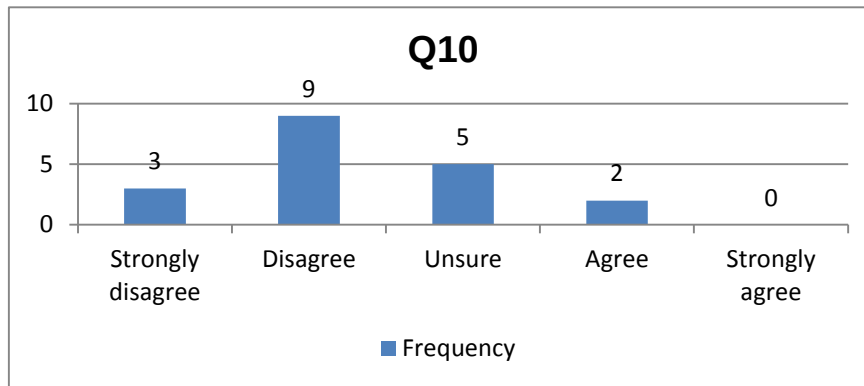
Q8. The standardised portfolio management practices/processes (PCMs) have been successfully rolled out and embedded.



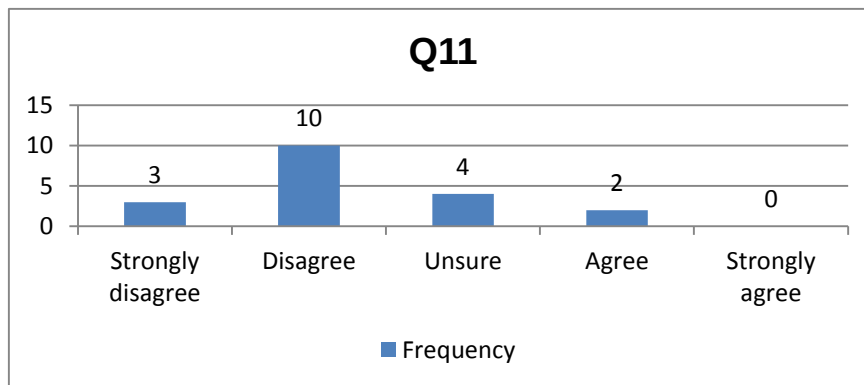
Q9. The standardised portfolio management practices/processes (PCMs) are effectively applied.



Q10. There is effective collaboration between all functions involved in portfolio management to ensure that the strategic objectives are achieved.



Q11. The portfolio management solution and IT support are adequate to support portfolio management.



Q12. All projects and programmes are properly justified, benefits identified and managed, and business value verified to ensure achievement of strategic results.

