

**Workflow processes in the New Business Departments of an
insurance company and their impact on bottom-line production**

by

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Declaration

I, Sylvia Davis hereby declare that this dissertation is my own work and that all acknowledgements have been properly made of all the sources of information I have used. I further declare that I have never before submitted this work for the awarding of a degree to any other university in South Africa.

Signed

Date



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Abstract

In order to optimise growth in any company, business processes need to be reviewed and enhanced constantly. Business Process Reengineering is one of the most radical methods to achieve dramatic improvements in critical measures such as cost, quality, speed and flexibility (Heckl & Moormann, 2007)

The same principle applies to Metropolitan Life. For the past 150 years of its existence, the company has been striving to optimise growth by enhancing and reviewing processes, one of the key drivers being servicing their client base with quality cost-efficient products and quality service at all times.

Systems, procedures, policies and processes are also important, but without manpower what good would it be to the company? What benefit would it add; surely, there should be an excellent communication tool? What communication tool would be most effective?

There are five departments involved, from the enrolment to the issuing of policies. These departments cannot operate in silos, quite the contrary, it is imperative that there should be a complete synergy between these departments.

The concern then still remains: are there adequate systems, processes, procedures and on-going changes in place to assist the company to obtain its business objectives, that is to cut costs and maximise profits to its shareholders and yet not to compromise on quality products and quality service to its clients?

The most important asset the company has is its staff force. Do they understand how vital their role is in the company achieving

success? Do they receive all they require in their work environment to optimally perform their duties?

These and other concerns addressed in this paper. Finally the researcher should be able to ascertain whether workflow processes do have an impact on the company's bottom line or not and to what extent.

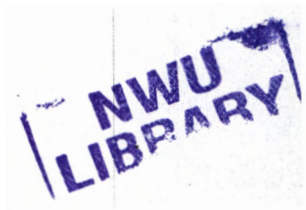


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Abbreviations

ACE	-	Area for customer enrolment
ESP	-	Electronic Sales Process
DMS	-	Document Management System
Metcap	-	Metropolitan Capture System
WfMS	-	Workflow Management Systems
WFMC	-	Workflow Management Coalition
BPI	-	Business Process Integration
SLA	-	Service Level Agreement

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Chapter 1

Orientation of the study

1.1 Introduction

The effective workflow of new business processes in an insurance company is directly linked to the synergy of five departments. Each department has its own processes, which in turn flow into the next department in the cycle to complete the workflow process within the stipulated time frame.

A comparison will be made between different companies making use of similar workflow processes in order to establish the effectiveness and flaws of these processes and the impact they have on the ultimate goals of these companies. We also look at the business case for the new business workflow in this insurance company.

Businesses make use of workflow management systems in order to improve organisational performance. Lead time, service time, wait time and resource utilisation are tools utilised to measure business process improvement (Reijers & Aalst, 2005).

In order for process management systems to work effectively, there should be a consistent flow of information between the stakeholders in the process. Data needs to be shared during the planning and implementation phases and be appropriate as well as harmonious support for collaborative aspects of work (Metzas *et al.*, 2001).

In order for businesses to have an advantage in this competitive environment, they have to focus on low prices and customer tailor-made products and services (Metzas *et al.*, 2001).

Chapter one covers the background to the problem statement, the problem statement, the objectives of the study, the research design and the layout of the study. In conclusion, the researcher will summarise the problem statement to the study and the value it will have for the company in question.

1.2 Background to the problem statement

Executive managements spend an enormous amount of time and money on planning, developing, collaborating and finally documenting effective workflow processes. On-going extensive research is done to come up with the perfect solution to improve workflow processes as well as the turnaround time to issue new business cases.

Even though these workflow processes have been researched, collaborated on and documented, the results are not quite what executive management anticipated. Their main concern is the wastages encountered in the issuing of new cases and wastages that directly contribute to a reduction in profits.

The main factors contributing to wastages experienced by the company are due to fraud committed by consultants in the processing of new policies; fraudulent claims submitted on policies; cancellation of policies within one year of enrolment as a result of non-receipt of policy contracts; non-affordability of premiums and insufficient needs analyses done by consultants and thereby incorrect products offered, surrender of policies; policies not taken up after business has been mutually agreed to by the consultant and the client; and losses incurred by the company when newly-appointed consultants leave the employment of the company within one year.

The Area for Customer Enrolment (ACE) is a multi-media call centre in Metropolitan Life responsible for enrolling and managing

Metropolitan Life products after sales. The call centre was developed to improve on the old processes that were used to conduct life assurance business; new business as well as alterations to existing policies is administered via this department. Four different mediums of enrolment are offered, namely, recorded voice over telephone also known as the full ACE process, Metcap (Metropolitan Capture System) introduced in 2010, Semi ACE process and Paper Applications.

The first option, Full Ace application, whereby full enrolment is done through the Call Centre, was preferred until recently when Metcap (Metropolitan Capture System) was introduced. The enrolment gets done telephonically. The policy application is captured on the Metropolitan system and transferred to the Call Centre. The consultant then gives the Call Centre a missed call and the Call Centre then calls back. Missed calls to the call centre go into a queuing system and then the first available Call Centre Consultant Calls the consultant back.

When the Call Centre calls the consultant back the consultant's details as well as the information captured on the system are confirmed. The client is then interviewed to confirm their personal, financial and medical details. Other outstanding documents such as the stop order and compliance documents will be submitted via fax, e-mail or by post. The policy will then be issued. Once the policy has been issued, the consultant's commission account gets credited with commission before a premium is received based on the consultants' premium collection ratio. The company standard for premium collection ratio is 80%.

The second option is via Metcap, whereby the consultant captures the application online via the Metropolitan Capture system. Once captured, the system verifies information such as names (whether they are consistent for an existing client), identity number, banking

details, salary reference number and employer codes captured on the system.

Medical details are also captured on the system by the consultant. The application is transferred electronically and then uploaded by the Call Centre. Compliance documents are then requested and submitted. These documents are then scanned through to the Document Management System Department and sent out as an electronic work item where it is then routed to the Call Centre Support Department for processing and issuing of the policy.

The turnaround time for the first and second options is twenty-four hours if there are no additional supplementary benefits and medical requirements required. All information captured on the system is stored electronically for claims and future audit purposes.

The third option, Semi ACE, is where a policy number has been pre-allocated and on enrolment confirmed with the ACE department.

The last option, Paper Application, which is least preferred in view of the longer turnaround time, entails completion of a paper application and forwarding this via post, or being scanned or faxed to the Document Management Systems Department where they will once again route to the documents to the relevant ACE support department for processing and finalising of the policy.

In all four options, there is no second verification of information such as identity document, client's personal details, client's signature, either through voice or on the documents. The onus rests with the consultant to submit authentic documents and client information.

The company's Forensic Department is regularly investigating fraudulent enrolment of policies, either voice, electronic or paper applications after the client lodges a complaint as well as

fraudulent claims submitted where, for example, a client is not deceased.

1.3 Problem statement

The *Encarta Dictionary* describes workflow as 'The progress or rate of progress done by a business, department or persons'.

Wikipedia, on the other hand, defines workflow as 'a sequence of connected steps; a depiction of a sequence of operations, declared as a work of a person, a group of people, or one or more simple or complex mechanisms'.

Metropolitan Life is an insurance company which is over 100 years old and its sales force is the lifeline of the organisation, contributing to approximately ninety per cent of the company's profits (Metropolitan New Business Case, 2006). The Personal Financial Advisors Division is the biggest profit earner in Metropolitan and therefore the most important division in the company. (Kunene 2010). The company is continuously increasing annual budgets in order to maximise profits.

Competition amongst insurance companies rests in this instance, on shorter product life cycle forces companies to develop new customer processes and redesign existing models. Business Process Re-engineering is one of the most radical methods to achieve dramatic improvements in critical measures such as cost, quality, speed and flexibility (Heckl & Moormann, 2007).

In any paper-based enrolment, costs are always on the increase and companies are always looking at cost-effective ways to streamline their business processes without sacrificing rapid access to information (Dawson, 2002).



The first question is, therefore, which workflow processes are being utilised in Metropolitan Life, whether they are effectively and efficiently implemented, whether all the relevant individuals in each department are conversant with the processes in the workflow and whether they understand their relevant roles and responsibilities in the workflow process.

Secondly, the study needs to establish what impact these processes have on customer service, whether there are sufficient control measures in place to prevent wastages and finally what impact all this has on the company's bottom line production - that is, their profits.

1.4 Objectives of the study

There are five different departments involved in the issuing of new business cases or policies. Each department has its own role, responsibility and function. The objective of the study is to compare the actual processes followed in each department and then to identify the gaps and make possible recommendations. The focus is also on efforts to identify the causes of fraud, what tools the company puts in place to combat fraud and how effective these tools are, and then to make any recommendations on how to improve these tools.

This study will then also investigate the causes of cancellation of policies and make recommendations on how to reduce this by at least 50%. It will also look at surrenders of policies, the causes and make possible recommendations on how to reduce this by at least 50%. An investigation is also done of the reasons why policies are not taken up after enrolment and finally why such a large percentage of new sales and call-centre employees leave the company's employ within one year of being appointed and make recommendations on how to close this gap.

1.5 Research design



The research design consists of the following:

- An informal questionnaire was designed in order to draw up an accurate questionnaire to obtain a full understanding of the different roles and responsibilities of each department.
- An analysis was done of the company's annual fraud report and a comparison made with previous workflow processes to ascertain whether the new workflow processes have effected an improvement in the workflow of each department.
- The employee turnover rate report was also analysed and an investigation done into why these employees leave within one year.
- An analysis of the cancellation of policies report, the surrender of policies report and the not taken up report to ascertain its respective impacts.
- A questionnaire was drawn up and distributed randomly to two hundred out of four hundred employees directly involved in the five respective departments of the new business processes. The purpose of the questionnaire was to establish whether each employee has a clear understanding of the processes involved in their respective departments and their roles and responsibilities in the new business workflow processes, to establish their career goals and whether it is consistent with the type of work they are currently involved in. Do these employees know and understand the company's mission, vision and objectives?
- Closed-ended questions were utilised and the questionnaires distributed randomly and three days were allocated for the questionnaires to be completed by the respondents.
- In order to achieve greater insight into the problem, diverse methodologies were used, such as the research questionnaire to

ascertain employees' understanding of the different roles and where they fit into the company's structure.

- An analysis was done of new business reports, the cancellations report, the fraud report and the impact it has on the workflow processes.

A total of sixty accredited journals were obtained to assist the researcher in comparing the workflow processes in Metropolitan Life to those in other companies as well as to have an insight into different models and the impact they could have when implemented correctly .

In each journal, identification was made of advantages, disadvantages, solutions, assumptions and recommendations.

A comparison was also be made amongst the journals to match the similarities and identify the differences as well as to identify best practices.

1.6 Layout of the study

Chapter 1 provides an overview of the study, the background to the problem statement, a framework of the problem statement as well as a clear objective of the study.

Chapter 2 covers the literature review. All articles collected were laid out in a matrix where key points were identified - key points in the form of similarities, differences, best practices, flaws in the different workflow models utilised as well as recommendations.

Chapter three covers the research methodology utilised in the study as well as the research design discussed in detail. Chapter 4 covers the research results and analysis. All data collected was analysed, summarised and assumptions and conclusion drawn up.

Chapter 5 is the conclusion of the study. In this chapter a summary is given of the road map followed of the study through to the problem statement, a summary of data collected, questionnaires completed and analysed as well as findings in the study and finally recommendations to the study.

1.7 Conclusion

In summary, this chapter gave an overview, a plan, a direction of the study. It reflected on Workflow business processes in Metropolitan Life's new business and related departments. It identified factors contributing to wastages in the company and the possible causes for it. Reference is also made to top management's concerns with regard to these wastages and the impact it has on the company's bottom line production.

The value of the study would be to improve the company's workflow processes, be at a competitive advantage over their rivals in South Africa, thereby also increasing and maximising their profits. In achieving this, the company would also have more well-informed, better equipped employees that will be able to deliver more quality service with cost-effective streamlining of processes to its clientele.

The value of the study is to maximise Metropolitan Life profits by minimising losses, cutting costs, improving customer service, making effective use of business processes already in place and making recommendations based on research already done by other companies and other more effective workflow models, on how to improve on these business processes, streamlining business processes, and thereby making recommendations to improve new business workflow processes.

The following chapter contains an in-depth discussion of literature collected. A comparison is made of different workflow processes,

their strengths, and weaknesses as well as similarities and processes that are successful.

A total of 60 journals have been collected from the International Journal of Business and Management website, ScienceDirect.com, Elsevier.com, an article from the 22nd Bled eConference eEnablement, an article on Best Business Practices in the South African Independent Financial Advisor's Practice: An exploratory study, and an article on the value of concept maps for knowledge management in the banking and insurance industry and various other reference documents to name but a few were collected.

A matrix was drawn up to map the different key points in each article. Each key point will be discussed in detail with reference to each article. Key points such as similarities, differences, best practices and possible recommendations, amongst others that could also be identified, and discussed in this chapter.

Chapter 2

Literature review

2.1 Introduction

The Encarta Dictionary describes workflow as 'The progress or rate of progress done by a business, department or persons'. *Wikipedia*, on the other hand, defines workflow as 'a sequence of connected steps; a depiction of a sequence of operations, declared as a work of a person, a group of people, or one or more simple or complex mechanisms'. Metropolitan Life, a life insurance company which is over 100 years old with its sales force, is the lifeline of the organisation, contributing to approximately ninety per cent of the company's profits. (Metropolitan New Business Case, 2006). Keywords utilised to obtain the research articles are *workflow processes, insurance industry, workflow models, policy, workflow systems, financial advisor, workflow systems, web services, compliant environment, electronic workflow, business process* and *electronic sales process*.

Search engines utilised to obtain this information are Elsevier.com, Internal company new business processes and procedures, Cape Town University and DST incorporated.

The following chapter deals with the literature review. A total of sixty articles have been collected in order to identify different workflow processes, their pros and cons, similarities and difference as well as a guideline to managers as to which techniques to adopt (Metzas *et al.*, 2001). Twelve themes have been identified to facilitate this process.

2.2 Types of Workflow

There are different types of workflow management systems and managers therefore have to identify which workflow techniques to adopt to match the different processes (Metzas *et al.*, 2001).

The struggle against an increase in R&D costs, high late stage attrition, safety concerns, poor pipelines and pricing pressure in the pharmaceutical and biotech industries has resulted in decreasing valuations and shareholder confidence and poor market conditions (Beaulah *et al.*, 2008).

Disjointed infrastructure such as poor communications between departments is being viewed as unsustainable, and approaches such as Translational Research are driving a more integrated environment (Beaulah *et al.*, 2008).

Navigation of Web Services based on data that the user has focused on should be supported by the Data Playground. Careful consideration should be given to the complexity of bioinformatics analysis. Bio-informaticians have huge amounts of biological data available to them and these come in many different types and formats. These are compatible with different types of analysis (Gibson *et al.*, 2008).

In the insurance industry systems are typically inflexible in supporting new product lines or expanding business into new locations. Systems are therefore able increase in policy volumes (Kannan & Thangavel, 2007). The efficient implementation of workflow techniques and workflow management is directly influenced by the performance analysis of workflow models (Lui *et al.*, 2009).

Although there are many different workflow management systems developed for different paradigms, the lack of strict theoretical foundations, effective model verification and analysis methods blocks workflow techniques' research application (Liu *et al.*, 2009). Process logic, timing constraint logic, resource dependency logic and information dependency logic are the four aspects to be used to test the rationality and correctness analysis (Liu *et al.*, 2009).

A Petri Net (PN) is a graphical and mathematical modelling tool which is the only formal technique capable of being used for structural modelling and a wide range of quantitative and qualitative analysis. The instance dwelling time in a workflow model should therefore satisfy the deadline requirement (Liu *et al.*, 2009).

There are two types of insurance companies, namely Life and Non-Life insurance. Life Insurance companies sell life insurance, annuities and pension products. Non-Life insurance companies sell short-term insurance policies. Life and Non-Life insurance products are subject to different regulatory regimes and different accounting rules in most countries (Malik *et al.*, 2011).

A heterogeneous workflow consists of a set of processes that can be specialised to process one type of task. Each task of the workflow process is of a given type and subject to failure. Each processor can be specialised to process one type of task. The mapping one-to-one is required and assigned to a task of the same type. The window constraint-based failure model is adapted to a distributed system. Faults should also be taken into account, typically the tasks to be performed in the micro-factory are typed (Benoit *et al.*, 2011).

In solving the specialised problem, the number of machines is greater than the number of task types. It is therefore always

possible to find a specialised mapping system because there is a machine to process all tasks of the same type. One-to-one mapping would be the ideal solution to solve this problem (Benoit *et al.*, 2011).

Structure and centricity distinguish collaborative and production-orientated workflows. Current workflow initiatives have embraced the Web service model' (Buhler & Vidal, 2005). The policy-based authorisation model is proposed for workflow enabled dynamic business processes. Different vendors are proposed by researchers (Van Der Aalst *et al.*, 2003). To facilitate the implementation of many process model representations for workflow management is crucial (Jian *et al.*, 2009).

A set of process models is designed to meet the business requirements and be stored in a workflow library. The dynamic business processes need to be supported by the development of an authorisation model (Jian *et al.*, 2009).

The 'System development' node of the process comprises an incorporation of two activities where each activity can in turn be exemplified as a particular instance of the component development process (Jian *et al.*, 2009).

Dynamic business processes need to be supported by an authorisation model. A project model comprises one or more process models, which in turn contains a set of activities. 'Component development', an activity type software development project, can either be internally developed or outsourced (Jian *et al.*, 2009).

Collection of all related activity policies and coordination policies are the tasks supported from a workflow process model. Dynamic

task authorisation policy modelling and enforcement in a business process environment is proposed to be supported by a framework (Jian *et al.*, 2009). Model-based plant management needs to be exploited rather than rejected by the supply chain on plant operations. In order for the chemical process to be performed a synthesis or analysis step in a model based fashion is directly dependent on a mathematical model. They differ in coverage and severity but have a lot of process knowledge in a formalised and structured manner. A complex configuration of different types of information is created in the course of the design process (Wolfgang & Nagl, 2004).

Mathematical models of the chemical process with the overall design process have no systematic integration of design methodologies. Further development of model-based chemical process needs to be developed in order for design methodologies, algorithms and tools to take place (Wolfgang & Nagl, 2004).

It is empirically necessary for existing work processes to be supported by means of the work process model. It has to be designed in order to allow for an integration model of already existing models. The implementation of such a model needs a refinement of a conceptual model (Wolfgang & Nagl, 2004).

Collaborative workflow design combines cooperative and workflow model analysis. Collaborative workflow should be there to assist the team leader in assessing workflow models. The workflow analysis support considers that the workflow model is under construction and is therefore the result of the cooperation of distinct partners (Held & Blochinger, 2009).

As the team leader identifies the flaws in the workflow model, the metrics can be used to gather information that will assist in

identifying design flaws in the workflow model. The workflow metrics can assist in assessing the maturity and quality of the workflow model and identify sub-workflows which can be refactored (Held & Blochinger, 2009).

Workflow model analysis also assists team leaders in steering collaborative design. Work flow languages do not have any module concept and their activity is usually treated as black boxes. The workflow is globally locked so that only the team leader has access to it (Held & Blochinger, 2009).

There is a flaw in enterprise and workflow models as they lack semantics to concisely represent specific activities, tasks, roles, business processes, business goals, resources and organisations structures of a business. Business models are traditionally represented by means of data-oriented techniques (ER diagrams) and process models (e.g. Petri-Nets) (Weigand & Heuvel, 2002).

A multi-dimensional workflow process dependency model involves critical aspects of dependency relationships. It must then be formally represented by a logic programming language through a well-defined knowledge base. Programme executions are controlled by programme statements and co-exist in a relationship with control dependencies (Dai *et al.*, 2009).

Change in a model can often be time-consuming and costly if done manually because the domain analysis may have many entities and different dependency relationships at different levels. Users are then able to select different dependencies and analyse the different dependency relationships (Dai *et al.*, 2009).

Routing dependency, data dependency and role dependency are the three critical relationships in a multi-dimensional model. By using

these three critical relationships, it becomes possible to build an effective and valid model for impact analysis and thereby establish a solid foundation for future work to include additional dependency analysis (Dai *et al.*, 2009).

Business-to-business (B2B) workflow electronically aids the business processes among the trading partners, whereas process automation and information sharing improve a company's productivity and responsiveness (Jung *et al.*, 2006).

A B2B Reference Workflow Model consists of three main interfaces, namely, the Application Interface, the Human Interface and the B2B Interface. Workflow integration can be illustrated by making use of a purchase order through the prototype system as an example (Dai *et al.*, 2009).

A process-based framework for virtual enterprises deals with process modelling, analysing and managing for virtual enterprises operations management (Yung *et al.*, 2006).

In consideration of organisation models, workflow systems provide modelling, executing and administrating of business processes (Jung *et al.*; 2006). Business Process Execution Language Model (BPEL) formalises dataflow networks and is meant to model complex, distributed computing systems with well-defined semantics (Kovacs & Gonecny, 2008). Workflow and organisational models have been designed before enactment and are used for the information configuration of the workflow system. Design information, historic information and state information are used to link enactment and simulation to create and initialise the simulation model (Rozinat *et al.*, 2009).



The design model is used to set parameters of the model and the design information is used to construct the structure of the simulation model while the utilisation of state information is utilised to initialise the simulation model (Rozinat *et al.*, 2009).

In order to build a good simulation model, both time and expertise are required, even though the principle is easy to grasp. Manually-constructed model steps in the process are often forgotten and hence simulation models are usually too optimistic and describe behaviour quite differently from reality (Rozinat *et al.*, 2009).

In document configuration processes that are captured, the components of a document and a process are associated with each other. This becomes the basis for automation creation of document versions and automatic configuration of relevant documents for a certain user at a certain stage of the process (Bae *et al.*, 2004).

In an insurance company, for example, the process preceding the application will be completed by relevant participants, step by step in due order of the process model. In a new Workflow Management System (WfMS), the new model can control the versions of documents handled by a WfMS. The components of a document are associated with the components of the underlying process model and are unique in that the versioning takes into account the process semantic such as definition, structure and pattern of the processes (Bae *et al.*, 2004).

A process model that provides a computerised representation of the business process drives process automation by WfMS. WfMS can launch a process model which is prepared and control its execution. A WfMS performs activities that are specified in the process model (Bae *et al.*, 2004).

Build-time functions and run-time functions often explain a WfMS. Build-time functions are used to design process models in a way where they can be readily carried out by WfMS and include a process designer, document designer and D-P association component. Run-time models consist of version graphs and document-work unit relations. The history of changes of an object is recorded and can either be a document or a workflow-unit (Bae *et al.*, 2004).

Prototype system is proposed for implementation on top of an existing WfMS by adding component models that provide version management functions (Bae *et al.*; 2004).

Build-time models are proposed because they rearrange a document into many parts and each part is associated with the underlying process (Bae *et al.*, 2004).

BPR has become fashionable among big enterprises due to its capability to present solutions that improve customer service and retention. Very few have a focus on automatic generation of processes and focused in the automatic regeneration of process models that have in mind the organisation resources as well as their capabilities and availability. Corresponding models model in order to handle process and resource calculation. Usually business processes are represented as workflow which are computerised models within all parameters needed for completion of the process (R-Morena *et al.*, 2007).

These processes are defined as resources involved, orders, tasks, conditions, goals, quality criteria and information flow. WfMs allow modelling and managing some of the processes that happen in the company. These process models describe the flow, the exceptions, the decisions and the resources to be used (R-Morena *et al.*, 2007).

Organisation models describe the human or software agents used to perform by who or what. Tools that provide a graphical representation, together with the relations among the activities are defined by these WFMs. These WFMs do not have a built-in re-planning function or automatic method to adapt to the workflow model according to these exceptions (R-Morena *et al.*, 2007).

A general architecture framework is provided by Workflow Management Coalition (WFMC), and this consists of five interfaces identified in relation to workflow engines. These are tools to model, which define and analyse the flow of processes in the workflow engine; administrative model; monitoring module; simulation module and re-engineering module (R-Morena *et al.*, 2007).

A definition of elements and their features such as name or the capacity type flows through a process - that is, the inputs and outputs of a task for example, an invoice or a new line. Different types of resources are found like human or material and which can be consumable or available (R-Morena *et al.*, 2007).

Randis has been enhanced by CSC for more widespread use by adding modules and interfaces. Volkswagen's rails operations run around the clock and it needed the solution to be highly available. Randis now runs in a future-protected environment based on an IT-Unix/Oracle environment in Volkswagen's own data processing centre (CSC World; March 2010).

A method for supporting variants is referred to as Variability types. They consist of the Selection Option, the Alternative (Plug-In) and the Multiple Selection which are variability types for selecting from among existing variants for the variation point. The Option Variability type is also used to determine whether or not to use the variant by mutual exclusive methods (Kim *et al.* 2007).

Multi-event triggers use up multiple instantiation. Potentially there is a race between different process definitions in case of overlapping event types (Decker & Mendling, 2009).

There are different types of merge functions and they give a problem-solving procedure for performing these merge functions; these cannot guarantee that a merged workflow has a sound process (Sun *et al.*, 2005).

The concept of a role is used to support the distribution of work. An activity only has one role. Therefore, if activity A has role R, then only workers performing role R can carry out activities of type A. The mapping of activities to workers is not limited to the execute role and it is therefore possible to distinguish different types of roles (Van der Aalst *et al.*, 2005).

The way a case of a specific type is handled is described by a case definition. This in turn is a good starting point for formalising the dynamics of case handling (Van der Aalst *et al.*, 2005).

2.3 Reasons to adopt Workflow

An analysis of the advantages and disadvantages is provided in order to adopt communication-based or activity-based workflow representation techniques when using workflow systems in the management of a process (Metzas *et al.*, 2001).

IT systems constructed to integrate clinical and research data are not able to integrate a new technique or modify analysis rules of behaviour for new areas (Metzas *et al.*, 2001).

The main limitations of workflow systems are that they only support simple, predictable processes and not the dynamically

changing complex processes present in many organisations (Chung *et al.*, 2003).

Ontology's support communication lies in providing shared vocabulary with well-defined meaning. This in turn avoids ambiguities and misunderstanding. Communication between agents is supported, whether they be human or software agents. This is useful especially in situations where experts from different fields need to work together (Chung *et al.*, 2003).

Models of different aspects of a domain need to be interrelated in order to provide flexible support in a non-trivial business situation (such as NPD). It is, however, difficult to capture different domain models in a way that considers their relationships (Chung *et al.*, 2003).

Taverna, just like other workflows, aims to take advantage of the programmatic access granted by Web Services by providing automation support and integrated access to data stored in many different storage and different formats by allowing high throughput data processing. Taverna is also effort saving as the bio-informatics is released from the need to repeat ordinary tasks (Gibson *et al.*, 2009).

Advantages of all processes and policies are considered. As a result, adaptation of the rapid technological advances with respect to mobile hardware and software platforms along the project life cycle has to be seen as a major challenge not covered appropriately in the design literature (Hampe & Stein, 2009).

As a result of increased competition from established organisations like banking and manufacturing, many banks have started taking advantage of their client base to sell packages of various financial products, including insurance (Kannan & Thangavel, 2007).

Making use of technology allows better customer and employee access to services and up to date information. There has generally been an increase in internet access and this has resulted in growth in the industry (Kannan & Thangavel, 2007).

Competition from new and fast-growing competitors in the insurance industry and service providers has jerked the more traditional ones out of their comfort zones. Even minor businesses using the web got extensive publicity and customer mind-share (Kannan & Thangavel, 2007).

Due to an increased customer awareness and widespread competition, an expectation was created for quick, cost-effective and consistently good service. Clients have become more aware of inefficiencies of insurance processes, especially the less automated and highly skills-orientated claims process. Huge market downturns have exposed the vulnerability of investment income (Kannan & Thangavel, 2007).

Natural and manmade disasters such as hurricanes and third party inflicted harm have led to skyrocketing cash outflow from insurers. This has in-turn changed the way insurers, the public and government perceived personal and commercial insurance. Claims therefore exerted heavy cash outflow pressures on insurance organisations, consuming up to 80% of an insurer's cash outflow and therefore decreasing the company's bottom line. Prolonged claims settlement processes therefore cost the company more revenue (Kannan & Thangavel, 2007).

Performance levels aim to evaluate the ability of workflow to meet the requirements concerning some key performance indicators, for example, processes optimally resembling each other such as throughput, service levels and sensitivity (Sheng *et al.*, 2006).

Delegations of activities can be incorporated into a role-based access control model (RBAC) in a simple and straightforward manner. Delegations can be specified from one user to another. In application of a workflow, the concept of a session is less clear. The user may then perform a task for one case, but not the same task for another case (Wainer *et al.*, 2007).

Moving forward, Information Technology has created opportunities for organisations to redesign their information and process management systems. An improvement in Information Technology will commence multi-agent systems as the workflow enactment mechanism of the future (Buhler & Vidal, 2005).

The successful handling of workflow processes can often be limited to warnings. It is hard to dynamically rectify an operative process by, for example, reassigning work or changing priorities. Some workflow procedures ensure organisational flexibility and negotiation by adaptation whilst others allow change to procedures. Few, however support the dynamic process supervision (Fakas & Karakostas, 1999).

The current utilisation of workflow tools is limited because if they are used, it is not always possible to block the carelessness which this produces. The use of role-based reference can distort the relationships between tasks and the individuals who perform them (Fakas & Karakostas, 1999).

Various employers may offer a portfolio of products and services, also these employers are only classified in the sector where the majority of their business is finalised (Louw & van Tonder, 2008).

The advisor is provided with a marketing tool vital to the company remaining competitive. In constructing the marketing plan the advisor is able to identify those qualities in the practice to communicate to the desired audience as well as channels most

appropriate to deliver messages to such an audience (Louw & van Tonder, 2008).

It should well define the objectives of the practice, its target market, the message to deliver to the target market, the media to be utilised as well as the budget available. Successful marketing includes building a reputation over time by means of continuously creating awareness (Louw & van Tonder, 2008).

It is imperative for the advisor to identify a suitable, stable technological infrastructure capable of providing practice with distinction. This may result in improved operational efficiency, customer service and financial planning. These qualities are achieved by means of electronic financial planning processes, client relationship management software systems, database administration and management systems, which is internet access and workflow systems (Louw & van Tonder, 2008).

A threshold is reached where assistance is required to improve business and/ or personal life and quality thereof in order to reach the next level of professional expertise. They may require services of the next level of professional expertise which is that of a business coach who will be able to assist with this exercise (Louw & van Tonder, 2008).

The business coach is able to assist the advisor in numerous ways, for example, in creating a more effective system for referrals encouraging client relationships and cultivating a team approach in the office by achieving a balance between personal and professional life (Louw & van Tonder, 2008).

Brainstorming and flowcharting are other forms of redesign projects connected to staff already involved with the project. Each member of the group then charts the process together to check whether a map with real work is done (Blake & Stalberg, 2009).

In order to reduce time to market of a new product, product innovation, process design and manufacturing processes all have to be continuously improved. Scientists need to collaborate with each other across organisations and physical locations use workflows (Marquardt & Nagl, 2004). This includes services provided by vendors, business units or research groups. The correct integration of these services therefore requires special knowledge available at a remote site. Classical web applications lack the look and feel of desktop graphical user interfaces and cannot provide real-time interactivity. Many users will therefore only accept the system if they feel comfortable with it (Held & Blochinger, 2009).

Goals of monitoring the sub-networks are very alike in checking processes regularly. The tracking of commitment and productivity of resources, availability and use of information is similar to the goals of monitoring these processes (Shih & Tseng, 1996).

Modern business-object-oriented enterprise modelling techniques lack mechanisms in adequately representing formal and informal communicational structures that are utilised to coordinate business workflows. They are not equipped with constructs to specify virtual enterprises as networks of mutual commitments (Weigand & van den Heuvel, 2003).

Management of workflow processes in the health care domain is developed to assist in the analysis of, for example, document browsers. The advantages of this system are that they make the analysis and identification procedure more efficient and are more accurate than the manual procedure (Dei *et al.*; 2009).

Process automation and information-sharing assists in improving the company's productivity and increases customer responsiveness. Several companies such as supply chain or virtual enterprises making use of B2B integration try to design their collaboration as

business process models and automate them with process enactment models (Jung *et al.*, 2006).

In distributed architecture, the internet is used to integrate many workflow systems. Flexible message routing is considered to adjust the change of business partners in the same business environment in a flexible way. Transaction management recovers the failed transactions at the transport layer and system levels by supporting transaction management (Jung *et al.*, 2006).

Independency and re-use of workflow support the independent management and reusability of internal workflow processes. Registration and maintenance of legacy systems support the simple registration and involvement of existing legacy systems for a number of business partnerships (Jung *et al.*, 2006).

In role-based control and process administration roles for task accomplishment and process administration are assigned according to organisational models and roles in collaboration. Adapter support provides that the adapters can cite the adapters or be cited by systems for e-business and supply chain management. Web-service composition can also be cited from external web services if the workflow systems support web services calls (Jung *et al.*, 2006).

In each step an informational product, for example, decision in an insurance claim, the data provided by the client or taken from other systems, the process develops the product step-by-step. New information is produced at each step based on the specific data present for the case. An operation has different characteristics namely, cost allocation, process time, execution condition, failure probability and resource class (Vanderfeesten *et al.*, 2010).

A number of operations on information elements are an activity in a workflow process. There are one or more input and output information elements. An operation cannot be half assembled.

products because of it being an explosive processing step. A workflow activity, in contrast, consists of one or more operations (Vanderfeesten *et al.*, 2010).

Process identification matches information confined in documents with matching data available in workflow instances. Relevant data need to be collected in the workflow instances to achieve this. The quality of the instance match is important for these workflow data. A new document needs to be assigned for each open instance, if there are many (Abecker *et al.*, 2000).

Process identification matches the information contained in documents with matching data available in workflow instances. Different data therefore need to be collected. Workflow data are also imperative for the quality result of the instance match (Abecker *et al.*, 2000). Engineering software is expensive to implement and train users and the software is hard to use. It becomes the domain of a small group of experts and therefore reduces the overall value of the application to the business. In collaboration, it is repressed because team members outside the circle of experts cannot operate the application. Overall productivity suffers due to an imbalanced demand on the experts' time (Zimmerman, 2003).

Management has little trust or confidence in data produced in an uncontrolled environment. Links are broken when spreadsheets are moved to a document management system through traditional methods such as another network file location, and the links break (Saadat, 2005).

Mobile business processes perform on-site services for external partners of a company as per internal requirements. The process context model includes the role a person acts in, location where a process will be carried out, the role of the application to be used,

tools needed in running the applications, services provided and networks available at the location required by applications (Gruhn & Kohler, 2005).

Workflow fragmentation includes enhanced expandability by outsourcing business processes, increased adaptability by designing execution sites, avoiding redundant information transfer and judging their preconditions before forwarding fragments (Tan & Fan, 2007)

In the ontological healthcare network, an adaptive medical system has been implemented. It controls and monitors the process a patient will go through, manages patients' medical records, creates new processes consisting of tasks from a medical service repository and maintains historical process data for further diagnosis. This in turn will assist users to create, manage and monitor workflows without interference from IT people (Dang *et al.*, 2008).

Workflow ontology is designed to develop healthcare processes, resources, organisations and policies. It provides a prior knowledge base for task scheduling and resource allocation and bridges the gap between IT and health care business (Dang *et al.*, 2008). Smartcards or specially prepared mobile phones are readily available for electronic signing. Even though it is provided with the required equipment, they might not even use it. Traditionally hand-written signatures are still predominantly used as a special interest that authentication mechanisms based on biometrics receive from business (Wolf-Marting *et al.*, 2009).

Most legislation requires additional properties. The link between the person and the signature should be clear. The signature needs to be under the sole control of the signee and any alterations or the signed data need to be detected (Wolf-Marting *et al.*, 2009).

The disadvantage is that the liability is passed on to the representative as he will be suspected if there are fake signatures. In order to minimise the risk smartcards with a secure smartcard reader, for example, should be used and the application thereof needs to be reviewed thoroughly (Wolf-Marting *et al.*, 2009).

Business Process Execution Language (BPEL) is an advantage with data flow networks in adding rules and states of nodes, as fault simulation can also be performed. The workflow to be checked is implanted in BPEL using only a subset of the language (Wolf-Marting *et al.*, 2009).

In an insurance company, a client reports the damage. The damage is then identified and analysed. The company must then decide whether to reimburse the client or not. A letter with the decision taken will then be sent to the client (Wolf-Marting *et al.*, 2009).

Market competition is becoming global in scope and therefore product information is exchanged instantly in business process integration. The product life cycle gets drastically shortened between the release of the product and the end of its sales. It is therefore necessary to develop business processes easily adaptable to the market (Kobayashi *et al.*, 2003).

Workflow engines and policies requirements include workflow design, information retrieval, workflow scheduling, fault tolerance and data movement. This enables the run of workflow applications. Information is gathered related to the task, such as dependencies, priority, performance and benchmark results (Martinez *et al.*, 2010).

The scheduling policy then has data regarding both tasks and the environment and progresses to the third service: mapping the tasks to the resources according to the criteria supported from the algorithm. The functionalities of the scheduling policies are

analysed and describe the features of the current workflow engines (Martinez *et al.*, 2010).

Workflow leads to shed flow, translating information provided by each workflow engine into an internal format. An accurate estimate of the communication time incurred between each pair of the connected tasks in the workflow in order for a run-time matching and scheduling policy to make the mapping either statistically or dynamically (Martinez *et al.*, 2010).

The management of business rules across systems, business units and processes has become a priority in many companies. Government legislation, business competition, regulatory industries and industry norms has made it imperative for businesses to develop ways of managing business rule churn. Web-based and global competition has made it necessary for businesses to continuously monitor and rapidly respond to all these changes (Nelson *et al.*, 2010).

With many developments in IT, the management of IT and not the development presents the most significant challenges. Many firms have therefore implemented business management solutions to address these challenges (Nelson *et al.*; 2010). Implementation of the business management solutions has resulted in improved rule accuracy, reliability, rule consistency across channels and greater control of the business rule process by the business staff (Nelson *et al.*, 2010).

In using a simulation system for operational decision support in the context of workflow management, one not only exploits the workflow design, but also uses logged data describing the system's observed historic behaviour and incorporates information extracted about the current state of workflow (Rozinat *et al.*, 2009).

Creating simulation models that accurately reflect the real-world process of interest remains a challenge. Simulation not only answers strategic questions, but also helps in tactical and even operational decision-making (Rozinat *et al.*, 2009)

Current simulation approaches contain three common pitfalls. These are modelling from scratch rather than using existing objects (which can lead to mistakes and unnecessary work), focusing on design rather than operational decision-making (which is helpful for the initial design of a business process but less suitable for operational decision-making and continuous improvement) and lastly insufficient modelling of resources (where the behaviour of resources is typically modelled in a simple way)(Rozinat *et al.*, 2009).

Workflow management supports business process automation and can be applied in an increasing number of industries as it is a software system that performs the management of a workflow (Bae *et al.*, 2004).Because of markets growing rapidly, businesses are looking for flexible and vibrant ways to efficiently manage their resources and processes. Strong pressure from the market, quality initiatives and the gradual improvement of processes are not enough for the continuous and dynamic changes businesses need (R-Moreno *et al.*, 2007).

In monitoring results of actions, execution will differ from action expected results. Therefore monitoring has to take place to expect events or re-plan if the original plan cannot be achieved (R-Morena *et al.*, 2007).

The difference between components and the difference between component frameworks is referred to as variability. The target may be classes of product families and their operations. (Kun *et al.*, 2008). In order for desktop virtualisation to be successful a number

of different things have to be done differently. A thorough understanding of the current desktop environment; understanding the migration strategy of Windows 7 (which facilitates perfect, low cost rollout for each class of user); all licensing of the environment and work with Microsoft need to be listed; applications and desktop operating images need to be rationalised; the central infrastructure should be ready to cope; access to printers and the file server is imperative; and the organisational changes need to be planned (CSC World, March 2010).

Research, combining interviews, existing process descriptions, observations, management reports, self-registrations by people involved in the process as well as automatic collection of data by existing information systems, use data gathering and analysis. The Protos tool allows for efficient communication with end-users and the company's management and thereby simplifies knowledge extraction and validation (Reijer & van der Aalst, 2005).

A comparison in the uptake and success of the Six Sigma process compares the manufacturing and services industry. Process performance and product quality are usually measured by manufacturers; however this is overlooked in the service industry as process models and flowcharts are common in manufacturers but not in use by service providers (Heckl & Moormann, 2010).

Manufacturers use repeatability and reproducibility as a measurement system whereas a lack of data quality and integrity is a problem in the service industries. Uncontrollable factors, such as human behaviour, have a great impact on the quality of service provided and therefore determine the quality of service provided (Heckl & Moormann, 2010).

Semantic-correctness theory has recently been developed for transaction processing systems. It is useful for the performance of a

transaction processing system as well as reasoning about execution correctness of transactions running at different isolation levels (Lu *et al.*, 2006).

Important prerequisites for successful business interventions in the internet age will enable businesses to successfully meet their demands linked with realising technological potentials. Virtual organising or business networking aims at creating added value by meeting e-commerce. This refers to the connection with the customer in a single transaction, and customer relationship management (Wetzel & Klischewski, 2004).

Characteristics of service delivery only add to the complexity in the design of suitable process support. Support refers to the distribution process execution across diverse workflow or enterprise systems from a technical and compliance with inter-organisational process in general (Wetzel & Klischewski, 2004).

In integrating large organisations many important issues arise, one of them being how to integrate their business processes. There are frequent changes in business processes and operations are becoming increasingly common, both through mergers and acquisitions (Shun *et al.*, 2005).

The necessity to carry out the activity or to start process is referred to as the executive role. In order to undo activities (that is, the case returns to the original state before executing) the activity is referred to as the redo role, and this can only be accomplished if all following activities are undone as well. In order to pass over activities the skip role is implemented (van der Aalst *et al.*, 2005).

Customer service depends on the unwieldy process of collecting, organising, storing and tracking paper-based information. Employees are therefore required to work overtime in order to

achieve the company's performance goals (Employee Benefit Plan Review, 2002).

Automated Workflow Distributor has the ability and flexibility to cope with whatever workflow is appropriate in the organisation. There is a great impact on cost reduction, increased productivity, and improved customer service (Employee Benefit Plan Review, 2002).

Companies invest huge amounts of money in developing knowledge-management systems of which intranets, document management systems and data warehouses are the most popular technologies. When these systems are applied correctly by following a knowledge-based approach with the necessary stress on information technology, as well as creating environment conducive to knowledge creation and sharing, companies often experience a huge increase in their return on investment (Fourie & Schilawa, 2004).

Influences, including the nature of the product developed the target market for the product, and the knowledge developed about the product during the scale-up process are looked for in each project. Certain traits and activities can be predicted, however, the process cannot be fully specified at the onset, since it requires information that only becomes available some way into the project (Chung *et al.*, 2003).

Process models therefore have to be expressed at an abstract level at the beginning, and then be interpreted in an appropriate manner for the specific context during the scale-up process (Chung *et al.*, 2003). People involved in the process must communicate effectively with one another because work of one order may influence the work of another. A commonly encountered problem during scale-up is that crucial information is passed on too late - therefore work may be wasted or delayed unreasonably (Chung *et al.*, 2003).

A comprehensive set of documentation aims to describe circumstances of the accident in such a way that an insurance clerk is able to decide whether to call in an assessor or not (Hampe & Stein, 2009).

Generally, the overall response to concept maps is positive as it provides a good starting ground for future implementation. Employees accept the application of concept maps for the acquiring and sharing of knowledge very positively. The willingness of employees to work with a new concept is also significantly high (Fourie & Schilawa, 2004).

Even though a company employs relatively young employees who will more likely change jobs for career reasons, the period of employment in the company is relatively long (Fourie & Schilawa, 2004).

2.4 Logic and Workflow

Regeneration is making drug discovery more patient-focused and integrates with healthcare provision. It is a way to influence the knowledge and expertise gained from using 'omics and other such technologies to increase the understanding of patients, bringing improvements in erosion and deliverance of targeted, safe and effective drugs (Beaulah *et al.*, 2008).

Top management needs to recognise the value of knowledge management systems in order for them to be successfully implemented. An emphasis is placed on information technology and the distribution of information will create a competitive advantage by improving internal processes, customer services and products, and creates a good working environment for employees (Fourie & Schilawa, 2004).

Important business activities from important strategic decisions, to basic investments, measuring performance or creating the right company culture are all reliant on knowledge. By combining different knowledge sources into one strong, company-wide knowledge base plays an important role in the company's future success (Fourie & Schilawa, 2004).

In order to maximise the utilisation of the valuable functions of concept maps in the banking and insurance industry, they should be implemented within the context of bigger applications in combination with the functionality of other applications (Fourie & Schilawa, 2004).

Concept maps can be very advantageous in the banking and insurance industry as they are easy to understand and use as they describe concepts and connections in an intellectual manner. Users do not need to learn guidelines or rules in advance because the maps are self-explanatory. A knowledge management system is therefore a successful step towards obtaining and sustaining competitive advantage (Fourie & Schilawa, 2004).

Four aspects are required for rationality and correctness in analysis of the workflow modelling and workflow execution process, process control logic that aims to avoid the deadlocks or structural conflicts in the execution of a workflow model caused by errors in its process control.

A timing constraint log is needed as resource dependency logic proves the correctness of the static or dynamic resource allocation rules and consistent with the process control logic and information dependency logic that cares about the consistence of a workflow-related data and the correctness of temporary relation among different workflow applications (Sheng *et al.*, 2009).

2.5 Need to look at environments

As a result of the emotional situation after an accident, information given is often faulty or incomplete, the writing of the people doing the report is often illegible and this can lead to additional misunderstandings in processing the accident claims (Hampe & Stein, 2009).

There is a delay in the process because the liability cannot immediately be established or the police were called to the accident scene. Due to the police being involved, the relevant accident file must be requested from the insurance company and this is taken into account when determining the liability (Hampe & Stein, 2009).

The difficulty in modelling the domains is the main obstacle in applying AI planning techniques. People who have developed the planning system have to carry out the modelling phase. In recent years companies and markets have grown in complexity and are looking for flexible and dynamic ways to manage their resources and processes (R-Morena *et al.*, 2007).

2.6 Effects of Workflow

Consistent information flow between participants in the process, the smooth integration of flow of work, the timely sharing of data and information during phases and balanced congruent support for the joint aspects of work are all necessary for effective business process management. The business environment competes globally, focusing on low prices and customer tailored products and services (Mentzas *et al.*, 2001).

Management of core business processes ensures delivery of value to clients, suppliers and internal staff are factors effective in competing in the business environment. Workflow management systems (WfMS) provide a consistent information flow between



participants in the process, smooth integration and timely sharing of data (Mentzas *et al.*, 2001).

The company can implement a sophisticated document management system with direct enquiry and archiving features in order to deal with technical problems. Document descriptions and keywords are searched and solution entries can be undertaken by all employees (Metzas *et al.*, 2001). Petrinets consist of places, transitions and curves that connect them. Input curves connect places with transitions, while output curves cannot connect curves with transitions.

2.7 Models

WfMS follow various approaches in modelling the flow of work. The implementation of process management, reviewing the pros and cons of adopting alternative workflow representation techniques in the modelling business process provides guidance to management as to the similarities and differences of the different workflow modelling schemes (Mentzas *et al.*, 2001). Different techniques match different types of processes and management therefore are able to identify which approach to utilise (Mentzas *et al.*, 2001).

Workflow systems provide a visual environment where data and analysis components can be combined, representing a business or scientific process in a collaborative environment. These can then be run by an underlying workflow engine implying that the process is not only captured but can also be run as a programme (Beaulah *et al.*, 2008).

The performance analysis of workflow model includes analysis of instances' dwelling time distribution in a workflow process and plays an important role in research of workflow techniques and efficient implementation of workflow management (Sheng *et al.*, 2009).

Although there is a large amount of workflow based on different paradigms, the lack of a serious theoretical foundation and effective model verification and analysis has blocked workflow techniques research and application. Petrinets can be utilised for structural modelling and a wide range of qualitative and quantitative analysis (Sheng *et al.*, 2009).

2.8 Definitions of Workflow

Workflow management involves process modelling, process re-engineering, workflow implementation and automation. Rule or constraint-based workflow specification languages, workflow and data flow structure are typically specified by routing rules of constraints. Conditional, rule-based or parallel work is encompassed in routing. Condition routing, on the other hand, encompasses task-based data values (Mentzas *et al.*, 2001).

The benefits of a workflow process can be stipulated as follows: it provides a single computing framework allowing the planning, execution and monitoring of processes; it permits flexibility in process modelling and planning, so that process plans may be revised in the light of events and experiences gained through the process and it improves the quality of decision-making because of the effective management of information and its spreading to interested parties as it becomes available (Chung *et al.*, 2003).

2.9 Advantages and disadvantages

Business Process Integration (BPI) reduces workforce required for the business design from four to one man-mouth. It reduces the manpower needed for the system design from 12 man-months to three using the system integration template. It also reduces the manpower required for implementation from 12 to 4.7 man-months by using adapters (Kobayashi *et al.*, 2002).

IT challenges in integrating clinical data from patient histories, pathology reports and clinical questions are found when integrating experimental drug discovery where individually created data has been a challenge to IT departments. Patient data are often stored in numerous databases and in different formats. It focuses on operations that are not appropriate for supporting disease studies (Beaulah *et al.*, 2008).

IT systems constructed to integrate clinical and research data of a task may not be able to integrate a new technique easily or modify analysis protocol for new areas (Beaulah *et al.*; 2008).

Separation of duties aims to reduce the danger of fraud by distributing responsibility for workflow amongst several players. The opposite is referred to as 'Binding of Duties'. If employees do an inquiry into the workflow system they also have to perform the last activity of informing the client because the organisation supports 'the one face to the client' policy (Decker, M.,: 2008).

2.10 Benefits from industry and nature of Workflow

Definition and enactment of business processes are directly in correlation with workflow management systems. Workflow systems store definitions of processes in terms of their tasks and a partial ordering of tasks establishing constraints on task implementation cycles (Decker, M,: 2008).

Out of 247 questionnaires mailed, 45 were returned. This reflects a response rate of 52,9% which is well above average for objective studies of this nature (Heckl & Moorman, 2010).

In order to minimise cost, it is advisable to have an internal intelligence capability officer instead of outsourcing this function. The other advantage is also that it saves time because training needs to be given to the outsourced party with regard to the

requirements of the company. Having this consultant on site also facilitates contact as and when required on board (CSC World on,; March 2010).

2.11 Range of compatibility

Process logic, IT infrastructure and organisation are the three components for a workflow. With IT infrastructure a description of the type of resources like software programmes is identified to accomplish the specific task. Organisational structure is looked at in terms of partnerships, departments, business roles and people who should perform which task (Cao *et al.*, 2008).

Workflow Management Systems are positioned in sectors like insurance, banking, accounting, manufacturing, telecommunications, administration and customer services. Actions to solve the problem can be activated, or human operations alerted, in case of exceptions (R-Morena *et al.*, 2007).

2.12 Problems

An analysis of instances' dwelling time distribution must be undertaken in order to find the proportion of instances which dwell in the workplace for less than a specific given period (Sheng *et al.*, 2009)

Document expectations about processes need attention ahead of time substantiated an important starting point for the project (Blake & Stalberg, 2009).

There is no common understanding at the inception of the project, and such a common understanding has to develop during collaborative work (Marquart & Nagel, 2004).

Operations sent to clients need a reliable transport protocol, extra support for late joining clients and a special algorithm requires

consistency. These execute operations locally at once and try to recognise and rectify inconsistencies when they appear (Held & Blochinger, 2009).

Current workflow management products only offer a few solutions to cross-organisational workflow integration on the basis that the contracts illustrate a complex problem (Weigand & Van den Heuvel, 2002).

A data flow dependency relationship needs to be included as a separate dimension of workflow dependency analysis. Prolog is a declarative language used to describe problems: facts and rules are included where facts state properties which are true of the system described and rules give a way of determining new facts from existing ones (Dal *et al.*, 2009).

Knowledge is combined from different domains and distinct resources in order to accurately describe healthcare concepts and events (Dang *et al.*, 2008). Business Process Management design flexible processes that are based on services and it also addresses business - needs to be implemented with Service oriented Architecture infrastructure (Dang *et al.*, 2008).

There are three constraints in business process design, namely rule constraint (including laws, company rules and customs); organisational constraints (which include the authorities and duties of the organisation) and resource constraints (which include human and information resources available for executing business processes)(Kobayashi *et al.*, 2003).

Business processes only consist of direct interactions between the initial customer and the initial performer of the largest problem. The categorised levels of the business process are identified as the lower problem and they are subcontracted to other people as 'sub-processes' (Kobayashi *et al.*, 2003).

Integration of existing products is extracted from a workflow system into a ready-to-use model and can incorporate the current state of the workflow system in the model to enable short term models (Rozinat *et al.*, 2009).

Some correctness conditions need to be specified for the correct execution of a task. This approach requires manual assignment of workflow units to activities and may create a problem (Bae *et al.*, 2004).

The efficient recording of tasks is required in order for a workflow to acquire suitable resources in order for the execution to be finalised with the satisfaction of unbiased functions, for example execution time minimisation as specified by the Grid users (Rahman *et al.*, 2010).

2.13 Conclusion and summary

In this chapter, sixty articles have been summarised and discussed under twelve themes. The following chapter is an analysis of the questionnaire. The total population targeted is forty individuals randomly selected to complete the questionnaire.

Chapter 3

Research methodology

3.1 Introduction

In the previous chapter, the research question is discussed by way of a summary of sixty articles collected under twelve themes. This chapter explains the research methodology utilised to conduct the study, in order to get answers for questions raised. Scientific methodology refers to a description of a puzzle-solving activity. Puzzles are solvable problems for the researcher and may be resolved through a reasoning process (Cooper *et al.*, 2006).

The research questions decided on are:

- 1 Do workflow processes in the New Business Department have a direct impact on bottom line production?
- 2 Do staff in the New Business Departments understand the impact their individual departments' workflow processes have on other stakeholders in the new business workflow process?, and
- 3 Do employees understand what is expected of them to ensure that wastages in all forms are eliminated and or minimised.?

The purpose of the study is to determine to what degree workflow processes impact on the company's bottom-line production, namely maximising profits to its stakeholders. In order to authenticate this, it is essential to collect data (using the correct methodology) from the targeted population and then to analyse their responses. In general, this chapter explains the research methodology utilised in the study, which is the data collection method selected, the variety of questions that can be asked and the advancement of the questionnaire, the survey population and sample size determination

of the questionnaire, and concludes with a discussion of the researcher's compliance with research integrity.

3.2 Research types

3.2.1 Qualitative and quantitative research

Qualitative techniques are utilised to increase and analyse the understanding of a topic. Quantitative methods, on the other hand, are utilised to obtain a precise count of behaviour, knowledge, opinion, or attitude from the selected population (Cooper *et al.*, 2006).

Cooper *et al.* (2006) state that qualitative and quantitative techniques are conducted concurrently in order to increase the quality of research, especially where a quantitative approach follows a qualitative form and therefore provides validation of the quantitative findings. Four strategies for the linking methodologies are common in marketing research

- Qualitative and quantitative conducted methods can be conducted concurrently,
- A qualitative study can be continuous while multiple waves of quantitative studies are done to determine changes in behaviour and attitude over time,
- A qualitative study can lead a quantitative study, and a second qualitative study might then follow the quantitative study, in search of more clarification,
- A qualitative study can enhance a quantitative study.

3.2.2 What research methodology was used in this dissertation?

The purpose of a qualitative method is to describe, interpret, verify and evaluate. It emphasises and states the experiences of the participants. Qualitative methods emphasise the stated experiences

of the participants and the stated meaning they attribute to themselves, to other people and to their environment (Psychology Press Limited, 2004).

3.2.3 What data is required?

3.2.3.1 Primary and secondary data

The researcher collects primary data to address the specific problem at hand which is the research question. Secondary data on the other hand can be obtained by others and for different reasons. These sources include journals and books among other things. A largely quantitative study will be utilised in this dissertation. In order to extract meaning from the data, research design, a blueprint is needed for fulfilling research goals and answering questions (Cooper *et al.*, 2006).

3.3 Data-collection method

Questionnaires distributed electronically to the company's head office, were returned electronically, those distributed manually were returned manually

3.3.1 Methods for collecting primary data

Various methods are utilised to collect data; communication-based research may be conducted by personal contact via personal interview, telephone, mail, computer (internet and intranet, or some combination of the fusion of these studies (Cooper *et al.*, 2006).

- **Interviews**

An interviewer's control over the process can affect the quality of data. Interview error, which is a major source of sampling error and response prejudice, is caused by numerous actions:

- Failure to secure full participation (sampling error)
- Failure to record answers accurately and completely (data entry error)
- Failure to consistently execute interview procedures
- Failure to establish an appropriate interview environment
- Falsification of individual answers or whole interviews
- Inappropriate influence on behaviour
- Physical presence can prejudice matters where participants can be influenced in insignificant ways (Cooper *et al.*, 2006).

- **Communication approach**

This approach involves interviewing or surveying people and then including their responses for analysis. A survey refers to a measurement procedure utilised to gather information during a highly structured interview. This could sometimes be with or without a human interview. The intensity of the survey as a primary data-collecting method is its adaptability; immaterial information of all forms can be collected by questioning others. Telephone, mail, mail, computer, mail or the internet as a means of communication can increase geographical analysis at a small portion of the cost and time required by observation (Cooper *et al.*, 2006).

- **Survey**

Survey research consists of any tools that include asking respondents questions. A survey could range from completing a short paper-and-pen feedback to an intensive one-on-one in-depth interview.

Written surveys include mail surveys, group administered, questionnaires and drop-off surveys. Other surveys include oral and electronic forms.

Mail surveys are cost-effective and convenient as the respondents are able to work on the surveys at their own leisure. On the other hand, the response rate could be very low.

- **Questionnaires**

Questionnaires are a tool delivered to respondents personally, by telephone, interception, or the respondent completes it non-personally, that is by computer or mail-delivered.

Question hierarchy

Question hierarchy refers to the process of moving from the general management problem to specific measurement questions.

- The management question: the problem is stated in question form which the manager needs to resolve
- Research questions are fact-based translations of the question the researcher must answer in order to address questions raised by management. Investigative questions are specific questions the researcher must answer to give enough detail and analysis of the research question

- Measurement questions are questions that the respondents must answer and the researcher has to collect the needed information and solve the management question (Cooper et al., 2006).

Construction and perfecting of questions

- A complete list of investigative questions needs to be developed and then a decision made on the collection process to be utilised
- Survey questions need to be exact and require paying substantial consideration to detail and concurrently addressing various issues

Wording of the questions should contain the following:

- Each respondent should be encouraged to provide accurate responses
- Each respondent should be encouraged to provide sufficient information
- Each respondent should be discouraged from refusing to answer specific question.
- Each respondents should be discouraged from early stoppage of participation and,
- Respondents must be left with a positive attitude about participating in completion of the questionnaires (Cooper et al., 2006).

3.3.2 Sampling method

The sampling method refers to the process whereby some elements are selected from a population to represent that population. Systematic sampling is the most versatile form of probability sampling due to its simplicity and flexibility. Systematic sampling should include identifying, listing and numbering the elements of

the population; Identifying the skip interval; identifying the random start and drawing a sample by choosing every k^{th} entry (Cooper *et al.* 2006).

3.3.3 Types of variables

A variable is a characteristic or attribute that gets measured and should include different types such as continuous, control decisive, dependent dichotomous, discrete, independent, intervening and moderating variables.

Nominal variables

Nominal methods are utilised to evaluate the strength of the connection in cross-classification tables. Responses are placed in any order and the numbers allocated to the response classifications have no other use except to assist as labels. Two categories are attained with nominal instruments. These are: if there is no relationship at all, the coefficient should be zero and when there is a complete dependency the coefficient should display unanimity or one.

Ordinal variables

With ordinal variables, there are numerous measurement substitutes. A variable with a coefficient with a greater scale is perceived to have a strong relationship and with a coefficient with a smaller scale has a weak relationship. These characteristics allow the researcher to infer in which direction the strength of the relationship is going.

Ratio variables

A ratio variable has properties of categorisation, order, equal intervals, and unique origin. Numbers used as measurements have numerical value, for example the weight of an object. It

incorporates all the powers of nominal and ordinal variables plus the provision for absolute zero or origin. Higher levels of measurement yield more information; because of the measurement accuracy at higher levels, more powerful and statistical procedures can be utilised.

3.4 Ethical considerations pertaining to the study

In research, it is of the utmost importance to protect the rights of respondents regardless of how they were obtained. Research should be designed in such a way that the respondents do not suffer any physical harm, discomfort, pain, embarrassment or loss of privacy. In order to prevent this the researcher should follow three guidelines, namely explain the study benefits, explain respondents' right and protect and obtain information consent (Cooper *et al.*, 2006).

3.5 Limitations

The greatest challenge with research questions is the response rate of questionnaires returned to the researcher. Postal responses have proven to have a response rate of between twenty and twenty-five per cent. There appears to be no sense of urgency in completion by respondents and it is also perceived to be time-consuming.

The setup of the questionnaire could make it difficult for the researcher to examine complex issues and opinions. Even when open-ended questions are posed, information given by the respondent can be very limited and therefore make it difficult for the researcher to gather information that is rich in depth.

Where the researcher is not present, it is difficult to assess whether the respondent understood the question or not. The limitation includes whether all respondents have the same understanding of questions asked.

In instances where a self-selecting sample is utilised, the responses could be very low as the responses received may only be from a selection of highly motivated individuals - that is, individuals with strong opinions who would take trouble in completing the questionnaire (Beiske, 2002).

In this study electronic mail was utilised to collect data. As previously discussed, this method has proven to be the most effective especially where the respondents are widely scattered.

Respondents from the North-West Area, that is Molopo and Platinum Reef Areas, were selected as Direct Writers and respondents in Cape Town, the company's head office, Area for Customer Enrolment Department, Document Management Department, Underwriting, Odyssey and Group Schemes.

The questionnaires were distributed to two hundred respondents. A team leader per department received a questionnaire to distribute to each member in the team. Instructions were given to distribute these questionnaires to the team members and e-mail the responses back to the researcher within two weeks of receipt of the questionnaires.

Out of two hundred questionnaires distributed, one hundred and sixty questionnaires were returned, which is a response rate of eighty per cent. The researcher developed a good relationship with the respondents over the past six years that in turn resulted in a very positive response rate to the questionnaires distributed.

3.6 Conclusion

Research design and methodology are defined and discussed in this chapter. From a theoretical perspective instruments such as research type, population sampling method and data collection were discussed. How these methods were applied was also discussed

Beiske (2002), Cooper *et al.* (2006), Gill and Johnson (2002) and Popper (2004) all alluded to the fact that e-mailed questionnaires are expected to have a faster response rate and this advantage has therefore been exploited to conduct this study. The last and final chapter will present the study findings that would be utilised to either reject or accept the raised questions.

CHAPTER 4

Research results and analysis

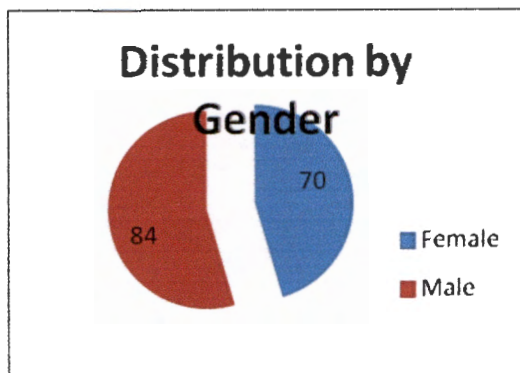
4.1 Introduction

The previous chapter's focus was on the method utilised to conduct the research. This chapter focuses on the research findings as well as analysis and interpretation of data. Certain specific questions were asked in this survey utilising the Pearson correlation coefficient. In the Pearson method, the p symbolises the estimate of strength of linear association between intervals and ratio variables based on sampling data and varies over a range of +1 and -1. The prefix indicates the direction of the relationship, whether positive or negative, and the number represents the strength of the relationship. Closer to 1 is a strong relationship, -1 indicates a weak relationship and 0 is no relationship and the r represents the population correlation (Cooper & Schindler, 2006).

The survey conducted with employees in the different departments involved in the New Business Workflow processes in order to test their understanding of the workflow processes, systems and procedures in place and the roles they play in the Workflow process as well as the impact their roles have on the success and effectiveness of the process. The efficient implementation of workflow techniques and workflow management is directly influenced by the performance analysis of workflow models (Lui et al., 2009).

Disjointed infrastructure, such as poor communications between departments, are perceived to be unsustainable, and an approach such as Transitional Research are driving a more integrated environment (Beaulah et al., 2008).

Figure 1: Distribution by Gender



In order for process management systems to work effectively, there should be a consistent flow of information between the stakeholders in the process, sharing of data in the implementation and planning phases must be timely as well as the harmonious support for collaborative aspects of work (Metzas et al. 2001).

This chapter commences with a descriptive introduction gathered from biographical information from respondents. Flowing on from this the next section will reflect on the findings of the target market's understanding of workflow processes and its impact on the company's bottom line production.

4.2 Rate of return

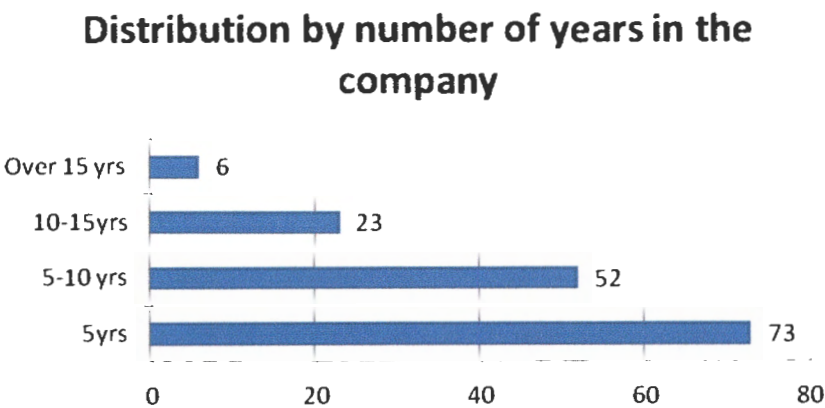
Out of two hundred questionnaires distributed, one hundred and sixty were returned.

4.3 Analysis of variables

4.3.1 Demographic variables

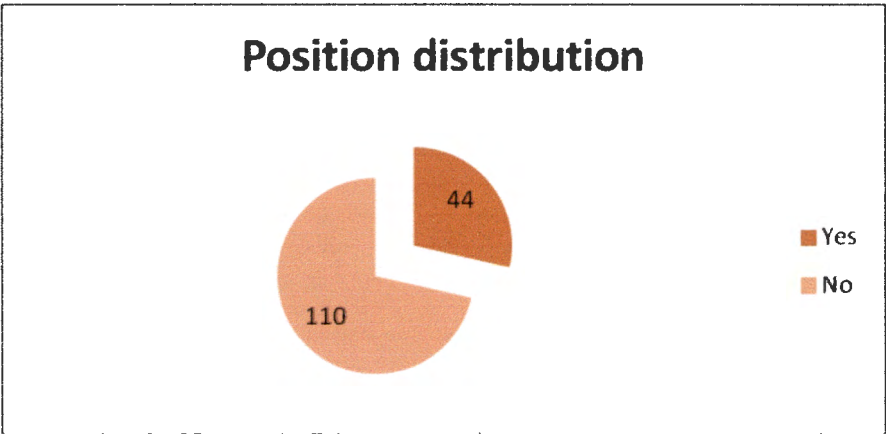
Out of a total sample of 154 respondents 84 (5 2,5%) were male and the remaining 70 (47,5%) were female. The sample breakdown is considered as being fair as no preference has been given to sex or age. This could be because of these employees all being directly involved in the new business workflow processes. The sample reflects that males have predominantly responded to the survey as opposed to females.

Figure 2: Distribution by number of years in the company

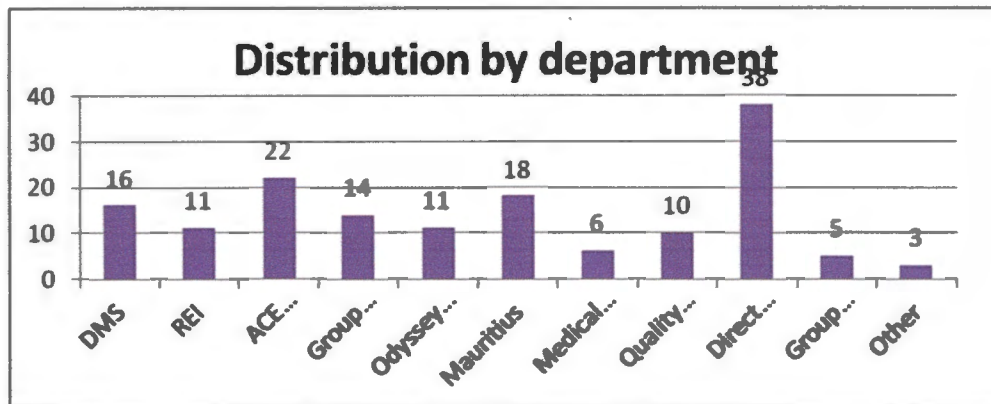


From 154 respondents, 6 (3,89%) were over 15 years in the company, 23(14,93%) were between 10 to 15 years in the company, 52 (33,76%) were between 5 to 10 years in the company and the majority 73 (47,4%) were more than 5 years in the company. This implies that employees in the company are loyal to the company and would therefore have gained sufficient knowledge of systems and procedures in the company.

Figure 3 Distribution by position



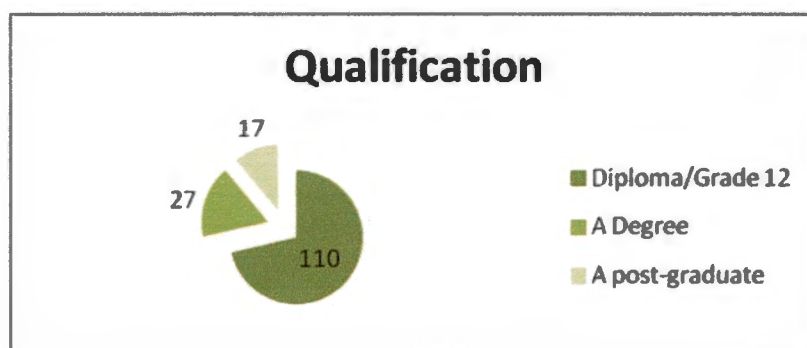
From 154 respondents, 16 (10,38%) represent the Document Management Systems Department, 11 (7,14%) represent REI (Enrolment Department), 22 (14,28%) represent ACE Department, 14 (9%) represents Group Schemes New Business Department, 11 (7,14%) represent Odyssey Department, 18 (11,68%) represent Maturities, 6(3,89%) represent Medical Underwriters, 10 (6,49%) represent Quality Assessors, 38 (24,67%) represent Direct Writers, 5(3,24%) represent Group North West and other departments are represented by 3(1,9%). The majority of respondents are from Direct Writers. This could indicate that this department has the greatest impact, negatively or positively, on the workflow processes as it is the commencement of the whole workflow process cycle.

Figure 4 Distribution by department

Out of 154 respondents 16 (10,38%) were from DMS department; 11 respondents (7,14%) were from REI department; 22 respondents (14,28%) were from the Group Department; 11 respondents (7,14%) were from the Odyssey Department; 18 respondents (11,68%) were from Maturities Department; 6 respondents (3,89%) were from Medical Underwriters Department; 10 respondents (6,49%) were from the Quality Assessors Department; 38 respondents (24,67%) were from the Direct Writers Department; 5 respondents (3,24%) were from the Group New Business Department; and 3 respondents (1,94%) were from other departments.

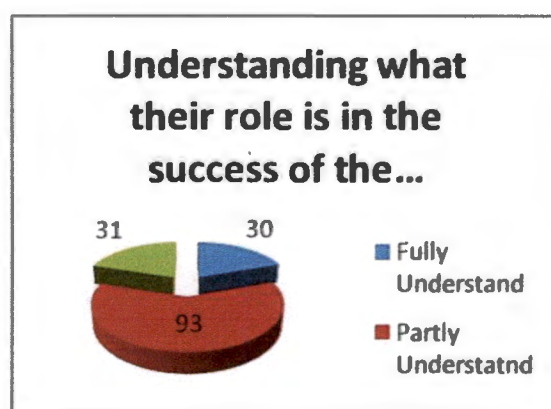
The majority of respondents were from Direct Writers (that implies that their contribution to the New Business process has the most impact on the overall work flow process). The other departments merely have to follow-on in the process and are therefore vastly impacted by the quality of work produced by this department.

Figure5: Distribution by qualification



The next question asked to the respondents was about their level of education. 17 respondents (11%) have a post-graduate degree. 27 (17,5%) have a degree and the majority 110 (71,4%) have grade twelve or a diploma, which indicates that a majority of respondents in the new business department have the basic entry level education required for their posts which could be a disadvantage to the organisation as these employees are not well skilled and trained and they therefore do not completely understand the workflow processes and the impact these have on managerial decisions and the bottom line of the company.

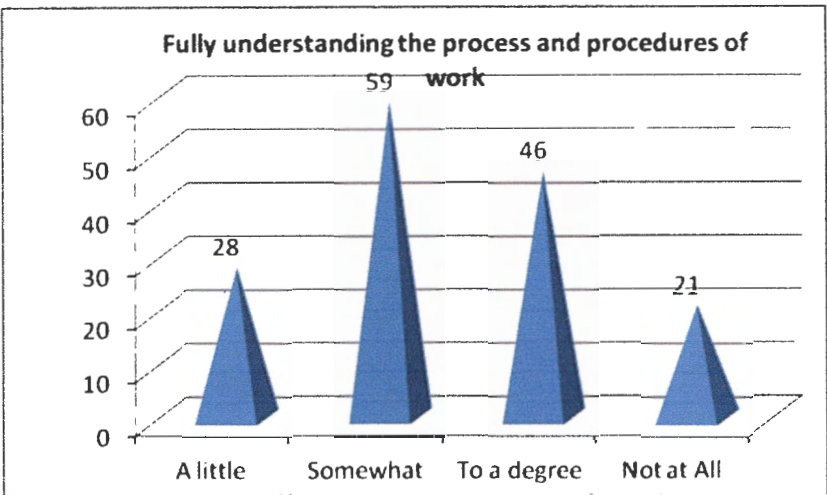
Figure 6: Understanding what my role is in the success of the department



Out of 154 respondents 31 (20,1%) do not understand what their role is in the success of the department, 30 (19,48%) partly understand and 93 (60%) do not understand. This could pose a serious problem as

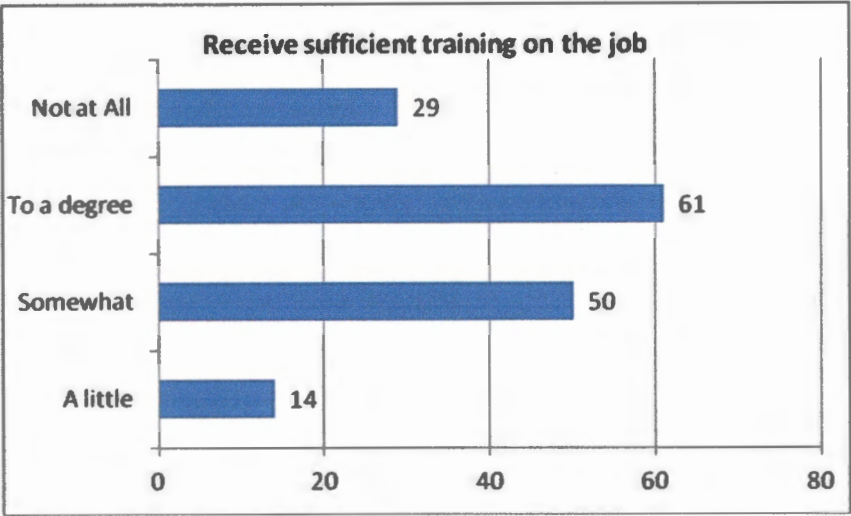
the majority of the employees do not understand how their contribution in the department adds to its success and then in turn to the success of the company, the bottom line.

Figure 7: I fully understand the process and procedures of my work



28 (18%) of employees say they understand the processes and procedures of their work a little, 59 (38,3%) say they understand it somewhat, 46 (29,8%) understand it to a degree, 21 (13,6%) don't understand it at all. The 18% understanding the work a little could have an impact on the turnaround time for work to be done and therefore have a negative impact in the workflow process.

The 12,6% that say they don't understand at all could mean that they have not yet undergone any training and are completely clueless about what is expected of them. The rest of the respondents are therefore under greater pressure to make a success of the workflow process. This in turn could also vastly contribute to an increase in errors and work having to be redone, therefore negatively influences the company's wastages.

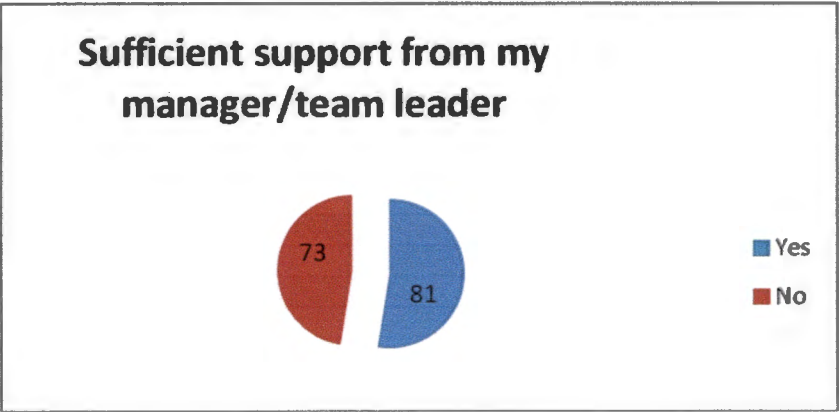


Change in a model can often be time-consuming and costly if done manually because the domain analysis may have many entities and different dependency relationships at different levels. Users are then able to select different dependencies and analyse the different dependency relationships (Dai *et al.*, 2009).

Figure 8: Received sufficient training to do job

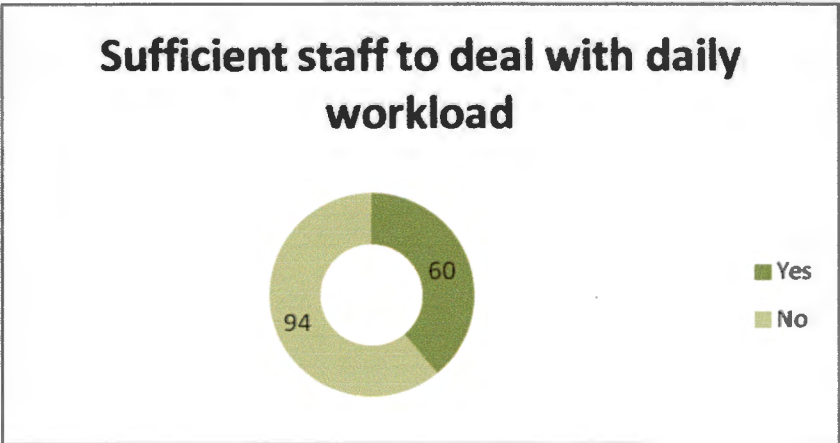
29 (18, 8%) employees haven't received training to their job, 61 (39,6%) have received training to a degree, 50 (32,4%) have received some training, 14 (9%) have received a little training. The 39% that have received training would be faced with bigger workloads because the other employees would then have to refer to them most of the time as to the accuracy of work done and this therefore also impacts on the quality of work produced. The turnaround time for processes to be finalised would therefore also be negatively impacted on.

Figure 9: Sufficient help from my manager/ team leader



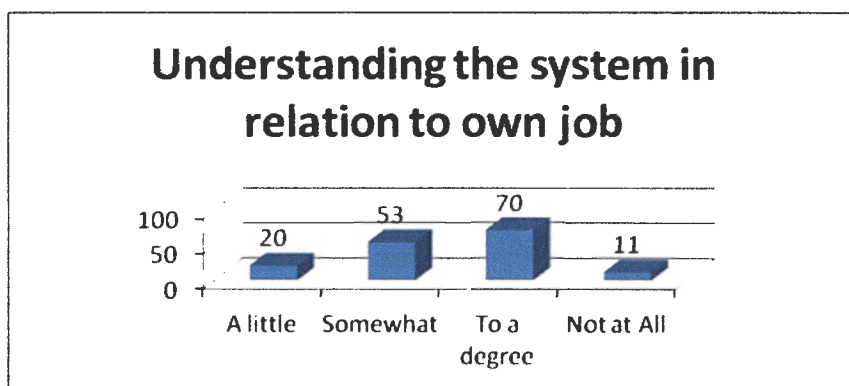
Out of 154 respondents 73 (47%) say they do not receive sufficient support from their team leader/manager. On the one hand 81 (52,5%) say they receive sufficient support from their team leader/manager. This could also imply that there are not sufficient team leaders/managers need to attend and address all their subordinates' needs. This in turn could also have an impact on the quality of work produced by each department. The result is then also, what impact it has on turnaround times for tasks to be finalised and most importantly the bottom line.

Figure 10: Are there sufficient staff to deal with the daily workload?



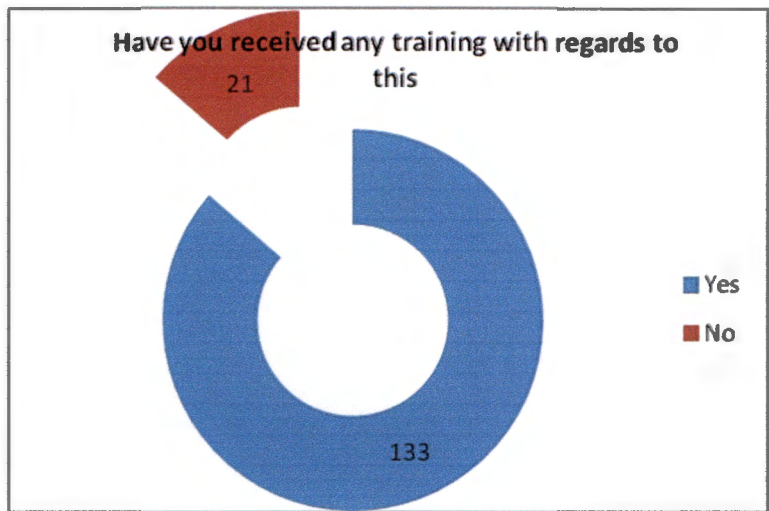
(38,9%) respondents say that there is sufficient staff to deal with the daily workload, whereas 94 (61%) disagree. This indicates that staff are overworked and do not perform at their optimum with the result that the quality of work produced is negatively impacted on. It therefore takes longer for tasks to be completed and the Standard Level of Agreement (SLA) is then compromised.

Figure11: Do you understand how the system works in relation to your job?



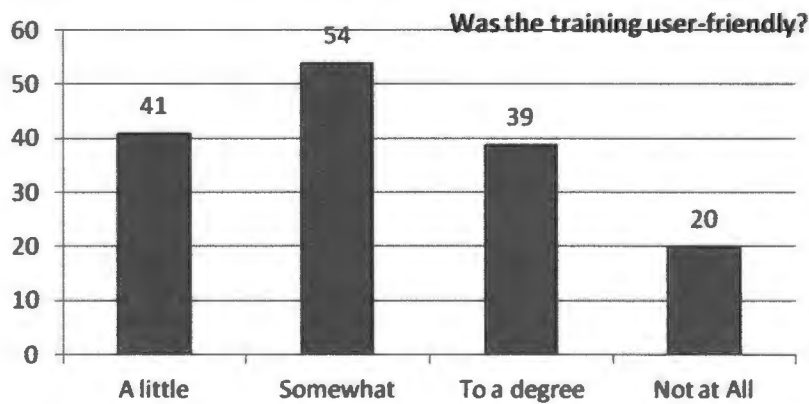
20 (12,9%) understand a little of how the system works in relation to their job; 53 (34%) understand somewhat; 70 (45%) agree to a degree; 11 (7%) don't agree at all. The majority of employees agree to a degree; however, this is less than half of the respondents. The SLA is therefore once again compromised because more errors will occur and cases have then to be reworked.

Figure12 Have you received any training with regard to this?



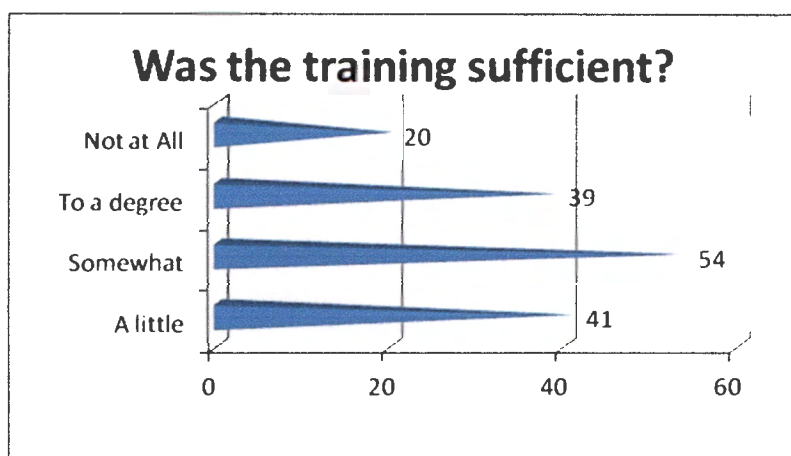
133 (86,3%) received training, 21 (13,6%) did not receive any training. The minority that did not receive training could imply that they are still waiting for training opportunities. Clearly, however, the company does make provision for training the staff.

Figure 13: Was the training user-friendly?



41 (26,6%) say that the training was a little user-friendly, 54 (35%) say it was somewhat user-friendly, 39 (25%) say it was user-friendly to a degree and 20 (12,9%) it was not user-friendly at all. The majority of respondents therefore do feel that the training was user-friendly. The understanding of the minority could be questioned and the question was whether they had received briefing or on-desk training before attending the training.

Figure 14 Was the training sufficient?



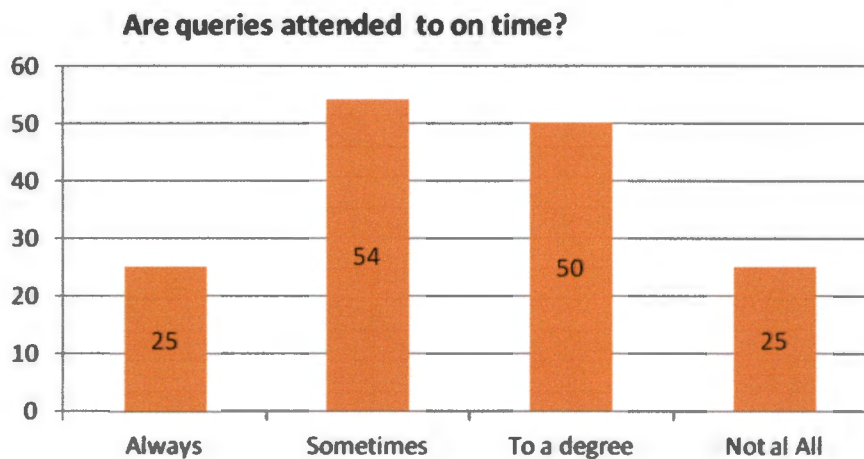
65

20 (12,9%) say the was not sufficient at all. 39 (25,3%) say it was sufficient to a degree, 54 (35%) say it was somewhat sufficient and 41 (26%) say that it was a little sufficient. The majority of respondents therefore say that the training was not sufficient. This could therefore once again have an impact on the quality of work produced and its impact on the SLA.⁶⁶

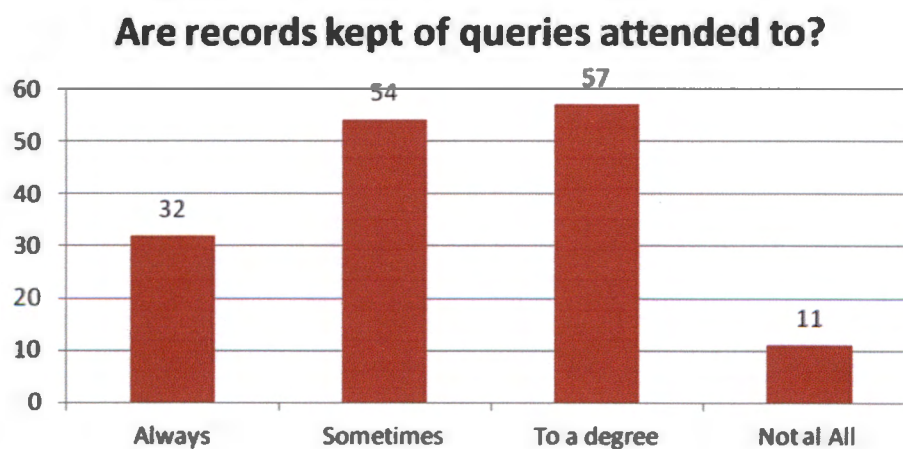
Figure 15. Do your team leaders/managers closely monitor the progress of your workload?



11 (7%) say that team leaders monitor their workload closely, 42 (23,7%) say they monitor to a degree, 68 (44,2%) say their team leaders somewhat monitor their work progress, 33 (21,4%) say their team leader only monitors a little. The majority of respondents say their team leaders monitor the workload progress. However, the percentage is less than half, which in turn indicates that there is a lack of monitoring of workload progress and there the quality of work could be negatively impacted on.

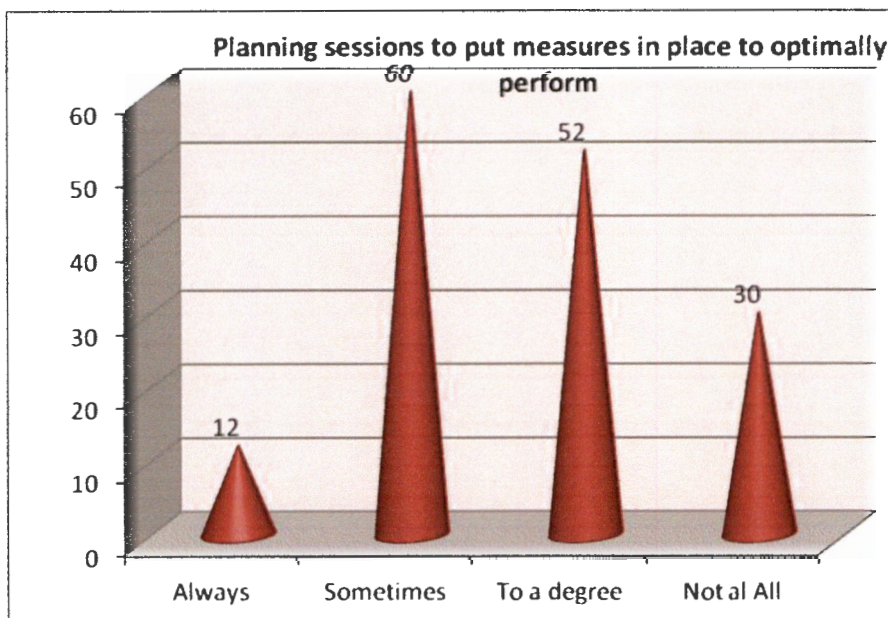
Figure 16: Are queries attended to on time?

25 (16,2%) say that queries are always attended to on time, 54 (35%) say they are attended to sometimes, 50 (32%) say they are attended to, to a degree, and 25 (16,2%) say they do not monitor at all. The majority of queries do not get attended to on time, which increases the backlog, and not sufficient time is available to deal with new business. This indirectly affects the volumes of new business cases finalised, and once again there is a negative impact on the bottom line.

Figure 17: Record-keeping of queries attended to?

32 (20,8%) say that records are always kept of queries attended to, (54) 35% say that records are sometimes kept, 57 (37%) say that records are kept to a degree and 11 (7,1%) say that records are not kept at all. This could indicate that there is no distinct central monitoring and record-keeping system in place where record-keeping of queries is concerned and this could also in turn present a compliance issue for the company.

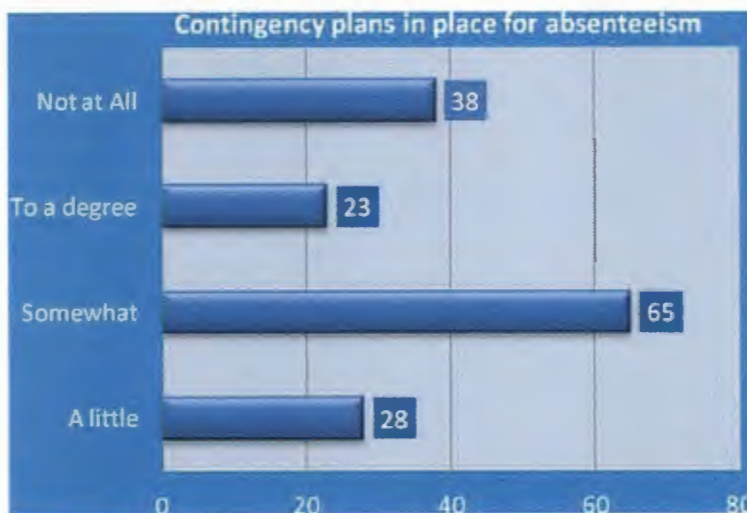
Figure 18: Do you have planning sessions at the beginning of the month to put measures in place to optimally perform your job during the month?



12 (7,8%) say there are planning sessions in place at the beginning of the month to put measures in place to optimally perform during the month, 60 (39%) says that there are sometimes planning sessions, 52 (33,8%) say that there are planning sessions held to a degree and 30 (19,5%) say there are no planning sessions in place.

Derived from the responses, there is a clear indication that not everyone in the new business section is part of and aware of the planning session. This could also indicate that not everyone is in accord.

Figure 19: Contingency plan in place to cater for absenteeism



38 (24,7%) say there are no contingency plans in place, 23 (14,9%) say there are plans in place to a degree, 65 (42,2%) say there are some plans in place and 28 (18,2%) there are few contingency plans in place to cater for absenteeism during the month. There is a clear indication from the responses that the majority of employees are aware of plans in place to cater for absenteeism.

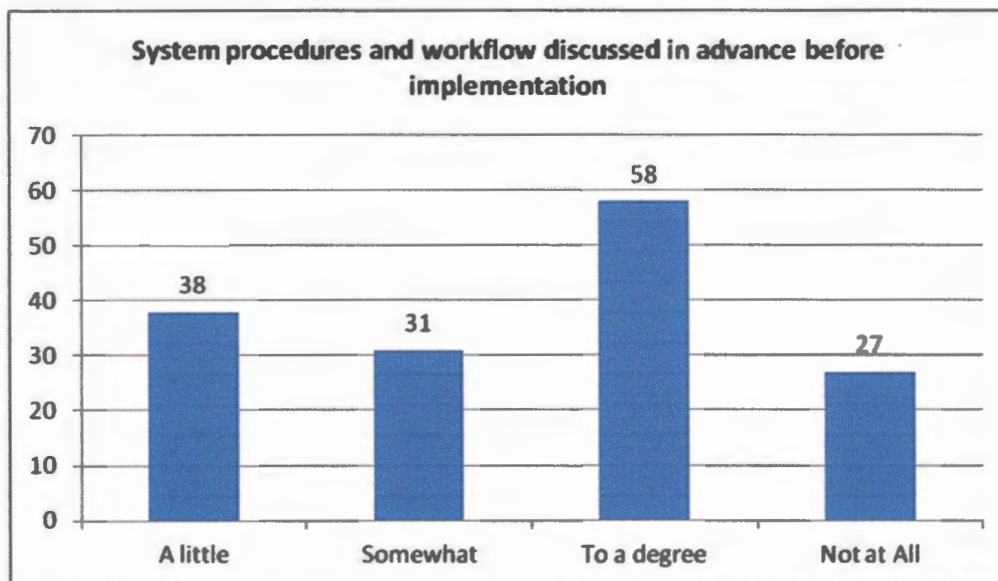


Figure 20: Is change in system procedures and workflow discussed in time before implementation?

38 (24,7%) say that changes in system and workflow are discussed a little before implementation, 31 (20%) say changes are somewhat discussed, 58 (37,7%) say they are discussed to some degree and 27 (17,5%) say they are not discussed at all. This is an indication that most employees are made aware of system changes, yet for successful implementation of changes, all stakeholders need to be made aware.

Figure 21 below represents the number of people in the organisation who are part of the management team. 41 (26,6%) say they were part of the change management team, 113 (73%) were not part of the change management team. So the minority of respondents were not

part of the change process and this implies that information discussed was filtered down to the rest of the staff.

Figure 21: Were you part of the change management team?

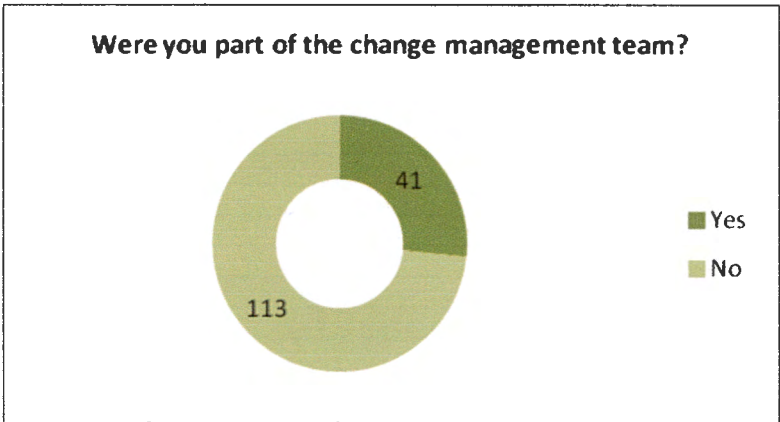
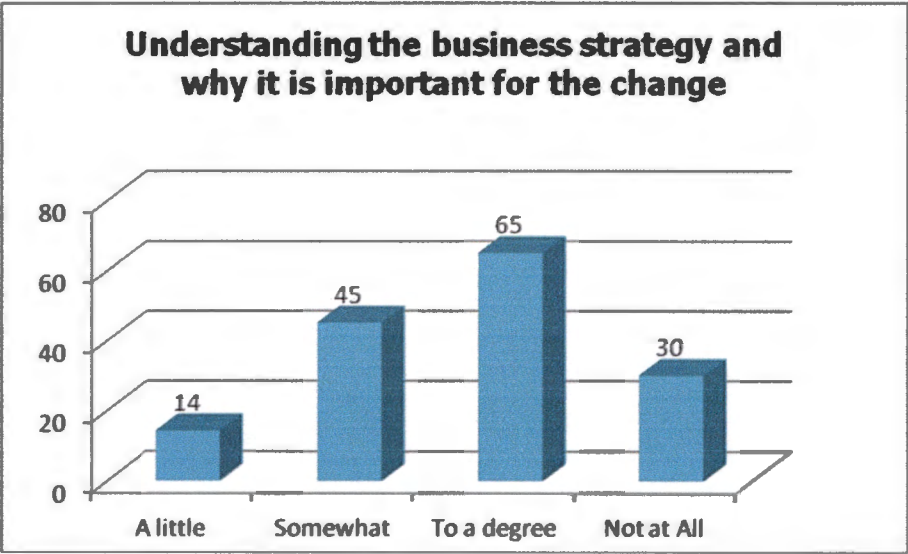
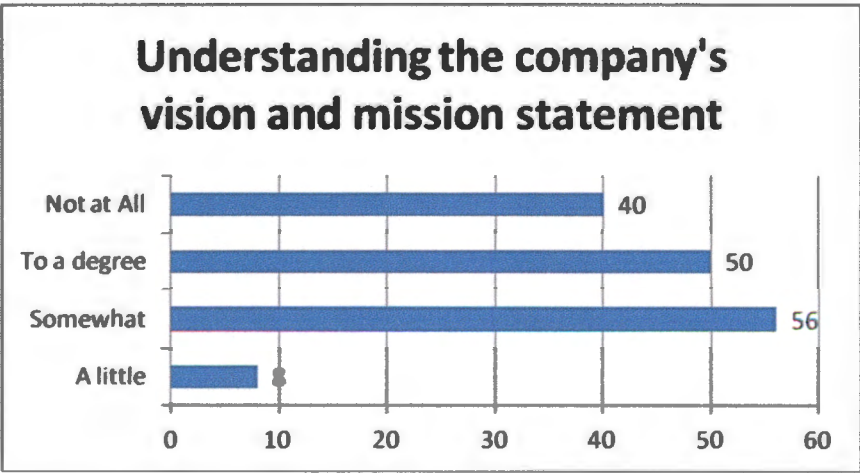


Figure 22: Do you understand the business strategy and why it is important for the change?



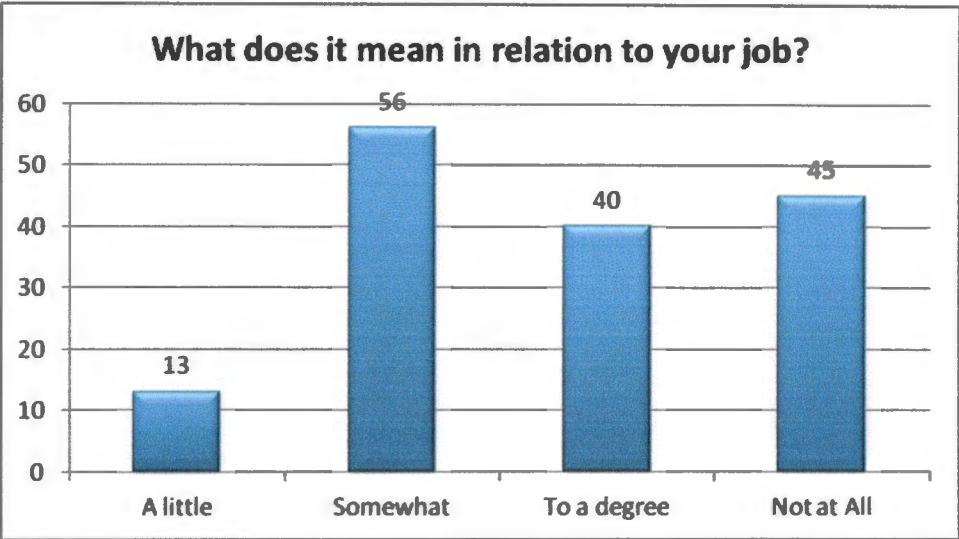
14 (9,1%) say they understand the business strategy a little, 45 (29,2%) say they somewhat understand the strategy, 65 (42%) say they understand to a degree and 30 (19,5%) say they do not understand at all. A majority of employees understand the business strategy and on-going training will therefore be imperative to bring the rest of the team on par with all changes in the organisation.

Figure 23: Do you understand the company’s mission and vision statement?



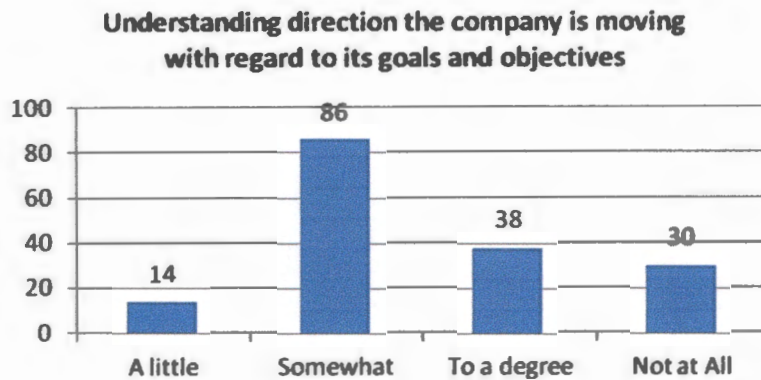
40 (25,9%) respondents say they do not understand the company's mission and vision statement, 50 (49,3%) say they understand the mission and vision statement to a degree, 56 (68%) say they somewhat understand the mission and vision statement and 8 (5,19%) understand the mission and vision statement a little. The majority of respondents understand the mission and vision statement. Implementing their understanding of the mission and vision statement will add a tremendous amount of value to the company, the most important being the bottom line.

Figure 24: What does it mean in relation to your job?



13 (8,44%) understand a little what it means in relation to their job, 56 (41,84%) understand somewhat what it means in relation to their job, 40 (53,14%) understand to a degree what it means in relation to their job, 45 (5,28%) don't understand at all what it means in relation to their job. The majority of respondents understand or have an understanding of what the mission and mission statement means in relation to jobs, this could be an indication of their interest in the company as well as their sense of belonging.

Figure 25: Do you understand in which direction the company is moving with regard to its goals and objectives?



14 (9%) say they understand the direction the company is moving to with regard to its goal and objectives, 86 (61,74%) say they understand somewhat, 38 (24,6%) say they understand to a degree and 30 (35%) say they do not understand at all. The majority of respondents understand the direction the company is moving in relation to its goals and objectives. This is an indication that the majority of respondents are in line with the direction in which the company is moving with regard to its goals and objectives.

4.4 Correlation between numerical values

The correlation between time worked and trained is 8%, a positive and weak correlation. According to the explanation given above, those correlations having an absolute value above 0,5 are considered to show a strong relationship. The p -value is shown as 0,33. The correlation is statistically significant because it is 0,33. This suggests that *time* and *trained* have a significant impact on workflow processes. Time worked is therefore a determinant of whether respondents understand what impact time worked and trained has on workflow processes.

The correlation between *understanding the processes* and *type of training* is 8%, a positive and weak correlation between these two variables. As set out in the explanation above, those correlations having an absolute value greater than 0,5 are considered to show a strong relationship. The p -value is 0,33. The correlation is statistically significant because it is 0,33, which suggests that understanding processes and type of training has a significant impact on workflow processes. Understanding the processes is therefore a determinant of whether respondents understand the impact of understanding the processes and type of training has on workflow processes.

The correlation between *trained* and *team leader understands* is 6%, a positive and weak correlation between these two variables. As set out in the explanation above, those correlations having an absolute value greater than 0,5 are considered to show a strong relationship. The p-value is 0,41, which suggests that *trained* and *team leader understands* have a significant impact on workflow processes. *Trained* is therefore a determinant of whether the respondents understand what impact trained and *team leader understands* has on workflow processes.

The correlation between *type of training* and *understanding the processes* is 8%, which is a positive and weak correlation. According to the explanation above, correlations having an absolute value of greater than 0,5 are considered to show a strong relationship. The p-value is 0,3, which suggests that type of training and understanding the processes have a significant impact on workflow processes. Type of training is therefore a determinant o f whether respondents understand what impact type of training and team leader understand has on workflow processes.

The correlation between *training well* and *understanding the processes* is 8%, a positive and weak correlation. According to the

CHAPTER 5

Conclusion

5.1 Introduction

Context

What was the study about?

Every company's main objective is to maximise profits, as is the case with Metropolitan Life. The sales force with their respective support departments, in the new business cycle in this company, are the lifeline of the company, as they are the first point of contact in the cycle. How they perform their tasks and the quality thereof are therefore issues of vital importance.

This study looked at the processes in the new business cycle; the respective departments involved in the cycle; how they perform their tasks; their understanding of their contribution in the cycle; their understanding of their role in the process; their impact on other departments; the importance of the synergy with other departments as well as their understanding of the processes in other departments. Disjointed infrastructure, such as poor communications between departments, is being viewed as unsustainable, and approaches such as Translational Research are driving a more integrated environment (Beaulah *et al.*, 2008).

The sales force in Metropolitan is the backbone of the company. It generates the most profits; however, there are wastages that devour these profits. The study attempted to identify these wastages. It was discovered that the company has quality infrastructure, but there seems to be a flaw in the understanding of systems procedures as well as synergy between departments.

The study investigated the current workflow processes in the new business departments as well as how these departments interact to make the process run smoothly in order to ensure the success of the process in line with the company's goals and objectives.

An investigation was done in relation to other workflow processes and their successes and failures utilising 60 accredited articles. In order to facilitate the process 12 topics were identified and the articles discussed under these 12 articles.

The study discovered that there are appropriate workflow processes in place; however, a majority of junior employees do not understand the role they play in the workflow process. Most of them do not understand the company's vision and mission statement. A great flaw between departments appeared to be communication. Planning sessions are held and contingency plans are made, however not successfully implemented and not filtered down properly to bottom line staff.

Layout

Chapter one is an introduction to the study, chapter two deals with the literature review where sixty articles were collected and analysed according to twelve themes, chapter three discusses different research methodology as well as their advantages and disadvantages, chapter four discusses research analysis and findings and chapter five, the final chapter, is the final conclusion of the study as well as a presentation of the findings of the researcher, management suggestion as well as recommendations.

5.2 Summary of study

Metropolitan Retail, a multi-billion rand company, is continuously on a quest to cut costs in order to maximise profits.



5.3 Limitations

Questionnaires are completed after the event occurred and staff may have forgotten some important events. They are standardised and it is not possible to explain any points in the questions that respondents might misinterpret. Open-ended questions can generate substantial information that would, however, be time-consuming to process and analyse. Respondents answer hastily, especially if the questionnaire takes some time to complete. Asking too many questions should therefore be avoided. Respondents might not want to reveal all the information they want to because they might think that they might not benefit from it or even that they might be disciplined for giving their real opinion (Popper, 2004).

5.4 Managerial guidelines

- Employees in the respective New Business Departments have an understanding of what is expected of them from the company, however, coaching should be implemented whereby they understand the role they play in the process in relation to other departments in the chain of events
- Sufficient training is provided by the company, however, monitoring and implementation of material covered have to be closely monitored by the team leaders of the respective departments
- A close monitoring system needs to be put in place in order to track queries as well as turnaround time closely monitored to enable the reduction in costs of duplicating tasks
- A sense of urgency as well as ownership of tasks needs to be instilled by team leaders with their respective employees in order to facilitate the smooth running of the process
- Synergy between departments needs to be implemented and closely monitored

- Plans discussed at the beginning of the month need to be implemented and closely monitored by the respective team leaders
- Manpower needs to be increased during peak period to ensure quality of work produced and to increase the turnaround time of cases to be issued
- Changes in system procedures and policies should be discussed with root level employees in order to get their input as well as to obtain their opinion, thereby ensuring the smooth implementation thereof
- Contingency plans should be in place and monitored to cater for absenteeism. This will be achieved by employing experienced casual staff who understands the processes thoroughly. By employing casual staff, the company will not incur addition costs in terms of staff benefits
- In order for any company to grow, change needs to be on-going. A culture of acceptance embracing of change needs to be inculcated among staff and they need to be psychologically trained to accept and deal with change in the workplace

5.5 Conclusion

Metropolitan is a multi-billion rand company striving to maximise profits for its shareholders. In order to achieve this, the company must ensure that measures are in place to minimise costs at all levels. Its sales force is the backbone of the company and therefore they need to be valued and supported in the running of their daily activities. All departments in the workflow process need to be made aware and understand the workflow of other departments in order to facilitate the smooth running of processes and thereby positively contributing to the final goal, the bottom line.

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	time worked	understand process	trained		understand	type training of	team	
							understand	
time worked	Spearman's Correlation	1	0.4	-0.4	0.2	0.8	0.8	0.4
	p-value	0.083333333	0.75	0.75	0.9167	0.3333	0.3333	0.75
understand process	Spearman's Correlation	0.4	1	0.6	0.8	0.8	0.8	1.0000
	p-value	0.75	0.083333333	0.4167	0.3333	0.3333	0.3333	0.75
trained	Spearman's Correlation	-0.4	0.6	1	0.8	0	0	0.6000
	p-value	0.75	0.4167	0.083333333	0.3333	1	1	0.75
understand	Spearman's Correlation	0.2	0.8	0.8	1	0.4	0.4	0.8000
	p-value	0.9167	0.3333	0.3333	0.083333333	0.75	0.75	0.9167
type training of	Spearman's Correlation	0.8	0.8	0	0.4	1	1	0.8000
	p-value	0.3333	0.3333	1	0.75	0.083333333	0.0833	0.3333
training good	Spearman's Correlation	0.8	0.8	0	0.4	1	1	0.8000
	p-value	0.3333	0.3333	1	0.75	0.0833	0.083333333	0.3333
team leader understand	Spearman's	0.75	0.0833	0.4167	0.3333	0.3333	0.3333	1
	Correlation p-value							
		0.4	1	0.6	0.8	0.8	0.8	0.083333

Values in bold are different from 0 with a significance level

$\alpha=0.05$