

Integrating procurement tools & techniques within the project management lifecycle.

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ABSTRACT

The relationship between project management and procurement as an organisational function is often a clash of wills. The field of project management is ripe with stories of clashes between project managers and procurement officers who, for whatever reason do not work well together.

There is no lack of literature on project failure and reasons why projects fail. Available literature concludes that successful projects are defined as those completed on time, within budget, and in ways that meet objectives. The biggest challenge to project managers is to mitigate risk in an environment filled with uncertainties. Marketplace forces such as unstable commodity markets and economic fluctuations are among the competitive forces experienced by project managers. Suppliers play an integral role within the project life cycle and therefore it is essential to ensure that the right suppliers are selected.

The role of procurement has changed from functional to strategic and is no longer viewed as a backroom function, which converts requests into supplier orders. The main reason for the change is due to challenging factors such as globalisation, inflation, technological innovations, and fluctuations in exchange rates and commodity markets. Due to the large portion of expenditure spend by the procurement department within the organisation the savings on purchasing costs can have a substantial effect on the profitability of the organisation. Procurement savings initiatives are now far more visible on the agendas of senior management.

Selection of the right suppliers is crucial for any organisation striving to achieve the business objectives of the organisation and meet the expectations of customers and shareholders. The procurement department apply certain tools and techniques to select, evaluate, and measure the performance of suppliers. Various tools and techniques are available, the focus of the study is on three of these tools and techniques namely: negotiations, material budgets, and the *SESPA*(Supplier Evaluation, Selection, and Performance Appraisal) process.

According to the literature reviewed, a project life cycle can be broken down into four to five key phases namely: the conceptual, planning, execution, close out, and control phases and procurement process into five steps namely: define the requirements, select the supplier, produce an agreement, administer day-to-day activities, and assess the performance of suppliers.

A comparison between the steps within the procurement process and the phases within the project management life cycle reveals commonality and the potential of benefits that the tools and techniques applied by procurement can contribute to the project life cycle.

Thus the challenge to the procurement office is how to partner with the project management function in a manner that will positively impact on the project management life cycle and the project success. With these obstacles facing most organisations, it is time for procurement and project management to focus on cooperation instead of confrontation.

Developing a culture that sees individual projects as elements of a business plan will require change. There is no lack of literature on resistance to change. Change is seldom easy and old ways die hard, even when there is wide agreement that change is needed. Therefore whatever the reason for change, it is essential for organisations to realise that successful implementation of change will require a systematic change implementation process.

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CHAPTER 1: NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

The relationship between project management and procurement as an organisational function is often a clash of wills (Rinkavage, Bennis & Gault, 2006:1). Successful projects are defined as those projects completed on time, within budget and in ways that meet quality and business objectives (Schermerhorn, 2005:197). The classic definition of procurement as an organisational function entails all the activities that have to be performed to ensure that products of the right quality, at the right price, in the right quantities, at the right time, and from the right supplier are procured (Cronje, Du Toit, Mol & Van Reenen, 1997:377; Hugo, Badenhorst & Van Rooyen, 2002:4).

Therefore the classic definition of procurement as stated above, does offer a potential solution in meeting the triple constraint of a project namely time, cost, and quality. The role of the procurement function has evolved from a backroom function, taking orders from departments and placing them on suppliers, to a cross-functional role (Rinkavage *et al.*, 2005:1). The increasingly important role of the acquisition life cycle has resulted in a far more visible role of the procurement function within the organisation (Rizza & Barrett, 2007:1). Business goals are established, cross-functional teams are set up and results are measured.

Continuous material cost increases in relation to other expenses, has contributed to the importance of the procurement function within the organisation (Hugo *et al.*, 2002:8). Saving targets and achievements of the procurement function are now far more visible on the agendas of senior management (Clary, 2005:1). According to Spekman, Kamauff and Salmond (1994:79): "Procurement can no longer afford to improve at a snail's pace...it must be strategic."

In its evolved capacity as a strategic function, the organisation expects the procurement function to achieve business objectives, meet customer and

shareholder expectations, and mitigate risks in an environment subjected to uncertainties such as fluctuating exchange rates and unstable commodity markets. In order to meet business objectives and to mitigate the risks that the organisation is exposed to, procurement applies certain tools and techniques. Tools and techniques applied by procurement management include negotiations, material budgets, supplier evaluation, selection, and contract and relationship management (Hugo *et al.*, 2002:227).

According to The Project Management Institute (Project Management Body of Knowledge, 2003:3) project management is the application of knowledge, skills, tools, and techniques to project activities to meet the requirements of the project. Thus the challenge to the procurement office is how to partner with the project management function in a manner that will positively impact on the project management life cycle and the project success. With these obstacles facing most organisations, it is time for procurement and project management to focus on cooperation instead of confrontation.

1.2 PROBLEM STATEMENT

Project managers and the procurement office operate in functional silos. Lencioni (2006:1) expresses his concern about silos that exist within organisations and elaborates on this long standing and deeply rooted problem that results into departments within the same organisation working against each other. Literature available on an integrated approach of the two disciplines namely project management and procurement is very limited, and little is mentioned about the potential benefits that an integrated project-procurement approach can potentially contribute towards delivering projects with more success.

In general project managers are uninformed about the positive impact that early involvement and alignment of the procurement management function, as a stakeholder to a project can deliver. The team members selected from different

areas of work responsibilities can contribute by applying their competencies. The value of cross-functional teams should not be underestimated. The identification of all project stakeholders, and their relevant stakes in the project, is an important part of project planning (Cleland, 1998:166).

Furthermore project managers are uninformed about the procurement processes, tools and techniques, and the potential value that the function can contribute towards project success. Project managers do not realise or appreciate the value and importance of an effective and efficient procurement management function within the organisation. Some project managers view the procurement management function as an order-taking department (Hugo *et al.*, 2002:15). Chase, Jacobs and Aquilano (2004:355) confirm this statement by saying that procurement within the project management environment is a very simple process. Van der Waldt and Knipe (2007:192) are of the opinion that procurement is needed when the in-house expertise to complete the project, or phases of the project, or specific tasks associated with the project is lacking.

The procurement office should not wait to be invited by the project manager to become a stakeholder within the project management life cycle, but should take the initiative to market the services of the procurement management function to the project manager (White, 2002:1). The role of the procurement management function within the organisation is determined by the focus of the function and the procurement management function itself determines its status within the organisation (Syson, 1992:254).

Rinkavage *et al.* (2006:1) comment that it is simply a matter of educating the project manager about the hidden challenges in the procurement management process. The impact of increasing competition and continuous cost cutting drives has elevated the importance of the procurement management function within the organisation. Senior management no longer view the procurement office as the stepchild of the organisation (Lysons, 2000:16).

1.3 OBJECTIVES OF THE STUDY

The primary objective of the study is to highlight the potential benefits that the identified procurement management tools and techniques can offer towards delivering projects with more success.

In order to realise the primary objective, the following secondary objectives must be met:

- Provide project managers and procurement professionals with an understanding of the potential benefits that they can achieve by entering into a lock-step approach with each other, opposed to having the two functions working in silos.
- Encourage project managers to involve the procurement office early in the project management life cycle as a member of the cross-functional team.
- Encourage procurement professionals to gain an understanding of the constraints that project managers have to deal with during the execution of their tasks to deliver projects with success.

1.3.1 Delineations

The study does not offer:

- Solutions to deliver projects successfully.
- An understanding of project management or purchasing management.
- Discussions on contracting strategies.

1.4 RESEARCH METHODOLOGY

The literature available relating to project and procurement management is vast and many books are dedicated to the art and science of the respective topics in isolation. This research is based on a comprehensive literature study. Literature

in the form of published articles, publish presentations, websites, and textbooks were scrutinised.

1.5 LAYOUT OF THE STUDY

The study consists out of three chapters. Chapter 1 contains the introduction, problem statement and objectives of the study. Chapter 2 contains a comprehensive literature study, and Chapter 3 concludes with the conclusions and recommendations of the study.

CHAPTER 2: PROJECT MANAGEMENT, PROCUREMENT AND CHANGE MANAGEMENT

2.1 INTRODUCTION

Successful projects are defined as projects delivered on time, within budget, and meeting the scope requirements. The field of project management is ripe with stories of clashes between project managers and procurement officers who, for whatever reason do not work well together. The role of procurement within most organisations has increased in importance due to factors such as globalisation, and fluctuating exchange rates and commodity prices. In order to achieve business objectives and the savings expectations of the organisation, procurement applies various tools and techniques to assist them.

A comparison between the steps within the procurement process and the phases within the project management life cycle reveals commonality and the potential of benefits that the tools and techniques applied by procurement can contribute to the project life cycle.

The challenge to the project manager is how to partner with procurement in a manner that positively impacts the project management life cycle. Developing a culture that sees individual projects as elements of a business plan will require change. There is no lack of literature on resistance to change. Change is seldom easy and old ways die hard, even when there is wide agreement that change is needed. Therefore whatever the reason for change, it is essential for organisations to realise that successful implementation of change will require a systematic change implementation process.

2.2 PROJECT MANAGEMENT

The origins of some form of project management can be traced back as far as the construction of the pyramids in ancient Egypt and the Great Wall of China (Van der Waladt & Knipe, 1998:61), however project management, as a formal discipline has only started in the 1930s (Knipe, Van der Waladt, Van Niekerk, Burger & Nell, 2002:3). Perhaps a few more decades shall be required for a sufficient knowledge base to be build up, before the present failure rate of projects can go down to a more comfortable level.

Various definitions are assigned to project management. Martin and Tate (2001:9) define project management as a set of tools, techniques, and knowledge that, when applied, helps to produce better results for projects. Chase, Jacobs and Aquilano (2004:66) describe project management as planning, directing, and controlling resources (people, equipment, material) to meet the technical, cost, and time constraints of a project. Van der Waladt and Knipe (2007:58) define project management as planning, organising, co-ordinating, controlling, and directing the activities of a project.

Henry Gantt is known as the forefather of project management. He is famously known for his use of the “bar chart” as project management tool. His work is viewed as the forerunner of many project management tools like work breakdown structures (WBS) and resource allocation. The 1950`s mark the beginning of the modern project management era with the use of Gantt Charts and informal techniques and tools. It was also during this time that the PERT and CPM mathematical scheduling models were developed. In 1969, the Project Management Institute (PMI) was formed and during 1981 the PMI Board of Directors authorised the development of a guide to ensure best practices for project management, today known as A Guide to the Project Management Body of Knowledge, more commonly known as *PMBOK* (Bista, 2007:1).

2.2.1 Phases of the project management life cycle

Due to the uniqueness of projects, projects involve a degree of uncertainty (PMBOK, 2003:11). Projects are usually divided into several project phases to provide better control for management and to provide appropriate links to the ongoing operations of the organisation. Collectively, the project phases are known as the project life cycle (Knipe *et al.*, 2002:25).

“The project life cycle is imposed on a project sequence by management so as to make it easier to manage the project sequence; it is an artificial device used by management to gain control of the sequence of achieving the project (Healey, 1997:32).”

Van der Walt and Knipe (2007:67) break the project management life cycle down into six steps namely: identify the need, choose the project team, define the project, plan the project schedule, implement the project, and monitor and evaluate the project. According to Rad and Levin (2003:17) the project management life cycle has five stages namely: scope definition, estimating and scheduling, risk management, progress monitoring and reporting, and change management. According to Martin and Tate (2001:21) the project management life cycle consist out of four phases and describes the phases as initiation, planning, execution, and close out. Harrison and Lock (2004:199) list the stages in the project management life cycle as conception, definition, design, and control. According to Heerkens (2001:12) the phases in the project management life cycle are initiation, planning, execution, and close out.

The literature indicates various versions of the typical steps in the project management life cycle. Reviewing the available literature and information relating to project management, some key common themes quickly emerged and were consistent throughout the review. That is, the majority of the reviewed literature appeared to break a project life cycle down into four to five key phases. These were usually the conceptual, planning, execution, close out, and control phases.

2.2.1.1 Conceptual phase

The conceptual phase determines the nature and scope of the development. If this phase is not performed well, it is unlikely that the project will be successful. During this phase the need is identified, major deliverables are defined and participating work groups are identified (Heerkens, 2001:12).

The conceptual phase includes brainstorming and common sense (Kerzner, 2003:383). The phase involves two critical factors namely identifying and defining the problem and identifying and defining of potential solutions. The requirements of the client are transformed into the detailed description of the project deliverables (Rad & Levin, 2003:24).

Defining the business needs is crucial, if the needs are not clearly specified, scope changes will be called upon during the project, resulting into additional costs. Ensure that customer requirements are known and design to these requirements (Schonberger & Knod, 1997:44). The information used to identify the needs must be based on corroborative facts and not merely be based on personal opinion (Van der Waldt & Knipe, 2007:69).

2.2.1.2 Planning phase

During the planning phase the project solution is further developed into business requirements, function of the intent of the project, quality standards, budget, and time constraints. While the project team define the requirements of the project, the general scope of work, objectives, and contractor tasks are considered (Kerzner, 2003:384). Crane (2003:2) describes the planning phase as the phase during which the team decides by whom, for how much and how long. In general, project failures can most often be traced back to deficiencies in the planning process.

Van der Walt and Knipe (2007:72) list the aspects to be considered during the planning phase as: the scope of the project, resources to be used, an analysis of available resources, responsible people, and objects linked to time.

Hairston (2005:13) notes that the work breakdown structure, risk management, estimation, scheduling and human resource planning is conducted during this phase. It is important to identify the sequence in which the identified elements will be executed (Heerkens, 2003:12). Buehring (2005:1) warns that project managers are often under pressure to produce project plans, which meet unrealistic expectations of stakeholders. Unrealistic plans means that the team agree to deliver the project in a totally unrealistic schedule. Once the project has been planned sufficiently, execution of the work can begin.

2.2.1.3 Execution phase

The execution phase is the phase in which all planned actions are executed. Plans of action are put into operation, responsible people perform the task assigned to them and provide feedback to the project team, resources are allocated, and control is exercised (Van der Walt & Knipe, 2007:82).

Broom and Hayes (1997:255) describe the confusion that can be present if contractors are not clear about what they are responsible for. In order to avoid such confusion, it is important for the team to remain focused on the objectives that were developed and agreed upon. Progress must be monitored continuously and appropriate adjustments must be made and recorded as variances against the original plan (Heerkens, 2003:12).

2.2.1.4 Control phase

Control is that element of a project that keeps it on-track, on-time, and within budget, results must be measurable (Van der Walt & Knipe, 2007:84). Kerzner

(1994:789) poses a very valid question when asking: “Do you control costs, or do costs control you?”

The objective and the purpose of a control system is to keep the project team informed on the individual tasks and the progress of the full team. A control system is most successful when it is formalised and fully embedded into the organisations procedures for managing projects (Rad & Levin, 2003:29).

2.2.1.5 Closing phase

The close out phase can be broken down into five activities: having the project evaluated, writing the final status report, developing the lessons learned, issuing the close out report, and reviewing the report with the sponsor (Martin & Tate, 2001:208).

As a project draws to a close, the team must ensure that all work is completed in a timely and efficient manner (Turner, 1993:196). A project has a definite end point. However, terminating or closing out a project is easier said than done (Archibald, 1976:234).

Despite the importance of this phase, many project managers fail to successfully complete this phase. Although most project managers are completely cognisant of the necessity for paper planning for project start-up, many project managers neglect the planning for project termination (Kerzner, 1994:607). The purpose of the close out phase is to wrap up the project and make sure that the team learned from what transpired. Some project managers avoid this phase because there are unresolved problems with the project such as overrun budgets, unhappy customers, and late schedule dates. Close out is also neglected because team members often have other job commitments or projects that they feel are more important than spending time to close out projects (Martin & Tate, 2001:207).

2.3 PROCUREMENT MANAGEMENT PROCESS

Procurement has been part of the daily activities of business for many centuries. The brief review of procurement as a discipline is used to demonstrate the growing importance of the role of the procurement function within the organisation.

The classic definition of procurement as an organisational function summarises the activities of the procurement function as ensuring that products of the right quality, at the right price, in the right quantities, at the right time, and from the right supplier are procured (Cronje, du Toit, Mol & Van Reenen, 1997:377; Hugo, Badenhorst-Weiss & Van Biljon, 2002:4). Clifford, Buffington and Howell (2003:7) summarise the activities of procurement as: "At its most fundamental level, the job of procurement is that of managing the business relationship between the end user and the supplier of goods and services."

Procurement is an activity which is traced back to the thirteenth century BC, Dobler and Burt (1996:4) write that Professor Harry Page, George Washington University did a study on the evolution of procurement and wrote: "Inscribed clay tablets from the thirteenth century BC days of the Phoenician traders refer to persons serving as procurement agents. The Holy Bible, in the book Deuteronomy, provides instruction for the buyers in the honest use of weights and measures. Ancient purchase orders, written on parchment scrolls in the days of Julius Caesar, call for deliver of amphoras of wine, honey and oil."

Lysons (1996:2) also writes about an american researcher, Harold Ward, whom discovered a clay tablet in El-Rash Shamra dated 2800 BC with the following encryption: "HST is to deliver 50 jars of fragrant smooth oil each fifteen days (a starting date) and during the rein of AS. In return he will be paid 600 small weight in grain." Procurement has played a significant role through many centuries. This statement is supported by Stutton (2002:2) ".....because it's where the money is."

The procurement function within the organisation developed as an independent clerical function mostly concerned with the processing of paper. Twyford (1915:56) describes the procurement function as a process dealing with paper and accounts instead of men and things.

The world has changed due to factors such as the constantly fluctuating environment, unstable commodity markets, globalisation, technology changes, automation, and inflation (Dobler & Burnt, 1996:7; Arangies, 1993:4). These factors made it necessary for the senior management of organisations to increase focus on the procurement function to ensure that their organisations remain competitive within a constantly changing environment (Theron, 1980:12). Due to these changes, new challenges have emerged for the procurement function, and the role of the procurement function within the organisation changed from a reactive to a proactive function (Badenhorst-Weis, Fourie, de Klerk, Theron & Nel, 2002:7).

Most authors agree on the growing importance of the procurement function within the organisation, as well as the valuable contributions that this function can make towards ensuring that reliable supplier base is implemented and maintained. According to Badenhorst-Weiss *et al.* (2002:11) the procurement department's main focus is to ensure the constant flow, and reducing cost of goods procured. According to Carr and Smeltzer (1997:199) and Lysons (2000:199), Porter's five-forces model was the final break through to demonstrate the impact of procurement as organisational function on the organisation's competitive ability.

In Table 1, Clary (2005:1) explains the elevating role of procurement:

Table 1: The elevating role of procurement within the organisation

THE ELEVATING ROLE OF PROCUREMENT WITHIN THE ORGANISATION	
Historic position <i>Pre-1990`s</i>	Present position <i>1990`s – present</i>
Largely an administrative function, “order takers”	Heavily involved in specification development
Often ruled by long standing relationships	Strategic sourcing as a practice and discipline far common, “fact based negotiations”
Seen by senior management as a cost vs. a strategic performance driver	Far more visible – now on the CEO`s agenda

Source: Derived from Clary (2005:1).

2.3.1 Steps in the procurement process

The procurement process consists out of fourteen steps (Hugo, Badenhorst-Weiss & Van Biljon, 2006:14). Supplier selection, bidding and negotiation often takes place at the same time, the authors elaborate by saying that the selection of the supplier remains the prerogative of the procurement and supply function of the organisation (Monczka, Trent & Handfield, 2005:33). In this regard Duffy and Darmer (2002:32) describe the procurement steps as learning the need, locating and selecting a supplier, negotiating price and other pertinent terms, and ensure the delivery.

Procurement relating to production forms part of the cost of sales, whereas procurement relating to projects generally forms part of capital procurement. Goods and services procured for capital projects generally forms part of fixed

assets and are reported in the balance sheet (Hugo *et al.*, 2002:330). This study focuses on procurement relating to projects.

The literature indicates various versions of the typical steps in the procurement process. Reviewing the available literature (Baily, Farmer & Jones, 2005:4; Monczka *et al.*, 2005:34; Van Weele, 2002:14) relating to procurement management, some key common themes quickly emerged and were consistent throughout the review. That is, the majority of the reviewed literature appeared to break a procurement process into five steps namely: define the requirements, select the supplier, produce an agreement, administer day-to-day activities, and assess the performance of suppliers.

2.3.1.1 Define requirements

The need for materials, parts and/or services originates with the users of the goods and services. The users know the quantity, quality and time when the goods will be needed and must inform the procurement function accordingly to prevent urgent orders (Hugo & Van Rooyen, 1990:32).

Originators use purchase requisitions, order forms, and material lists as internal documents to communicate their needs to the procurement department (Hugo & Van Rooyen, 1990:33). It is important that the information contained in this internal document is correct and accurate, as this will ensure that the purchasing department procure the goods or service that will satisfy the identified need of the originator (Puttick & Van Esch, 2003:439).

Purchase requests comes in various formats and are called various names such as requests for information (RFI), requests for quotation (RFQ), request for proposal (RFP), material lists, material requisitions and order forms. The most important aspect regarding a request is that the information on this document should be as accurate as possible (Lysons, 1986:35). This document forms an integral part of the supplier selection process, its purpose is to notify the

procurement department of the need, to specify what is required to meet the need, to authorize the procurement, and to provide evidence as to what was requisitioned, when and by whom (Lysons, 1986:35).

When specifications are prepared there are four major considerations namely: design considerations of the function, market considerations of consumer acceptance, manufacturing considerations of economical production, procurement considerations of markets, materials availability, supplier capabilities, and cost (Dobler & Burnt, 1996:163).

Dobler, Burnt and Lee (1990:332) confirm that there are benefits when the procurement department is involved within the first phase of the project management process by noting that the buyer should be involved when the specification is developed and quote: "As a part of this involvement, when specifications are nearing completion and invitations for bid are to be issued, a good buyer should also function in the role of an informal auditor." In this regard the buyer should make every effort to ensure that the specifications are written as functionally as possible. It is the buyer's prerogative to question specifications (Hugo *et al.*, 2006:17). In addition the procurement department can in most instances determine whether the requested product has been purchased before (Lysons, 2000:85).

2.3.1.2 Select supplier

It is difficult for an organisation to perform optimally if it cannot depend on the planned performance of a reliable contingent of suppliers (Dobler *et al.*, 1990:30). It is essential to an organisation to select the best in class suppliers who are willing to work as partners to continuously strive towards reduced cycle times, quality innovations and cost improvements.

The purchase requisition makes provision for the originator to suggest a potential supplier (Baily, 1978:31), however the identification, investigation, selection, and

in some cases development of competent and responsive suppliers is the buyer's paramount responsibility (Leenders, Fearon & England, 1975:207).

Price is not the only criteria that a buyer considers when selecting a supplier. The location and other characteristics of the supplier also influence the buyer's decision (Lysons, 2000:276). The buyer considers factors such as quality, price, lead times, after sales service, and supplier history when selecting the successful supplier (Baily, Farmer & Jones, 2005:276).

The traditional trinity of supplier evaluation and selection criteria namely cost, quality and delivery has evolved into the evaluation of more criteria including: quality, price and cost structure, delivery, time, flexibility, service, financial status and risk management, systems, technology, supply chain (Hugo *et al.*, 2006:83). In the event of specialised equipment made to specification, preference is usually given to the supplier recommended by the end-user (Hugo *et al.*, 2006:17).

The procurement department maintains the organisations contracts and vendor database. If the buyer was involved during the specification preparation phase, the buyer will be able to immediately eliminate potential suppliers not meeting the specifications considerations as specified by Hugo and Van Rooyen (1990:124).

The Preferential Procurement Policy Framework, Act 5 of 2000, was promulgated at the beginning of 2000 "to give effect to section 217(3) of the Constitution by providing a framework for the implementation of the procurement policy contemplated in section 217(2) of the Constitution." In terms of section 2(1) of the Act, an organisation must determine its own preferential procurement policy. The specific goal of the Act is to provide opportunities to persons who have been historically disadvantaged by unfair discrimination on the basis of race, gender, or disability (Knipe *et al.*, 2002:295). Progress on preferential procurement are viewed in a serious light by senior executives and listed companies are required to mention its progress in terms of preferential procurement in their annual reports. An example of such feedback: "We continue with a comprehensive

practice of favouring BEE suppliers and we regularly measure progress in achieving our targets. Afrox contributes to economic sustainability by offering practical assistance and support to the development of entrepreneurial emergent black enterprises. Our procurement policy encompasses small, medium and micro-sized black suppliers (SMME's) and large black-owned, empowered or influenced suppliers... During the year we have increased our spend with BEE suppliers by 76 percent from R204 million to R359 million." (AFROX annual report: 2004:6) Hugo *et al.* (2006:97) note that senior management has to formulate a policy on affirmative action purchases, also known as preferential procurement.

E-procurement and electronic catalogues are some of the technological innovations that enable the procurement function to provide information regarding prices and availability with ease. Sales catalogues, yellow pages, sales fairs, sales personnel, advertising campaigns, credit bureaus and existing supplier data base are means available to the buyer to identify potential suppliers (Dobler & Burnt, 1996:216; Dobler *et al.*, 1990:175; Leenders, Flynn & Johnson, 2002:247; Burnt, Dobler & Starling, 2003:329; Hugo *et al.*, 2006: 89). Caffrey (1997:1) confirms that internet can contribute to the organisations competitiveness, he claims that the web contributes towards easier location of the right suppliers.

Developing long standing relationships with key suppliers will also add value to ensure that risks such as poor quality, unstable price structures and overdue lead times are managed within acceptable parameters. Supplier leverage can add additional value to the operations of an organisation, however supplier leverage can only be effective if a relationship is created between the organisation and the supplier (Hugo *et al.*, 2006:107). Burnett (2004:28) confirms that improved relationship management between the organisation and the supplier can contribute to improved levels of efficiency for the entire supply chain.

2.3.1.3 Produce agreement

Once the supplier has been selected, a formal contract must be agreed between the organisation and the selected supplier. A contract is a formal agreement between two parties wherein one party (the contractor) obligates itself to perform a service and the other party (the client) obligates itself to do something in return, usually in the form of a payment to the contractor (Gray & Larson, 2000:353). A contract is of a legal and binding nature, therefore it is crucial that this action is conducted within the procurement department (Hugo *et al.*, 2002:20).

Hugo *et al.* (2006:289) distinguish between two types of contracts namely fixed-price agreements and cost-based agreements. In fixed-price contracts the prices are determined by pricing mechanisms such as quotations, and negotiations, whereas cost-based contracts requires the supplier to carefully monitor and control costs themselves. There are certain basic elements in most contracts namely: mutual agreement, consideration, contract capability, legal purpose, and form provided by law (Kerzner, 1998:1099).

Less misunderstandings and ambiguities occur when agreements are well documented (Pooler & Pooler, 1997:42). When an organisation is faced with unsatisfactory contractor performance, the provisions of the conditions of the respective contract must be enforced. In all cases of unsatisfactory performance by contractors, the *audi alteram partem* rule (listen to the other side), must be applied by the user department. Only after the *audi alteram partem* rule has been applied, may the conditions of the contract be enforced (Knipe *et al.*, 2002:304).

The procurement department is usually authorised to enter into contracts on behalf of the company, and it is usually expected from this department to administer contracts once they are in place (Mochal, 2006:1).

2.3.1.4 Administer day-to-day activities

The involvement of the procurement function does not end when the order is placed (Hugo *et al.*, 2006:21). The procurement department must follow up on open orders to ensure that agreed delivery lead times are achieved. In the event of a supplier not being able to fulfil obligations such as requested quality, lead times, and price as stipulated in the contract, the procurement department may cancel the orders. The respective originators must be informed and alternative suppliers must be sourced (Puttick & Van Esch, 2003:446).

The procurement department expedite orders, when products and services are not delivered on the agreed dates (Van Weele, 2002:67). The following are methods used by the procurement department to expedite and follow up on orders: telephonic enquiries can be made by the procurement department to the respective suppliers to establish the reason for the delay and to agree on a revised expected delivery date (Hugo *et al.*, 2002:22), follow-up letters and e-mails can be sent to suppliers to establish the reasons for the delays (Leenders *et al.*, 2002:102), and field expeditions, which entails visiting the respective suppliers (Pooler & Pooler, 1997:47).

According to Hugo *et al.* (2002:23) the procurement department is responsible for the handling of faulty goods or goods deviating from the requested specification. The procurement department is best equipped to handle such disputes due to the relationship that exists between the buyer and the supplier. The view of authors differ on which department should ultimately be responsible for the analysis of the invoice (Leenders *et al.*, 2002:105). Hugo *et al.* (2002:24) are of the opinion that the invoice must be analysed by the buyer, because the buyer was initially involved with the negotiation and possible rebates that can be applicable. Pooler and Pooler (1997:48) assign the responsibility of the invoice analysis to the financial department. Irrespective of which department analyses the invoice, it is important that the invoice is checked against the order to ensure that prices, quantities and specifications correspond (Puttick & Van Esch, 2003:450). To

conclude with it is noted that these day-to-day administrative functions must be conducted in a professional and cost effective manner (Dobler *et al.*, 1990:31).

2.3.1.5 Assess performance

Monczka *et al.* (2005:54) support the view of various authors including Hugo *et al.* (2006:23) by stating that supplier performance is a critical part of the procurement process. Knowing how suppliers are performing and providing feedback to suppliers regarding their actual performance is a logical last step in concluding an order or contract.

The classic definition of procurement as an organisational function is aimed at making sure that products of the right quality, at the right price, in the right quantities, at the right time, and from the right supplier are procured (Cronje *et al.*, 1997:377; Hugo *et al.*, 2002:4).

Most organisations have realised that suppliers can contribute towards profitability, and therefore value reliable suppliers. Senior management within organisations rely on its procurement department to measure suppliers to ensure compliance. Various tools and techniques are available to procurement to select, evaluate, and measure the performance of suppliers.

2.3.2 The role of the procurement function within the organisation

Procurement management is recognised as one of the eight organisational functions interacting within the organisation to form a system that endeavours to achieve the objectives of the organisation (Hugo *et al.*, 2006:6). The eight organisational functions are defined as management, production, human resources, marketing, finance, information technology, communications, and procurement (Hugo *et al.*, 2006:3; Kroon, 1996:4). The procurement function

should not function in isolation, but is one of the functions of the organisation that should have the most interaction with the other organisational functions (Baily *et al.*, 1998:51).

The importance of the procurement function differs within organisations, however the importance of the procurement function has increased and there is a growing awareness of the function amongst senior management (Monczka *et al.*, 2005:19).

The level of importance of the procurement function within the organisational structure is perceived differently by organisations. The following considerations determine the level of importance: purchasing increase in perceived importance in direct relationship with the reduction in the length of the life cycle time, purchasing is perceived to be important when the business concerned interfaces significantly with a volatile market, and purchasing is important whenever the organisation concerned spends a significant proportion of its income on purchasing goods and services (Baily *et al.*, 1998:61).

2.3.3 Reasons for the increasing importance of the procurement function to the organisation

The importance of the procurement function within the organisation is increasing in importance due to the high costs associated with purchased materials. The procurement function is usually the department with the largest spend of the organisations funds and has a direct influence on the profitability of the organisation (Hugo *et al.*, 2002:9). Manufacturing organisations spend between sixty and eighty percent of every rand that flows out of the organisation in comparison to retail organisations which spend between seventy and eighty percent. Due to the large expenditure by organisations on procurement, the savings on purchasing costs can have a substantial effect on the profitability of the organisation (Badenhorst-Weis *et al.*, 2002:13; Chapman, Dempsey, Ramsdell & Reopel, 1998:65).

The main reasons for this shift from an order taking function to a strategic function is due to challenging factors such as globalisation, and inflation (Hugo *et al.*, 2002:9). Inflation is defined as the continuous and considerable rise in prices in general (Mohr & Fourie, 2004:534). If prices rise by an average of ten percent per annum, it can result in prices doubling within ten years (Hugo *et al.*, 2002:9). Globalisation refers to the increasing global connectivity, integration, and interdependence in the economic, social, technological, cultural, political, and ecological spheres. Globalisation is an umbrella term used to describe a unitary process, which is inclusive of many sub-processes. Globalisation affects the world in several different ways such as: industrial, financial, economic, political, informational, cultural, ecological, social, transportation, and technical (Bernanke, 2007:1).

2.3.4 Tools and techniques applied by procurement to achieve business objectives

Most authors agree that the procurement function can contribute more to the organisation than the traditional order placing and expediting of overdue orders. According to Dobler and Burnt (1996:9) the focus of the procurement function has changed from a tactical order taking function to a strategic function, which focus on more than the traditional day-to-day operational functions. To manage an activity like procurement requires the execution of all four of the organisational tasks namely: planning, organising, leading, and control (Sawyer, Dittenhofer & Scheiner, 2003:1061).

The modern procurement manager must be able to adapt with ease to changing technology, increasing product diversity, environmental issues, international competition, and the increasing emphasis on quality and better value for money (Clifford *et al.*, 2003:6). In order to achieve these objectives, procurement applies developed tools and techniques.

The literature indicates various tools and techniques that the procurement department can apply to achieve its goals. According to Hugo *et al.* (2002: 227) these tools are negotiations, material budgets, supplier selection and evaluation analysis, and electronic information. Schorr (2000:25) also recognise techniques that procurement can apply when he quotes: "If we are going to be successful, we have to get the buyer out of these non-productive activities and give the buyer the time to do cost reduction, negotiations, and add value analysis. To do that we have to depart from traditional purchasing practices." White (2002:1) lists the tools that procurement can apply as: insurance, terms and conditions, warranties, contingency funds, and negotiation techniques.

There are various tools and techniques available to procurement management to achieve the business objectives set by the organisation. For the purpose of this study negotiation techniques, material budgets, and supplier selection, evaluation and performance will be discussed as tools and techniques.

2.3.4.1 NEGOTIATIONS

Negotiations are the most applied technique used in the business environment to conclude transactions (Hugo *et al.*, 2002:230). Negotiation is the process of interaction between parties, which is directed at reaching some form of agreement that will hold and which is based upon common interests, with the purpose of resolving conflict, despite widely dividing differences (Spoelstra & Pienaar, 1996:3). According to Burnt *et al.* (2003:453) Webster's dictionary describe negotiation broadly as conferring, discussing, or bargaining to reach agreement in business transactions and Herb Cohen describes negotiation as a pervasive process in which people ultimately attempt to reach a joint decision on matters of common concern. Derived from definitions of negotiations is that negotiation always requires both shared interests and issues of conflict.

In order to be a successful negotiator requires certain personality traits. It should therefore be accepted that some procurement specialists might achieve more

success with negotiations than others. However the procurement specialist can improve on negotiation skills by ensuring that he or she understands the negotiation process and the respective phases of the process. According to Monczka *et al.* (2005:413) good negotiators are not born, but acquire their skills through proper training and experience and can improve their negotiation skills further through practice. Negotiation skills are now more important than ever (Kreitner & Kinicki, 2004:503). Despite the different view of the authors, they agree that individuals can improve their skills by applying the process.

According to Dobler and Burnt (1996:381) successful negotiators share three common attributes, firstly they are of the opinion that no one is born with negotiating abilities and that one requires training to become a successful negotiator. Secondly they enter into negotiations with higher goals than their counterparts and generally achieve them, and finally they are all destined to become among an organisation's highly valued professionals.

The successful negotiator has high self-esteem and is always most interested in professionalism and the best interest of the enterprise. The successful negotiator is ethical and honest and not influenced by friendship or gratuities (Burnt *et al.*, 2003:481).

Negotiation entails a personal meeting between the parties involved, aimed at reaching a compromise and reaching a decision. Negotiating is an expensive method because it requires travelling and lodging expenses, and requires the presence of highly paid staff. Therefore it is only justified in instances where conditions are complex or when the goods in question are of a high monetary value (Cronje *et al.*, 1997:390).

2.3.4.1.1 Types of negotiations

Hugo *et al.* (2006:236) distinguish between constructive and competitive negotiations. According to the authors the type of negotiation will determine the

planning required before entering into the process. Constructive negotiation is characterised by an outcome with mutual benefit to the parties involved, whereas competitive negotiation is also known as win-lose negotiation. Harris (1983:178) states that during constructive negotiations, you do what you want others to do to you, whereas during competitive negotiations you do it to others, before they do it to you.

2.3.4.1.2 The negotiating process

Irrespective of what route the negotiator plan to follow, it must be emphasised that negotiation entails a carefully planned process. Hugo *et al.* (1990:284) distinguish between five phases in the negotiation process namely: information gathering, preparing for negotiation, negotiation planning, meeting, and implementation. Dobler and Burmt (1996:369) identify four phases within the negotiation process namely: fact-finding, the recess, narrowing differences, and hard bargaining. Despite the fact that authors have different opinions about the process of negotiating, they all emphasize the fact that upfront preparation is essential before the parties attempt the actual negotiation. Hugo *et al.* (2002:231) confirm the statement by stating that preparation before negotiations is an important contributor to the success of the negotiation outcome.

When complex negotiations such as project related items are purchased, a team approach is usually preferred due to the complexity of the items procured. The procurement professional can add tremendous value as the leader of the negotiation team due to his or her expertise. By means of careful planning, the leader must draw from the specialised knowledge of each team member and combine this expertise with his/her own (Dobler & Burmt, 1996:363).

The procurement professional can apply expertise and tactics in leading the negotiations. Tactics available to buyers include the use of “murder boards” which consist of a team represented by all the relevant expertise, the use of diversions, using questions effectively, using of positive statements, being a good

listener and finally being considerate towards the other party (Dobler & Burnt, 1996:372). According to Monczka *et al.* (2005:505) negotiation tactics are short-term plans and actions, which can be applied to achieve negotiation targets. The universally applicable techniques applicable to all negotiations include getting to know you, use diversions, use questions effectively, use positive statements, be a good listener, and be considerate of sellers (Burnt *et al.*, 2003:469).

Negotiators must also be aware of the actual communication process and the barriers that exist within the communication process. Kreitner and Kinicki (2004:522) describe the communication process as sending the message, encoding the message, the message itself, the medium to communicate the message, decoding of the message, and finally creating a meaning to the message. The authors elaborate by explaining that barriers exist when attempting to effectively communicate. The barriers are categorised as process barriers, personal barriers, physical barriers, and semantic barriers.

2.3.4.1.3 Post-tender negotiations

Hugo *et al.* (2002:242) state that the ethical behaviour concerning post-tender negotiations is often under suspicion. Post-tender negotiations can actually be applied by the procurement professional to increase value for the organisation. Better prices, quality and improved lead times can be negotiated during post-tender negotiations. Lysons (1996:336) defines post-tender negotiations as negotiations that take place after formal tenders have been submitted, but before the contract is awarded. These negotiations are aimed at bringing improvements in price, delivery, or content without prejudging other tenders or damaging their confidence in a competitive tender system. Badenhorst-Weiss *et al.* (2002:13) and Hugo *et al.* (2002:243) note that these types of negotiations should be limited to very special situations and must only be conducted with special consent from senior management.

2.3.4.2 MATERIAL BUDGETS

A budget is defined as a detailed plan for acquiring and using financial and other resources over a specified period. It represents a plan for the future expressed in formal quantitative terms (Garrison, Noreen & Brewer, 2006:378). The main budget of an organisation consists of various sectional budgets and is derived from the sales and production budgets (Dobler & Burnt, 1996: 625). The material plan must be set up in close collaboration with other departments within the organisation. Material budgets specify the materials required to meet the planned requirements. The material budget makes provision for quantities, time schedules, and cost ingredients (Hugo *et al.*, 2002: 248).

Budgets prepared well have advantages to both the procurement department and the management of the organisation. It provides the procurement department with information regarding the timing and quantities on goods and services that must be procured. Budgets enable management to make provision for funds and to ensure that sufficient cash is available when required for the procurement of materials as stipulated in the material budget (Badenhorst-Weiss *et al.*, 2002:17). Budgets enable the management of organisations to perform strategic planning and to allocate funds to respective departments in a rational and systematic manner (Hugo *et al.*, 2002:246).

Organisations realise many benefits from budgeting. Firstly budgets communicate management's plans throughout the organisation. Secondly budgets force managers to think about and plan for the future. Thirdly budgets provide means to allocate resources to those parts of the organisation where they can be used most effectively and fourthly budgets define goals and objectives that can serve as benchmarks for evaluating performance (Garrison *et al.*, 2006:379; Lambrechts, 1990:162).

2.3.4.2.1 Factors influencing price forecasts on material budgets

Departments within the organisation such as the project management department expect the procurement department to do accurate price projections. Due to factors such as inflation, exchange rate fluctuations, and unstable commodity markets it is relatively difficult to accurately forecast prices.

The factors that the procurement department consider when the forecast prices include:

- Market conditions which can result into forward buying or speculation opportunities.
- Political and economical situations influence the availability of products.
- Labour availability and labour cost.
- Exchange rate fluctuations and inflation rates.
- Expected changes in import taxes and transport costs.
- Expected changes in commodity prices such as copper and rubber.
- The influence of escalation clauses on term contracts.
- General supply and demand market forces and its influence on the market.
- The risks associated with switching suppliers (Hugo *et al.*, 2002:253).

2.3.4.2.2 Material budget as a control instrument

Control is a systematic process, which enables management to compare actual results against planned targets in order to implement corrective actions in the event of deviations (Kroon, 1996:443).

The material budget can be used as a control instrument and is predominantly used by the procurement department to plan material purchases in terms of volumes and timing. However it is the responsibility of management within the organisation to monitor and control the compliance of the organisation against the set budget. Control is executed by monthly comparisons between estimated and actual figures. In the event of deviations against the budgets, management

should request reasons for the deviations and implement corrective actions (Kroon, 1996:451).

The figures on material budgets can differ from the actual figures due to changes to the specifications supplied by end-users, technology and material changes, unexpected changes to prices, production stops due to operational failures, and unreliable suppliers (Hugo *et al.*, 2002:256).

2.3.4.3 SUPPLIER SELECTION, EVALUATION, AND PERFORMANCE MEASUREMENT TOOLS

Selecting the right suppliers is crucial to any organisation focusing on achieving its business objectives and meeting the expectations of its customers and shareholders (BOC Group: Global Supply Management Council 1998:1). Sourcing involve the discovery, evaluation, selection, development, and management of viable suppliers (Burnt *et al.*, 2003:327).

The typical large organisation has many suppliers and contract with individual suppliers. Such organisations can increase leverage with it's existing supplier base by consolidating multiple contracts already in place with the same supplier (United States General Accounting office, 1998:3). The quickest way for a procurement department to achieve quality is by means of supply base rationalisation (Trent & Monczka., 1999:927). Some argue that an organisation is only as good as its sources of supply (Rajagopal & Bernard, 1993:13). Hahn, Watts and Kim (1990:4) support this notion by arguing that an organisation's ability to compete effectively can be affected if a sufficient supplier base is absent. One of the key roles of the procurement function is to reduce the number of suppliers on the organisations supplier base whenever multiple or redundant supply relationships exist. Such reductions allow the procurement function the time and resources necessary to focus on long-term performance improvement with preferred suppliers (Cox, 2001:8). In a supplier development related survey conducted by Handfield, Krause, Scanell and Monczka (2000:37-49), managers

reported that supplier base rationalisation resulted into reduced administration cost and freed up resources to perform more value adding tasks.

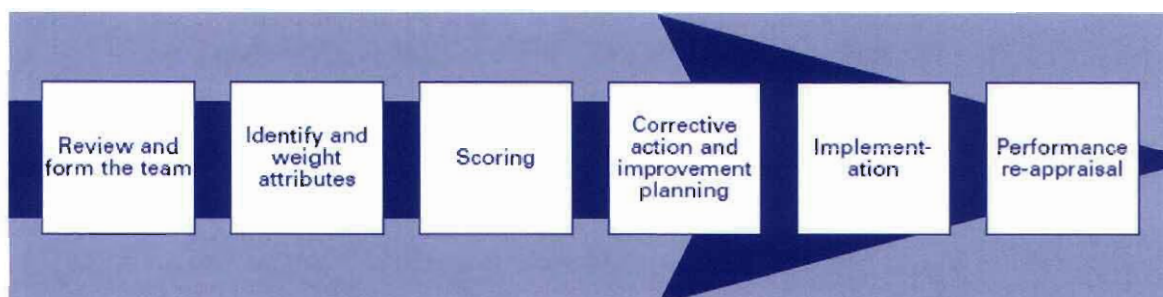
The tools and techniques to select, evaluate, and measure suppliers are customized by organisations to ensure that the respective suppliers meet the requirements necessary for the organisation to achieve its business objectives. For the purpose of this study, the tools and techniques which were developed by *BOC* (British Oxygen Company) will be used to demonstrate the contribution that these tools and techniques can potentially make towards achieving the triple constraint that projects are faced with namely: time, cost, and quality.

The process used by *BOC* is called the *SESPA* (Supplier evaluation, selection, and performance appraisal process (Annexure 1).

2.3.4.1 The *SESPA* process as tool

The first step in the *SESPA* process is to draft the macro plan. The macro plan (Annexure 2) is a tool used to apply discipline and structure to the *SESPA* process. It is designed to present, on a single page, an overview of the entire plan. This gives the team involved an overview of the process, its objectives, and planned timing.

Figure 1: The *SESPA* process can be split into six key sections



Source: BOC Purchase handbook volume 2 (1998:8)

In figure 1, the first stage is the supplier evaluation and selection and consist out of the first four key sections namely: review and form the team, identify and weight

attributes, scoring, and corrective and improvement planning, while the final two key sections account for the second stage namely the performance appraisal stage.

During the first key section in figure 1, the team members are selected. Consideration should be given to the key customers that will be served by the supplier and to where the specialist knowledge is required to provide a reliable evaluation (BOC Group: Global Supply Management Council 1998:9).

The value of the contributions of a cross-functional team should not be underestimated, Dobler and Burnt (1996:127) say: "...the concept of drawing on the coordinated expertise of a group of people from different functional areas to investigate and resolve operating issues as a "team" appears to have caught on." The cross-functional team is defined by Schermerhorn (2005:409) as a temporary work group, which come from different functional units, the team work together and share info, have specific deadlines for a particular task or project and disband once its completed. Cross-functional teams can be beneficial to the organisation and more specifically to the project as it is composed of members from different areas of work responsibility (Schermerhorn, 2005:255). According to the authors Kreitner and Kinicki (2004:455) effective teamwork is achieved by means of cooperation, trust and cohesiveness. Kroon (1996:287) notes that a key success factor of the teams will be determined by how effective the team is managed. The leader must ensure that he and his team is familiar with the tasks allocated to them. Most literature available on project management comment on the various roles of the project manager, as the project manager is responsible for over seeing the entire project management process, it is advised that he acts as the leader of the cross-functional team. "Individuals may work extraordinary hard, but their efforts do not efficiently translate to team effort. By contrast, when a team becomes more aligned, a commonality of direction emerges, and individuals' energies harmonise. There is less wasted energy. In fact a resonance of synergy develops, like the 'coherent' light of laser rather than the incoherent and scattered light of a light bulb (Senge, 1990:223)."

The lack of effective and cooperative teamwork among groups, have resulted in quality problems, cost overruns, forgone all-in-cost savings, major scheduling problems and late deliveries. Furthermore early recognition of problems is difficult in the absence of cooperative teamwork (Dobler & Burnt, 1996:142).

During the second key section in figure 1, the team selected in the previous key section, identifies the needs of the business separately from the competencies of the suppliers. Attributes that contribute towards supplier competencies include delivery and cycle times, product quality, safety and environmental considerations, commercial factors, technology, responsiveness, and business management. It is essential that the cross-functional team clearly understand the requirements of the business before they select the relevant attributes.

Once the attributes are identified the team must decide on the degrees of importance of the identified attributes to the business. Many methods for arriving at the team weightings have been developed. Methods that can be used to vote are "Post-it" notes, allocate dots, (twice as many as the attributes) and allow voting for the value of the attribute, and rate all attributes on a scale of 1 – 10, all members to rate individually and then average out, by using mathematics to arrive at a total of 100 percent (BOC Group: Global Supply Management Council 1998:5). The weightings can then be aligned with the attributes, and then be built into the evaluation spreadsheet (Annexure 3).

During the third key section in figure 1, the team decides whether they have enough information or knowledge to score the attributes. If the information is not adequate, an *RFI* (Request for information) is issued to obtain the required information. The team must decide on how scoring will be applied in order to ensure consistency. Scores are built into an evaluation sheet (Annexure 4 & Annexure 5), which calculates the detailed performance against the set minimums.

The results of the plan should be shared with suppliers. As a result, all qualified suppliers should have improvement plans as indicated in key section four of figure 1, jointly developed and planned by the respective parties. The focus of such a plan should be on those identified areas of weakness that both parties feel can improve. The plan should include proposals that were jointly developed and accepted. For those suppliers not meeting the qualification requirements, an action plan that corrects shortfalls can be considered as an option, to prepare this supplier for future evaluation considerations. Key section five in figure 1 provides for the implementation of corrective action and improvement planning by suppliers.

The performance appraisal stage, which is the final key section in figure 1, provides for the ongoing monitoring and measurement of the supplier's performance. The aim is to provide objective monitoring of the supplier during its business relationship with the organisation, and provide a vehicle for continually improving performance.

The same categories and attribute developments exist for performance appraisal as evaluation. The team needs to determine whether the attributes selected for evaluation apply to performance appraisal. In certain circumstances it may be necessary to address those aspects identified in the initial evaluation as being "poor" with more strength to determine whether the overall performance has addressed these attributes. Where new attributes are required the procedure adopted for the supplier evaluation should be used. The team needs to decide on the frequency of appraisals.

Hugo *et al.* (2006:109) state that the obvious place to start when faced with a non-conformance of a supplier is with the contract that was concluded between the two parties. He notes that nothing is as effective as a written document that outlines the specific duties and specific remedies if these duties are under dispute.

Quality must be in-line with the requested specification from the user. Monczka *et al.* (2005:397) describe value analysis as the aim of the organisation to lower supplier cost by means of altering designs, using of cheaper materials and re-engineering within the parameters to still achieve the desired quality (Hugo *et al.*, 2006:138).

2.4 CHANGE MANAGEMENT

Change is seldom easy, old ways die hard, even when there is wide agreement that change is needed. In order to prepare for a lock-step approach between project management and procurement, will require change.

Change is not made without inconvenience, even from worse to better (Samuel Johnson 1709-1784, English lexicographer). Spencer (1996:90) quotes that nothing is certain but death, taxes, and resistance to change. Developing a culture that sees individual projects as elements of the business plan can be a difficult problem (Knipe *et al.*, 2002:51). "We have all heard nightmare stories told of clashes between procurement officers and project managers. Yet with procurement's prominent position in worldwide competition today, as well as continued challenges, both communities must work together to best complete the project and meet the needs (Butcher, 2006:2)." Training has a key role to play in changing the culture of any organisation (Knipe *et al.*, 2002:51). Training means that managers are equipped to participate in the creation of a conducive working environment in which effective project control can be achieved (Harrison, 1985:321).

Senge (1990:30) quotes as follows: "Challenges occur in any organisational change movement aimed at making deep changes in systems and practices, and in people's attitude and behaviour." The authors elaborate by saying that the most fundamental flaw in the strategy of innovators, is that they focus too much on the innovation rather than on understanding how the culture, structures, and norms will react to their efforts.

A common root of difficulties with change is that employees and senior managers view change differently. Senior management see change as an opportunity to strengthen business, whereas middle management and employees view change as disruptive and intrusive (Strebel, 1996:86).

Change typically brings with it resistance. Schermerhorn (2005:479) lists the reasons why people may resist change as:

- Fear for the unknown - not understanding what is happening or what comes next.
- Disrupted habits – feeling upset when old ways of doing things cannot be followed.
- Loss of confidence - feeling incapable of performing well under the new way of doing things.
- Loss of control – feeling that the things are being done to you rather than by you.
- Poor timing – feeling overwhelmed by the situation.
- Work overload – not having the physical energy to commit to the change.
- Loss of face – feeling inadequate because the old ways are not good enough any longer.
- Lack of purpose – not understanding the benefit of the change.

The most successful change programmes begin when there is a compelling need or pressure that provides incentive and motivation for change. To be effective the pressure must be well documented and researched and must convince virtually everyone in the organisation (Easton, Brown & Armitage, 1998:449).

Because of the problems associated with the implementation of successful change, change typically does not happen by command. Systematic change usually requires a systematic approach to counter the resistance. Change implementation typically requires careful planning, close monitoring, and constant management. The four activities that should be carried out during change

management are: entering and contracting, diagnosing, planning and implementing change, and evaluation and institutionalising change (Cummings & Worley, 2005:29). Lewin's change model (adapted from Schererhorn, 2005:474) propose that any planned change effort must be viewed as a process with three phases namely unfreezing, changing, and refreezing.

Based on literature available it can be derived that change will always be accompanied with resistance, even if the planned change will result in improvements. Therefore whatever the reason for change, it is essential for organisations to realise that successful implementation of change will require a systematic change implementation process.

CHAPTER 3: INTEGRATING PROCUREMENT TOOLS AND TECHNIQUES WITHIN THE PROJECT MANAGEMENT LIFE CYCLE

3.1 INTRODUCTION

There is no lack of literature on project failure and reasons why projects fail. Available literature concludes that successful projects are defined as those completed on time, within budget, and in ways that meet objectives. The biggest challenge to project managers is to mitigate risk in an environment filled with uncertainties. Marketplace forces such as unstable commodity markets and economic fluctuations are among the competitive forces experienced by project managers. Suppliers play an integral role within the project life cycle and therefore it is essential to ensure that the right suppliers are selected.

The role of procurement has changed from functional to strategic and is no longer viewed as a backroom function, which converts requests into supplier orders. The main reason for the change is due to challenging factors such as globalisation, inflation, technological innovations, and fluctuations in exchange rates and commodity markets. Due to the large portion of expenditure spend by the procurement department within the organisation the savings on purchasing costs can have a substantial effect on the profitability of the organisation. Procurement savings initiatives are now far more visible on the agendas of senior management.

Selection of the right suppliers is crucial for any organisation striving to achieve the business objectives of the organisation and meet the expectations of customers and shareholders. The procurement department apply certain tools and techniques to select, evaluate, and measure the performance of suppliers. Various tools and techniques are available, the focus of the study is on three of these tools and techniques namely: negotiations, material budgets, and the *SESPA*(Supplier Evaluation, Selection, and Performance Appraisal) process.

3.2. INTEGRATING PROCUREMENT TOOLS AND TECHNIQUES WITHIN THE PROJECT MANAGEMENT LIFE CYCLE

In the past, the relationship between project managers and procurement has been a clash of wills, with the procurement office and the project department working in functional silos. The reality is that there are very few projects that do not involve procurement in some degree or other. After all, a contract is a commitment, with legal implications. Therefore any person who wishes to enter into some form of contractual commitment must make sure that he or she knows the subject. There is commonality between the procurement process and the project management life cycle, and there is also a need for both the processes.

The opportunity of integrating tools and techniques applied within the procurement management process into the project management life cycle is evident with a comparison of the respective steps in the procurement process and the five identified phases within the project management life cycle. Procurement value is possible in all the phases of the project management life cycle.

During the conceptual phase of the project management life cycle the cross-functional team is selected and needs are identified. Involving the procurement office as a member of the cross-functional team during this phase can add the following value:

- The procurement office interacts with the suppliers of goods and services, and is familiar with the performance of suppliers in terms of quality, lead times and cost efficiency.
- The Preferential Procurement Policy Framework, Act 5 of 2000, requires that organisations should give preference to previously disadvantaged people as suppliers. Progress on preferential procurement is monitored by on a senior level in most organisations and the responsibility to achieve the targets is assigned to procurement. When procurement select suppliers, it is essential to consider suppliers covered by Act 5 of 2000.

- The procurement office can head start in possible supplier identification by collecting supplier information through available resources such as catalogues, internet web-sites, and purchase history on similar items. The *SESPA* process can be applied to assist with the selection of the right suppliers.
- Based on the information collected a list of potential suppliers can be identified and *RFI*'s (Request for information) can be issued to these potential suppliers to obtain information on lead times, budget prices and availability of required quality. This information can assist the project manager in taking more informed decisions when planning timelines, preparing budgets, and promising quality to stakeholders.
- Suppliers recommended by the project team can also be approached to obtain required information in an acceptable format for budgeting purposes, and ensure that a non-obligatory atmosphere is created by formally issuing requests only, without contractual commitment.

During the second phase, which is the planning phase in the project management life cycle, the project solution is further developed into business requirements, function of the intent of the project, quality standards, budget, and time constraints. It is usually during this phase that the unrealistic expectations of stakeholders result into commitments by the cross-functional team to unrealistic plans such as totally unrealistic schedules and budgets.

Involving the procurement office as a member of the cross-functional team during this phase can add the following value:

- Based on the information obtained from the *RFI*'s responses, the procurement office can all ready make proposals to the project manager regarding potential suppliers, based on quality, effective costing, and expected lead times. If the procurement office was not approached during the conceptual phase, the *RFI*'s would only be issued during this phase, opposed to proposals which is available earlier.

- The proposals provide the project manager with information on quality available, cost structures, and lead times. Based on this information, the project manager can take more informed decisions.
- The cross-functional team evaluates the proposals submitted by potential suppliers, and decisions are made in terms of preferred suppliers.

The third phase in the project management life cycle namely the execution is the phase during which the procurement office is usually involved. The reason for this is that within most organisations, the procurement department is usually the only department permitted to enter into contracts on behalf of the organisation. Involving the procurement office as a member of the cross-functional team during this phase can add the following value:

- The early involvement of the procurement office as a member of the cross-functional team makes it easier for the procurement office to draft the relevant agreements, because the performance measurement milestones and relevant clauses are pre-defined by the team during the previous phase.
- Negotiations forms part of the normal day-to-day activities of the procurement office, the department applies negotiations as a technique to ensure that the best possible deal for the organisation is obtained in terms of lead times, quality, and costs.
- The material budgets as a control tool is applied to formulate cost structures within the contract.

During the final two phases of the project management life cycle, namely the control phase and close out phase, the material budget and performance appraisal techniques can be applied to measure performance against pre-determined milestones.

The material budget can be used as a control instrument and is predominantly used by the procurement department to plan material purchases in terms of volumes and timing. Control is executed by monthly comparisons between estimated and actual figures. In the event of deviations against the budgets, the

procurement office request reasons for the deviations and implement corrective actions.

The obvious place to start when faced with a non-conformance of a supplier is on the contract that was concluded between the two parties. Nothing is as effective as a written document that outlines the specific duties and specific remedies if these duties are under dispute. The *SESPA* process is applied by procurement management to monitoring and measurement of the supplier's performance. The team needs to decide on the frequency of appraisals. The aim is to provide objective monitoring of the supplier during its business relationship with the organisation, and provide a vehicle to continually improving performance.

3.3 PITFALLS

Irrespective of the potential benefits that the integrated procurement-project management approach can deliver, the procurement function generally does not have the power to convince the rest of the organisation that change is necessary. They rely on support from senior management. Change is never without resistance, and a formal change management process will be required to ensure that change is implemented successfully.

The project manager's attitude towards the members in the cross-functional team will determine the success of the team. Project management is a people business and the foundation of project management effectiveness lies with the people involved, both individually and collectively. The essence of effective project management lies in the fitness and the ability of the people on the team to become of one mind and to bond with one goal.

No two projects are the same, therefore lessons learned from previous projects does not guarantee that the same mistakes will not be made again. Each project is unique, temporary, and requires specific resources and with the characteristics

of a project in mind, it is an art to bring a project through its life cycle as effectively as possible.

Project managers all have the same concern known as the “triple constraint” namely: bringing in a project in on time, bringing a project in under budget, and bringing project in within the scope of the specifications. Project managers will do whatever it takes to achieve the triple constraint, even bypass the procurement office if necessary. Due to complex specifications purchases can be supplier-specified, often such purchases are performed outside the realm of professional procurement, which generally creates lack of control. Project managers may rely too much on suppliers and end up paying too much.

3.4 RECOMMENDATIONS

Procurement staff should play an integral role in the development of the procurement strategy and must be key members of the integrated cross-functional project team during the first phase of the project management life cycle.

A procurement strategy should be developed during the conceptual phase of the project life cycle and should be integrated with the risk management program.

The risk management program should be an active document and continually be referred to, updated, and acted upon.

Risk and uncertainty are the main concerns of project management and should be addressed explicitly as part of the procurement strategy. Suitable contracting approaches should be determined in the light of this level of risk. The contractual approach decided on should be tailored to address the unique needs and conditions of the project and should not be based on a general template type contract.

Contract administration strategies should be developed as part of the agreement to ensure effective measurement of supplier performance. Procurement should ensure that identified milestones are measurable to serve as performance measurement milestones.

Documents and procedures alone do not drive good practice. Ultimately good practice derives from senior management support. The journey toward effective project management is far from complete. It is evident that management is serious about successful projects. The procurement department's approach and strategy should be tailored to the project needs and performance metrics and incentives should be used to tie contractor performance to desired results.

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ANNEXURES

ANNEXURE 1: The *SESPA* process as described by *BOC*

WHY *SESPA* ?

INTRODUCTION

SESPA[™] is the core of BOC's global supply selection strategy. It has been developed and used uniquely by BOC for evaluating and selecting 'best in class' suppliers and monitoring their performance over time.

THE PRINCIPAL BENEFITS OF *SESPA*[™] ARE:

It provides a consistent and structured approach to the selection of suppliers.

SESPA[™] is applied by a crossfunctional team so decisions are agreed and jointly owned.

SESPA[™] provides the structure to guarantee that decisions on our requirements and the subsequent successful supplier are reached with agreement.

Evidence and justification of the final decision is available.

Once a decision is reached, *SESPA*[™] forms the basis for continuous improvement by providing the criteria for on-going measurement of the supplier.

APPLICATION OF THE SESPA™ PROCESS

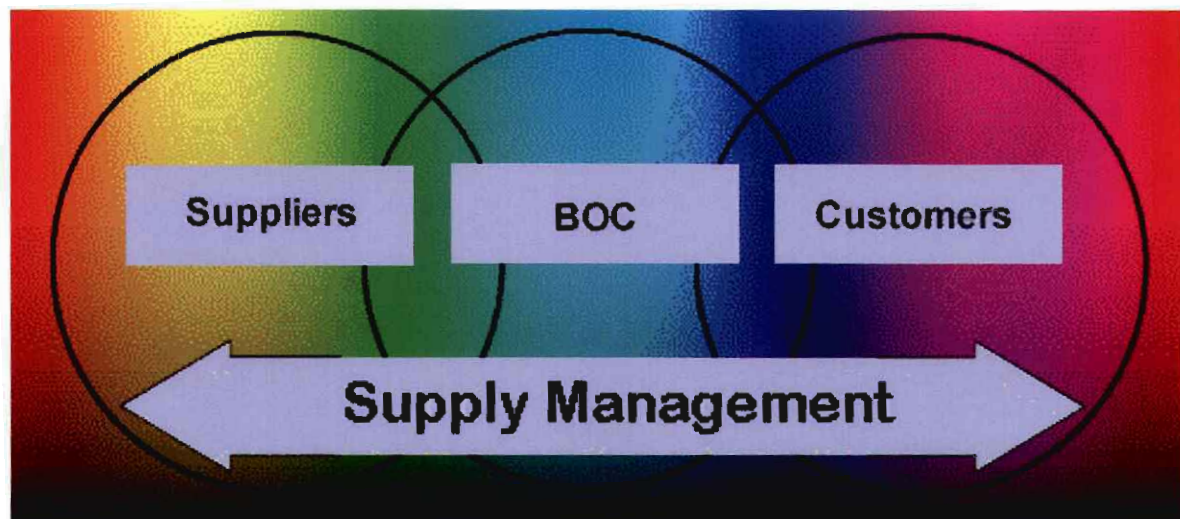
SESPA™ should be applied consistently for

- Products which are critical to the business
- High dollar value contracts
- Emotive decisions where it is important to have cross functional input, evidence and justification of the final decision

SUPPLY MANAGEMENT SERVICE OFFER

Supply Management predominantly take on a facilitation role in the SESPA™ process.

It is their responsibility to ensure that the business gains the maximum benefits from the supplier evaluation and selection and the on-going relationship with the successful supplier.



ANNEXURE 2: Macro plan template

Supply management product service macro plan																	
Objectives 1. CLICK Here to add 2. 3. 4. 5. 6.	Team Initials (leader): other team names																
	Plan 1. CLICK Here to add 2. 3. 4. 5. 6. A list from MS project can be pasted here if preferred																
Current situation CLICK Here to add	Timing (Refer above for letter code) A Gantt chart from MS project can be pasted here if preferred CLICK Here to add months along this axis																
Product availability CLICK Here to add																	
VOB CLICK Here to add																	
Status CLICK Here to add																	
	Benefits CLICK Here to add																
	<table border="1"><tr><td>Sign offs</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Sign offs															
Sign offs																	

ANNEXURE 3: Example evaluation spreadsheet

CATEGORY	EVALUATION ATTRIBUTE	WEIGHTING EVALUATION	TORS	CROSS FUNCTIONAL/MULTI-SKILLED TEAM	Mechanical Technology	Projects	Procurement	Average wght/pts. supply mgt.	Number of evaluators	Weighted av. rating
COMMERCIAL	19.00%	Cost competitiveness	6	4	3	3	4	4	3	3
		Performance	7	4	3	3	3	3	3	3
		Proactiveness	6	4	3	3	4	4	4	4
TECHNOLOGY	17.00%	Operating flexibility	4	3	3	3			3	3
		Present & future capabilities	7	3	3	4			2	2
		High calibre staff	6	3	3	4			3	3
BUSINESS MANAGEMENT	15.00%	Management commitment	7	4	4	4	4	4	2	2
		Resources	6	4	4	4	3	7	2	2
		Understanding of management	2		4	4			2	2
PRODUCT QUALITY	24.00%	Reliability	8	4	4	4	4	4	3	3
		Documentation	8	3	4	4	4	4	3	3
		Quality competitiveness	8	3	4	4	4	4	3	3
DELIVERY	11.00%	On time	6	4	5	4	3	3	4	4
		Feedback	5	3	5	4	4	3	4	4
RESPONSIVENESS	14.00%	Communication	7	4	6	4	4	4	5	5
		Reaction to problems	7	4	6	4	3	4	5	5
100%										
Supplier Rating										
76.77%										

ANNEXURE 4a: Supplier evaluation and selection summary table

CATEGORY	Attribute	Weight	Supplier
COMMERCIAL 19%	Cost competitiveness	7	0.44
	Proactiveness	7	0.49
	Performance	8	0.47
			73.7%
TECHNOLOGY 17%	Operating flexibility	5	0.27
	Present & future capabilities	8	0.49
	High calibre staff	7	0.4
			68.2%
BUSINESS MANAGEMENT 15%	Management commitment	7	0.6
	Resources	6	0.45
	Understanding of management	2	0.16
			80.7%
PRODUCT QUALITY 24%	Reliability	7	0.67
	Documentation	9	0.64
	Quality competitiveness	8	0.64
			81.3%
DELIVERY 11%	On time	4	0.51
	Feedback	4	0.4
			82.7%
RESPONSIVENESS 14%	Communication	5	0.53
	Reaction to problems	6	0.53
			75.7%
TOTALS:			76.8%

ANNEXURE 4b: Supplier evaluation and selection summary graph

