

# **An Investigation of Business Process Maturity: A Case Study in a South African Parastatal**



University of Cape Town  
Mechanical Engineering Department

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By: Maleho Nteo

Supervisor: Dr Corrinne Shaw

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## **ABSTRACT**

Business Process Management (BPM) has become one of the management approaches adopted by many organisations that strive to survive in a turbulent and competitive environment. BPM offers the means to manage and optimize business processes with the objective of improved efficiency and effectiveness; thereby improving the potential of business success. However, the extent to which BPM influences business success is a matter of debate with diverse schools of thought finding it difficult to reach consensus regarding the critical success factors of BPM and the extent at which processes and people influence business success.

The capability of an organisation or enterprise is the ability to deliver on a desired outcome. In this dissertation, the enterprise capabilities of BPM are investigated. The research sets out to investigate the BPM maturity level of a South African parastatal. The intention is to identify and improve on those factors that influence maturity of the enterprise capabilities and may have negative impact on stakeholders.

The approach taken to address the research objectives drew on case study methodology. Fieldwork was conducted using company documents, observation, a questionnaire and in-depth interviews. The questionnaire responses were qualitatively analysed using the categories of Hammer's model of enterprise capability. The research findings identified weaknesses in all categories of enterprise capability though expertise appeared to be thriving. The findings further suggest that weaknesses in leadership and the leadership style in particular impact on the effectiveness of business processes. The leadership style was seen as the major driver to impede process effectiveness. The following themes describing leadership style were derived from interviews: creation of sense of belonging, degree of approachability and extent of collaboration.

In order to improve the BPM in the case company, the following recommendations were made: communication sessions, awareness training and process remodelling. The research study also provides the opportunity to understand BPM in a broader context, thus having potential for transferability to other organisations.

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## LIST OF ACRONYMS

ABPMP	Association of Business Process Management Professionals
BPM	Business Process Management
BPMMM	Business Process Management Maturity Model
BPR	Business Process Reengineering
CMMI	Capability Maturity Model Integration
ERP	Enterprise Resource Planning
HR	Human Resources
IT	Information Technology
JIT	Just-In-Time
KMS	Knowledge Management System
OECD	Organisation for Economic Cooperation and Development
PEMM	Process Enterprise Maturity Model
TQM	Total Quality Management

## **CHAPTER 1: INTRODUCTION**

### **1.1 INTRODUCTION**

The advent of globalisation has resulted in many organisations embracing change at different levels in order to remain competitive in an economically volatile environment, which resulted in the business structures being at risk of growing obsolete (Hammer, 1996). In South Africa both the public and private sectors are faced with challenges of becoming irrelevant in a competitive, changing environment. A survey of the South African economy noted that “domestic barriers to firms entering market is still too high...” (OECD, 2015:2). Slow economic growth is clearly a concern for South Africa as stated by the Minister of Finance, Pravin Gordhan, in his 2016 Medium Term Budget Policy Statement speech (Gordhan, 2016). While the public sector attempts to provide effective services for society, the private sector attempts to maximise profit for shareholders. Moore (2000) distinguishes between these sectors by stating that in the public sector, efficiency and effectiveness are pivotal as measures of performance to achieve its mission; as opposed to the bottom-line or increased equity value in the private sector.

The effectiveness and efficiency of services in the public sector can be determined by the processes which ultimately contribute to the improvement of customer services. Modern agile technology serves as a catalyst to ascertain effectiveness and efficient improvement of these services. When studying the Australian system of government, Tregear and Jenkins (2007) state that public sectors take a process view due to digitalisation of services with the aim to improve service levels such as transparency, risk management, red tapes reduction and change efficiency. Despite efforts of continuous improvements in the public sector, challenges still exist as a result of common red tapes that often inhibit effective process management. According to Public Service Operations Management (2015), some of the departments in South African public sector still struggle with the continuous improvement and delivery of quality services such as lack of operational strategy; inability in most cases to map services provided to ensure effective and efficient delivery; non-existence of service delivery models, lack of standard operating procedures in departments; analysis of services rendered; to name but a few. The delays of financial investment into technology and process-improvement practises to enhance services are often seen as prevalent issues in the public sectors. This trend is often common in the public sectors as opposed to private sectors; thus resulting in the public sectors becoming late adopters of modern technology and process-improvement practises.

According to Seethamraju and Marjanovic (2009) competition is intensified by the complexity of the business environment where stakeholder requirements are constantly changing with the introduction of new technologies. Stakeholders in recent years have proven to be the crucial part of business success. Their changing requirements such as fast service and transparency, for example; have significant impact on the organisation. Hammer (1996) argues that problems that affect modern organisations are not tasks-oriented but rather process-oriented. People perform tasks that do not contribute to the achievement of desired results and there is extreme delays and significant waiting period between activities.

Jeston and Nelis (2011) posit that processes cannot be affected without affecting people who use those processes. It is for this reason that process improvement goes hand in hand with people enablement. Trkman (2010) believes that the success in implementing organisational change is dependent on the quality of process implementation, which comes in the form of a joint effort between a manager and change agent. It therefore stands to reason that the constant monitoring of stakeholders and their requirements in a changing environment will likely contribute to process improvement and eventually enhance business success. An organisation that promote change amongst its people also finds it easier to welcome innovation and achieve a competitive edge.

Kallio, Saarinen and Tinnilä (2002) acknowledge the complexity of change and differentiate change as either business or process oriented. The business changes take place as a result of external issues such as tighter economic conditions, new legislations, advanced technology and changing stakeholder requirements. Process changes are influenced more by internal issues such as operational inefficiencies in the organisation in the form of high cost or low quality (Kallio *et al.*, 2002). Therefore the need for organisations to revisit and redesign their business processes is paramount in order to achieve improved business performance and meeting stakeholder requirements. It is for this reason that most organisations see Business Process Management (BPM) as one of the solutions that enable redesigning and remodelling of business processes in order to improve business performance.

Trkman (2010) for example, sees BPM as a management approach that enables all efforts in an organisation to be analysed and continually improve fundamental functional activities of company's operations. Al-Dahmash and Al-Saleem (2013:3149) supports this view, noting that BPM serves as a "systematic approach to managing the basic activities in an organisation". Hajiheydari and Dabaghkashani (2011) also apprise BPM as one of the most effective management approaches in the running of organisations, particularly because there are so many factors challenging the

profitability and survivability of big and small companies. Burlton (2011) points out that BPM can provide benefit to the organisation by addressing such aspects as making work less costly, driving higher revenues and market share, bringing products to market sooner, keeping products in market longer, enabling continuous improvement as well as enabling new products and services that are more flexible and easier to change and sustain.

The research study documented in this dissertation is prompted by the need to thoroughly understand the BPM implementation in parastatals in general and the case company in particular; as well as the importance of maturity levels in influencing business success. The case of a parastatal in South Africa is introduced below with background information on the complex nature of the organisation. Thereafter, the research problem, research questions as well as research objectives are outlined.

## **1.2 RESEARCH APPROACH**

The BPM maturity of an organisation can be investigated by addressing enterprise capability and process enablers. The enterprise capability consists of four categories; namely: leadership, culture, expertise and governance. The process enablers consist of five categories; namely: design, performers, owner, infrastructure and metrics. The research study will investigate the enterprise capabilities of BPM; however, infrastructure which forms part of process enablers will also be included in the investigation. This is due to infrastructure focusing primarily on Information Technology (IT) related processes, which are highly relevant to the case company. This approach is supported by Power (2007) who postulates that an enterprises capability assessment should include IT as the latter examines whether the tools and systems are in place to design, analyse, model, simulate, execute, and monitor processes. As a result, infrastructure as one of the process enablers will be included in the enterprise capabilities as an attempt to overcome this weakness.

The study initially looks into the case study where a survey was conducted by the case company in 2014 to assess customer satisfaction. Some of the attributes used in the survey were then selected and assessed owing to their relevance in determining the maturity level of enterprise capability. The results of these attributes derived from the customer satisfaction survey were then explored further; hence they form the basis of this study. In order to provide answers to the research question, the study first determined the maturity level of the enterprise capability. This took place by means of questionnaires and supported by interviews. Thereafter an in-depth understanding of the enterprise capability gained during interviews provided answers to the research question. The answers also confirmed the enterprise maturity level evaluated.

### **1.3 BACKGROUND TO THE CASE ORGANISATION**

The study looks into how process constraints affect the value chain of the case company. The study is motivated by a real world concern derived from views articulated by both internal and external customers, that the service delivered is not effective. The case company is classified mainly as a service organisation as it provides solutions to the government by acting as an agency between the industry and the government, the latter being the primary client. The secondary client is the industry which provides solutions to the case company, so as to meet the needs of the primary client. The key stakeholders in the study are the external customers found in the client organisation as well as the industry. The internal customers refer to employees in the case company.

The case company can be viewed as three levels of recursion; namely the executive level, departmental levels and divisional levels respectively. The executive level provides leadership by driving the organisational strategy. The executive level is then followed by the departmental level which consists of research and development, maintenance and support as well as procurement. The lower level is broken into divisions which serve as specialisation support elements.

During the execution of tasks, the clients would raise a requirement to any of the departments based on the services required. The departments would then conduct a requirement analysis and allocate the requirement to the relevant division. The challenge is that every department has its own internal processes due to their own uniqueness. The requirement for example, is often classified as buy, make or repair and this provides for scientific study, engineering solution, maintenance support or procurement. The uniqueness of the departments often creates boundaries and silos of employees, which culminates into misalignment in the overall business process. Some of the organisational issues identified by means of company survey included the following:

- Lack of agility in responding to stakeholders' requirements e.g. Business Reporting,
- Manually or semi-automated driven processes where some departments were still depending on human intervention to re-capture the information,
- Immeasurable business risks posed on organisation's operations.

The Human Resources Division also reported issues in 2015 which were identified by the external customers in various forums. These issues comprised long lead times for service or product delivery. As for the internal customers, complaints were on cumbersome and restrictive processes. In an attempt to identify more of these issues, the Human Resources Division conducted a survey through an independent organisation.

The survey was conducted in the form of online questionnaires which were distributed to all departments in the organisation. The survey measured fourteen attributes which were referred to as dimensions.

The researcher then selected four of the fourteen dimensions as there is a relationship between those dimensions and BPM. These dimensions comprised Leadership, Communication, Staff Morale as well as Personnel development and training. The Leadership dimension for example, is often found in BPM maturity models (Melenovsky and Sinur, 2006 and Hammer, 2007). The Staff Morale which is associated with customer satisfaction, has also been seen as pivotal to BPM as Kumar, Smart, Maddern and Maull (2008) point out that the relationship between BPM and customer satisfaction cannot be ignored. Miers (2006) also confirms that BPM as a management practise has influence on staff morale and customer satisfaction. Rohloff (2011) outlines the importance of Communication and Training during BPM implementation. vom Brocke and Rosemann (2015) while referring to attributes or dimensions as elements; addresses Communication and Training as part of People element for effective BPM implementation.

The results of the survey revealed that during the period between 2012 and 2015, attributes such as leadership, communication, staff morale and personnel development training did not perform effectively as shown in Table 1.1.

**Table 1.1:** 2014 Results of Customer Satisfaction Survey

Dimensions	Satisfied	Not satisfied	Not sure
Leadership	36%	35%	29%
Communication	58%	27%	15%
Staff morale	51%	32%	17%
Personnel development training	59%	25%	16%

The study shows that only 36% of employees fully appreciated leadership participation and effectiveness. The satisfaction assessment of dimensions such as communication, staff morale as well as personnel development and training were below 60%. The communication attribute for example, scored 58%; staff morale scored 51% while training and development scored 59%. It was noted that the percentages of employees who were dissatisfied exceeded the percentages of employees who were unsure as detailed in Table 1.1.

Although there are diverse management practises that have been successful over the years in addressing abovementioned issues; most of these practises focused on continuous improvement with less emphasis on customers' needs. This became apparent as technology evolved where machines did tasks that were previously done by people. This resulted in many organisations calling for layoffs and being obliged to revisit their change management practises. The evolution of these practises gave rise to BPM due to the consideration of human element in the organisation. Bălănescu *et al.* (2013) for example, asserted that BPM as opposed to other practises was customer-centric as it sought to align business processes with customers' needs. BPM is seen as a derivative of diverse continuous improvement practices such as Business Process Reengineering (BPR), Total Quality Management (TQM), revisionist BPR, Just-In-Time (JIT), Benchmarking, Performance Measurements, Six Sigma, Process Innovation, Kaizen, Lean Management and Toyota Production System (Llewellyn and Armistead , 2000; Carpinetti, Buosi and Gerólamo, 2003; Santos *et al.*, 2014).

The survey also revealed issues such as an urgent need to improve turnaround time, communication, processes as well as to address skills and capacity inadequacies. BPM has been promoted as one of the approaches in the management practice to address attributes such as turnaround time and communication whilst also creating clearly defined employee roles amongst employees which facilitate shared responsibility and training (Miers, 2006; Ravesteyn and Versendaal, 2009; Bandara, Alibabaei and Aghdasi, 2009). As a result, the researcher chose to explore BPM as a management practise to address these issues.

#### **1.4 RESEARCH PROBLEM**

The researcher observed issues pertaining to existing processes in the case company as the delays were reported during service delivery as well as dissatisfaction of both internal and external customers. The internal customers in some departments complained about the use of paper work when applying for leave or attending courses; whereas other departments use workflow systems. The internal customers also complained about unclear roles, which often resulted in delayed requirement processing as no one wanted to take full responsibility. The absence of centralised knowledge management system also made it difficult for new employees to tackle issues; thus relying solely on information they received from employees who had been in the organisation for longer period. The hierarchical nature of public sector organisations is also prevalent in the case company where there are multiple gateways and approval authorities from receipt of requirement to placement of contract for service delivery.



The standard period from receipt to approval of submission to enable contract placement is 116 days; however, this period is often exceeded as one of the Contract Administrator who had been in the organisation for 20 years states: *“I do not recall a time when such a deadline was met”*. With customer satisfaction as a crucial objective identified by the company, these issues could undermine the organisation’s ability to deliver services effectively.

## **1.5 RESEARCH QUESTION**

1.5.1 Which factors influence the maturity level of the enterprise capabilities in the case company?

- The intention is to consider the findings of the primary questions for practical applications.

## **1.6 RESEARCH OBJECTIVES**

The aim of the study is to investigate the effectiveness of BPM in the case company. The results of this study are intended to inform recommendations for implementation in the case company and have potential for transferability to other organisations. Furthermore, the management will be aware of business processes that require expedited attention in order to improve service delivery to both internal and external customers.

## **1.7 LAYOUT OF THIS DISSERTATION**

- **Chapter One: Introduction**

This chapter introduces the BPM topic and a background on process challenges in the form of a case study in one of South Africa’s parastatals. The research approach, problem, questions and objectives are stated.

- **Chapter Two: Literature review**

The chapter presents the theoretical framework of BPM and definitions of BPM, its origin, benefits and challenges as well as the comparison of BPM lifecycles from diverse researchers. Attention is drawn to the arguments relating to the critical success factors and their relationship with enterprise capabilities. The study also addresses the application of BPM in a public sector as well as South Africa’s perspective on BPM. The study further shows the importance of enterprise capabilities in determining business success. The focal point of the study is then the maturity levels used in the BPM context to evaluate the capability of the enterprise.

- **Chapter Three: Research Design and Methodology**

The chapter commences by addressing the research philosophy that sets a stage for the methodology to be adopted. Thereafter the research looks into the sampling techniques, data collection method, data analysis, pilot study, trustworthiness as well as ethical considerations. The data analysis procedure is outlined.

- **Chapter Four: Research Findings**

This chapter presents the results of the findings according to the data collected from the questionnaire and interviews. The findings are then interpreted to provide clarity and minimise ambiguity that may affect the study.

- **Chapter Five: Discussion and Recommendations**

In this chapter the findings are discussed by drawing on literature. The focus on this chapter is to find linkages between the results of the findings and the literature reviewed so as to see how they relate to each other. Finally recommendations are made based on the discussion presented.

- **Chapter Six: Conclusions**

The conclusions which emanate from the study are presented. A brief summary of the research study and the importance thereof is presented. The limitations of the study are identified and the opportunities for future study are proposed.

## **1.8 CONCLUSION**

The chapter commences with an overview of change as a function of BPM. The salient points are looked at which show the importance of BPM as one of the solutions of modern times to circumvent process challenges experienced by most organisations. The chapter then introduces a research approach followed by a case study which provides a background of process issues that have resulted in dissatisfaction of stakeholders. Thereafter the chapter presents research problem, research question and research objectives.

The subsequent chapter will provide a theoretical understanding of BPM concept. It will also introduce the model that guided the investigation of this research study to determine the maturity of the case company.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

The chapter explores the origin of BPM as a concept and discusses views of the objectives and benefits thereof. The lifecycle of BPM is also outlined to show different understandings and approaches to BPM. Attention is then drawn to the BPM success factors and how they relate to enterprise capabilities. The study also provides an overview of BPM maturity models and the extent of its application in the public sector.

### **2.2 ORIGIN OF BUSINESS PROCESS MANAGEMENT**

The origin of BPM cannot be determined accurately and researchers differ on this aspect. There is consensus though that BPM is a derivative of diverse process management and quality improvement efforts. The beginning of the industrial age witnessed challenges where quality was in competition with high productivity to satisfy growing demand (Brown, Bessant and Lamming, 2013). This resulted in the time of product delivery being crucial as industries were jockeying to bring their products to the market. Therefore the organisations identified the need for formal structures to be put in place in order to improve the way businesses were run. According to Carpinetti *et al.* (2003) operational strategies such as TQM, BPR, JIT, benchmarking, performance measurements were adopted to improve organisational performance. It was no longer sufficient to do the right things, but also to do things right. According to Brown *et al.* (2013), a focus on product quality changed to service quality. The arrival of the quality movement saw a focus on waste reduction and customer's needs. Some of the waste elements which are still common today include overproduction, excess inventory, transportation, waiting, unnecessary motion, over-processing, correction, complexity and bureaucracy (Scholtes, 1998).

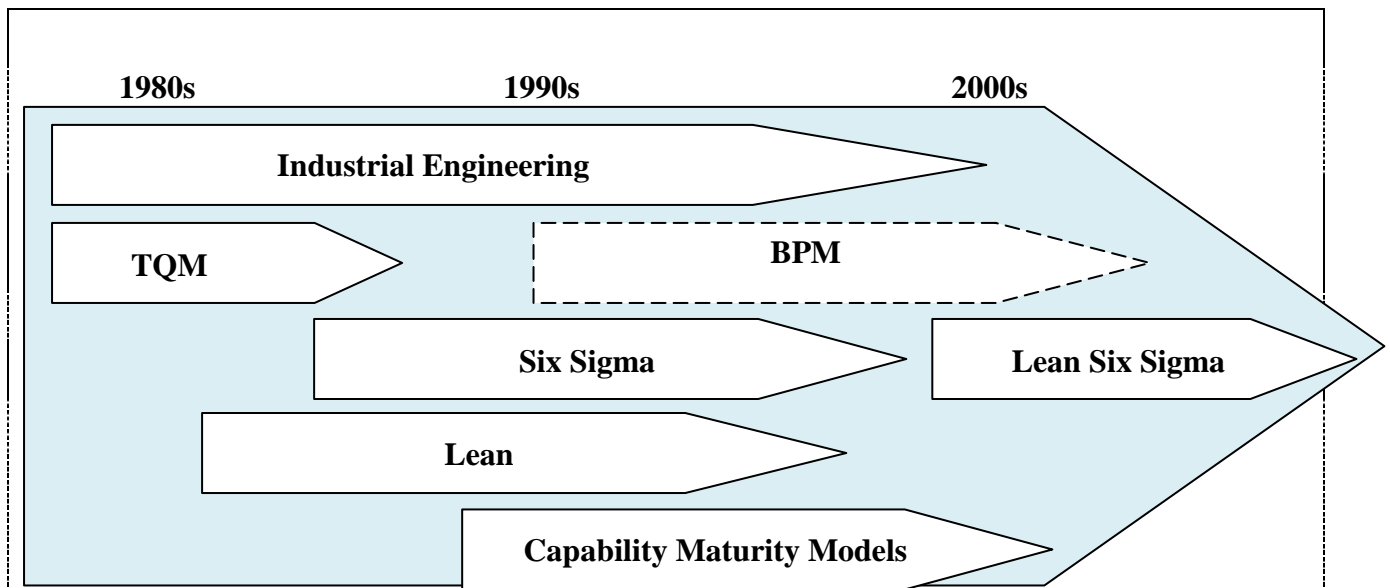
Organisations became aware that customers were prepared to pay a premium as long as there was perceived value attached to products and services. The attitude of customers changed as they became more informed and prosperous. They could no longer accept poor services or products that came at low cost with little or no value. This resulted in organisations being forced to streamline their processes so as to meet and even attempt to exceed customers' expectations. A need for business improvement in the organisation was realised which according to Zellner (2011), sought to increase the effectiveness and efficiency of business processes that provide output to customers.

The information age has provided opportunities for business change; for example, smaller companies are able to compete against big companies. Agility to get to the market becomes a significant factor that gives competitive advantage. The big companies for example, have hierarchical structures which slow down the processes as opposed to small companies. According to Llewellyn and Armistead (1999) BPM was identified as the relevant approach for the removal of barriers between functional groups. The continuous improvement in process management to maintain effectiveness, efficiency and agility as well as focus in customer's needs gave way to BPM. BPM became a customer-centric practice as it was created to align business processes with customers' needs (Van den Bergh *et al.*, 2012; Bălănescu *et al.*, 2013).

Chang (2006) concur that there are different and highly diverse views on BPM from different disciplines ranging from it being conceptualised as a management strategy to that of a software system. Harmon (2015) for example, believes that BPM emanates from diverse traditions which sought to improve businesses, and identifies Frederick Winslow Taylor as the pioneer of business improvement in the 1900s through work simplification and the industrial engineering approach. In 1931 Walter Shewhart together with Deming and Juran laid foundations of BPM through statistical process control which led to the quality movement (Brown *et al.*, 2013). Chang (2006) maintains that BPM as a management philosophy came to the limelight in the mid-1990s but traces it back to Deming's management method in 1953. Weske (2007) concurs that BPM has its roots in the process orientation trend of the 1990s which focused on organising companies on the basis of business processes.

BPM aims to optimise business processes through continuous improvement and the reduction of waste. Improvement philosophies such as TQM, BPR, JIT and Six Sigma that were developed to address these issues have been instrumental in establishing BPM. Llewellyn and Armistead (2000) for example, state that BPM is a derivative of TQM and BPR. This relationship between TQM and BPR for managing processes is supported by Chang (2006). Santos *et al.* (2014) see BPM not only as linked to TQM but also as a derivative of diverse management practices such as the Toyota Production System, BPR and Six Sigma. According to Imanipour, Talebi and Rezazadeh (2012:2), "BPM encompasses the most important strengths and advantages of quality improvement approaches and tools (BPR, TQM, revisionist BPR, Six Sigma, Process Innovation, Kaizen and Lean Management) in a unified framework".

Harmon (2015) provides a historical summary of the quality control tradition in Figure 2.1, which became instrumental in introducing the BPM concept.



**Figure 2.1:** Summary of quality control tradition (Harmon, 2015)

### 2.3 DEFINITIONS OF BUSINESS PROCESS MANAGEMENT

Any business or company that provides products or services engages in a number of activities to achieve the outcomes. These activities or tasks often follow a logical sequence in order to enhance inspection or audits and cater for alignment where requirement exists. Davenport and Short (1990:4) define process as “a set of logically related tasks to achieve a defined business outcome”. Smith and Fingar (2003) elaborate further by including the customer in their definition, stating that a business process is the complete and dynamically coordinated set of collaborative and transactional activities that deliver value to customers. This is supported by Jarrar, Al-Mudimigh and Zairi (2000:124), stating that “a business process is a set of interrelated activities which have definable inputs and when executed, results in an output that adds value from a customer perspective”.

Many definitions exist for the management of business processes. BPM is understood differently by different researchers, the discipline orientation or background of the researchers is pivotal to inform its definition. An Industrial Engineer for example, may see BPM as a tool essential to enhance automation processes. On the contrary, an Information Systems Practitioners may see BPM as a tool that integrates other communication systems in the organisation. These different applications often influence how BPM is defined and understood.

Jeston and Nelis (2006:11) define BPM as the “achievement of organisation’s objectives through the improvement, management and control of essential business processes”. Van der Aalst, ter Hofstede and Weske (2003) however, argue that there is no common consensus regarding the definition of BPM. This view is also supported by Al-Dahmash and Al-Saleem (2013). The lack of consensus regarding the definition of BPM has resulted in the subject of BPM being left to many interpretations.

There are scholars who see BPM as a bridge between IT and engineering (Al-Dahmash and Al-Saleem, 2013). Scholars such as Ravesteyn and Batenburg (2010) as well as Van der Aalst *et al.* (2003) see BPM as a bridge between business and IT as it encompasses methods, techniques and tools to analyse, improve, innovate, design, enact and control business processes involving customers, humans, organizations, applications, documents and other sources of information. Trkman (2010) acknowledges that most continuous improvement efforts are supported by IT; hence emphasises that IT is not the ultimate solution but a tool to support improved processes. Although BPM has become popular in the IT environment, the managerial/business aspect thereof is still vital. Bălănescu *et al.* (2013) for example, argue that BPM can adopt either a technological or managerial approach.

This research study will be confined mainly to the managerial/business aspect of BPM which focuses on the people aspect and their attitudes towards processes. The consideration of the customer is important for the focus of efforts to deliver value, particularly as in the case study for this dissertation where customer dissatisfaction poses a threat to business efficiency and effectiveness. Therefore BPM as defined by Jeston and Nelis (2006:11) will be applicable to this study.

## **2.4 BENEFITS OF BUSINESS PROCESS MANAGEMENT**

The organisations that effectively utilise BPM always strive for continuous improvement as they constantly seek to migrate from the current situation (As-Is) to the proposed situation (To-Be). This claim is supported by Ravesteyn and Versendaal (2009). It is for this reason that many researchers agree on the importance of BPM in an organisation and share similar sentiments on the benefits that BPM can provide (Miers, 2006; Rudden, 2007; Ravesteyn and Versendaal, 2009), these are discussed below.

Benefits which these researchers believe to be common in the organisation can be summarised as efficiency, effectiveness, as well as agility which can result in 1) improved process quality; 2) improved customer service, and 3) faster cycle times. While Gallagher, Austin and Caffyn, (1997) see BPM as a mechanism through which waste and cost reduction can be achieved.

Armistead, Pritchard and Machin (1999) have been influential in stating that BPM enhances organisational coordination with stakeholders, shapes organisational culture and provides a framework for organisational learning. Uusitalo (2014) agrees that organisational learning is an essential part of a company's strategic processes which helps to achieve and sustain competitive advantage; whilst also provides organisational innovation and further helps to respond to dynamic business circumstances.

BPM intends to eliminate duplication of effort, which is often caused by ambiguous roles. This often results in an imbalance of under-utilised efforts as well as over-utilised resources. The example of underutilised efforts in this context can be a highly skilled professional doing most of the tasks that could be done by entry-level employee. Over-utilised resource for example, referring to a Technical personnel who is expected to perform and be responsible for multiple tasks such as engineering, projects, contracts and logistics. According to Bandara *et al.* (2009), BPM enhances the means for achieving business success by addressing such aspects as clearly documented duties and responsibilities of employees, objective performance measurement models, improved employee readiness to accept change, balance between top-down and bottom-up decision-making approach, increased productivity through teamwork, employees awareness, delivering value to customers as well as enabling employees to accept responsibility for their own decision-making. Sandhu and Gunasekaran (2004) endorse that business process development improves cross-functional interaction by involving several departments. Jestin and Neslis (2006) in discussing what BPM has to offer versus the reality of implementation, caution that although BPM makes process improvement more visible for many organizations, the success of implementation relies on buy-in from the organisation and leadership.

## **2.5 IMPLEMENTATION CHALLENGES OF BUSINESS PROCESS MANAGEMENT**

While BPM is being adopted by many organisations and the benefits thereof are being made known worldwide; it has not been without critics. Since BPM is a management approach, the application thereof can be inappropriate and thus result in poor or unexpected results.

A thorough assessment is required pertaining to the extant needs of the organisation and its intended goals. Jeston and Nelis (2006) emphasise that BPM is neither simple to understand as a concept nor simple to implement due to its complexity.

Hajiheydari and Haghighinasab (2012) agree that although BPM implementation is complex and challenging, it can be of great benefit to companies. However, poorly managed implementation can be harmful to a company. The implementation of BPM poses threats as it tends to affect the culture of the organisation to some degree. Hammer (1996:187) for example, points out that “locating all processes of various business units at the corporate level achieves corporate consistency at the price of inflexibility. Allowing each unit to design and manage its own processes in order to meet its particular needs often leads to a lack of harmony at the corporate level”. This is also typical of many organisations including the case company, where such imbalance often leads to cumbersome processes. It stands to reason then, that the organisation that needs to be effective in a changing environment requires corporate harmony.

This can be achieved through integration and standardisation of processes across all departments in the organisation. Hammer (1996:188) suggests that “processes should be standardised as market requirements will allow, so long as standardisation does minimal damage to the particular needs of a business unit’s customers to the extent that its processes can be standardised with those of others without causing inflexibility and restraint on optimisation”.

## **2.6 CRITICAL SUCCESS FACTORS OF BUSINESS PROCESS MANAGEMENT**

The topic of BPM success has drawn the interest of many researchers contributing to diverse interpretations and experiences in the field. Despite this range of interpretations of BPM success factors as a concept, the factors that promote good management practice and enhance business efficacy were found to be common to BPM. The reality is that organisations have different value chains which subsequently influence processes. Mature processes often require minor adjustment and alignment to enhance throughput as opposed to immature processes. As a result, the BPM implementation efforts and success in the two aforementioned scenarios will differ.

According to Dabaghkashani, Hajiheydari and Haghighinasab (2012) BPM implementation success can be evaluated through three success measures; namely: process efficiency, process quality and process agility. In order for these three success measures to be accomplished, there are critical success factors that must be met.



Many authors display salient differences of opinions on the critical success factors of BPM. Melenovsky and Sinur (2006) came up with six critical success factors; namely: strategic alignment, culture and leadership, people, governance, methods and IT. Bandara *et al.* (2009) increased a list to nine by adding project management, performance measurement and communication. Hajiheydari and Dabaghkashani (2011) later described seven factors which comprised strategic, people, optimisation, process architecture, standards and measurement, information architecture and project management.

There are also researchers who focus on the need to address people and methods as independent factors or core elements which determine BPM critical success (Melenovsky and Sinur, 2006; vom Brocke and Rosemann, 2015). When looking at the list provided by Hajiheydari and Dabaghkashani (2011) for example, it becomes apparent that factors such as strategy and people take longer to change and are often in existence even before BPM implementation while the rest require immediate attention as they are quicker to implement and easier to manage.

The BPM critical success factors provided by Hajiheydari and Dabaghkashani (2011) as well as Melenovsky and Sinur (2006) appear in Hammer's Process Enterprise Maturity Model (PEMM). The model consists of enterprise capabilities and process enablers. Hammer (2007) for example, believes that enterprise capability can be improved through leadership, culture, expertise and governance while process can be enabled through design, performer, owners, infrastructure and metrics. Röglinger, Pöppelbuß and Becker (2012) observed that the BPM Maturity Model (BPMMM) derived by Rosemann and de Bruin (2005) differentiates between critical success factors and capability areas, while the PEMM refers to similar factors as capabilities. According to Rosen (2010:1), "capabilities provide organisation's capacity to achieve a desired outcome". As this research study adopts PEMM, the concept of capability is used as opposed to critical success factors. Therefore this research study will investigate the ability in the case company to successfully further BPM initiatives in order to achieve customer satisfaction.

## **2.7 BUSINESS PROCESS MANAGEMENT LIFECYCLE**

Life cycle theories are used in organisational theory as a metaphor that describes growth and development, from initiation of the organisational entity to the demise thereof (Plattfaute *et al.*, 2011). In the case of BPM implementations, de Morais *et al.* (2014:412) refer to BPM lifecycles as "models that systematise the steps and activities that should be followed for conducting BPM projects".

De Morais *et al.* (2014) conducted a comprehensive literature and selected seven lifecycle models to compare with the lifecycle model developed by the Association of Business Process Management Professionals (ABPMP). These lifecycle models are shown in Table 2.1.

**Table 2.1:** Comparison of BPM lifecycle models (Source: de Morais *et al.* (2014))

Authors							
ABPMP (2009)	Hallerbach <i>et al.</i> (2008)	Netjes <i>et al.</i> (2006)	Houy <i>et al.</i> (2010)	Zur Muehlen and Zo (2006)	Van der Aalst (2004)	Verma (2009)	Weske (2007)
Planning and strategy			Development of strategy	Specification of objectives and analysis of environment		Define objectives	Administration and stakeholders
Analysis		Design	Definition and modelling	Design	Design	Identify process	Design and analysis
Design and modelling	Modelling	Configuration	Implementation	Implementation	Configuration	Classify process	Configuration
Implementation	Frequency and selection	Execution	Execution	Monitoring	Execution	Choose process	Operation
Monitoring and control	Execution and monitoring	Control	Monitoring and control	Evaluation	Diagnosis	Define tool and implement process	Performance evaluation
Refining	Optimisation	Diagnosis	Optimisation and improvement			Monitor process	

In Table 2.1, de Morais *et al.* (2014) provide six stages of a BPM lifecycle and show the differences and similarities of ABPMP to other BPM models. Other authors such as Hallerbach *et al.* (2008), Netjes *et al.* (2006) and Van der Aalst (2004) do not address planning and strategy during the first stage when compared with ABPMP. Most models however, show similarities such as a need to design and model, implement, monitor and control. This makes ABPMP model to be comprehensive as it comprises most of the fundamental stages addressed in some models.

## 2.8 BUSINESS PROCESS MANAGEMENT MATURITY MODELS

The BPM maturity models have played a significant role in providing the overview of the organisational outlook with respect to its development. Curtis and Alden (2006:1) for example, explain that maturity models describe “evolutionary improvement paths that guide organisations as they move from immature, inconsistent business activities to mature, disciplined processes”. Röglinger *et al.* (2012) state that a maturity model serves a descriptive purpose as it is applied when conducting the as-is assessment. Moreover, it can also be useful as serving a prescriptive purpose if it shows how to identify desirable future maturity levels as well as providing guidance on how to implement according to improvement measures. Plattfaut *et al.* (2011) explain that BPM maturity models have a significant effect on organisational change as they employ a life cycle perspective by depicting unified staged patterns of capability development. A summary of diverse maturity models used in the BPM environment, derived from Röglinger *et al.* (2012) is provided in Table 2.2.

**Table 2.2:** Overview of BPM Models (Röglinger *et al.*, 2012)

Models	Authors
Business Process Management Model (BPMM)	(Rosemann and de Bruin, 2005)
Business Process Management Model (BPMM)	(Fisher, 2004)
Business Process Management Model (BPMM)	(Lee <i>et al.</i> , 2007)
Business Process Management Model BPMMM	(Weber <i>et al.</i> , 2008)
Business Process Management Model (BPRMM)	(Maull <i>et al.</i> , 2003)
Business Process Management Model (BPOMM)	(McCormack, 2007, McCormack <i>et al.</i> , 2009)
Process Enterprise Maturity Model (PEMM)	(Hammer, 2007)
Process Management Maturity Assessment (PMMA)	(Rohloff, 2009a,b)
Process Performance Index (PPI)	(Rummler and Brache, 1990)
Process Maturity Ladder (PML)	(Harmon, 2005)

These maturity models were found to be lacking when it comes to the capability that looks into the entire organisation. Rosemann and de Bruin (2005) in BPMM for example, do not address leadership capability as a separate category but rather sum it up under people category. Hammer (2007) in PEMM makes a distinction between leadership, performers and owners. The BPMM developed by Fisher (2004) combined both expertise and skills; which was not suitable for the case company due to ambiguity. Hammer (2007) separates the two categories. The model developed by Maull *et al.* (2003) may create ambiguity as it combines culture and leadership capabilities.

Other models provided in Table 2.2 focus primarily on process modelling or combine the two capabilities with minimal focus on enterprise capabilities. The Hammer model is the only model that outlines enterprise capabilities separately, which was found to be suitable for the case study. As this study addresses only the enterprise capability in the case company, Hammer's PEMM model is relevant. The enterprise capabilities in the PEMM comprise four attributes; namely: leadership, culture, governance and expertise.

There will be some level of adaptation in the PEMM to make it more applicable to the case company; whereby the infrastructure will be moved from process enablers to enterprise capabilities. It is as a result of infrastructure focusing primarily on IT related processes, which are highly relevant to the case company. Power (2007) postulates that an enterprises capability assessment should include IT as the latter examines whether the tools and systems are in place to design, analyse, model, simulate, execute, and monitor processes.

As a result, infrastructure as one of the process enablers will be included in the enterprise capabilities as an attempt to overcome this weakness. Moreover, the researcher observed the impact of infrastructure in the case company during a pilot study. The researcher maintains that the enterprise has the responsibility to ascertain that IT tools are in place to facilitate ease of running processes. The study will only focus on the enterprise capabilities as the inclusion of process enablers would require more time, which will be a constraint for the completion of the Dissertation.

Hammer (2007) outlines that high performance can be attained if companies' processes are mature. The maturity model therefore provides for the as-is situation of the organisation and assists in attaining the to-be objective through continuous improvement on processes in an incremental manner, thus focusing on reaching a high performance. Maier, Moultrie and Clarkson (2009) also note that a maturity model can be used as a tool to conduct process diagnosis. This is in line with Röglinger *et al.* (2012) observation that a common approach when evaluating and improving processes, is to conduct a maturity analysis.

According to Hammer (2007) maturity can be reached by using processes enablers which pertain to individual processes and enterprise capabilities which apply to the entire organisation. Organisations without enterprise capabilities will not succeed in making process management work.

### 2.8.1 ENTERPRISE CAPABILITIES

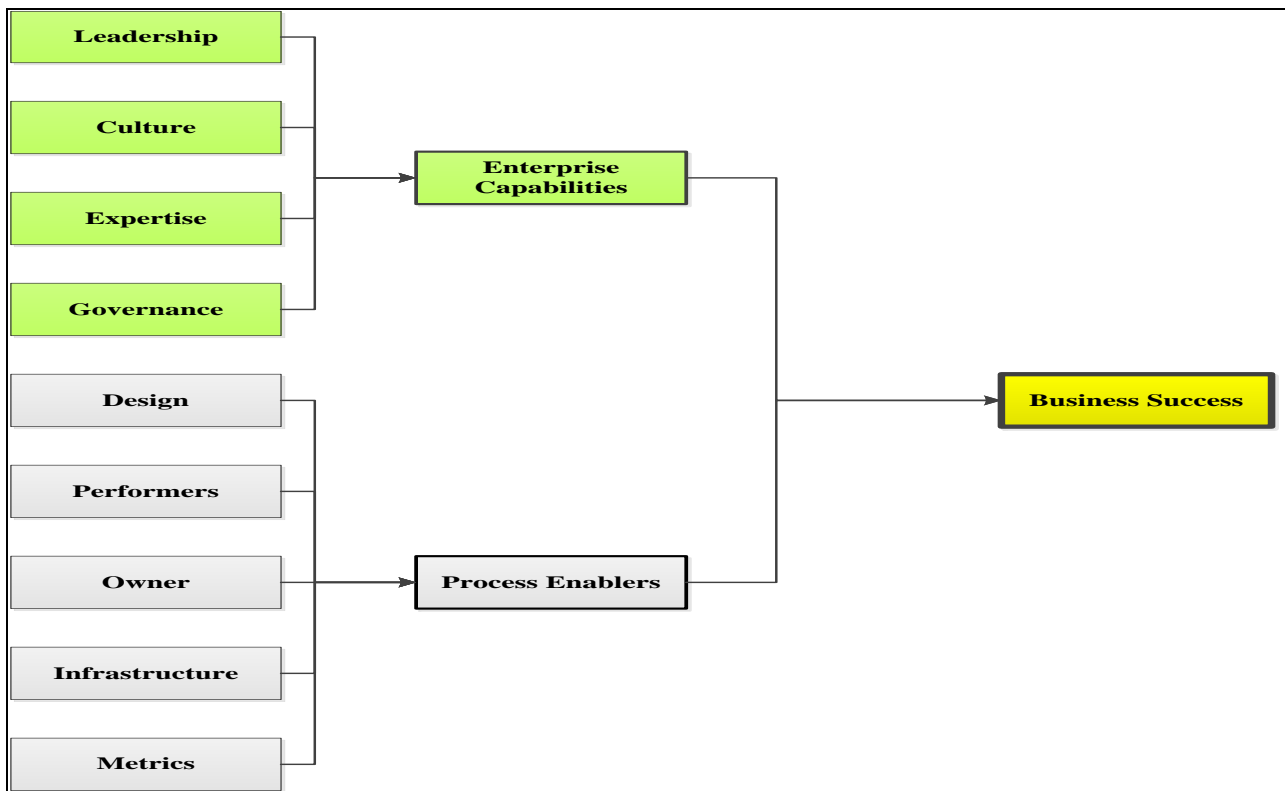
According to Hammer (2007), enterprise capabilities are essential as they make stronger enablers, thus resulting in better process performance. The organisation is only ready to address its processes in a particular maturity level once all the enterprise capabilities in that level are addressed satisfactorily. The PEMM consists of the following enterprise capabilities excluding infrastructure which is part of process enablers:

- Leadership. Senior Executives who support the creation of processes. Processes without the support of Senior Executives are likely to run aground on the shoals of inertia and resistance. It is because introducing processes brings about change such as the realignment of systems, authority and modes of operations. Therefore the Senior Executives are in the position to provide resources that will facilitate the seamless implementation of processes.
- Culture. The values of customer focus, teamwork, personal accountability and willingness to change. Customer focus is the focal point of all process efforts. As a result, attributes such as teamwork, acceptance of personal responsibility for outcomes as well as willingness to accept change are instrumental in meeting customer's needs. Without these attributes, processes will be meaningless to the organisation. Therefore it is the responsibility of leadership to ensure that the culture of the organisation is aligned with these values.
- Expertise. Skills in and methodology for process redesign as implementing and managing processes is a risky, complex task which requires a mature experience. Therefore organisations that need to be successful in process management require people with experience in program management, change management, process redesign and implementation as well as process improvement techniques.
- Governance. Mechanism for managing complex projects and change initiatives. These are instrumental if the organisation moves to process management and institutionalises it over the long run so as to ascertain that processes integrate with one another. Therefore a formal body comprising process owners, executive leader and senior managers is required to serve as a strategic oversight, setting direction and priorities, addressing cross-process issues and translating enterprise concerns into process issues.

- Infrastructure. Information and management systems that support the process. In order for performers to discharge effective process duties, a support from IT and Human Resources (HR) systems is required. An IT system has to be a result-based compensation system and not fragmented as that will not support integrated processes.

### 2.8.2 PROCESS ENABLERS

There are five process enablers which will not form part of this research study, other than infrastructure which will be included as part of enterprise capabilities. The process enablers consist of design, performers, owner, infrastructure and metrics. Power (2007) however, suggests that infrastructure be included in the enterprise capabilities. Therefore this research study has included infrastructure into the enterprise capabilities. A maturity model is presented in Figure 2.2, whereby the categories of both enablers and capabilities are provided.



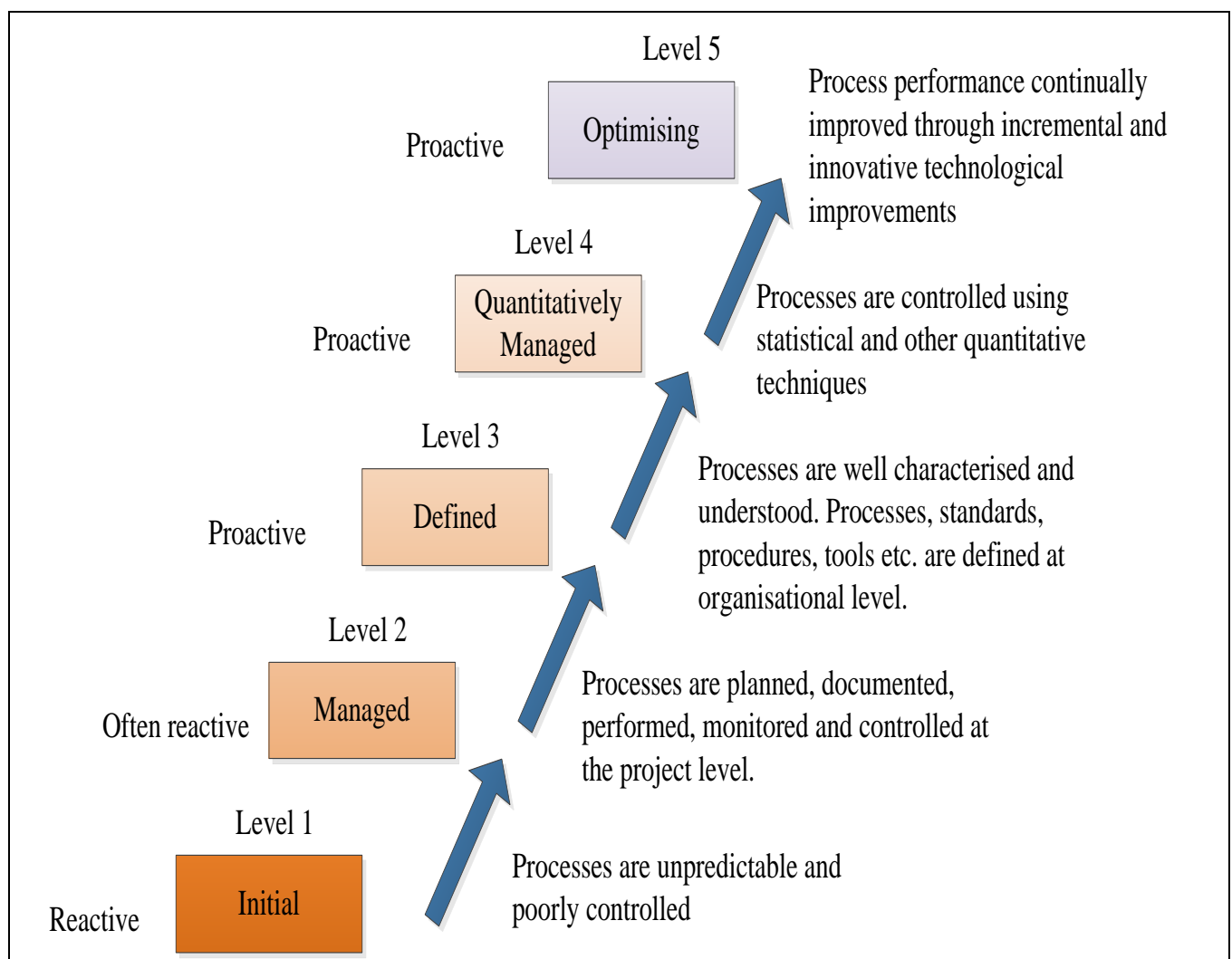
**Figure 2.2:** Maturity Model (Hammer, 2007)

## 2.9 BUSINESS PROCESS MANAGEMENT MATURITY LEVELS

According to Höggerl and Sehorz (2006) maturity levels can simply refer to collections of process areas. Hammer (2007) elaborates by stating that maturity levels ensure that business processes are capable of delivering higher performance over time. Rosemann and de Bruin (2005) have been influential in referring to maturity as a measure to evaluate the capabilities of a business in regards to a certain discipline.

The relationship in various definitions stated is that business processes are combined to measure process capabilities and eventually determining organisational growth. To reach a certain maturity level, all specific goals of the process areas of the level have to be achieved, as well as the generic goals for the respective level (Höggerl and Sehorz, 2006; Pesic, 2009). Plattfaut *et al.* (2011) observed that organisations typically start on low maturity stages with uncoordinated, ad hoc BPM efforts and then pursue their path to a highly mature, integrated, and collaborative BPM.

There is inconsistency regarding the sequence of maturity levels applicable for BPM in the enterprise. Rosemann and de Bruin (2005) for example, identified five maturity levels as initial, defined, repeatable, managed and optimised; respectively. The common maturity levels which will be widely used during this research consist of the following levels: initiate, define, manage, manage quantitatively and improve continuously (Höggerl and Sehorz, 2006; CMMI, 2010; Jacobs, 2014).



**Figure 2.3:** Maturity levels – Source: (Jacobs, 2014:43)

### **2.9.1 LEVEL 1: NO ORGANISED PROCESSES**

At the first level processes are usually ad hoc and chaotic (CMMI, 2010). Pesic (2009) points out that at this level the enterprise lacks the consistent realization of processes or practices for performing business activities. The absence of organised process often results in duplication of effort and increased waste while managers are constantly engaged with fire extinguishing activities daily. On this level, success depends on the efforts of the people and not the use of processes. If they perform heroically, projects may succeed. However, projects will also often be abandoned and/or exceed budgets etc. (Höggerl and Sehorz, 2006).

### **2.9.2 LEVEL 2: SOME ORGANISED PROCESSES**

The second level looks at the project level where the requirements, processes, work products and services are required to be managed. The status of the work products and the delivery of services are visible to management at defined points (Höggerl and Sehorz, 2006). It is at this level where projects employ skilled people who have adequate resources to produce controlled output and where relevant stakeholders are involved (CMMI, 2010). Therefore the organisation at level 2 is elevated from ad hoc to disciplined one which applies project management.

### **2.9.3 LEVEL 3: MOST ORGANISED PROCESSES**

The third level focuses on the management of processes and standards from organisational level. According to Höggerl and Sehorz (2006), processes in a project are derived from the organisational standards whereby defined processes require an organisation-wide standard process that can be adapted for a certain project as opposed to managed processes which do not require organisation wide standards.

### **2.9.4 LEVEL 4: PROCESSES ARE MANAGED**

Pesic (2009) explains that in the quantitative management phase all processes in the enterprise are clearly defined and managed including key and supporting processes. Höggerl and Sehorz (2006) state that the managed and defined processes are controlled using statistical and other quantitative techniques; thus enhancing the predictability of process performance. The limitation of this level though is that the processes are insufficient to establish objectives.

### **2.9.5 LEVEL 5: PROCESSES ARE CONTINUALLY IMPROVED**

Höggerl and Sehorz (2006) state that an optimising process is quantitatively managed. It is due to the ease for adaptability to meet business objectives with focus on continuous improvement of process performance through both incremental and innovative technological improvements. The advantage of this level as opposed to the third level is that optimisation of processes always reaches objectives; should the predicted statistical results be insufficient then the process will be changed to



meet the objectives. According Pesic (2009) this last stage of process management maturity is utopia for most enterprises as all the processes are clearly defined.

## **2.10 BUSINESS PROCESS MANAGEMENT IN THE PUBLIC SECTOR**

Davids, Theron and Maphunye (2009) refer to the public sector as the entity that includes all public organisations subject to public policies and political authority; which the parastatal in this study forms part of. The new political era in South Africa changed the way businesses were usually run as new priorities were developed to fast-track changes and enhance economic growth. Moreover, there were new requirements to make government activities transparent to the society. South Africa is not unique in this regard as Santana, Alves, Santos and Felix (2011) noticed the increasing requirement to foster corporate governance in public organisations as a way of promoting transparency, integrity and accountability in Brazil. In the South African public sector, this is recognised in the spirit of Batho Pele (People's First) which was initiated after 1994 with the aim to promote quality improvement during service delivery (Public Service Operations Management, 2015). Khongmalai, Tang and Siengthai (2010) sum up that parastatals are created with the main objective of service delivery and job creation rather than maximising profits.

In order to ensure that there is effective service delivery in a multi-cultural public sector such as one represented in South Africa, effective management practises such as BPM had to be introduced. Therefore, although the benefits of BPM in a public sector such as improved service delivery and customer satisfaction can be fully appreciated, the rate of BPM adoption is slow due to the bureaucratic nature of public sector. The public sector is often seen as late adopters when it comes to cutting-edge technology as it seeks mature products which will have minimal risks during implementation. The case company which is state owned, is not unique in this aspect as BPM was not yielding the desired outcomes. Kumar, Smart, Maddern and Maull (2008) deduce that BPM in service sectors serves as a critical factor in driving customer satisfaction. According to Valenca, Alves, Santana, de Oliveira and Santos (2013), who conducted a study of BPM governance in the public sector in Brazil, the establishment of BPM in the organisation often changes culture. This cultural change according to Valenca *et al.* (2013) becomes even more critical in the public sector due to its bureaucratic nature. This is also observed by Niehaves and Plattfaut (2014) who confirm that BPM in public sector organisations is not regarded as a high priority due to its bureaucratic culture, which ultimately results in the tendency to get rid of any change project.

BPM however, enhances various methods of governmental institutions by restructuring organisational frameworks, creating methods for monitoring and processes for execution of e-services (Hassan, Shehab and Peppard, 2011). Greunen, van der Merwe and Kotze (2010) argue that the use of BPM in the public sector is dictated by government policies, which have prescriptive processes.

The strict government policies and processes could be the reason why to date there is limited literature of BPM in the public sector in general and the South African context in particular. This provides an opportunity for further research to focus on the adoption of BPM in the public sector environment.

## **2.11 CONCLUSION**

This chapter discusses the concept of BPM and its origin. A distinction is drawn between BPM, BPR and TQM and the role each play in process improvement. The benefits of BPM, the implementation challenges and critical success factors are presented. A comparison is made between diverse success factors and how they relate to enterprise capabilities. The BPM lifecycle, models and maturity levels also form part of this chapter. The chapter concludes with the consideration of BPM in the public sector environment. The next chapter addresses the research design and methodology used to answer the research question.

## **CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY**

### **3.1 INTRODUCTION**

The chapter commences by describing the research philosophy that guides the way the research study was conducted. In describing the research design and methodology, the chapter considers the research population, sampling and data collection techniques. The data analysis procedure is also outlined. Considerations of trustworthiness and ethics conclude the chapter.

### **3.2 RESEARCH PHILOSOPHY**

Easterby-Smith, Thorpe and Jackson (2012) and Grix (2004) are amongst those who believe that understanding the philosophical underpinnings of your study can help the researcher to recognise the research design to use. According to Saunders, Lewis and Thornhill (2009), the research process can adopt philosophies that include ontology and epistemology. Easterby-Smith *et al.* (2012) state that ontology considers the philosophical assumptions about the nature of reality and existence, while epistemology refers to a general set of assumptions about the way of enquiring into the nature of the world. Sobh and Perry (2006) simply define ontology as the reality and epistemology as the relationship between that reality and the researcher. The ontological assumptions therefore informs that epistemological assumptions, that in turn directs the researcher to particular methodologies and methods for data collection and analysis.

According to Easterby-Smith *et al.* (2012) there are different ontologies, ranging from realism that suggest that there is a single truth that can be revealed through observations of a concrete world to nominalism that considers all facts to be human creations. This study acknowledges the ontological view that is relative, acknowledging that while the truth may exist, it is subject to human interpretation as well as the perceptions and experiences of individuals.

Epistemological assumptions include positivism, that sees the social world as existing externally, and the role of the researcher as the observer of an objective reality (Easterby-Smith *et al.*, 2012). This can be contrasted with the epistemology of interpretivism, that sees the world as socially constructed and given meaning by people. Grix (2004) describes interpretivists as making a clear distinction between the natural and social worlds, while positivists tend to model their research on the natural world.

The Hammer model adopted in this study to evaluate the maturity level of BPM is subject to each participant's understanding, interpretation and experience. This is confirmed in the results of evaluation presented in this study, which show uncertainty in some areas. As a result, this research study adopts the interpretivist epistemology approach to address the areas which show uncertainty. The interpretivist epistemology approach is also aligned with the research question as it seeks to understand employees' perceptions and experiences on the maturity of BPM.

According to Miers and Klein (1999), the interpretive research is common to Information Systems research studies while Walsham (2006) states that interpretive research approach is appropriate for case studies. It is thus appropriate to adopt interpretive research as this is a case study research with an element of Information Systems. In order to improve quality and plausibility of the study, the principles of interpretive field research derived from Miers and Klein (1999) were applied in Table 3.1 below.

**Table 3.1:** The principles of interpretive research – Source: (Miers and Klein, 1999)

Principles	Definition	Application in this study
The fundamental principle of Hermeneutic Circle	This principle of human understanding is fundamental to all the other principles. This principle suggests that all human understanding is achieved by repeating between considering the interdependent meaning of parts and the whole that they form.	The researcher's analysis of Hammer's model and its relevance to the study. There was an iteration between the model's categories and feedback from respondents in line with the sub-categories of the model. The aim was to attain a full meaning and understanding of each categories as a whole and their relevance to the case company.
The principle of Contextualisation	This principle requires clear reflections of the social and historical background of the research setting to ensure the intended researcher able to see how the current situation under investigation emerged.	The customer satisfaction report presented in the study served as a historical information which was instrumental to the researcher in understanding the research background. The results of the report provided correlation to the prevalent situation in the case company.

The principle of interaction between the researchers and the subjects	This principle requires clear reflections on how the data or research materials were constructed through the interaction between researchers and respondents of the study.	The researcher initially distributed questionnaires which were later followed by interview sessions with Process Owners and Practitioners in order to attain understanding of the situation in the case company.
The principle of abstraction and generalisation	This principle requires relating the idiographic details revealed by the data interpretation through the application of principles one and two to theoretical, general concepts that describe the nature of human understanding and social action.	The principles of interpretive field research further discussed in this research study assisted in understanding linkages between theoretical concepts and findings. The findings of the study were discussed in relation to Hammer's model used.
The principle of dialogical reasoning	This principle requires understanding to potential contradictions between the theoretical preconceptions guiding the research design and actual findings with subsequent cycles of revision.	The researcher had preconceived understanding of four categories that formed enterprise capability. That understanding was later challenged after conducting a pilot study, where the infrastructure as a process enabler appeared to be the driver towards business success. The literature reviewed also revealed contradictions on critical success factors of BPM and the role of infrastructure category. The findings showed how pertinent the infrastructure category was, in influencing business success in the case company.
The principle of multiple interpretations	This principle requires understanding to potential differences in interpretation among the respondents as are typically expressed in multiple narratives or stories of the same sequence of events under study.	The differences in interpretation were noted among the respondents in the questionnaires. As a result, interviews were subsequently conducted to minimise misinterpretations.

The principle of suspicion	This principle requires understanding to potential "biases" and systematic "distortions" in the narratives collected from the respondents.	The use of interviews after questionnaires reduced biases and systematic distortions in the narratives. Although the respondents were knowledgeable when it comes to business processes, their positions in the company were taken into consideration when analysing data.
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### 3.3 RESEARCH DESIGN

Welman, Kruger and Mitchell (2005) mention that the research can either adopt a qualitative or quantitative approach or a combination of qualitative and quantitative as mixed methods. Saunders *et al.* (2009) provide a useful distinction between these approaches in linking quantitative to the use of numerical data while qualitative approaches predominately uses non-numerical data. Maxwell (2010) points out that the application of numerical data has always drawn the distinction between quantitative and qualitative research and further argues that the distinction between qualitative and quantitative research based only on numerical data does not suffice, as there are also numbers even in qualitative research.

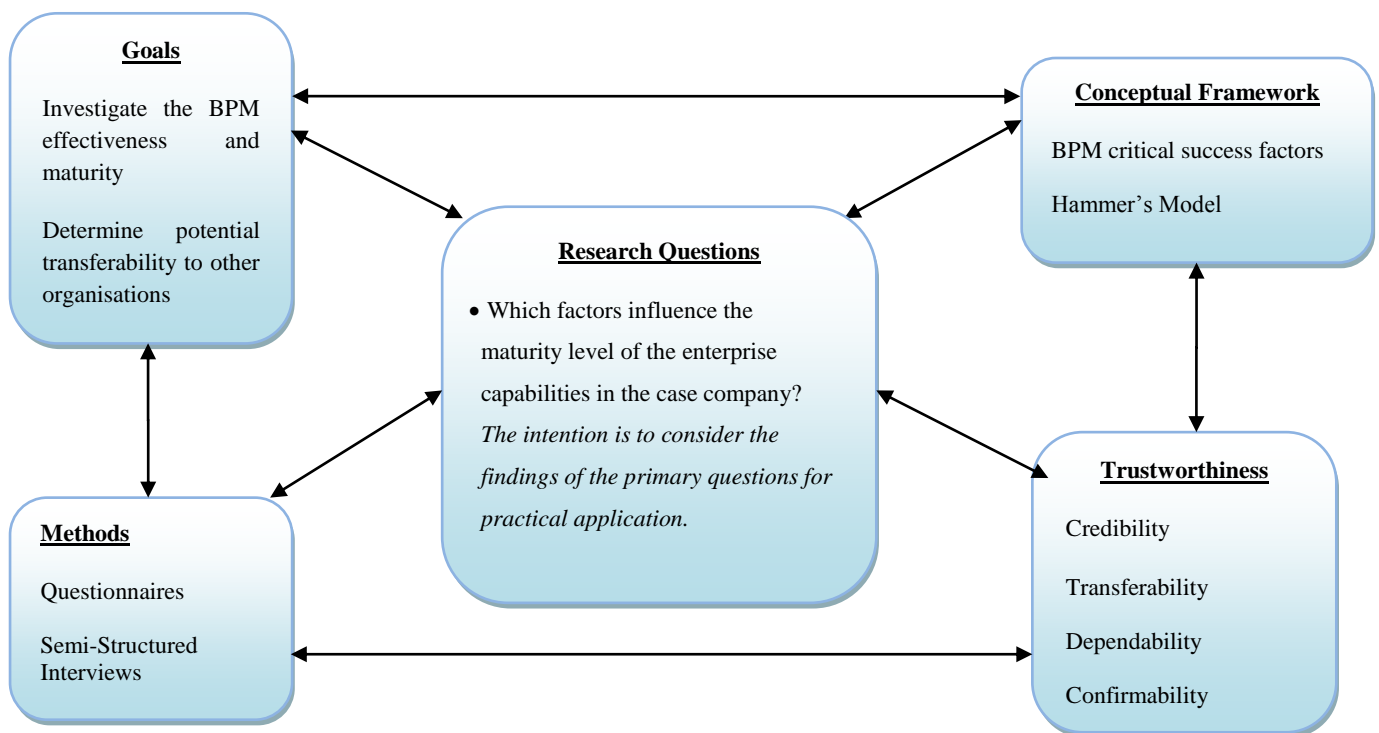
This study commences with an approach that draws on numerical data derived from questionnaires. The aim of the study though, is to investigate the effectiveness of BPM in the case company rather than simply know its BPM maturity level. This investigation was further explored qualitatively through interviews as the three-point Hammer model presented in the form of questionnaires had limitations to confirm the neutral data. The neutral data in the questionnaires was characterised by areas confirmed to be uncertain which were identified as ‘somewhat true’.

The focus of the interview was to confirm the neutral data as well as areas of concern. The interviews also assisted in understanding the respondents’ perceptions and experiences in the implementation of BPM in the case company; hence an interpretive approach was adopted. The qualitative methodology in this study was instrumental as some data acquired through questionnaires changed during interviews. As a result, the researcher could overcome neutral data and attain respondents’ understanding as well as interpretation of BPM in the case company.

Creswell (2007:36) defines qualitative research as “a situated activity that needs the researcher to take part in the actual research and become part of the world throughout the process”. The qualitative approach adopted provided an opportunity for the researcher to follow a research process

by seeking to understand the respondents' experiences on the BPM implementation in the case company. The study investigates enterprise capabilities which consist of leadership, culture, method and governance; as well as infrastructure which is a process enabler. The researcher believes that capabilities such as leadership and culture can be difficult to analyse through a quantitative approach alone. It is because these factors comprise human behaviour and social phenomena which require a qualitative approach of in-depth interviews to gain a better understanding. This research study confirms this aspect as the results presented by questionnaires had to be verified by means of interviews.

The researcher throughout this study was concerned with what was meaningful and relevant to people in their experience of BPM in the case company. An overview of the research design used to answer the research question is shown in Figure 3.1.



**Figure 3.1:** An Interactive Model of Research Design (Maxwell, 2005)

### 3.4 METHODOLOGY: CASE STUDY RESEARCH

Bromley (1990:302) defines a case study as a “systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest”. The emphasis on description and explanation indicates the value placed on contextual knowledge, as in case study research the study is not driven by the need to develop universal, generalisable truths. With case study methodology, the unit of analysis could be a small group, a department in an organisation or the organisation as a whole, a single site or multiple sites to compare.

In this research, a case study was conducted in an organisation using a theoretical model of BPM maturity to investigate the maturity and implementation thereof in the organisation. The purpose of case studies is to explore causal mechanism at the heart of theories (Goertz, 2017). Maxwell (2004) has been influential in stating that qualitative research is able to address causality and develop causal explanations. The researcher sought not only to determine the maturity level; but also to find a relationship between a case being studied and the factors influencing the maturity of the case company.

### **3.4.1 PILOT STUDY**

Cooper and Schindler (1998) postulate that a pilot study should lead data gathering efforts as it is intended to detect weaknesses in the design and measurements. For the purposes of this dissertation, a pilot study was conducted in a department in the case company to test and refine the interview questions that were based on the PEMM. The pilot study revealed that the experience of the respondents was important in identifying the application of the PEMM concepts in the case company. As a result, adjustments had to be made to the data collection of this research to ensure that purposive sample would ensure that experienced employees become the majority in the research study. The results of the pilot study also showed the importance of Infrastructure category in the case company.

## **3.5 DATA COLLECTION**

### **3.5.1 SAMPLING STRATEGY**

Jowah (2011:99) defines a sample as a “part or a portion of a population”. Welman *et al.* (2005) identify two ways of conducting samples; namely: probability and non-probability sampling. The probability sampling suggests that any element of the population will be included in the sample whereas in the case of the non-probability sampling, elements of the population have no chance of being included in the sample.

The study conducted a non-probability sampling as the probability of including the entire population elements could not be determined. Furthermore, the inclusion of the entire population would not benefit the study as focus was only on employees who possess a thorough knowledge of BPM and its implementation. The researcher therefore purposefully selected Process Owners and Practitioners with Technical (Engineers) and Support (Information Technology/Systems) background. The employees were also selected based on their experience and knowledge of organisational process dynamics. In order to ascertain that the element of process dynamics is achieved, the researcher chose to use the years of experience in the organisation as a measuring



tool. According to Saunders *et al.* (2009), non-probability sampling comprises quota, self-selection, snowball, convenience and purposive samplings. In this study, a purposive/judgemental sampling was chosen as it enabled small samples to be drawn from heterogeneous population (Jowah, 2011). According to Tuckett (2004), in this technique a sample is derived purposefully rather than randomly so as to attain richness of data regarding particular phenomenon.

The respondents represented three Departments in the case company as the intention was to attain the in-depth understanding of the maturity level and the factors which influence business success. In order to ascertain feedback from prospective respondents, an invitation to complete the questionnaire was sent to thirty six employees who were given five working days to respond. The target group was a sample of twenty respondents in the organisation emanating from a heterogeneous population of Management (MP), Technical (TP) and Support (SP) environment. These respondents were selected based on their experience in managing processes as well as their technical background in the field of Engineering and Information Systems/Technology. The target group was chosen with a belief that it would be sufficient to provide a holistic overview of perceptions regarding Enterprise Capabilities.

The interviews were used to focus on those issues identified in the questionnaire. Of the twenty employees taken as sample in the case company, data was only received from sixteen employees who participated in both questionnaires and interviews. Thereafter an additional two interviews from Leadership (LP) respondents were included. In this study, a purposive sampling strategy was used as the focus was on respondents with more experience and thorough knowledge of organisational operations and processes. According Guest, Bunce and Johnson (2006), a recommended minimum sample size for interviews is twelve participants. In this study, a total of eighteen participants were interviewed. The sample included demographic variety of men and women, diverse racial groups as well as people with experience as Process Owners and Practitioners. In Table 3.2 and 3.3, a summary of samples is drawn to give an overview of the respondents' functional areas and work experience respectively.

**Table 3.2:** Respondents' functional area

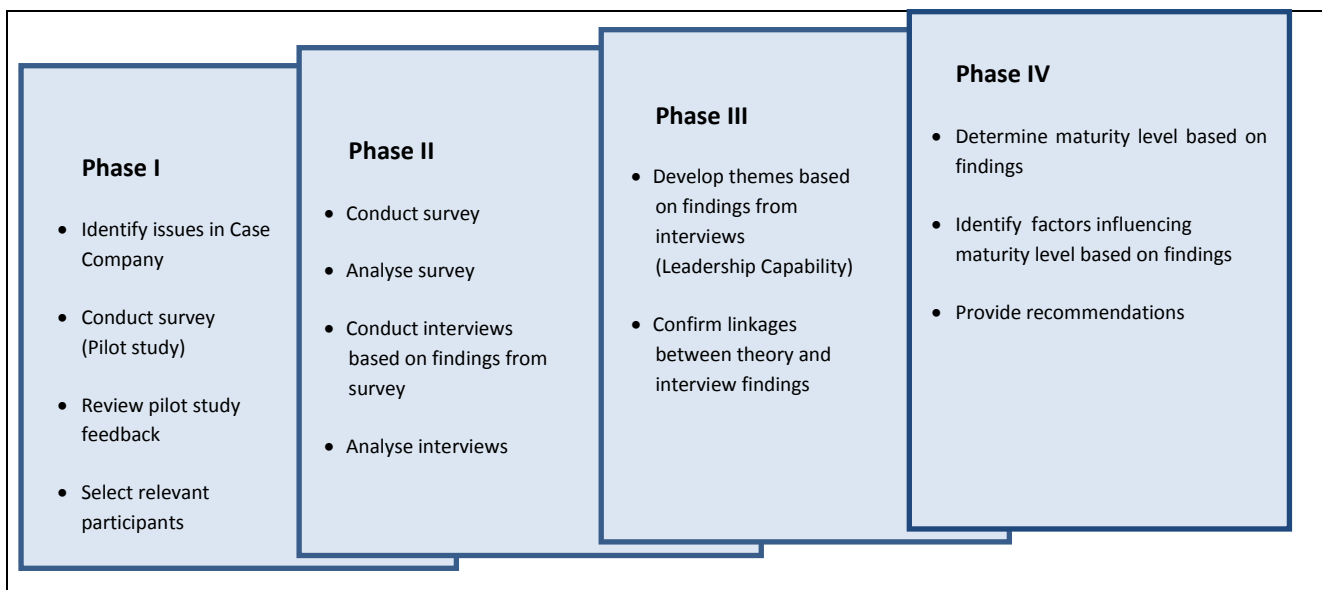
Functional Area	Number of respondents
Leadership (LP1 & LP2)	2
Management (MP1 & MP2)	2
Technical (TP1 – TP9)	9
Support (SP1 – SP5)	5

**Table 3.3:** Respondents' work experience

Years of experience	Number of respondents
3-5	2
5-10	5
10+	11

### 3.5.2. TYPES OF DATA

Jowah (2011:110) states that data collection is the “systematic process of information gathering with the aid of instruments designed for the purpose”. Jowah (2011) further states that data collection can take place through both secondary and primary means. The primary data collection method refers to information that is already in existence while the secondary data collection method refers to information that is inexistent, which requires the researcher to actively participate in collecting it. A questionnaire was used as the primary data collection method. A questionnaire focused on Enterprise Capabilities as detailed in Hammer model. The expected time for completion of the questionnaire was 15 minutes. Thereafter interviews were conducted as the secondary data collection method. These interviews were tailored according to the findings in the questionnaire. This research study was conducted in four phases as shown in Figure 3.2.



**Figure 3.2: Research Study Phases**

The interview approach was adopted so as to describe and explain the experience of people in terms of themes such as concerns, types of behaviour, attitudes etc. (Jansen, 2010) as opposed to considering the numerical distribution of variables in the population. As a result, themes were developed particularly in leadership capability in order to understand human experience which could not be attained through the questionnaire approach.

Semi-structured interviews were adopted in order to provide rich data and insights into the critical areas of concern that were identified in the questionnaire. The average time for interviews was 20 minutes. The initial plan was to conduct a formal face-to-face interview to all respondents that participated in the questionnaire but due to an unsatisfactory response of seven respondents; conversational interview became an alternative. The interviews were conducted with nine respondents telephonically and at times in an informal setting. Later two more respondents from the Executive level of the organisation were interviewed using a formal face-to-face interview.

### **3.6 DATA ANALYSIS**

Saunders *et al.* (2009) show that qualitative analysis as part of data analysis consists of both deductive and inductive approaches. The deductive approach is described as the kind of research which follows a predetermined analytical framework with an existing theory. The inductive approach by comparison, commences without a predetermined analytical framework and theory to direct analysis. Maree *et al.* (2007) associate inductive approach with interpretive philosophy as the aim is to better understand data which may be complex with multiple realities.

This study commenced with an analytical framework of PEMM for data analysis which had an existing theory. Thereafter adopted an inductive approach as themes were developed to gain understanding and interpretation of leadership capability, for example. The inductive approach adopted complemented the research question which could be answered through descriptive explanation of BPM in the case company.

#### **3.6.1 QUESTIONNAIRE DATA**

This research study adopts a deductive approach as it uses Hammer's enterprise capability factors which serve as existing categories derived from theory. The PEMM derived from Hammer (2007) as shown in Appendix C was instrumental in analysing data and evaluating the maturity level of the case company. The weighting provided by the respondents in each allocated category received was assessed and given a rating as per the model. All descriptive statistical results of the research were based on the Microsoft Excel Statistical Tools.

#### **3.6.2 INTERVIEW DATA**

The interviews were conducted to verify the validity of the questionnaire results and to probe those areas that were identified as major concerns by respondents. The transcripts and notes from interviews informed descriptive explanations of these areas.

### 3.7 VALIDITY AND TRUSTWORTHINESS

Collier-Reed, Ingerman and Berglund (2009) highlight that validity; reliability and generalisability are often associated with positivist approach whereas interpretive epistemology focuses on trustworthiness with its elements such as credibility, transferability, dependability and confirmability. In Table 3.4, the elements of trustworthiness are discussed and the applicability thereof in the research.

**Table 3.4:** Trustworthiness elements

Trustworthiness	Definition	Application in this study
Credibility	<p>Refers to the truth value of the investigation (Lincoln and Guba, 1985). Säljö (1996) when addressing the credibility of method believes that a shared experience of phenomenon enhances mutual understanding of research topic during interview session.</p> <p>Collier-Reed <i>et al.</i> (2009) view content-related credibility essential as it relates to the researcher having an understanding of research topic.</p>	<p>Purposive sampling was adopted to enhance credibility of method used and to ensure that the respondents understand the phenomenon, so as to yield truthful data.</p> <p>The researcher attended a BPM programme which provided knowledge and understanding of BPM.</p>
Transferability	<p>Refers to applicability of research outcomes (Lincoln and Guba, 1985). Mertens and McLaughlin (2004) postulate that the researcher ought to provide sufficient detail for other researchers to use it.</p>	<p>It may not be easy to determine how this research may be applicable to future studies; however, the evaluation approach adopted may be key for other researchers to explore and align to their own settings.</p>
Dependability	<p>Refers to consistency of research findings (Lincoln and Guba, 1985).</p>	<p>The researcher personally conducted a questionnaire, interviews, transcription and analysis so as to maintain consistency.</p>

	Åkerlind (2005) identifies <i>dialogic reliability check</i> as one of the dependability methods used where agreement between researchers is reached through discussion and mutual critique of the data.	Prior experience gained during pilot study conducted contributed to the ease of conducting this research. A <i>dialogic reliability check</i> was achieved through continuous discussion between the researcher, research group and supervisory team.
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### 3.8 RESEARCH ETHICS

According to Welman *et al.* (2005) the principles governing research ethics are universal and can be characterised by issues such as honesty and respect in order to protect the individual. In this research study, the questionnaire and interviews were conducted in an open and transparent manner; the respondents were made aware that participation would be voluntary. The respondents were also allowed to air their views, thus promoting freedom of speech. The researcher ensured that a high level of privacy was attained throughout the study in order to avoid any harm or injury towards respondents; thus maintaining anonymity of respondents. Anonymity was also maintained on the case company as some information was deemed confidential.

### 3.9 CONCLUSION

The case study methodology and research design selected, provide a framework which enables to answer the research question. The selection of a purposive sample provides for a range of experience of BPM in the case company. The motivation for the data collection techniques of a questionnaire and interviews is provided and it explains how data was collected and how data was analysed. A pilot study is reported which assists in testing the research instrument. Subsequent to the pilot study, interview questions were adjusted based on the lessons learned so as to ascertain comprehensiveness and relevance of the research. The trustworthiness aspects are addressed to ensure the validity of the research. The focus in chapter four will be on the research findings and the interpretation of the findings.

## CHAPTER 4: RESEARCH FINDINGS

### 4.1 INTRODUCTION

The purpose of this chapter is to present the findings of the BPM maturity assessment using data analysed from the questionnaire and interviews. Firstly, the perceived shortcomings and strengths of each of the enterprise capabilities, namely, leadership, culture, expertise, and governance including infrastructure are presented. This is followed by the interview findings for each of these categories.

### 4.2 QUESTIONNAIRE FINDINGS

The findings are presented as graphs that are an aggregation of the scores that respondents allocated to the categories of enterprise capabilities. A three point scale was used in the form of colour-coding with Green = largely true (at least 80% correct); Yellow = somewhat true (between 20% and 80% correct) and Red = largely untrue (less than 20% correct). The questionnaire is followed by a requirement for respondents to provide feedback based on their experience of process management in their respective departments. The questionnaire comprises strength levels E1 to E4 as detailed in Appendix C; where E4 represents the optimised process as opposed to E1. The results of the study were based on E1 as the organisation had to satisfy all requirements in this level (ie. Green coding) in order to move to the next level.

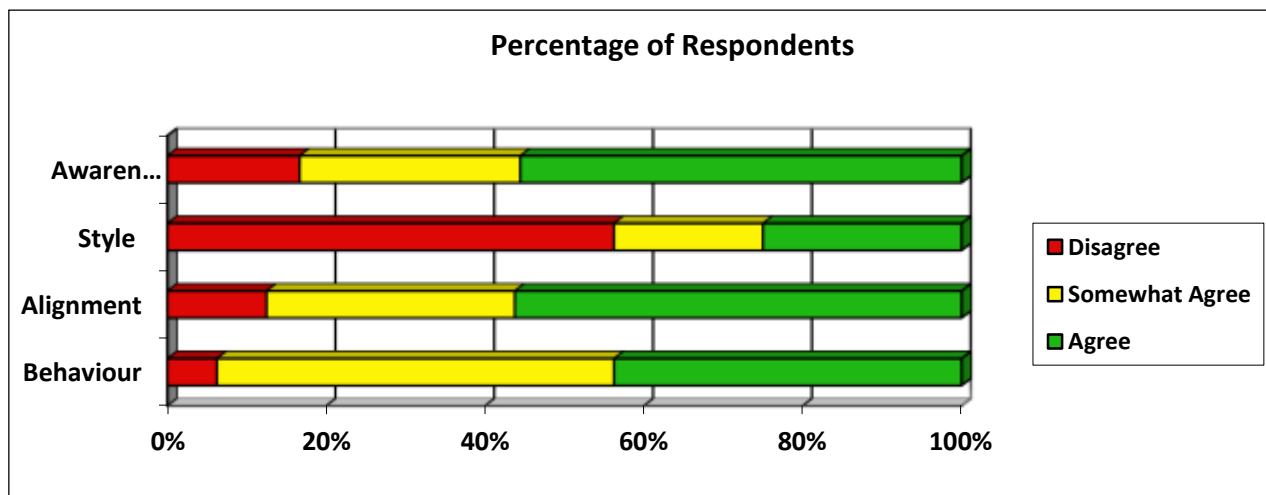
#### 4.2.1 Leadership

The leadership capability according to Hammer (2007) is divided into four categories; namely: awareness, style, alignment and behaviour. The strength level represented in E1 are described in Table 4.2.1.

**Table 4.2.1:** Leadership categories

		Strength Level (E1)
Leadership	Awareness	The enterprise's senior executive team recognizes the need to improve operational performance but has only a limited understanding of the power of business processes.
	Style	The senior executive team has started shifting from a top-down, hierarchical style to an open, collaborative style.
	Alignment	The leadership of the process program lies in the middle management ranks.
	Behaviour	A senior executive endorses and invests in operational improvement.

A summary of the ratings for leadership capability derived from the questionnaire is provided in Figure 4.1.



**Figure 4.1:** Leadership Analysis

In Figure 4.1, 56% of the respondents are in favour of awareness, indicating that the respondents agree that the enterprise's senior executive team recognises the need to improve operational performance, but has only a limited understanding of the power of business processes. Only 13% of the respondents disagree while 31% of respondents somewhat agree.

In the leadership style category; 56% of the respondents disagree that the senior executive team has started shifting from a top-down, hierarchical style to an open, collaborative style. 19% of the respondents somewhat agree while 25% of the respondents agree. In the alignment category, 56% of the respondents agree that the leadership of the process program may likely lie in the middle management ranks. There is 31% of the respondents which somewhat agree while 13% disagree. For the behaviour category 50% of respondents somewhat agree that a senior executive endorses and invests in operational improvement. 44% of the respondents agree while only 6% of the respondents disagree.

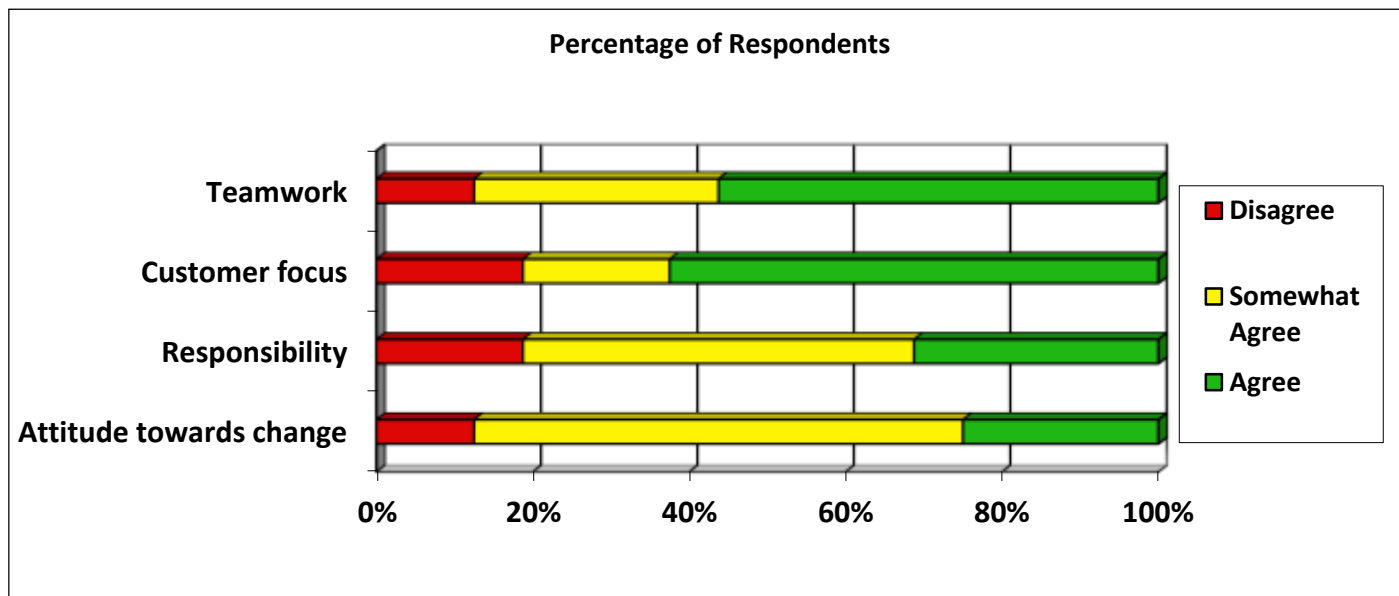
#### 4.2.2 Culture

The culture capability according to Hammer (2007) is divided into four categories; namely: teamwork, customer focus, responsibility and attitude towards change. The strength level represented in E1 is described in Table 4.2.2.

**Table 4.2.2:** Culture categories

		Strength Level (E1)
Culture	Teamwork	Teamwork is project focused, occasional and atypical.
	Customer Focus	There is a widespread belief that customer focus is important, but there is limited appreciation for what that means. There is also uncertainty and conflict about how to meet customer needs.
	Responsibility	Accountability for results rests with managers.
	Attitude towards change	There is growing acceptance in the enterprise about the need to make modest change.

A summary of the ratings for culture capability derived from the questionnaire is provided in Figure 4.2.



**Figure 4.2:** Culture Analysis

In Figure 4.2, 56% of the respondents believe that teamwork in the organisation is project focused, occasional and atypical. There is however, 31% of the respondents who somewhat agree while 13% of the respondents disagree. As for customer focus, 62% of the respondents agree that customer focus is important, but acknowledge that there is limited appreciation for it in the organisation. 19% of the respondents somewhat agree while another 19% of the respondents disagree.

In the responsibility category, 50% of the respondents somewhat agree that accountability for results rests with managers. This becomes a concern as 19% of the respondents disagree and 31% of the respondents agree. Another serious concern is that of attitude towards change which is



characterised by a growing acceptance in the enterprise about the need to make modest change. In this category, only 25% of the respondents agree while 62% of the respondents somewhat agree and 13% of the respondents disagree.

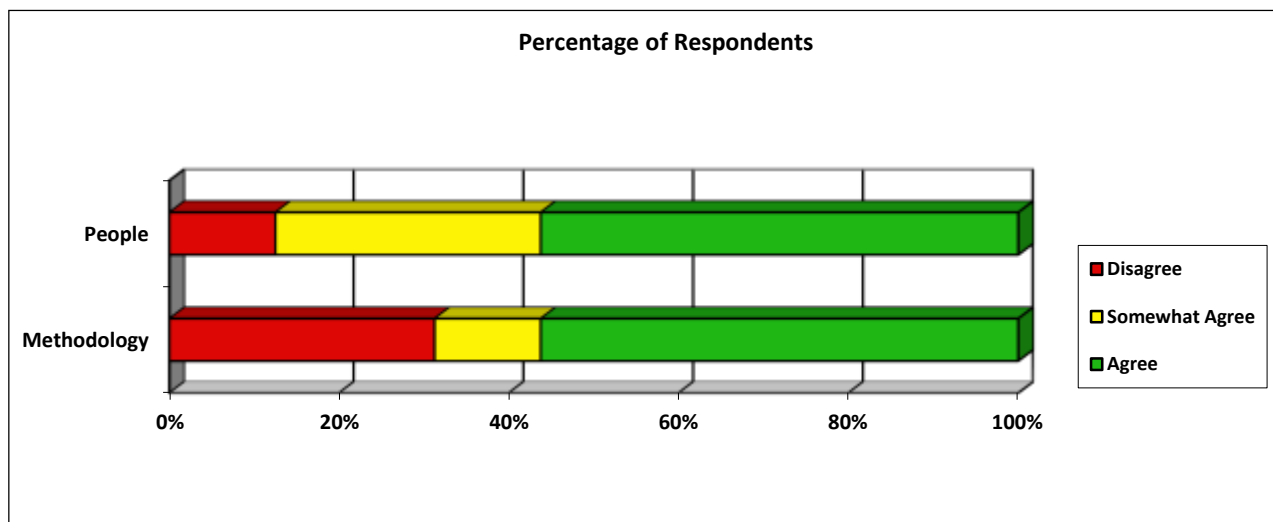
### 4.2.3 Expertise

The expertise capability according to Hammer (2007) is divided into two categories; namely: people and methodology. The strength level represented in E1 is described in Table 4.2.3.

**Table 4.2.3:** Expertise categories

		Strength Level (E1)
Expertise	People	A small group of people has a deep appreciation for the power of processes.
	Methodology	The enterprise uses one or more methodologies for solving execution programs and making incremental process improvements.

A summary of the ratings for expertise capability derived from the questionnaire is provided in Figure 4.3.



**Figure 4.3:** Expertise Analysis

In Figure 4.3, 56% of the respondents agree that a small group of people has a deep appreciation for the power of processes. 31% of the respondents somewhat agree while 13% of the respondents disagree.

In the methodology category, 56% of the respondents agree that the enterprise uses one or more methodologies for solving execution programs and making incremental process improvements. 13% of the respondents somewhat agree while 31% of the respondents disagree.

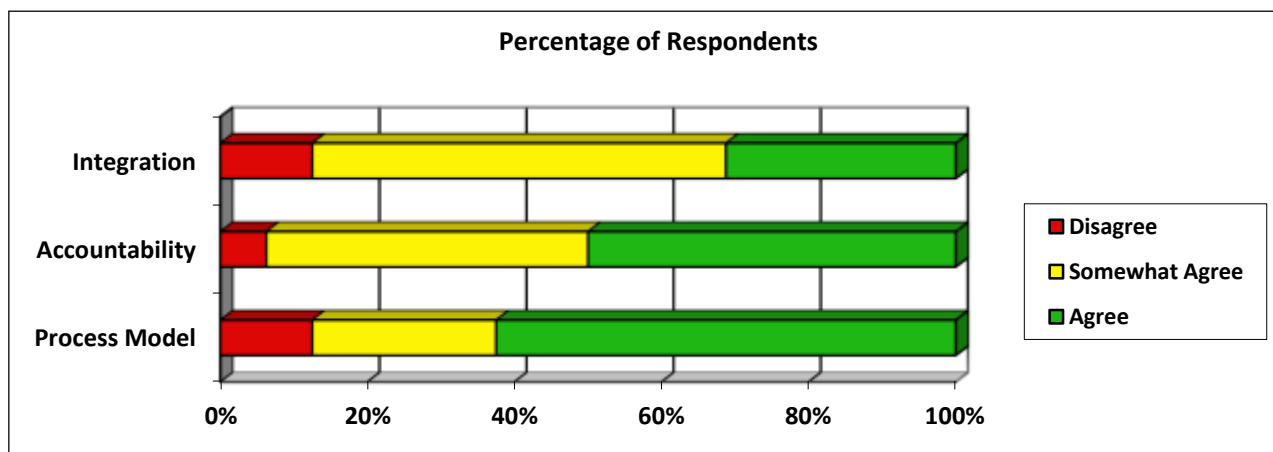
#### 4.2.4 Governance

The governance capability is divided into three categories; namely: integration, accountability and process model (Hammer, 2007). The strength level represented in E1 is described in Table 4.2.4.

**Table 4.2.4:** Governance categories

		Strength Level (E1)
Governance	Integration	One or more groups advocate and support possibly distinct operational improvement techniques.
	Accountability	Functional managers are responsible for performance, project managers for improvement projects.
	Process model	The enterprise has identified some business processes.

A summary of the ratings for governance capability derived from the questionnaire is provided in Figure 4.4.



**Figure 4.4:** Governance Analysis

In Figure 4.4, 62% of the respondents agree that the enterprise has identified some business processes. 25% of the respondents somewhat agree while 13% disagree that such group exists.

The main concern is seen in the results of integration category. The integration is characterised by the organisation having one or more groups that advocate and support possibly distinct operational improvement techniques. The results show that 31% of the respondents agree such group or groups exist; 56% somewhat agree while 13% disagree.

In the accountability category, only 50% of the respondents agree that functional managers are responsible for performance whilst project managers for improvement projects. 44% of the respondents somewhat agree while 6% disagree.

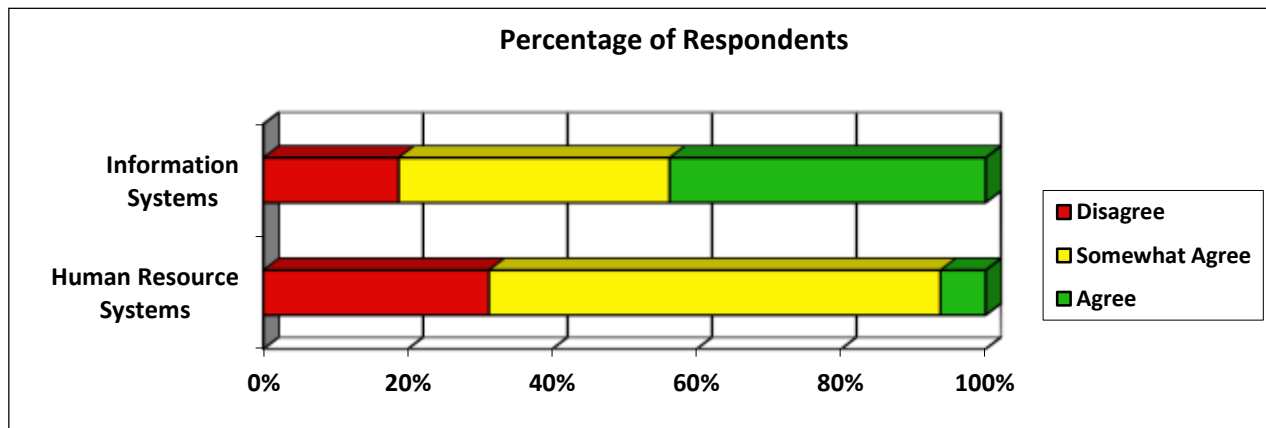
#### 4.2.5 Infrastructure

The infrastructure enabler is divided into three categories; namely: information system and human resources systems (Hammer, 2007). The strength level represented in E1 is described in Table 4.2.5.

**Table 4.2.5:** Infrastructure categories

		Strength Level (E1)
Infrastructure	Information system	Fragmented legacy IT systems support the process.
	Human resources systems	Functional managers reward the attainment of functional excellence and the resolution of functional problems in a process context.

A summary of the ratings for infrastructure enabler derived from the questionnaire is provided in Figure 4.5.



**Figure 4.5:** Infrastructure Analysis

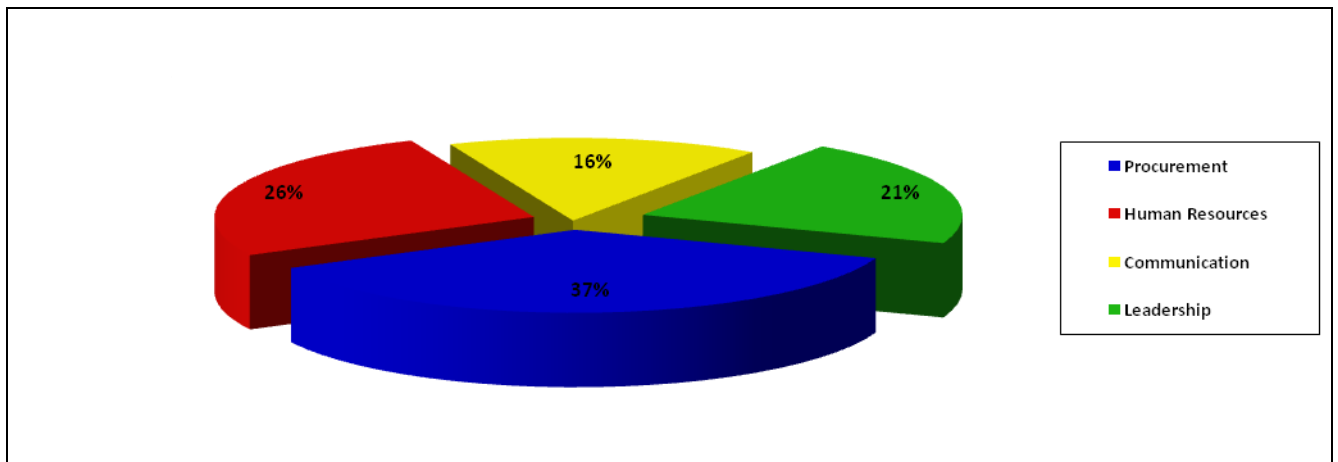
The human resource systems is characterised by functional managers rewarding the attainment of functional excellence and the resolution of functional problems in a process context. The results in Figure 4.5 show that only 6% of the respondents agree; 62% somewhat agree while 31% disagree.

In the Information Systems category, 44% of the respondents agree that the fragmented legacy IT systems in the organisation supports the process. Another 37% of the respondents somewhat agree while 19% disagree.

### 4.3 DEPARTMENTAL PROCESS MANAGEMENT CAPABILITY

The respondents were also requested to provide feedback on their experience of departmental processes as well as the areas which felt need to be improved. The departmental process feedback in Figure 4.6 shows that 37% of the respondents were concerned about the Procurement processes,

which they felt required imminent attention. There was 26% of the respondents which highlighted Human Resources related processes as inhibiting factors. The 16% of the respondents identified Communications related processes as one of the factors that required urgent attention. Only 16% of the respondents felt that Leadership support would be crucial.



**Figure 4.6:** Departmental Process Feedback

## 4.4 INTERVIEW FINDINGS

Each of the enterprise capabilities were probed in one-on-one interviews for explanations of areas in the questionnaire that were a concern. The areas of concern were colour-coded as red and yellow. These included Leadership, Culture, Expertise, Governance, and Infrastructure. Each of these sections are addressed below:

### 4.4.1 Leadership

The study shows that there is congruency between the results of leadership style received during interview sessions and questionnaire. Three themes characterised the way leadership style is viewed in the organisation. These included creation of sense of belonging, degree of approachability and extent of collaboration.

- Creation of sense of belonging. The respondents stated that leadership had not been successful in creating an environment which would promote attributes such as sense of belonging and ownership. 67% of respondents stated that the existing leadership style in the case company was neither collaborative nor open; though they felt that the new senior executive could have started to collaborate. Some of the issues pointed out included lack of support as well as a need for top management to empower lower structures to enhance processes through decision-making. This is illustrated by TP1 in the following quote: *“There is more micromanagement and top-down approach. Training is a concern as the company takes people who are highly technical and put them into leadership positions. As a result, they end up wanting to be involved at lower levels, thus affecting processes.”*

All respondents stated that they would agree to be involved in driving process efforts at their level as that would give them sense of ownership and belonging. Some felt that such efforts would minimise ambiguity and cumbersome glitches in organisational processes as issues would be debated before being approved. It was interesting to note from one of the management respondent that the case company has a strong top-down approach which often inhibits progress and often results in micro-management. The respondent thus suggested that a balance of both top-down and bottom-up approach should be a point of focus, which would achieve stakeholder involvement and ultimately enhance process flow. This is illustrated by SP2 in the following quote: *“I would like to be involved so that I gain confidence, experience and process mastery.”*

- Degree of approachability. Some of the aspects which were of concern to respondents included amongst others; no open-door policy, forced-down processes, limited encouragement to make decisions. The consensus was that such management style towards processes was still immature in the case company. This is illustrated by SP1 in the following quote: *“Management has to be supportive. Currently we are indifferent to make changes to existing processes that will bring about improvement as we know that there will hardly be any buy-in.”* LP 1 stated that *“some process such as those related to procurement often appear to be strict at times; and may send a negative signal to practitioners. However, these processes are there to protect the practitioner and the organisation.”*
- Extent of collaboration. All respondents outlined an open collaborative style as one where existing projects or tasks were easily supported by leadership. It appeared as though leadership style in the case company had not been successful in promoting collaboration. Some of the aspects which were of concern to respondents to name but a few included lack of process coordination, failure of leadership to manage change effectively, lack of transparency. One management respondent stated that the processes were mature but the implementation thereof at highest level needed to be properly managed through diverse departments in the organisation. This is illustrated by MP2 in the following quote: *“There is a need to promote shared responsibility. No collaboration as other Divisions play oversight instead of providing full support to projects”*. All respondents believed that an open-collaborative management style would enhance agility where tasks would be completed on time with improved quality. This is illustrated by TP2 in the following quote: *“As people collaborate, they gain confidence and become more decisive. This will enable them to do things quicker and better.”*

The respondents stated that efforts were being made to invest in operational improvement; however, there were no follow-ups to ensure that high performance is achieved. One leadership respondent stated that a turnaround strategy had just been initiated and maintained that all its efforts must address the reason for organisation to exist. Only one management respondent felt that the evaluation of high performance should not only reside with the senior executive, but should rather be a collective effort. The respondent further elaborated that the existing system was allowing operational improvement to take place without consultation, thus running the risks

of duplicating effort which would be deemed a waste. This is illustrated by MP1 in the following quote: *“The organisation often forces down processes with no consultation. There is no communication with regard to ERP progress amongst Divisions. As a result, there is often duplication of effort.”*

#### **4.4.2 Culture**

The respondents felt that employees could make decisions in their respective tasks or projects; however, such decisions made would often receive little or no support from the leadership. There was a consensus amongst respondents that decision making was encouraged at all levels of the organisation; though the downsides was that decisions taken were easily overridden by the senior management.

There was 89% of the respondents that felt that senior executives in the past were not decisive and that often had a negative bearing on the processes, which were seen as cumbersome. The respondents were positive that some changes in the executive representation that took place recently in the case company would improve decision making processes. One management respondent outlined that the organisation had been successful in adopting single-order changes which were temporary in nature. He stated that the fourth-order changes were the most difficult to adopt as they change the entire culture, and those changes were the ones the organisation was struggling to adopt. This is illustrated by TP2 in the following quote: *“No encouragement to make decisions as people even in senior positions are not empowered. The organisation does not value decision-making.”*

The respondents stated that individuals were held accountable for decisions made. The respondents stated that accountability often enhances sense of ownership and ultimately innovation. They felt that such aspects thus far had been the recipe of success for the case company to achieve some objectives. This is illustrated by TP2 in the following quote: *“Individuals are held accountable for decisions they make with no support from leadership when things go wrong.”*

All respondents stated that change was needed to improve the way processes were running. One respondent emphasised that any change implemented must be tested as her experience showed

that some changes in the case company were made, but could hardly fulfil the need for that change. This is illustrated by TP2 in the following quote: *“There is a need for change in the way processes are running. The approval forum processes are too long therefore intervention is required.”*

There were contrasting views where some respondents felt that the opportunities for change in the case company were needed though it should not be executed impulsively as there were issues or subjects that could be affected. By contrast, others felt that change was not well accepted in the case company. One management respondent stated that the organisation had had sound processes in the past, which made it difficult for new changes to be welcomed. He further stated that the prevalent attitude amongst the some employees was adopted “don’t fix that which is not broken” approach, thus resulting in rigidity towards adhering to existing processes.

Another management respondent felt that the way change was managed in the organisation was not effective as there was inadequate communication, consultation and environment scanning; hence constant conflict. He then felt that change management should be a collaborative effort rather than a directive effort so as to minimise conflict related issues. This is illustrated by MP2 in the following quote: *“The composition of the workforce is old people, which make change in general not easy to implement. The success of the organisation is based on its good processes, thus resulting on rigidity in adhering strictly to the process. The organisation adapts well to single order changes as these occur throughout operations, but it is the fourth order changes that are too difficult to adapt to or manage as they affect organisational culture.”*

#### **4.4.3 Expertise**

All respondents stated that the existing skills development process was not effective as experienced employees could not mentor new employees. The respondents felt that training should not be limited to the trainees but also to mentors. The suggestions were also made that training should have set time with certain milestone to achieve which was not the case.

Furthermore, the respondents stated that collaboration between management and HR was crucial to improve the existing skills development process. One respondent from management stated that skills development process was effective and that there was adequate support to



given to individuals. The respondent further stated that management expects the individual under training ensures that skills acquired during learning opportunity were put to practice. This is illustrated by TP5 in the following quote: *“Currently this does not work well as Mentors are not trained. Training is required for both Mentors and Mentees. The organisation has people with vast experience in project management and process redesign, who are not equipped to transfer knowledge to others.”*

All respondents stated that the processes were not standardised across the organisation as each Division tailor its processes to meet the needs of the particular client it serves. One respondent from management elaborated that some departments provide services with short turn around whilst others have provide complex services which are long-term often to the same client; as a result, the processes tend to differ vastly despite constant attempts to standardise them.

The respondents that stated that the processes across the organisation were easy to follow but management made it difficult to execute them due to tedious checks and balances. Some respondents argued that processes were not easy to follow as they were not transparent, no clear guidelines and no end-to-end parameters in some processes. One of the respondents stated that if one never heard of a document, one would simply waste time trying to figure out which process to follow. A suggestion was that IT should strive to make processes transparent and simple to get rather than relying on frequently asking the experienced employees where to get a particular document. This is illustrated by MP1 in the following quote: *“There are some Departments that provide services with short turn around whilst others provide complex services which are long-term often to the same client; as a result, the processes tend to differ vastly despite constant attempts to standardise them.”*

#### **4.4.4 Governance**

All respondents suggested that an internal study be conducted where stakeholders make suggestions to improve the existing enterprise process model. They believe that the model can effectively be improved by those who use it. This is illustrated by MP2 in the following quote: *“The existing model was effective in the past but has now become cumbersome to the changing environment. The company has a series of authorisation committees which have negative impact on certain projects and / or services due to time delays, especially those services or*

*projects with short turn around. Therefore the reduction or tailoring of authorisation committees to accommodate such project or services would be the best way to accommodate other internal stakeholders or Departments.”*

All the respondents except those in management stated that they were not responsible for any process improvement. They stated that they simply received processes and followed them, aligning them to their tasks. This is illustrated by SP1 in the following quote: *“I simply follow processes; it is the Line Manager who initiates improvement efforts.”*

All respondents agreed that there were informal groups supporting operational improvement; though, the main concern was that these groups operate in silos. This is illustrated by TP2 in the following quote: *“There is coordination of process improvement in the organisation, which is not effective as efforts occur in silos.”*

#### **4.4.5 Infrastructure**

All the respondents stated that HR systems used to assess personnel is good but have limitations. The main concern was that it does not filter out the human element, thus resulting in a subjective assessment. They felt that all was needed to complete the assessment in order to qualify for bonus, but there was no strong management intervention to see to progression. This is illustrated by TP2 in the following quote: *“It does not monitor performance. It is not adequate therefore it is a good idea but limited capability.”*

All respondents mentioned that management intervention was essential through regular monitoring of progress to ensure fair assessment of personnel. However, the performance assessment process is highly subjective; which is a main concern. This is illustrated by TP2 in the following quote: *“The Line Manager has a huge influence which makes it highly subjective. That human element must be eliminated.”*

All respondents stated that the processes were supported from fragmented IT system. This is illustrated by TP2 in the following quote: *“The Research and Development department uses manual approach to apply for leave not workflow like other departments.”*

#### 4.4.6 General:

The respondents felt that capabilities identified were sufficient to address the BPM issues in the case company. Two respondents were however, concerned about the HR system in relation to new employees. This is illustrated by TP2 in the following quote: *“The organisation attracts talented individuals but fails to provide guidelines or explicit job profile. The improved HR Information System will contribute to overall effectiveness of BPM in the organisation as clear boundaries will be set to eliminate no duplication of effort.”*

#### 4.5 CONCLUSION

This chapter provides the research findings which were attained through analysis of questionnaire and interview data. The findings are summarised as follows:

Leadership. The questionnaire showed that the leadership style in the case company would serve as inhibitor for BPM success; however, the interviews showed that leadership already commenced with efforts to improve this attribute.

Culture. The questionnaire showed that the responsibility and attitude towards change were the main concern in the case company. The interviews showed concerns in these areas but also highlighted efforts leading towards improvement.

Expertise. The questionnaire showed a concern regarding a deep appreciation for the power of processes; however, the interviews showed that there were people who appreciated processes.

Governance. The questionnaire and interviews showed weaknesses in the accountability and integration aspect.

Infrastructure. The questionnaire showed concerns in both Information Systems and HR systems which were also supported by the interviews.

The chapter also provides feedback which emanates from the respondents' experiences of departmental processes. The next chapter will present discussions on the research findings and recommendations.

## **CHAPTER 5: DISCUSSION AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

This chapter discusses the research findings as presented in the previous chapter and provides answer to the research question. The findings are discussed by drawing on literature. The focus of discussion is on areas which had a greater part of disagreement and neutrality in the findings, in order to get an in-depth understanding of the environment as these indicate possible areas for improvement of BPM in the case company. The intention of the discussion is to find evidence that confirms or refutes the research findings.

### **5.2 DISCUSSION**

The research study is discussed using the Enterprise Capabilities categories from PEMM.

#### **5.2.1 LEADERSHIP**

The leadership capability such as that perceived to prevail in the case company may inhibit business success.

Awareness. The questionnaire indicates 13% of respondents who disagree coupled with 31% of the respondents who are not fully convinced that the enterprise's senior executive team recognises the need to improve operational performance, but has only a limited understanding of the power of business processes. The interviews which focused on the dubious 31% of the respondents ultimately support the statement that the enterprise's senior executive team recognises the need to bring about change. According to Hammer (2007) as distinguished at E-2 level, there should be at least one senior executive that understands the business process concept.

During the interviews, two of the respondents who were part of the executive highlighted business process awareness efforts being promoted in the case company. These included the turnaround strategy that the organisation had recently embarked on in order to optimise response time and reduce numerous approval committees that serve as gateways in the process. One of the respondents mentioned the share drive which was introduced recently to promote process awareness and further referred to other projects under way such as acquiring Enterprise Resource Planning package as well as the Knowledge Management System (KMS). According to the respondent, the KMS would ensure that pertinent information and its related processes are documented to be accessed by the users. This is pertinent as it will eliminate the heroic approach detailed by Höggerl and Sehorz (2006).

Style. There is a consensus that leadership may have started shifting from a top-down, hierarchical style to an open, collaborative style. This is in accordance with Hammer's (2007) description of E-1 maturity level. The results further show that leadership may not have been successful in creating sense of belonging, degree of approachability and extent of collaboration. A rigid leadership style that is not collaborative and open may be seen as unapproachable and therefore unsupportive.

This could be a reason why the assessment results of leadership dimension became a concern in the customer survey of the case study. This further confirms the relationship between leadership role in the organisation and BPM as the two concepts contribute to business success. The turnaround strategy which one of the respondents mentioned that the case company has embarked on, may appear as a first step towards open collaboration.

Alignment. The questionnaire indicates that 13% of the respondents do not agree that the leadership of the process program lies in the middle management ranks. There was 31% of the respondents that was somewhat convinced while 56% of the respondents were convinced. The interviews focused on the 31% of the respondents which was somewhat convinced, which later supported the statement that the process program lies in the middle management ranks. The minimal percentage of respondents who disagrees could be a sign of limited transparency; hence organisational learning is pertinent in this regard to provide transparency. Uusitalo (2014) in fact alludes that organisational learning is an essential part of a company's strategic processes. As for leadership alignment, the study shows that there is a foundation laid out to align process programs in the case company, though this is still limited to middle management. This makes the category to achieve E-1 maturity level as described by Hammer (2007).

Behaviour. The questionnaire for example, indicated that 6% of the respondents do not agree that senior executives endorse and invest in operational improvement. 50% of the respondents are somewhat convinced while 44% of the respondents are convinced that senior executive endorses and invests in operational improvement. The interviews which focused on the 50% of the respondents revealed that senior executive endorsed and invested in operational improvement. The concern though was simply the manner in which it was done. Therefore this enables the case company to attain E-1 but permit to obtain E-2 as the senior executive may not have publicly set stretch performance goals in customer terms with the preparation to commit resources, make deep changes and remove roadblocks in order to achieve those goals.

### 5.2.2 CULTURE

The expertise capability such as that perceived to prevail in the case company is considered improvement towards business success.

Teamwork. The questionnaire indicates that 13% of respondents do not agree with the statement that teamwork is project focused, occasional and atypical. 31% of respondents somewhat agree whilst 56% of the respondents agree that teamwork is project focused, occasional and atypical. The interview results which focused on the 31% of respondents who somewhat agreed, confirmed that there was still a significant attitude of employees working in silos. This is in line with E-1 level as detailed in Hammer (2007).

BPM is believed to enhance teamwork as it provides coordination amongst stakeholders (Armistead, Pritchard and Machin, 1999; Bandara *et al.* 2009; Sandhu and Gunasekaran, 2004). Therefore in order to create cross-functional project teams in the case company, investment on the appropriate BPM tool and leadership support could be pertinent. Moreover, this will likely improve cross-functional interaction by involving several departments and ultimately provide a framework for organisational learning.

Customer Focus. The customer focus displayed in the case company shows improvement towards business success. This is shown in the results of the questionnaire where the majority has reached consensus. The results are in line with Hammer's (2007) description of E-1 which states that there is limited appreciation for what customer focus means. Moreover, employees in the case company realise that the purpose of their work is to deliver extraordinary customer value as detailed in Hammer (2007). As a result, this category is in accordance with E-2 level but partially achieves E-3 level.

Responsibility. A cultural responsibility such as that perceived to prevail in the company is considered as an improvement towards business success. It is due to 50% of respondents who somewhat agree that accountability for results rests with managers, and therefore confirmed during interviews that they were accountable for decision they make and results received. The questionnaire indicated that 19% of respondents did not agree whilst 31% of the respondents agreed. The main concern which emanated from interviews was that the decisions taken by employees were easily overridden by the management. Therefore this categories was found to be in accordance with E-1 level, where Hammer (2007) stated that employees realised that the purpose of their work was to deliver extraordinary customer value.

Attitude towards change. A cultural attitude towards change such as that perceived to prevail in the company is considered as an improvement towards business success. The questionnaire indicated that 13% of respondents showed attitude towards change as they disagreed that there was growing acceptance in the enterprise about the need to make modest change. 25% of respondents agreed whilst 62% of respondents somewhat agreed. The respondents who somewhat agreed with change efforts in the questionnaire, confirmed during interviews that there was growing acceptance in the enterprise about the need to make modest change. As a result, the category is in line with Hammer's (2007) description of E-1 level but cannot attain E-2 due to significant indication of employees not prepared for change in how work is performed.

This is often a challenge when a process-intensive organisation has to change its apparent good processes to deal with the external factors. The turnaround strategy that the case company is adopting will have to address this issue sensitively as processes are driven by people. Some respondents agree that drastic change may reduce the pivotal role people play in the organisation; hence indifference to change. This aspect is supported by Höggerl and Sehorz (2006) who confirm that BPM eliminates heroic nature in the organisation as processes become clear, simple and accessible to everyone in the organisation.

### **5.2.3 EXPERTISE**

The expertise capability such as that perceived to prevail in the case company is considered improvement towards business success.

Methodology. The questionnaire indicates that 56% of respondents agree that there is one or more methodologies for solving execution programs and making incremental process improvements in the organisation. There is 13% of respondents who somewhat agree while 31% disagree. This is in line with Hammer's (2007) description of E-1 level, which states that enterprise uses one or more methodologies for solving execution programs and making incremental process improvements. Neubauer (2009) for example, postulates that BPM as a methodology that allows companies to adapt faster to the continuously changing requirements of the market and its customers enables development and continuous improvement of corporate strategies. It therefore stands to reason that processes do exist in the case company. However, significant changes may not be apparent to some employees as they believe that there is a minimal effort in the organisation to make incremental improvements.

People. The questionnaire indicates that 13% of respondents do not agree that a small group of people has a deep appreciation for the power of processes. 31% of the respondents somewhat agree that a small group of people has a deep appreciation for the power of processes while 56% of the respondents mention that some group of people exists, which has a deep appreciation for the power of processes. This is in line with E-1 level as Hammer (2007) points out.

It is not unique to find process practitioners in the organisation who are not aware of small groups driving processes. This is typical of organisations operating in silos detailed in the case study with a level 1 maturity. This further shows that an organisation may have knowledgeable and experienced personnel but fail to function at full potential owing to the limitation of an integrating system.

#### **5.2.4 GOVERNANCE**

The governance such as that perceived to prevail in the case company is considered as an improvement towards business success.

Integration. The questionnaire for example, indicated that there 31% of the respondents agreed that there was one or more groups in the case company that advocated and supported possibly distinct operational improvement techniques. 13% of the respondents disagreed that such group existed. 56% somewhat agreed, thus requiring further clarity by means of interviews. During interview session all respondents stated that there were informal groups supporting operational improvement; however, the main concern was that these groups operated in silos. This category is considered to be necessary to achieve E-1 level; which states that one or more groups advocate and support possibly distinct operational improvement techniques.

Accountability. The questionnaire indicates that 6% of the respondents agree that it is highly untrue that functional managers are responsible for performance while project managers are responsible for improvement projects. 44% of the respondents agree that the role of functional managers in executing performance and project managers in improving projects is somewhat true. 50% of the respondents agree that this aspect is true. During interview, it was discovered that all respondents except those in management stated that they were not responsible for any process improvement, except executing those processes through projects. The respondents however, stated that they would agree to be involved in driving process efforts at their level. The main concern highlighted by the respondents was that there was no clear, documented duties and responsibilities for each employee. This category is in line with



Hammer's (2007) description of E-1 level, which states that functional managers are responsible for performance, project managers for improvement projects.

Process Model. The questionnaire indicates that 13% of the respondents agree it is highly untrue that the enterprise has identified some business processes; while 25% of the respondents indicate that it this aspect can be somewhat true. 62% of the respondents agree that efforts were made by the enterprise to identify some business processes. All respondents suggested that an internal study be conducted where stakeholders make suggestions as they agree that an enterprise process model can effectively be improved by those who use it. The respondents further agreed that there was an existing enterprise process model, though it was not transparent and communicated to most employees. As a result, the category achieves E-2 level as per Hammer (2007) but cannot obtain E-3 as the model has not been communicated throughout the enterprise.

#### **5.2.5 INFRASTRUCTURE**

The infrastructure such as that perceived to prevail in the case company is considered may have negative impact towards business success.

Human Resource Systems. The questionnaire indicates that 31% of respondents believe that functional managers do not reward the attainment of functional excellence and the resolution of functional problems in a process context. 6% of respondents agreed that functional managers reward the attainment of functional excellence, while 62% of the respondents felt that it could be true but were not certain.

During interviews, the respondents stated that HR systems used to assess personnel is good but have limitations. The main concern was that it does not filter out the human element, thus resulting in a subjective assessment. The study shows that a lack of a centralised knowledge management system also made it difficult for new employees to tackle issues; thus relying solely on information they received from employees who had been in the organisation for longer period. According to Höggerl and Sehorz (2006), this is typical of organisations at level 1 of maturity as they rely solely on the heroic effort of practitioners rather than well-defined process. As a result, the category achieves E-1 level as per Hammer (2007) which states that functional managers reward the attainment of functional excellence and the resolution of functional problems in a process context. The process management

systems should serve to provide customer's satisfaction as mentioned by Khan (2010), which is not the case in this aspect.

Information Systems. The questionnaire indicates that 19% of respondents do not agree that fragmented legacy IT systems support the process. 37% of the respondents somewhat agree that fragmented legacy IT systems support the process; whilst 44% of the respondents are convinced that it does. The data shows that some knowledge of IT exists amongst respondents regarding the role of IT in the case company and how it affects processes. During interviews, all respondents agreed that the IT systems that support the process is fragmented rather than integrated.

The respondents state that diverse departments in the organisation function in silos with IT systems appearing to be tailored only for certain departments. The case study showed that some departments were still depending on human intervention to re-capture the information. This is in line with Hammer's (2007) description of E-1 level which states that fragmented legacy IT systems support the process. According to one of the respondents, the Enterprise Resource Planning (ERP) will soon be implemented across the entire organisation as one of the initial steps of turnaround strategy to create synergy and eliminate duplication of effort.

#### **5.2.6 DEPARTMENTAL PROCESS MANAGEMENT CAPABILITY**

In the questionnaire, respondents were requested to identify areas in their particular departments which required some attention in order to improve service delivery to either employees or client. The findings as shown in Figure 4.22 showed that 37% of the respondents were concerned about procurement processes, 26% identified HR processes and 21% mentioned leadership-driven processes while 16% was concerned about communication processes. During interviews, it was discovered that the organisation had sound, robust processes which turned out to be an obstacles when a need for change was proposed. As a result, a conflict emerged where employees were frustrated by processes which were once deemed effective. The situation became chaotic which is signified by poor results of staff morale showed in the case study.

### 5.3 REVISITING THE RESEARCH QUESTION

To achieve the research objective, the research question is restated as follows:

5.3.1 Which factors influence maturity level of the enterprise capabilities in the case company?

- The intention is to consider the findings of the primary questions for practical applications.

### 5.4 MATURITY LEVEL ANALYSIS

In order to identify factors that influence the maturity level of the enterprise capability in the case company, a maturity level has to be determined. The analysis of findings provides substantial evidence that diverse departments in the organisation have diverse capabilities to manage processes. The study further substantiates that there are some processes in place; however, the management thereof is still ineffective. According to Höggerl and Sehorz (2006) the second tier acknowledges that there are some processes in place.

Jacobs (2014) also maintains that the management of processes at level 2 is reactive which is typical of the organisation under study. Hammer (2007) however, points out that all categories must be on the same level to attain the next level. In this case the maturity level of the enterprise capabilities in the case company is at level 1. The level 2 is partially obtained as all criteria are not met. There are also some categories that have achieved level 3, however such level cannot be obtained until all criteria are met.

**Table 5.2:** Enterprise Capability Maturity levels

Capabilities	Level 1	Level 2	Level 3	Level 4
Leadership				
Culture				
Expertise				
Governance				
Infrastructure				

As the study shows that the enterprise maturity of the case company is at level 1; it is thus apparent that there will be certain factors that will inhibit the achievement of higher levels. The study shows that there are factors that influence maturity of the enterprise capabilities in the case company. The factors which were seen to be lacking in the case company according to respondents include the following:

- Limited investment towards BPM solutions.
- Limited synergy across various departments.
- Indifference and lack of support towards process changes.
- Lack of clear and defined roles and responsibility for employees.
- Lack of integrated Information Systems amongst various Departments in the case company.

These abovementioned factors confirm the theory which link these factors to any organisation that is at level 1 of maturity. This is thus a confirmation that the maturity level assessed in the case company is correct. In order for the organisation to attain the next level of maturity; these factors must therefore be given a priority to be resolved as they influence maturity of the enterprise capabilities. The study further shows that leadership is the main driver to ascertain that these factors are addressed effectively.

## **5.5 RECOMMENDATIONS**

The BPM in the case company can be improved to enhance service delivery to its customers. In an attempt to attain practical applications for the findings of the primary questions; the following recommendations are made which also serve as lessons learned from the study:

- **Process remodelling** should to be considered, with a collaborative effort between both management and employees to come up with the way to improve throughput without compromising an existing client relationship. A study should be made on the BPM information system that will meet the needs of the case company such as the integration of various departments. This should be an in-depth study as there are various products in the market.
- **Awareness training** should to be conducted periodically to sensitise employees on the importance of synergy, and how synergy can create an innovative environment which will ultimately improve processes and assist the organisation in attaining competitive edge.

- Periodic **communication sessions** should be conducted across the organisation to enhance transparency, promote learning and keep members informed of change efforts and the benefit thereof on business processes. Moreover, such efforts should be driven by top management and employee collaboration rather than being seen as top-down approach only. These sessions will address various issues such as ambiguous roles and responsibilities.
- A further comprehensive study that investigates all aspects of BPM that is sponsored by the organisation and has top management support to inform sustainable systemic change.

## 5.6 CONCLUSION

The chapter provides a discussion of the results of findings which are analysed to see if they relate to the literature reviewed. The answers to the research questions are provided by identifying factors influencing the maturity level of the case company and subsequently providing recommendations for improved service delivery. The case company maturity level is evaluated at level 1 and the study recommends the following: top management support, periodic communication sessions, awareness training and process remodelling. The next chapter will conclude the research by providing a summary of the study.

## **CHAPTER 6: CONCLUSIONS**

### **6.1 INTRODUCTION**

This chapter provides a summary of the research study and the approach used to conduct the study. This is based on the knowledge gained through the literature review, questionnaire and interviews findings.

### **6.2 OVERVIEW OF ENTERPRISE CAPABILITIES**

#### **6.2.1 LEADERSHIP**

The research indicates that there are categories that influence the effectiveness of leadership as a variable of enterprise capability. These categories include awareness, style, alignment and behaviour. Amongst these categories, the leadership style was seen as the category that required much attention in terms of improvement. The study suggests that there could be lack of transparency in some efforts driven by the leadership. This is characterised by lack of collaboration and shared responsibility throughout the organisation. It would thus appear as if BPM benefits are not yet uniformly evident across various departments of the case company.

The study substantiates that leadership behaviour towards change has been positive as there are some significant investment efforts in the case company to improve performance. The challenge though seems to be a need to ensure that such investment is not in vain, but rather ascertain that realistic performance measures are in place. In general, the study shows that leadership capability is a main driver in ensuring success implementation of BPM in the organisation.

#### **6.2.2 CULTURE**

The research indicates that there are categories that influence culture as a variable of enterprise capability. These categories include teamwork, customer focus, responsibility and attitude towards change. In the case company, the cultural challenge lies with effecting change. The first impediment becomes apparent where a change is proposed to migrate from a fragmented Information Systems to integrated system, with the aim of reducing duplication of effort and inconsistency problems. The study shows that such change does not gain much support in the organisation as some departments perceive that the uniqueness of each department may be compromised. It is thus as a result of each department being functionally unique to addresses specific needs of the client.

The apparent belief is that the integration of Information Systems will degrade the relationship and erode excellent services provided by the particular department to the client. On the contrary; another school of thought that supports change is of the opinion that integration will reduce cost, increase synergy and ultimately improve client relationships. The second impediment to effect change is believed to be influenced by the historical record of sound processes which the organisation has had, which is easily appreciated by the older generation than the younger generation of employees.

### **6.2.3 EXPERTISE**

The research indicates that there are categories that influence the effectiveness of expertise as a variable of enterprise capability. These categories include people and methodology. The study shows that some employees agree that there is minimal effort in the organisation to make incremental improvements in the process. The aspect of transparency and learning seems to be the existing limiting factor in the organisation, which needs to be improved as there is various people who appreciate the power of processes.

### **6.2.4 GOVERNANCE**

The research indicates that there are categories that influence the effectiveness of governance as a variable of enterprise capability. These categories include integration, accountability and process model. The study presents a challenge where diverse departments across the organisation operate in silos, hence a need for collaboration is essential in order to review levels of integration and standardisation. This aspect seems to be a challenge as it is noted that standardisation can be detrimental to the organisation if is conducted without the particular needs of a business unit's customers. The upside of collaboration will also ensure that every functional level is fully represented so as to enhance employees' involvement in driving process efforts at their particular level.

The study further shows that the existing situation incurs ambiguity in the system as documented duties and responsibilities are not transparent to most employees. Improvement on this aspect will enhance transparency throughout the organisation and minimise duplication of effort as every employee will be able to know their sphere of influence and how their roles contribute to the greater part of the organisational success. The need for remodelling of existing processes in a collaborative way between both management and employees will be pertinent to come up with the way of enhancing throughput without compromising an existing client relationship.

### **6.2.5 INFRASTRUCTURE**

The research indicates that there are categories that influence the effectiveness of infrastructure as a variable of enterprise capability. These categories include Information Systems and human resource systems. The study shows a need to improve the existing performance management system so that it provides objective measurement that will promote a fair assessment. In order for that objective to be achieved, collaboration between management and employees is encouraged.

The study further reports that the IT in the organisation is fragmented across various departments of the organisation. Since the ultimate goal is to have an integrated IT system, the challenge therewith is based on inflexibility whereas the fragmented IT system lacks harmony at the corporate level. Therefore a clear organisational strategy and objective will be able to drive out the design of IT infrastructure, which simply serves to support the business processes.

### **6.3 CONTEXTUAL CONCLUSIONS**

The study shows that the BPM in the case company faces challenges as enterprise capability has limitations with respect to transparency, top management support, effective change management and various departments operating in silos. The study further shows that promotion of collaboration between management and employees could result in improved BPM awareness, communication and synergy throughout the organisation. This will then enhance efforts to break silos, standardising and integrating at various levels without compromising inflexibility and corporate goals.

### **6.4 LIMITATIONS OF THE STUDY**

The following points serve as limitations to this study and should thus be taken into account:

- The small sample i.e. not all employees were interviewed or completed questionnaire, allowed for the investigation of the experiences of individuals in the organisation. These experiences may be of a temporal nature i.e. based on experiences at a particular point in time. A longitudinal study over an extended period may reveal additional insights.



## **6.5 OPPORTUNITIES FOR FUTURE STUDY**

The following points serve as impetus for further study:

- A need to address all variables and the relationships in the BPM maturity model and how they influence one another in a systemic way.
- As the study has shown that BPM comprises both business and IT aspects, the research focuses only on the business aspect of BPM which attempts to evaluate the maturity level of enterprise capability. The opportunity for further research will be to focus on process enablers which do not form part of this research.

## **6.6 CONCLUSION**

The chapter provides enterprise capabilities influencing BPM in the case company. It further sums up findings and recommendations which serve as a starting point to improve BPM in the case company and enhance service delivery to its customers. The chapter concludes by presenting the limitations of the study and suggests opportunities for future study.

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## **APPENDICES**

### **APPENDIX A**

#### **Covering Letter**

Dear Sir/Madam,

#### **Re: Research Study: An Investigation of Business Process Maturity: A case study in South African Parastatal**

First, I would like to express my gratitude for affording me this time and opportunity to conduct survey for my research. I am currently undertaking a research study as part of my 2<sup>nd</sup> and final year of Masters of Philosophy degree in Engineering Management at University of Cape Town. The research is borne of my deep interest in business process improvement. I hope to attain a broader perspective of enterprise capability of your organisation.

This study aims to answer the following question:

- Which factors influence the maturity level of the enterprise capabilities in the case company?

Any information gathered during this study which is identifiable to you will remain fully confidential and anonymity will be maintained throughout the study. All participants have the right not to take part or to withdraw from the study at any stage without penalty. Should you wish to take part in the study or have any further questions you would like to ask before making a decision, please feel free to contact me on 082 3399 612 or email [malehonteo@gmail.com](mailto:malehonteo@gmail.com). If you do decide that you would like to participate in this research study, please sign the attached consent form and email it to me. Should I not hear from you in five days, I will assume that you are not ready to participate. Your participation in this study will be highly appreciated.

Kind Regards,

***Maleho Nteo***

## APPENDIX B

### Letter of Permission to Conduct the Study

I \_\_\_\_\_ have read and understand the letter of invitation to take part in the research study: A Research Study is based on *An Investigation of Business Process Maturity: A case study in South African Parastatal*.

I have received adequate information regarding the nature of the study and understand what will be requested of me. I am aware of my right to withdraw at any point during the study without penalty.

I hereby consent to participate in this research study.

Participant's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_

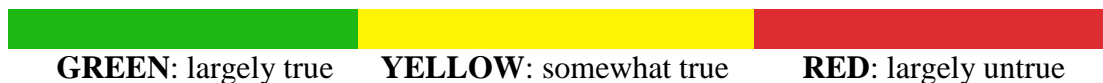
Date: \_\_\_\_\_

## APPENDIX C

### Enterprise Capability Maturity Model

A model has been designed by Hammer (2007) to summarise the basic findings of each evaluation. To determine if your organisation is ready to support a process-based transformation, evaluate the statements in this table. They show the strength levels, E-1 to E-4, of the capabilities that enterprise needs in order to develop their business processes.

If a statement is largely true (at least 80% correct), mark the box with a "G" to indicate the colour green; if it is somewhat true (between 20% and 80% correct), mark the box with a "Y" to indicate the colour yellow; and if it is largely untrue (less than 20% correct), mark the box with an "R" to indicate the colour red.



On completion of the model, please feel free to provide comments on other factors that you feel will be instrumental in improving Enterprise Capability.

Should you require more information or any clarity on the model, please feel free to contact me at [malehonteo@gmail.com](mailto:malehonteo@gmail.com) or alternatively you can ring me on 082 3399 612.

		E-1	E-2	E-3	E-4	E1	E2	E3	E4
<b>Leadership</b>	<b>Awareness</b>	The enterprise's senior executive team recognizes the need to improve operational performance but has only a limited understanding of the power of business processes.	At least one senior executive deeply understands the business process concept, how the enterprise can use it to improve performance, and what is involved in implementing it.	The senior executive team views the enterprise in process terms and has developed a vision of the enterprise and its processes.	The senior executive team sees its own work in process terms and perceives process management not as a project but as a way of managing the business.				
	<b>Alignment</b>	The leadership of the process program lies in the middle management ranks.	A senior executive has taken leadership of, and responsibility for, the process program.	There is a strong alignment in the senior executive team regarding the process program. There is also a network of people throughout the enterprise helping to promote process efforts.	People throughout the enterprise exhibit enthusiasm for process management and play leadership roles in process efforts.				
	<b>Behaviour</b>	A senior executive endorses and invests in operational improvement.	A senior executive has publicly set stretch performance goals in customer terms and is prepared to commit resources, make deep changes, and remove roadblocks in order to achieve those goals.	Senior executives operate as a team, manage the enterprise through its processes, and are actively engaged in the process program.	The members of the senior executive team perform their own work as processes, centre strategic planning on processes, and develop new business opportunities based on high-performance processes.				
	<b>Style</b>	The senior executive team has started shifting from a top-down, hierarchical style to an open, collaborative style.	The senior executive team leading the process program is passionate about the need to change and about process as the key tool for change.	The senior executive team has delegated control and authority to process owners and process performers.	The senior executive team exercises leadership through vision and influence rather than command and control.				
<b>Culture</b>	<b>Teamwork</b>	Teamwork is project focused, occasional and atypical.	The enterprise commonly uses cross-functional project teams for improvement efforts.	Teamwork is the norm among process performers and is commonplace among managers.	Teamwork with customers and suppliers is commonplace.				
	<b>Customer focus</b>	There is a widespread belief that customer focus is important, but there is limited appreciation for what that means. There is also uncertainty and conflict about how to meet customer needs.	Employees realize that the purpose of their work is to deliver extraordinary customer value.	Employees understand that customers demand uniform excellence and a seamless experience.	Employees focus on collaborating with trading partners to meet the needs of final customers.				
	<b>Responsibility</b>	Accountability for results rests with managers.	Frontline personnel begin to take ownership of results.	Employees feel accountable for enterprise results.	Employees feel a sense of mission in serving customers and achieving ever-better performance.				
	<b>Attitude toward change</b>	There is growing acceptance in the enterprise about the need to make modest change.	Employees are prepared for significant change in how work is performed.	Employees are ready for major multi-dimensional change.	Employees recognize change as inevitable and embrace it as a regular phenomenon.				
<b>Expertise</b>	<b>People</b>	A small group of people has a deep appreciation for the power of processes.	A cadre of experts has skills in process redesign and implementation, project management, communications, and change management.	A cadre of experts has skills in large-scale change management and enterprise transformation.	Substantial numbers of people with skills in process redesign and implementation, project management, program management, and change management are present across the enterprise. A formal process for developing and maintaining that skill base is also in place				

		E-1	E-2	E-3	E-4	E1	E2	E3	E4
	<b>Methodology</b>	The enterprise uses one or more methodologies for solving execution programs and making incremental process improvements.	Process redesign teams have access to a basic methodology for process design.	The enterprise has developed and standardized a formal process for process redesign and has integrated it with a standard process for process improvement.	Process management and redesign have become core competencies and are embedded in a formal system that includes environment scanning, change planning, implementation, and process-centered innovation.				
<b>Governance</b>	<b>Process Model</b>	The enterprise has identified some business processes.	The enterprise has developed a complete enterprise process model, and the senior executive team has accepted it.	The enterprise process model has been communicated throughout the enterprise, is used to drive project prioritization, and is linked to enterprise-level technologies and data architectures.	The enterprise has extended its process model to connect with those of customers and suppliers. It also uses the model in strategy development.				
	<b>Accountability</b>	Functional managers are responsible for performance, project managers for improvement projects.	The process owners have accountability for individual processes, and a steering committee is responsible for the enterprise's overall progress with processes.	The process owners share accountability for the enterprise's performance.	A process council operates as the senior-most management body; performers share accountability for enterprise performance and the enterprise has established steering committees with customers and suppliers to drive inter-enterprise process change.				
	<b>Integration</b>	One or more groups advocate and support possibly distinct operational improvement techniques.	An informal coordinating body provides needed program management while a steering committee allocates resources for process redesign projects.	A formal program management office, headed by a chief process officer, coordinates and integrates all process projects, and a process council manages inter-process integration issues. The enterprise manages and deploys all process improvement techniques and tools in an integrated manner.	The process owners work with their counterparts in customer and supplier enterprises to drive inter-enterprise process integration.				
<b>Infrastructure</b>	<b>Information Systems</b>	Fragmented legacy IT systems support the process.	An IT system constructed from functional components supports the process.	An integrated IT system, designed with the process in mind and adhering to enterprise standards, supports the process.	An IT system with a modular architecture that adheres to industry standards for inter-enterprise communication supports the process.				
	<b>Human Resource Systems</b>	Functional managers reward the attainment of functional excellence and the resolution of functional problems in a process context.	The process's design drives role definitions, job descriptions, and competency profiles. Job training is based on process documentation.	Hiring, development, reward, and recognition systems emphasize the process's needs and results and balance them against the enterprise's needs.	Hiring, development, reward, and recognition systems reinforce the importance of intra-and inter-enterprise collaboration, personal learning, and organisational change.				



## **APPENDIX D**

### **Interview Questions**

#### **Leadership**

- 1.1 How would you describe the leadership style of this company (or area in which you work)?
- 1.2 What is your understanding of an open collaborative management style? And how would the leadership style you have experienced in this company compare with open, collaborative style?
- 1.3 To what extent would an open collaborative management style influence business processes in your organisation?
- 1.4 Would you like to be involved in driving process efforts or you would rather leave that to leadership? State why.
- 1.5 In your opinion, do you see senior executive only investing in operational improvement or also using processes to evaluate high performance.

#### **Culture**

- 2.1 As an employee are you encouraged to make decisions? How does this happen in the organisation?  
At all levels? Is it something valued by the organisation?
- 2.2 Are you held accountable for those decisions or your line manager?
- 2.3 To what extent can accountability help to improve performance?
- 2.4 Is there a need for change in the way processes are running?
- 2.5 How is change being accepted in your organisation?

#### **Expertise**

- 3.1 Which approach can be adopted to improve the existing skills development process?
- 3.2 In your opinion, are the processes across the organisation well standardised and easy to follow?

#### **Governance**

- 4.1 How can the existing enterprise model be improved to ensure that all stakeholders are well integrated and benefit from its implementation?
- 4.2 Are you responsible for certain process improvements or your line manager?

4.3 In your opinion, is there formal coordination of process improvement or you feel rather that efforts take place in silos (ie. informal groups)?

### **Infrastructure**

5.1 What is your view of the HR systems used to assess personnel?

5.2 How can HR systems be improved to ensure fair assessment of personnel?

5.3 In your opinion, are the processes supported from fragmented IT system or well integrated system?

### **General:**

In your opinion, what other additional factors influence BPM in your organisation?

## APPENDIX E

### Interview Transcript (TP2)

#### Interview Questions

##### Leadership

1.1 How would you describe the leadership style of this company (or area in which you work)?

*Unsupportive leadership to be exact.*

1.2 What is your understanding of an open collaborative management style? And how would the leadership style you have experienced in this company compare with open, collaborative style?

*Decision-making is inclusive and clear communication is promoted by management. In the organisation there is apparent lack of collaboration amongst employees and management.*

1.3 To what extent would an open collaborative management style influence business processes in your organisation?

*People will feel more confident and things will be better. There will be performance improvement. People will look forward to coming to work with no grudges. Basically, an open collaborative management style will create a friendly environment which will increase productivity.*

1.4 Would you like to be involved in driving process efforts or you would rather leave that to leadership? State why.

*I would rather be involved. I do not want to blame others.*

1.5 In your opinion, do you see senior executive only investing in operational improvement or also using processes to evaluate high performance.

*There is no loop closure. Management put resources there and hopes things work out better.*

## **Culture**

2.1 As an employee are you encouraged to make decisions? How does this happen in the organisation?

At all levels? Is it something valued by the organisation?

*No encouragement to make decisions. Decisions are made on behalf of people. Organisation does not value decision-making.*

2.2 Are you held accountable for those decisions or your line manager?

*Yes, but it is easy for guys at the bottom to get blame than for top guys.*

2.3 To what extent can accountability help to improve performance?

*People will have sense of ownership and take control of situation.*

2.4 Is there a need for change in the way processes are running?

*Yes. The organisation has good processes but here and there change is required.*

2.5 How is change being accepted in your organisation?

*Change is not accepted well.*

## **Expertise**

3.1 Which approach can be adopted to improve the existing skills development process?

*Skills retention and succession planning processes require improvement. Career progression and clear promotion guidelines are required.*

3.2 In your opinion, are the processes across the organisation well standardised and easy to follow?

*No. The new employee is not told what to do and processes are not clear and transparent to follow.  
No standardisation across the departments.*

## **Governance**

4.1 How can the existing enterprise model be improved to ensure that all stakeholders are well integrated and benefit from its implementation?

*Firstly enterprise model is unknown to many hence I feel that it must be transparent and promoted so that all can see how they fit into it.*

4.2 Are you responsible for certain process improvements or your line manager?

*Line Manager is most of the time.*

4.3 In your opinion, is there formal coordination of process improvement or you feel rather that efforts take place in silos (ie. informal groups)?

*It exists but not formalised. Things are changing though.*

## **Infrastructure**

5.1 What is your view of the HR systems used to assess personnel?

*It does not monitor performance but something else. It is not adequate. It is a good idea but poor execution.*

5.2 How can HR systems be improved to ensure fair assessment of personnel?

*Line Manager has big influence therefore that element must be removed.*

5.3 In your opinion, are the processes supported from fragmented IT system or well integrated system?

*Fragmented. Research and Development uses manual approach to apply for leave not workflow like other departments.*

## **General:**

In your opinion, what other additional factors influencing BPM in your organisation?

*None.*