

**AN ASSESSMENT OF INFORMATION SYSTEMS SUPPORTING PROCUREMENT  
REFORMS IN THE EASTERN CAPE PROVINCIAL GOVERNMENT**

Mini-dissertation by

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**(200508589)**

Submitted in partial fulfillment of the requirements for the degree

**MASTER OF PUBLIC ADMINISTRATION**



**University of Fort Hare**  
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**SCHOOL OF PUBLIC MANAGEMENT AND DEVELOPMENT**

of the

**FACULTY OF MANAGEMENT AND COMMERCE**

**UNIVERSITY OF FORT HARE**

**Supervisor: Prof. Rinette Roets.**

**2008**

## DECLARATION

I hereby declare that this mini-dissertation submitted to the University of Fort Hare for the Masters Degree in Public Administration (MPA) is my own design and work and that I have referenced all the sources that I have used.

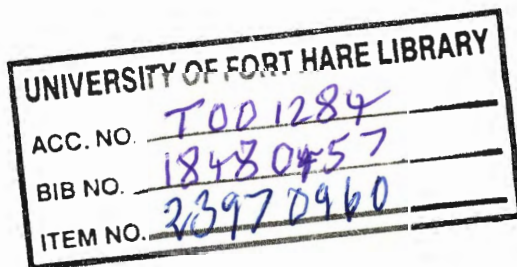
Signed :



Samuel Mobisa Bosire



Date: August 2008 University of Fort Hare  
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## DEDICATION

This work is dedicated to my parents who committed their entire careers to public service and administration.



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## ACKNOWLEDGEMENTS

I would like to express my sincere gratitude and appreciation to the following:

- The Almighty God whose blessings and guidance made this study possible.
- My family for the unconditional support and understanding during the study period.
- The late Prof. R. Roets, my supervisor, for her insight, guidance and commitment.
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*“Whatever line of investigation we pursue with a sincere purpose to arrive at truth, we are brought in touch with the unseen, mighty Intelligence that is working in and through all.” – E.G. White, Education pg 14*

## Abstract

As part of the on going financial management reforms, the South African Government introduced the Supply Chain Management (SCM) Framework. Since 2004, The Eastern Cape Provincial Government embarked on a process of ensuring that procurement reforms wrought by the advent of SCM are seamlessly ushered in. Information Technology (IT) and systems are a sine qua non in supporting the implementation of the SCM Framework.



However, IT does not operate in a vacuum. Many other factors complement, supplement and influence the objectives sought through the use of Information Technology and systems. It is the confluence of this factors that eventually will determine that success or failure of using technology to support procurement reforms in government.

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The research investigates the factors affecting the success of the Information systems underlying SCM in the Eastern Cape Provincial government. Data for the research was gathered using a questionnaire administered to all Eastern Cape Provincial Government departments. The research borrows from Heeks' ITPOSMO model in assessing SCM and Information Systems structures and processes and gauging their state of readiness to embrace procurement reforms envisaged through the SCM Framework.

Because of the importance of having a strong IT functional unit in any government department, the study highlights IT issues that typically confront IT managers, especially in the public sector.

Heeks' ITPOSMO model emerges as a sufficient framework for identifying gaps that currently exist between the reality and perceptions on the readiness of IT to adequately support government procurement reforms. The dissertation concludes that the success of the system is dependent not only on the technological component of the system, but also on other factors.

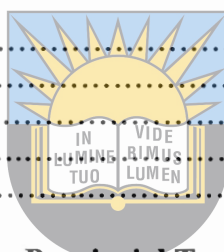


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## CHAPTER 1

### ORIENTATION OF THE STUDY

#### 1.1 INTRODUCTION

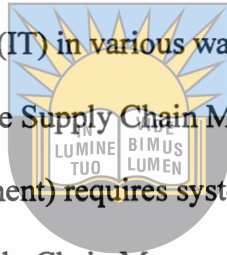
The post-1994 South African Government initiated a number of public sector reforms that have taken different dimensions and foci. One arena for reform is in the area of Financial Management. Financial Management reforms seek to address, amongst others, the area of government procurement. Traditional procurement of goods and services by government has been replaced with the newly promulgated Supply Chain Management (SCM) Framework. In brief, SCM entails planning for and buying the right goods and services for the right price at the right time. Therefore, the introduction of SCM exemplifies public sector financial reforms in South Africa. Heeks (1999:10) defines public sector reform as “change within public sector organisations that seeks to improve their performance”. He argues that such reform is often precipitated by concern over increased public expenditure, waste, delay, mismanagement, corruption, and a lack of delivery of services to the citizenry.

The aforementioned concerns coupled by socio-political priorities, provide the reason for the introduction of the SCM framework by the South African Government. The SCM framework is applicable to all the three spheres of government; national, provincial and local.

Government’s SCM system provides many opportunities for black economic empowerment (BEE) and the development of small, micro and medium enterprises (SMMEs). The opportunities for BEEs and SMMEs manifest themselves directly through bidding for the supply of goods and services to government departments and agencies,

and indirectly through the forging of partnership with the government to provide facilities and services to the government itself and to the community at large.

In the rollout of Supply Chain Management in the Eastern Cape, inadequacies and inefficiencies in the existing business processes and supporting IT-enabled financial systems remain a challenge and as a result, not all facets of Supply Chain Management are being adequately managed in government departments. The SCM Framework implicates Information Technology (IT) in various ways. Seamless rollout and institutionalisation of all facets of the Supply Chain Management (demand, acquisition, logistics, disposal and risk management) requires systems and information to ensure that both the intent and outcome of Supply Chain Management are congruent. During the delivery of the Policy speech for the Office of the Premier on 14 March 2007



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([www.ecprov.gov.za](http://www.ecprov.gov.za)), the Premier of the Eastern Cape pointed out that her Government will place emphasis on the use of information technology to address enhance government efficiency and service delivery. The need to craft an e-government strategy is now receiving higher priority than was the case before. The drive towards e-government aims at bringing services closure to the citizens.

Mention of financial management reforms evokes poignant memories in the Eastern Cape Provincial Government. For examples, in 1998, the Eastern Cape Provincial Government's financial management was taken over by the National Treasury as a result of the latter's concern with the former's ability to manage its own finances. The Province has since taken charge of the management of its own finances and is an active participant in government-wide financial sector reforms, including procurement reforms. The Eastern Cape Provincial Government is finding an opportunity of harnessing the power of

Information and Communication Technologies (ICTs) by employing ICT innovatively with the aim of providing ordinary citizens and the private sector with more convenient access to government information and services and to provide greater opportunities to participate in democratic situations and processes form core of e-government strategy. The Supply Chain Management Framework as envisaged by the National Treasury of South Africa is depicted in figure 1. This framework is applicable to all National and Provincial departments as well as public entities.

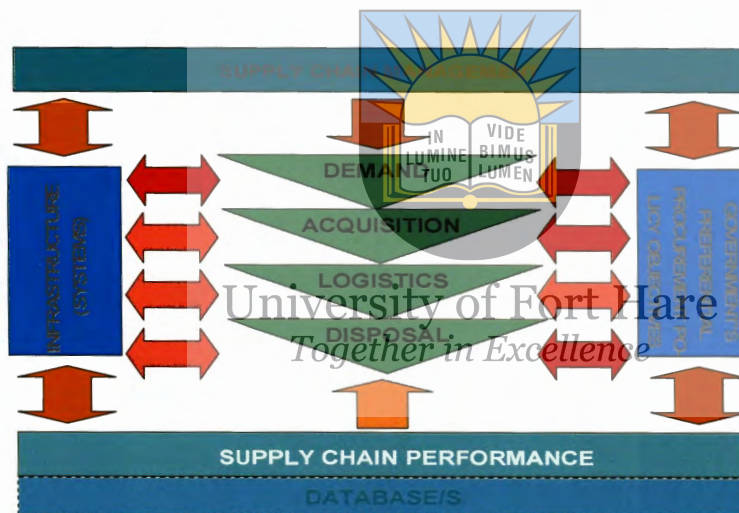


Figure 1: Supply Chain Management Framework ([www.treasury.gov.za](http://www.treasury.gov.za))

Figure 1 shows the sequential flow of the key elements of the Supply Chain Management framework (demand, acquisition, logistics and disposal). According to the researcher, infrastructure, in the form of information and other systems are required to support the Supply Chain Management Framework. Monitoring and evaluation of the performance of Supply Chain Management should be anchored on a reliable procurement database that collates information from all phases of procurement and serves as a basis for policy formulation and decision making.

## 1.2 RESEARCH PROBLEM

The procurement reforms currently taking place in Eastern Cape Provincial Government require IT-enabled support. The existing financial systems in the Eastern Cape Provincial Government, however, do not adequately support the envisaged procurement reforms. The current situation has resulted in the absence of an integrated approach to financial information and systems. A need for an information system that supports procurement reforms in government has been mooted. However, the researcher hypothesizes that the approach toward introducing such an information system requires more reflection.



In essence, the research sought to answer the following research question:

- What are the critical success or failure factors in introducing an information system that supports procurement reforms in government as encapsulated in the newly Supply Chain Management framework?

This question is broken down into the following sub-questions:

- What are the factors that need to be considered in introducing an Information system in the public sector?
- What is the ramification of the new Supply Chain Management framework in terms of Information technology and systems?

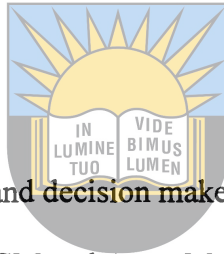
## 1.3 RESEARCH OBJECTIVES

This work sets out to assess the state of readiness of the IT function in implementing and supporting solutions that have a bearing on the successful rollout of the newly promulgated Supply Chain Management Framework to information technology structures and systems in the Eastern Cape Provincial Government. The study also analyses the

factors that influence the appropriation of IT amongst SCM role players in the Eastern Cape Provincial government.

### **Significance of the Study**

This study aimed at identifying factors that will influence the successful deployment and use of Information Technology in support of procurement reforms in the Eastern Cape Provincial government. The adequacy of the ITPOSMO model in identifying these factors is also tested.



### **Research site**

The research targeted practitioners and decision makers in the Information Technology (IT), Supply Chain Management (SCM) and Asset Management section from all the thirteen departments in the Eastern Cape Provincial Administration.

## **1.4 CONCLUSION**

The chapter introduces the changes brought about by the promulgation of the Supply Chain Management framework and the dilemma Eastern Cape Provincial Government departments face with regards to information systems that are required to support such reforms. The researcher predicts that the procurement reforms currently taking place in Eastern Cape Provincial Government require IT-enabled support due to the enormous volumes of data and information requirements associated these reforms. Caution was given on the approach used in IT support to procurement reforms.

In the next chapter, a review of some of the theories that underpin this study is undertaken.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

In Chapter 1, the background information on on-going procurement reforms in the Eastern Cape Provincial Government was stated. The Also, the main objective of undertaking this study was presented.

In this chapter, the existing body of literature that underpins this study is explored. The ITPOSMO model, from which this study mainly borrows, as well as other Information systems themes such as IT innovation and maturation in organizations are discussed.

Since Information systems and technology play a big role in supporting the requirements of any line of business, the chapter also explores the key concerns in the management of IT in organizations.

#### **2.2 INFORMATION SYSTEMS**

Heeks (1999:17-55) defines information systems as consisting technology, information, people and management and argues that “for an information system to be successful in supporting reform, it must succeed in all these areas”. Citing case studies from across the globe, Heeks concludes that success or failure in IS projects revolves around technology, people, process, management, strategic, environmental, cultural and political factors. He decries the ‘yawning gap’ between the positive potential of information systems and the reality of unimplemented or ineffective reform and introduces the concept of a ‘conceptual-reality’ gap through his ITPOSMO model. This model analyses and scrutinises gaps in terms of Information, Technology, Process, People Objectives values and motivations, People Staffing and skills and existing Management structures.

The ITPOSMO model is depicted in figure 2.

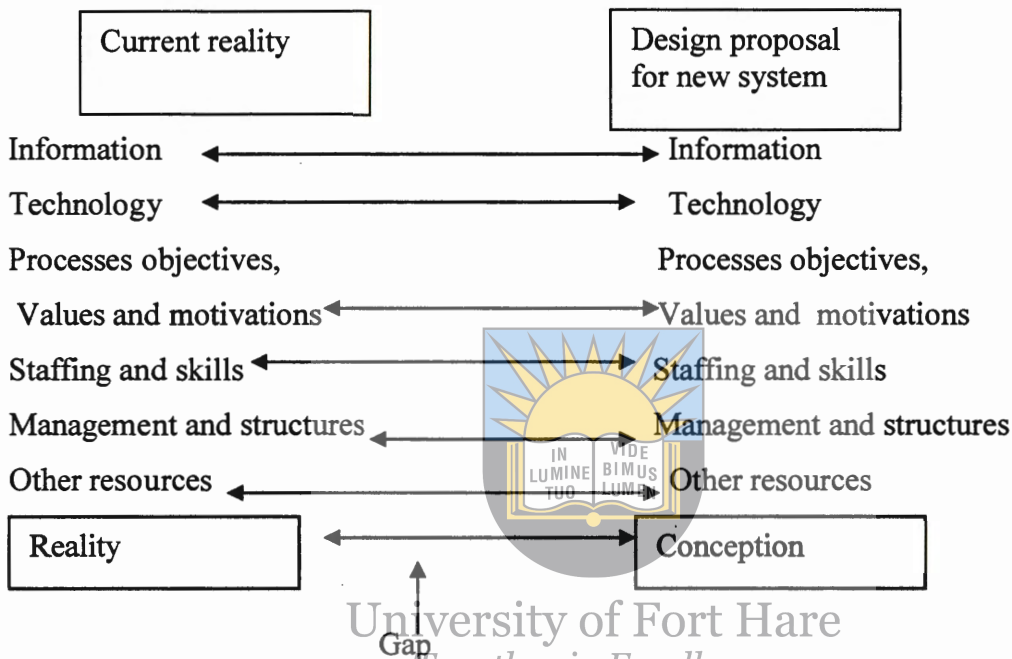


Figure 2: The ITPOSMO dimensions of change (Heeks, 1999:77).

The suggestions offered by Heeks for narrowing the gaps are useful but are not necessarily a panacea for all systems in every context. Heeks further argues that when correctly employed, IT has the capacity to supplant, support or innovate existing processes though he warns that “in theory, everything that IT can do could be done by some other means...” and using his ‘four eyes’ model, he groups the approaches to IT-enabled reforms into the following categories:

- a) Ignore: This approach is characterised by ignorance by public officials and decision makers of the role IT could play in reforms
- b) Isolate: The realm of IT is left to ‘experts’ and in this approach, there is no systematic linkage between IT and reforms.

- c) **Idolize:** In this approach, technology is placed at the heart of the reform agenda almost to the point of being viewed as an end in itself.
- d) **Integrate:** This is the desired approach whereby public officials recognize information as a key organizational resource.

The above approaches are particularly useful as the study explores the various interpretations of the role and impact of IT in relation to the procurement reforms happening in the Eastern Cape Provincial Government.

Orlikowski (2001:124) predicts a change in social roles, modified business processes and diminishing organizational hierarchies as a result of introduction of new technologies.

Walsham (2001:44) contends that in order to investigate the role of technology in work and organizations, both the technical and social aspects must be considered together in each specific context. Renkema (2000:3) predicts that we are only at the start of radical digitization of business activities and this process is bound to have a profound effect on organizations, including those in the public sector.

The importance of IT as an enabler of government processes cannot be disputed.

Investment in IT, however, requires proper planning and execution. Bellamy and Taylor (1994:3) identify IT as being key to reinvention and reinvigoration of public administration. Le Roux (2001:27) laments that a substantial number of new Information systems are not necessarily introduced in organisations for the purpose of improving operational efficiency. But for Carr (2003:41-49), those who are beginning to lose their patience with IT are justified to do so for while information technology's power and ubiquity have grown, its strategic importance has diminished and therefore organisations ought to take a cautious approach in the introduction and use of cutting-edge IT.

Van der Heijden (2004:696) contributes to this debate by drawing a distinction between hedonic systems and utilitarian systems; the former are associated with perceived ease of use and the latter with their perceived usefulness. Maciaszek (2001:1-9) regrets that the literature of Information Systems (IS) projects is full of examples of failed projects. He therefore recommends a process model in which the order of carrying out activities is specified, is clear on deliverables, unambiguous assignments are given to information systems developers and criteria on monitoring and evaluation agreed to upfront.

Applegate, McFarlan and McKenney (1999: 27-29) suggest that organisations undergo the following four phases associated with technology innovation and diffusion:

- Technology identification and investment
- Technological learning and adaptation
- Rationalization and Management control
- Maturity/ widespread technology transfer.

Remenyi, Money and Twite (1994:14) highlight three phases of IT maturation in organizations which aptly describe developments in the government sector:

- a) Automate phase: Characterised mainly by the increased speed and accuracy of data processing.
- b) Informate phase: Characterised by emergence and use of Management Information systems.
- c) Transformate phase: Characterised by systems that enhance, transform or support business processes in organisations.

The researcher argues that the push to automate, informate and transformate may be a recipe for wastage unless the need for IT solutions are clearly articulated and the

organizational role of IT understood. Given the highly regulated public sector environment, IT support to SCM processes requires innovative thinking and careful consideration in order to mitigate against failure. Swanson and Ramiller (2004: 554-556) define IT innovation as the pursuit of IT systems and processes new to an entity. They warn that "...deliberative behavior can be swamped by an acute urgency to join the stampeding herd, notwithstanding the high cost and apparent risk involved". They further argue for mindfulness in IT innovation and detail the organizational dynamics in adopting new technology. Innovative behaviour, they argue, manifests itself in various forms one of which is 'joining the bandwagon' as witnessed during the early 1990s when Enterprise Resource Planning (ERP) solutions became available. On the other hand, mindlessness in IT innovation is characterised by the tendency for organization to be followers, only reacting from needs identified by external influences.

### **2.3 INFORMATION TECHNOLOGY MANAGEMENT ISSUES**

The organisation's ability to effectively use Information Technology is a function of how the IT Managers interacts with other functional managers. Boynton, Zmud, and Jacobs (1994:300) suggest that an organization's ability to effectively apply IT is dependent on the development of an array of IT-linked knowledge and processes that glue the organisation's IT manager and other functional managers together.

As can be expected, management of a fast changing field like IT comes with its own unique challenges and this are discussed under the following headings:

- Human Resource Management
- Outsourcing and service level agreement (SLA) management.
- User expectation management.

## **A. Human Resource Management**

IT Managers, including those in the public sector, tend to supervise both the technical and non-technical staff. The management of relationships with other functional line managers is an important component of IT management that is necessary in order to understand the business supported by IT. It therefore stands to reason that technical skills are necessary but not sufficient to run an IT section. A second brand of skills are managerial skills. Frenzel (1999: 13) states that “IT Managers trained in technology but lacking in general management skills that their organizational roles demand find that their jobs require knowledge of people management and organizational considerations as well as programming and hardware expertise.” Mata (1995: 498) offers some important skills that should constitute the arsenal of any IT Manager and these include:

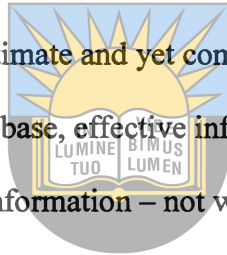
1. The ability to understand and appreciate the business needs of other functional managers, suppliers and customers.
2. The ability to work with people
3. The ability to co-ordinate IT activities in a way that supports other functional managers and users
4. The ability to anticipate future IT needs of functional managers.

## **B. Outsourcing and SLA management**

According to Applegate et al (1999: 374), the factors used by many organisations in deciding whether to outsource IT work include general management concerns about costs and quality and concerns about the breakdown of IT performance.

### C. User Expectation Management

Because IT users play a central role in determining the successful development and implementation of financial systems, Managers need to pay close attention to their IT needs. Heifetz (1997:124) avers that the toughest task in change management is the ability to mobilize people to do adaptive work . He adds that adaptive work is required when our deeply held beliefs are challenged, when values that made us successful become less relevant and when legitimate and yet competing perspectives emerge. Due to the diverse information user base, effective information management must begin by thinking about how people use information – not with how people use machines (Davenport, 1994, 120). The consumer profile depicted in Table 1 illustrates the point.



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| FACTOR                                 | OLDER                                 | YOUNGER                                                                                   |
|----------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------|
| Experience with traditional techniques | Experienced                           | Inexperienced                                                                             |
| Attitude towards new technologies      | Leery                                 | Enthusiastic and unsophisticated (but they do not recognize their lack of sophistication) |
| Visibility                             | Identifiable as consumer              | Often unidentifiable as consumers.                                                        |
| Attitude toward IT unit                | Willing to accept IT staff as experts | Many are hostile because they want to develop own systems.                                |

|                 |                                                                      |                                                                    |
|-----------------|----------------------------------------------------------------------|--------------------------------------------------------------------|
| Self confidence | Low confidence in their own ability (often cautious because of cost) | High confidence in their ability and judgement (often unwarranted) |
| Turnover rate   | High                                                                 | High                                                               |

Table 1: Profile of IT consumers adopted from Applegate et al(1999: 594)

Lack of clarity on the role IT plays in Eastern Cape Provincial Government departments results in the varying client perceptions on the expectations from the IT function. Heeks (2006:94) argues that the position of IT in the organisation, staffing issues, resources, project management and organizational politics constitute the core management issues to grapple with. Le Roux (2001:38) elaborates on Earl and Fenny's (1994:13) concept of IT perceptions that is shown in table 2.

| ISSUE                                | IT is a liability                                                                      | IT is an Asset                                                                                    |
|--------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Are we getting value for the money?  | ROI is difficult to measure and the organization is notably unhappy with IT as a whole | ROI is difficult to measure, but the organization believes IT is making an important contribution |
| How Important is IT?                 | Stories of strategic use of IT are dismissed as irrelevant to "this" business          | Stories of strategic use of IT are seen as interesting and instructive                            |
| How do we plan for IT?               | IT plans are made by specialists or missionary zealots                                 | IT thinking is subsumed by business thinking                                                      |
| Is the IT function doing a good job? | There is general cynicism about the track record of IT                                 | The performance of IT is no longer an agenda item                                                 |

|                                              |                                                          |                                                                                 |
|----------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------|
| What is the IT strategy?                     | Many applications are under development                  | IT efforts are focused on a few key initiatives                                 |
| What is the CEO's vision for the role of IT? | The CEO sees a limited role for IT within the business   | The CEO sees IT as having a role in the transformation of the business          |
| What do we expect of the CIO?                | The CIO is positioned as a specialist functional manager | The CIO is valued as a contributor to business thinking and business operations |

Table 2: Perceptions about IT :Adapted from Le Roux(2001:38)

## 2.4. CONCLUSION

Various studies in the body of Information Systems literature point to the socio-political influence of systems in organizations. The factors in the ITPOSMO model that have a bearing on the successful deployment of IT are discussed. Also, model's application as a tool for identifying and isolating gaps that often exist between reality and conception.

The chapter cites the work from the available body of literature on the subject of the investment, implementation, maturation and institutionalisation of information systems in organisations. The importance of aligning IT with the peculiarities of the of the SCM requirements was highlighted. This Chapter also elucidates on generic IT management issues including outsourcing, responses to user-expectations and human resource management. It is noted that organizations various categories of IT users, each group requiring its own level of support. The IT user base and its understanding and perceptions of the efficacy of the IT function plays a role in the efficient support by IT to the other organizational functions. The next Chapter gives background theory that underpins the research approach adopted for this study.

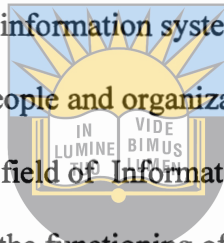
## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

The aim of this chapter is to explore the theoretical basis and methods used in undertaking this study.

Every researcher adopts a set of criteria in investigating his/her subject matter – the research methodology. Research in information systems primarily focuses on the relations surrounding technology, people and organizations. This concurs with Avgerou (2000:568-569) who posits that the field of Information systems has five thematic thrusts; application of IT to support the functioning of organisations, the process of systems development, Information systems management, the organization value of information systems and the societal impact of information systems.



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#### **3.2 BACKGROUND**

Heeks (2006:7-8) argues that e-Government systems are socio-technical systems that combine a mix of hard and soft components. This view is supported by Walsham(2001:44) who contends that in order to investigate the role of technology in work and organizations, both the technical and social must be considered together and in specific contexts. Orlikowski and Robey (1991:143-144) buttress this point by stating that Information technology is both the product of human action as well as medium for human action.

Being a relatively young field, Information systems for a long time borrowed its research methods from both natural and physical sciences. In an article aimed at gauging where Information systems stood as a research field, Banville and Laundry (1989:48-60) concluded that Information systems was a fragmented adhocracy “exhibiting low degrees

of strategic and functional dependence and a high level of strategic task uncertainty”.

They observed that the field of Management Information Systems (MIS) was struggling for recognition and was characterized by a preponderant monistic view of science that Information systems investigators had adopted. Orlikowski and Baroudi (1991:6-7) point out that research in the information systems field was for a long time dominated by a positivist viewpoint. They cautioned that unless other viewpoints were considered, the scope of research would be limited. Things have since changed. Baskerville and Myers (2002: 1-14) argue convincingly that the discipline of information systems has come of age having developed its own research tradition. Whereas they accept that IS borrowed a lot of its research methods from other disciplines, they observe that in a sense, tables have turned with other disciplines now borrowing from information systems. In their view, the field of Information systems research has developed a distinctive subject matter with a distinct research philosophy that accommodates both qualitative and quantitative research traditions.

Research can be viewed from two lenses: ontological and epistemological. Ontological views relate to a researcher's choice to view the physical and sociological world in either a subjective or objective way. Epistemology deals with one's claim to the source of knowledge.

### **Positivism**

Positivist research starts out with the assumption that access to reality is objectively given and that it can be described by measurable properties that are independent of the observer (researcher) and his/her instruments.

A positivist research tradition is ontologically grounded in the assumption that there exists an objective physical world independent of humans. Epistemologically, the positivist perspective is concerned with the empirical testability of theories.

**Interpretivism**

Ontologically, interpretive information systems research concurs with Giddens’ structuration theory which posits that the social world is created and recreated as humans interact and assign and re-assign meanings to phenomena. Orlikowski et al (1991:5-14) argue that epistemologically, interpretive researches “posit circular or reciprocally interacting models of causality, with the intention of understanding actors’ views of their social world and their role in it”. Unlike descriptive studies, interpretive studies assume that subjective and inter-subjective meanings are created as people interact with the world around them. Therefore, interpretive researchers seek to understand phenomena by accessing the meanings that participants assign to them.

Klein and Myers (1999:72) give the interpretive field researcher seven principles upon which to base their study.

A summary of those principles is shown in table 3:

|   |                                                                                                                                                                                                                                                                                                                                |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <p><b>The Fundamental principle of the hermeneutic circle</b></p> <p>This principle suggests that all human understanding is achieved by iterating between considering the interdependent meaning of parts and the whole that they may form. This principle of human understanding is fundamental to all other principles.</p> |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | <p><b>The Principle of contextualization</b></p> <p>This principle requires critical reflection of the social and historical background of the research setting, so that the intended audience can see how the current situation under investigation emerged.</p> <p>The researcher should set the subject matter in its social and historical context so that the audience can see how the current situation under investigation</p> |
| 3 | <p><b>The Principle of interaction between researches and subjects</b></p> <p>This principle requires critical reflection on how the research materials (or “data”) were socially constructed through the interaction between researchers and participants.</p>                                                                                                                                                                       |
| 4 | <p><b>The principle of abstraction and generalization</b></p> <p>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.</p>                                                                                                               |
| 5 | <p><b>The Principle of dialogical reasoning</b></p> <p>This principle requires sensitivity to possible contradictions between the theoretical preconceptions guiding the research design and actual findings (“ the story which the data tell”) with subsequent cycles of revision.</p>                                                                                                                                               |
| 6 | <p><b>The Principle of multiple interpretations</b></p> <p>This principle requires sensitivity to possible differences in interpretations among the participants as are typically expressed in multiple narratives or stories of the same sequence of events under study.</p>                                                                                                                                                         |

|   |                                                                                                                                                                                          |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | <p><b>The Principle of suspicion</b></p> <p>This principle requires sensitivity to possible “biases” and systematic “distortions” in the narratives collected from the participants.</p> |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Table 3: A summary of interpretive research principles by Klein and Myers (1999:72)

Qualitative research comes in various forms, one of which is the case study.

### 3.3 CASE STUDY RESEARCH



The most appropriate method of conducting empirical research in the interpretive tradition is the in-depth case study. Benbasat et al (in Walsham: 1993) argue that case study research is appropriate particularly for sticky practice-based problems. Case studies, however, are criticized for their non-representativity and their lack of statistical generalizability. Walsham reasons that for interpretive studies, the validity of

“extrapolation from an individual case study or cases depends not on the representativeness of such cases in a statistical sense, but in the plausibility and cogency of the reasoning used in describing results from cases and drawing conclusions from them” (Walsham, 1993:14-15). On case studies, Ragin (1992:2-3) avers that “at a minimum, every study is a case study because it is an analysis of social phenomenon specific to time and place”. He argues that scientists in the social sciences use evidence that is repetitious and extensive to substantiate their arguments while in case study research statements, it is implied that the chosen case represents other cases and discounts the claim to the effect that quantitative researchers look at many cases as opposed to qualitative researchers who look only at one or few cases.

Donmoyer (2000: 61 – 65) points out that the ability to see through the researcher’s eyes, the decreased defensiveness and decreased resistance to learn constitute major advantages that case studies hold over other research approaches.

On the future of case studies as a research approach, Stake (in Walsham 1993:14-15) notes that “... because of the universality and importance of experiential understanding, and because of their compatibility with such understanding, case studies can be expected to continue to have an epistemological advantage over other inquiry methods as a basis for naturalistic generalization”.



### 3.4 RESEARCH APPROACH

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The research targeted key players in the fields of Information Technology, Supply Chain Management and Asset Management in all the thirteen provincial government departments. The questionnaire was sent to the IT Directors, Heads of SCM and Asset Management in each of the departments. Table 4 provides a summary of the profile of respondents to this research:

| SECTION                                          | NUMBER OF RESPONDENTS |
|--------------------------------------------------|-----------------------|
| Information Technology Services                  | 14                    |
| Supply Chain Management                          | 18                    |
| Asset Management                                 | 1                     |
| <b>TOTAL</b>                                     | <b>33</b>             |
| <b>DEPARTMENT</b>                                |                       |
| Provincial Treasury                              | 14                    |
| Office of the Premier                            | 2                     |
| Agriculture                                      | 2                     |
| Safety and Liaison                               | 2                     |
| Sports Arts and Culture                          | 1                     |
| Social Development                               | 2                     |
| Public works                                     | 1                     |
| Education                                        | 2                     |
| Health                                           | 1                     |
| Housing Local Government and Traditional Affairs | 3                     |
| Economic Affairs Environment and Tourism         | 1                     |
| Roads and Transport                              | 2                     |
| <b>TOTAL</b>                                     | <b>33</b>             |

|                             |           |
|-----------------------------|-----------|
| <b>LEVEL</b>                |           |
| 16 – 13 (Senior Management) | 15        |
| 12 – 9 (Middle Management)  | 14        |
| 8 - 7 (Junior Management)   | 4         |
| <b>TOTAL</b>                | <b>33</b> |
|                             |           |
| <b>GENDER</b>               |           |
| Male                        | 22        |
| Female                      | 11        |
| <b>AGE CATEGORY</b>         |           |
| 20-30                       | 2         |
| 30-40                       | 8         |
| 40-50                       | 17        |
| 50-65                       | 6         |
| <b>TOTAL</b>                | <b>33</b> |

Table 4: Summary of participants in the research



The following approach was used to facilitate obtaining, verification and validation of the information collected.

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**DATA COLLECTION:**

- a. Data was collected from a questionnaire that were structured in a manner that ensured respondents supply the researcher with specific information as well as other relevant information that the respondents may deem relevant to the research question. The research questionnaire was divided into two parts: participants responded to a series of questions and indicated the degree of their agreement with a series of statements and questions in the questionnaire. Part II was open-ended and participants were allowed to share their thoughts on a number of factors related to this research.
- b. **STRUCTURED INTERVIEWS:** A sample of both financial systems and Supply Chain Management practitioners was selected and clarity sought on details given in the narrative aspect of the questionnaire. Key informants such as the heads of Supply Chain Management and IT units within the Provincial Treasury were

interviewed to ascertain the extent of the support required and synergies, if any, between the two units. Heeks (2006:173) warns of the challenges associated with attempting to uncover the reality of a public sector organization; the reality often lies beneath the surface impression. He recommends data gathering that goes an extra mile to uncover “informal systems that are used and the formal systems are are unused”. Bearing in mind that a lot of knowledge on SCM exists, it is important to identify knowledge that can be shared in the process of interviews. Blackler (in Walsham 2001:38-39) groups knowledge into five categories: embrained, embodied, encultured, embedded and encoded. Of this, only embedded and encultured knowledge constitute shared knowledge. Therefore, the researcher sought to tap as much as is possible into the aforementioned categories of knowledge that participants possess.

- c. DOCUMENT ANALYSIS: An analysis of the Supply Chain Management framework to ensure that its goals and objectives are clearly understood, was undertaken. This entailed analysis of procurement reports from departments and a review of monthly Supply Chain Management reports submitted to the Provincial Treasury aimed at identifying the extent of completeness, ease of use accuracy and reliability.
- d. DATA PROCESSING AND ANALYSIS: Data from the case study and interviews were analysed. Recurrent themes and patterns were identified through a qualitative process.

- e. DATA SUMMARY: The analysed data was summarized and inferences and conclusions made to test the veracity of the hypothesis. The findings informed the recommendations.

### 3.5 CONCLUSION

The research methods used for this study was key in determining the outcome or findings. The researcher designed and planned the research in a manner that afforded an opportunity to interact with the key informants. Also, an exploration of and insight into the existing body of knowledge on research methodologies illumined the researcher's choice of technique.



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The next chapter discusses issues that face the management of IT across all departments.

# CHAPTER 4

## A CASE STUDY OF THE EASTERN CAPE PROVINCIAL TREASURY

### 4.1 INTRODUCTION

Eastern Cape Provincial Treasury (ECPT) is the custodian of the SCM in the Province. In line with its vision of being a “quality treasury leading in service excellence” it is expected of the ECPT to ensure that the SCM framework is fully implemented and institutionalized. To this end, the organization structure of ECPT consists of two main Directorates: SCM Office and Financial Information Systems. A matrix organization structure has been adopted and both the SCM office and FIS directorates are part of a bigger Programme - Assets and Liabilities. Figure 3 gives an overview of the structure:

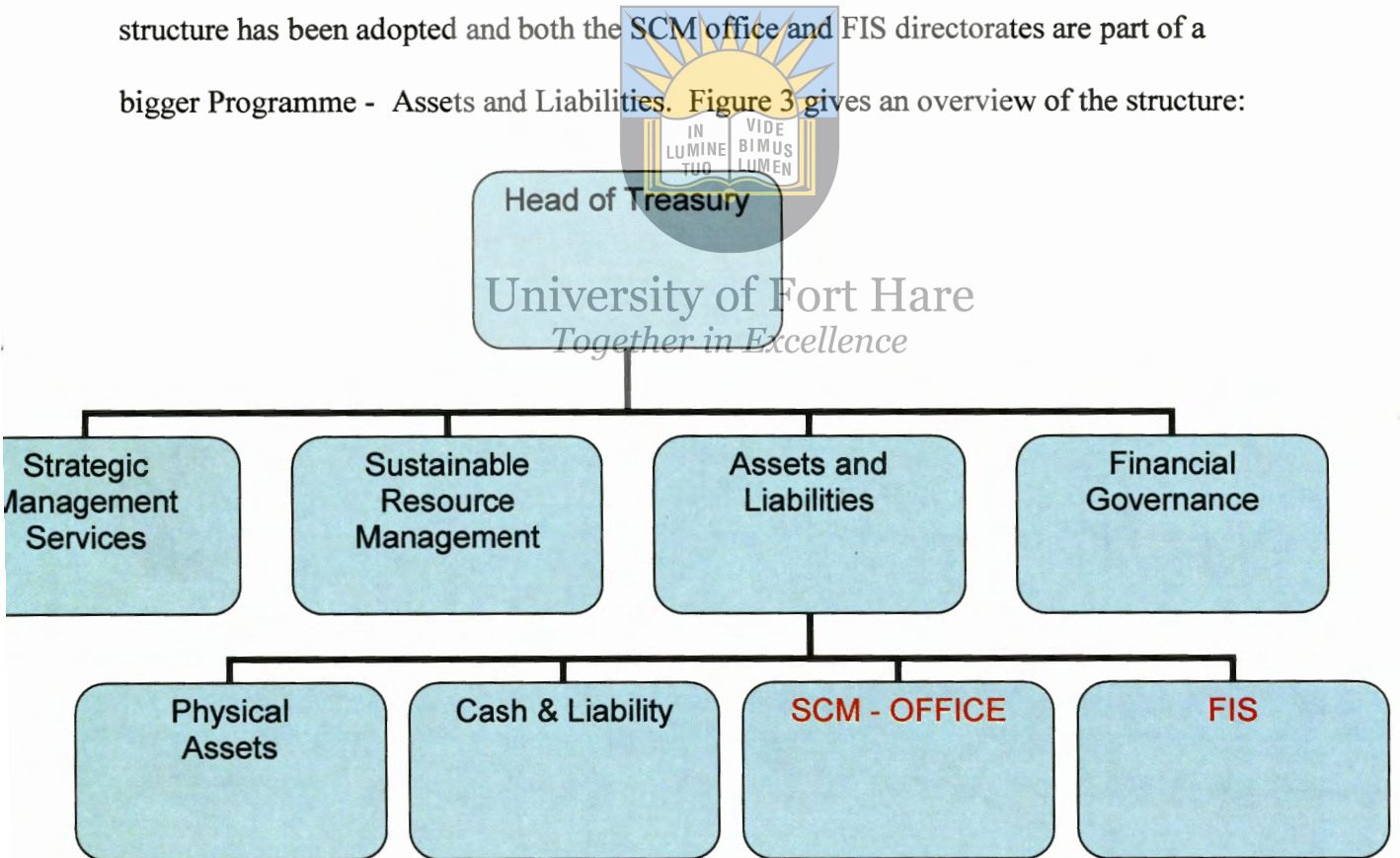


Figure 3: Organisation structure of Eastern Cape Provincial Treasury

Three main financial systems are used across all Eastern Cape Provincial Government departments – An Accounting system (BAS), a personnel and salary management system (PERSAL) and the stores and logistics system (LOGIS). The need for an information system that supports procurement reforms in government has been mooted. However, the type of and approach toward introducing such an information system requires more reflection.

The Provincial Supply Chain Management Office is responsible for implementation and monitoring of the SCM framework across all departments. On the other hand, the FIS section is tasked with providing Information systems and other IT support to all Directorates – including the SCM Office. Therefore, the interaction between the SCM and FIS sections has been selected for this case study. Each of the sections is headed by a Chief Director with a number of senior and junior support staff. The National Treasury sets norms and standards for supply chain management while the Provincial Treasury is mandated to ensure that the SCM framework is implemented in all departmental provinces.

#### **4.2 PROVINCIAL SUPPLY CHAIN MANAGEMENT (SCM) OFFICE**

The SCM office is credited for the smooth execution of processes leading to the promulgation of the SCM framework in 2004 by the Eastern Cape Provincial Legislature. It was understood that SCM will be implemented in phases, in consultation with the National Treasury. In line with National Treasury requirements, the SCM office is required to provide procurement information from all provincial departments to the National Treasury. Analysis of the same information by the SCM component informs procurement policy while monitoring the Province's performance against targets set

nationally and provincially. The SCM office relies on data given to it directly by line departments. Sometimes, the SCM component requests information from the FIS section. Table 5 shows the monthly information requirements by the National Treasury. The Provincial SCM office coordinates the submission of this information from departments and analyses it before they are sent to the National Treasury.

| Type of Analysis | Business Criteria                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vendor Analysis  | Number of purchases made from suppliers that fall under the category of SMMEs and BEE                                                                                         |
|                  | A comparison by volume and Rand value of Tenders awarded to BEE Suppliers                                                                                                     |
|                  | Frequency of Payment to a particular supplier and the payment cycle before the supplier receives payment for goods delivered or services rendered.                            |
|                  | A comparison of value of orders with the number of orders given to particular suppliers.                                                                                      |
|                  | A comparison of the prices offered by various vendors that supply a specific good or service.                                                                                 |
|                  | The number of purchases or contracts awarded to a particular supplier in a specific period of time and whether government work is being rotated amongst registered suppliers. |
|                  | The number of suppliers that are dormant or inactive during a specified period of time.                                                                                       |
|                  | Empowerment credentials of the suppliers (Organizations/Individuals)                                                                                                          |



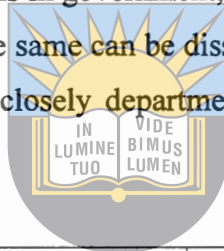
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|                                |                                                                                                                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | receiving payment from the Government.                                                                                                                                                                  |
|                                | The performance of suppliers in terms of timely delivery of goods and services. This includes quality of materials supplied, accuracy of delivery and correctness of invoices submitted by the supplier |
|                                | The performance of the suppliers (Organisation/individuals) receiving payment from the government in accordance with deliverables specified in the service level agreement.                             |
| Process Effectiveness Analysis | Number of requisitions, contracts and purchase orders processed across all provincial departments.                                                                                                      |
|                                | Budget Expenditure versus variance analysis.                                                                                                                                                            |
|                                | Percentage of the requisitions declined or abandoned.                                                                                                                                                   |
| Demand Analysis                | Types of goods and services or material demanded most.                                                                                                                                                  |
|                                | Nature of frequently requested goods and services.                                                                                                                                                      |
| Expenditure Analysis           | Analysis of the materials purchased                                                                                                                                                                     |
|                                | The total landed cost of the material distributed across unit cost                                                                                                                                      |

Table 5: SCM reports required monthly by the National Treasury

### 4.3 PROVINCIAL FINANCIAL INFORMATIONS SYSTEMS SECTION

The Financial Information Systems (FIS) section is tasked with providing systems that support the business processes of the entire provincial government. This section works closely with both the State Information Technology Agency (SITA) and the National Treasury in seeing to it that the line departments have access to the financial systems used by government and that information requests from line departments and other functional units within the Provincial Treasury are adequately met. Because of the fragmentation of information systems in government, the FIS section collects and collates data from various sources before the same can be disseminated to information requesters. Invariably, the FIS section works closely with departmental IT sections in support of the systems listed in Table 6:



| Category                              | System                        | Number of departments using system |
|---------------------------------------|-------------------------------|------------------------------------|
| Accounting                            | Basic Accounting System (BAS) | 13                                 |
| Asset Management                      | BAUD                          | 1                                  |
|                                       | BUMS                          | 1                                  |
|                                       | EFMS                          | 1                                  |
|                                       | ARGIS                         | 1                                  |
| Electronic Document Management System | Documentum                    | 4                                  |
|                                       | HR-ReMS                       | 2                                  |
| Human Resources                       | Persal                        | 13                                 |
| Medical information                   | Medsas                        | 1                                  |
| Management Information Systems (MIS)  | Vulindlela                    |                                    |
|                                       | EMIS                          | 1                                  |
| Pension administration                | SocPen                        | 1                                  |
| Supply Chain Management (SCM)         | Logis                         | 13                                 |
|                                       | Procure-to-Pay                | 1                                  |
|                                       | Intenda                       | 2                                  |
|                                       | iQual                         | 3                                  |
| Transport Management                  | Natis                         | 1                                  |

Table 6: Financial Systems used by Eastern Cape Provincial Departments

The National Treasury, whose responsibility it is to develop, modify and acquire financial systems that are used in the public sector, has not provided a system solution particularly tailored to meet SCM requirements. Table 7 shows the systems used for managing SCM processes and suppliers:

| Department                                        | Information System and Suppliers Database                                                                                                                                               |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Education                                         | The department uses the logistical management system (LOGIS) though it is not fully implemented in district offices. The suppliers' database is operated manually.                      |
| Sport, Arts and Culture                           | The department uses Logis for processes ranging from requisitioning of goods to generating orders for payment of the goods received. A manual suppliers' database is maintained         |
| Legislature                                       | The department uses the BAS system to capture supplier details and effect payments                                                                                                      |
| Housing, Local Government and Traditional Affairs | The department has a manual database but it is not properly managed.                                                                                                                    |
| Safety and Liaison                                | The department maintains a spreadsheet that lists all its suppliers.                                                                                                                    |
| Office of the Premier                             | The department uses Logis for processes ranging from requisitioning of goods to generating orders for payment of the goods received. The IQUAL system is used as a suppliers' database. |

|                                           |                                                                                                                                                                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Health                                    | The department uses two systems ((Logis and Intenda) for its procurement and suppliers management. This systems run parallel but do not interface with each other.                                                        |
| Public Works                              | The department uses Logis for processes ranging from procurement to payment. The IQUAL database is used for supplier management                                                                                           |
| Agriculture                               | The department has partially implemented the LOGIS system in its operations. The suppliers' database is operated manually.                                                                                                |
| Economic Affairs, Environment and Tourism | The department is currently implementing the INTENDA procurement system.                                                                                                                                                  |
| Roads and Transport                       | The department uses a spreadsheet to record details of its suppliers.                                                                                                                                                     |
| Treasury                                  | The department uses Logis for its procurement processes The IQUAL system is used as a suppliers' database.                                                                                                                |
| Social Development                        | The department uses a spreadsheet to record its suppliers. However, the homegrown and relatively user-friendly "Procure to Pay" system is used as a workflow system for requisitioning and paying for goods and services. |

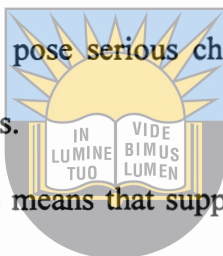
Table 7: Information systems and suppliers' management systems in EC departments

Shortcomings of the systems used to support the SCM framework pose a series of challenges.

### **Financial systems challenges**

The situation of having many disparate systems poses several problems, including the following:

- The registration, verification, and categorization of suppliers as well as amendment of their records pose serious challenges, especially in departments that operate manual databases.
- The proliferation of systems means that suppliers who wish to do business with one or more departments have to register on each of the departments' database.
- Monitoring and recording of suppliers' performance is almost insuperable in those departments with manual supplier management systems.
- The linkage of spatial distribution of suppliers with the volume, value and nature of transactions is not possible with any of the systems.
- There is a lack of integration of the disparate departmental supplier management systems with the other mainstream financial systems.
- Departments prepare and submit procurement reports that are not credible.
- Poor management of government contracts.

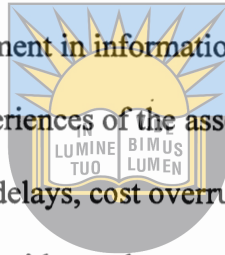


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## **The provincial electronic suppliers management system**

In light of the aforementioned challenges and the growing impatience from departments, the Provincial Treasury has initiated a project aimed at addressing the gaps in IT support to SCM. This project is at the stage of inception and care needs to be taken to ensure that the project succeeds and any inherent risks mitigated against. Identifying and mitigating against risks at the right time minimises the likelihood of the risk occurring. Heeks (2006:217) clarifies that risk assessment in information systems is largely a subjective exercise based on opinions and experiences of the assessors and other project participants. Project creep, project delays, cost overruns and obtaining the wrong solution punctuates risks associated with poorly managed projects.



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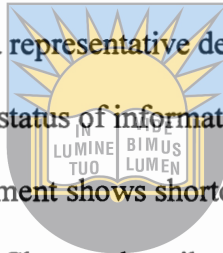
## **Power and Politics**

Heretofore, procurement practitioners in government held absolute sway on government bids (Tenders). Other government officials for whom goods and services are procured often view procurement practitioners with suspicion. With the introduction of the SCM framework, end-users are a part of the bid committees. Information systems that threaten the traditional procurement powerbases are therefore viewed with caution. On the other hand, suppliers - especially the group that feels disenfranchised by the status quo - welcome any move towards harmonizing government procurement. During the annual supplier day staged by the province, the recurrent cry has been on the unclear procurement rules of engagement and delays in departments paying for goods and services received.

#### 4.4 CONCLUSION

All departments in the Eastern Cape Provincial Government are required to comply with the SCM Framework. Each of the departments has a Unit that looks after IT needs of the department though the extent to which IT is deployed varies from one department to the other. However, departmental IT and systems challenges are similar and therefore a case study of the Provincial Treasury as a representative department was undertaken.

The case study detailing the current status of information systems that support SCM in the Eastern Cape Provincial Government shows shortcomings and current challenges associated with these systems. This Chapter described the workings and information requirements of the SCM office as well as the scope of systems support for the FIS section.



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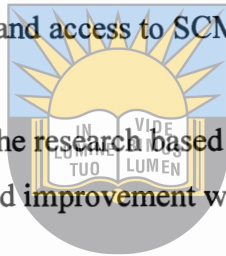
# CHAPTER 5

## DATA ANALYSIS

### 5.1 INTRODUCTION

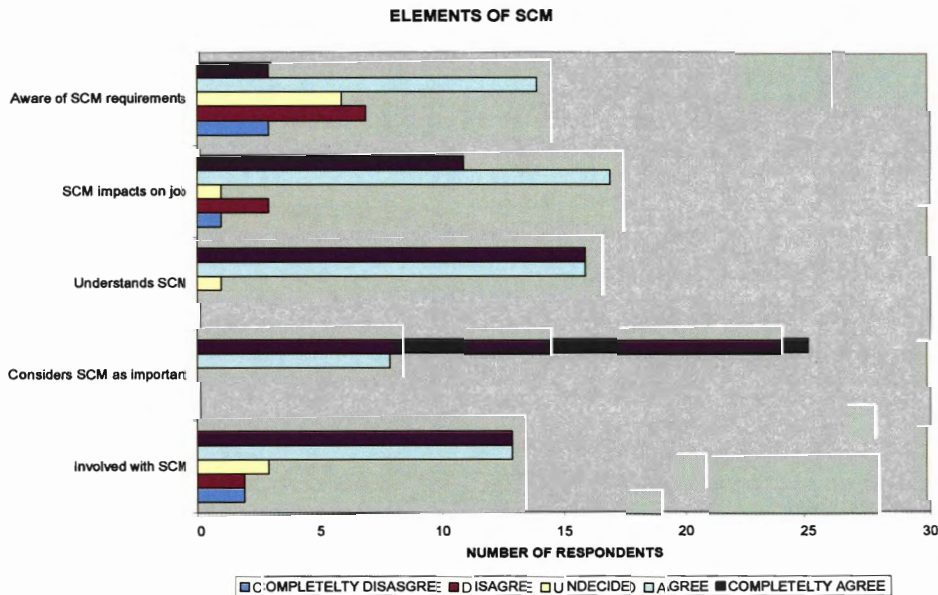
This chapter presents findings from the research and analyses trends that emerged from the research. The findings are grouped in the following four main dimensions:

- Findings relating to awareness, appreciation and involvement of the participants in Supply Chain Management systems and processes.
- Findings relating to perceptions of the IT function and the adequacy of IT systems to meet SCM requirements.
- Analysis of ease of generation and access to SCM information for decision making.
- Forward looking outcomes of the research based on research participants' views on areas in need of attention and improvement with regards to IT support to SCM processes.



### 5.2 SCM AWARENESS University of Fort Hare *Together in Excellence*

Figure 4 gives a graphical summary of findings relating to the SCM awareness



dimension.

*Figure 4: Outcome of SCM Awareness dimension*

All respondents to this research (100%) understood and underscored the importance of SCM processes in government and acknowledged that their jobs had been impacted upon by SCM. Specifically, 78% of the respondents stated that they had been somehow involved in the implementation of the Supply Chain Management (SCM) Framework. In contrast, only 48% of respondents confirmed their involvement in the development and enhancement of Information Systems that have an impact on their work. 11% indicated that SCM processes are not clearly spelt out.

### 5.3 ADEQUACY OF IT SUPPORT FOR SCM

Table 8 summarises the outcome on perceptions on the adequacy of existing IT support structures and systems in supporting SCM processes. This is graphically illustrated in Figure 5.



| ICT NEEDS                                                                                                      | COMPLETETY DISASGREE | DISAGREE | UNDECIDED | AGREE | COMPLETETY AGREE |
|----------------------------------------------------------------------------------------------------------------|----------------------|----------|-----------|-------|------------------|
| My section has the necessary IT infrastructure to support its job function                                     | 3                    | 8        | 2         | 15    | 5                |
| The Departmental IT section is sufficiently skilled and capacitated to support SCM requirements                | 3                    | 11       | 6         | 12    | 1                |
| I have been trained on information systems used for procurement                                                | 5                    | 15       | 3         | 8     | 2                |
| My section gets involved during the development, amendment or enhancement of IT system that impact on our work | 4                    | 7        | 6         | 11    | 5                |
| Support services outsourced from SITA enhances the performance of departmental IT.                             | 2                    | 3        | 7         | 17    | 4                |
| IT systems and processes and policies have been documented and are well known in my section                    | 3                    | 14       | 5         | 9     | 2                |
| The IT unit can improve its services if its budget allocation is increased                                     | 0                    | 1        | 8         | 11    | 13               |
| IT systems and support are a great impediment in the implementation of SCM                                     | 4                    | 7        | 3         | 11    | 8                |
| There is a need to introduce new information systems in support of SCM                                         | 0                    | 2        | 3         | 8     | 20               |

Table 8: Adequacy of IT structures and systems in supporting SCM processes

ADEQUACY OF IT SUPPORT AND SYSTEMS

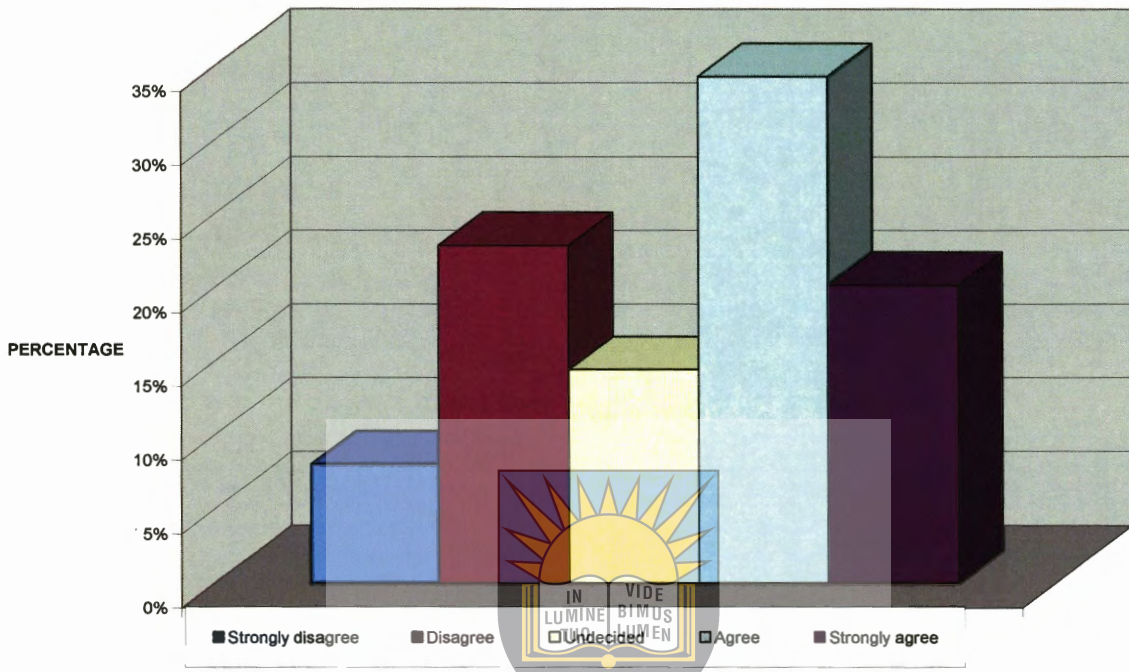
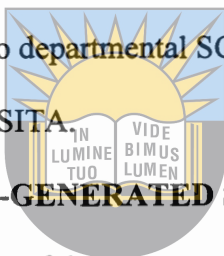


Figure 5: Adequacy of IT structures and systems in supporting SCM processes

It can be deduced from figure 4 that 37% of completed questionnaires indicated that the existing IT support and systems are not adequate to respond to challenges facing government. The bulk of skeptics were non-IT practitioners indicative of a problem whereby the IT teams do not see, or have not been informed of their shortcomings that result in negative perceptions about IT from users. The participants that are ‘undecided’ on the effectiveness of the IT support and systems is a sizeable group, indicative of the extent of lack of institutionalisation of systems in Eastern Cape Provincial Government. Approximately 67% of research participants who indicated that IT systems, policies and procedures are not documented and communicated to users. 33% of participants felt that there is adequate ICT infrastructure already in place to support SCM.

The respondents – a majority of who were non-IT Managers – rated ICT capacity in their departments very low. 70% indicated that they had not been trained on the procurement systems currently used by provincial government. Not surprisingly, 94% of the respondents called for a new information system to support SCM processes. More than 64% of interviewees view ICT as an impediment to the successful implementation of SCM processes. The same percentage (64%) of respondents view support from the SITA as positively improving IT support to departmental SCM though 21% of participants remain undecided on the role of the SITA.

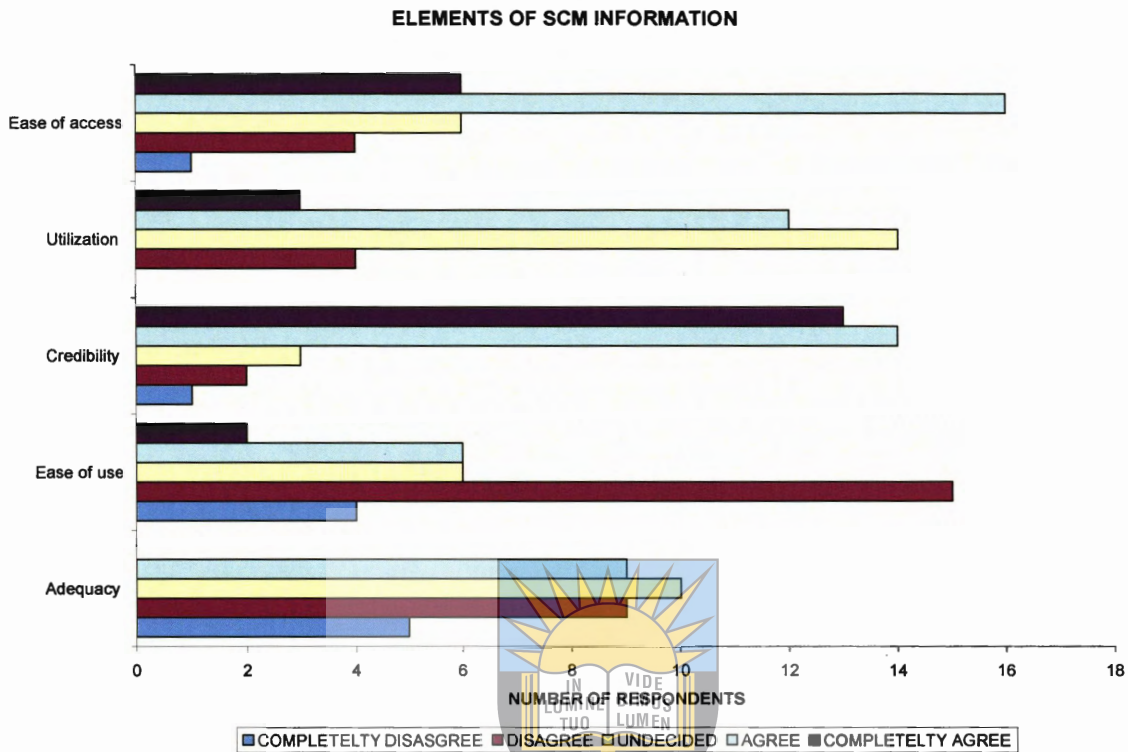


#### 5.4 UTILIZATION OF SYSTEM-GENERATED SCM INFORMATION

Table 9 gives a tabular representation of the outcome on questions relating to the utilization of SCM information generated from existing systems. This is followed by a graphical illustration in Figure 6.

|                                                                                                                | COMPLETELY DISAGREE | DISAGREE | UNDECIDED | AGREE | COMPLETELY AGREE |
|----------------------------------------------------------------------------------------------------------------|---------------------|----------|-----------|-------|------------------|
| <b>INFORMATION REQUIREMENTS</b>                                                                                |                     |          |           |       |                  |
| The information generated from existing system meets SCM reporting requirements                                | 5                   | 9        | 10        | 9     | 0                |
| Compilation and consolidation of required SCM reports is easy.                                                 | 4                   | 15       | 6         | 6     | 2                |
| The lack of a uniform system for dealing with suppliers greatly undermines the credibility of SCM information. | 1                   | 2        | 3         | 14    | 13               |
| The submitted monthly SCM information is utilised by its recipients                                            | 0                   | 4        | 14        | 12    | 3                |
| There are major impediments in getting access to SCM information                                               | 1                   | 4        | 6         | 16    | 6                |

Table 9: Perceptions on utilization of system generated SCM information



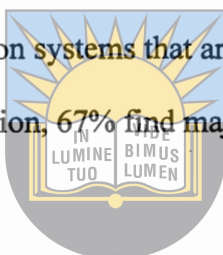
*Figure 6: Perceptions on utilization of system generated SCM information*

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Figure 6 above summaries results on questions revolving around the access, credibility, awareness and adequacy of the existing source of information. In this category of questions, mixed reactions and experiences emerged from individual users. However, the 50% of responded by not agreeing at all, not agreeing and those were undecided is indicative of a problem around the culture of use of information for decision making and planning in government. It is alarming to register the unreliability of the SCM related information and the value attached to it by departments.

Despite the fact that the respondents were mainly drawn from the middle and Senior Management corps of departments, 55% believe that the volumes of SCM reports generated monthly are not utilized and ostensibly only serve to comply with National Treasury requirements. Only 27% (mainly IT practitioners) consider that the information

generated by the existing systems meets SCM reporting requirements. Tellingly, over 82% indicate that the current scenario is characterized by a lack of a uniform system for dealing with suppliers undermines the credibility of SCM information. The Provincial Treasury Managers that receive the compulsory SCM information obtained from departments find it easy to consolidate and compile this information. However, those in departments that actually generate this reports find the compilation of SCM information to be an uphill task due to Information systems that are not user-friendly as confirmed by 76% of responses received. In addition, 67% find major impediments from ICT in accessing SCM information.



### 5.5 STRATEGY TO BRIDGE GAP BETWEEN IT AND SCM

| STRATEGY ASSESSMENT                                                                                                    | COMPLETELY DISAGREE | DISAGREE | UNDECIDED | AGREE | COMPLETELY AGREE |
|------------------------------------------------------------------------------------------------------------------------|---------------------|----------|-----------|-------|------------------|
| There is a clear strategy to address SCM requirements                                                                  | 1                   | 8        | 9         | 15    | 0                |
| There is need for both SCM and IT practitioners to work closely in the development or implementation of any new system | 0                   | 1        | 0         | 12    | 20               |
| Capacity building with a focus on training is more important than introducing new technology and systems               | 1                   | 4        | 4         | 12    | 12               |
| Change management is an important element in introducing new systems and processes.                                    | 0                   | 2        | 1         | 15    | 15               |
| I am aware of plans to develop a provincial system to support supplier management                                      | 1                   | 6        | 4         | 14    | 8                |
| My department is performing better than others in the rollout of SCM                                                   | 2                   | 5        | 14        | 11    | 1                |
| I support the idea of shared SCM and ICT services in the Province                                                      | 1                   | 5        | 2         | 15    | 10               |

Table 10: Perceptions on existing skills base, the need for SCM and IT collaboration

### Elements of SCM Strategy

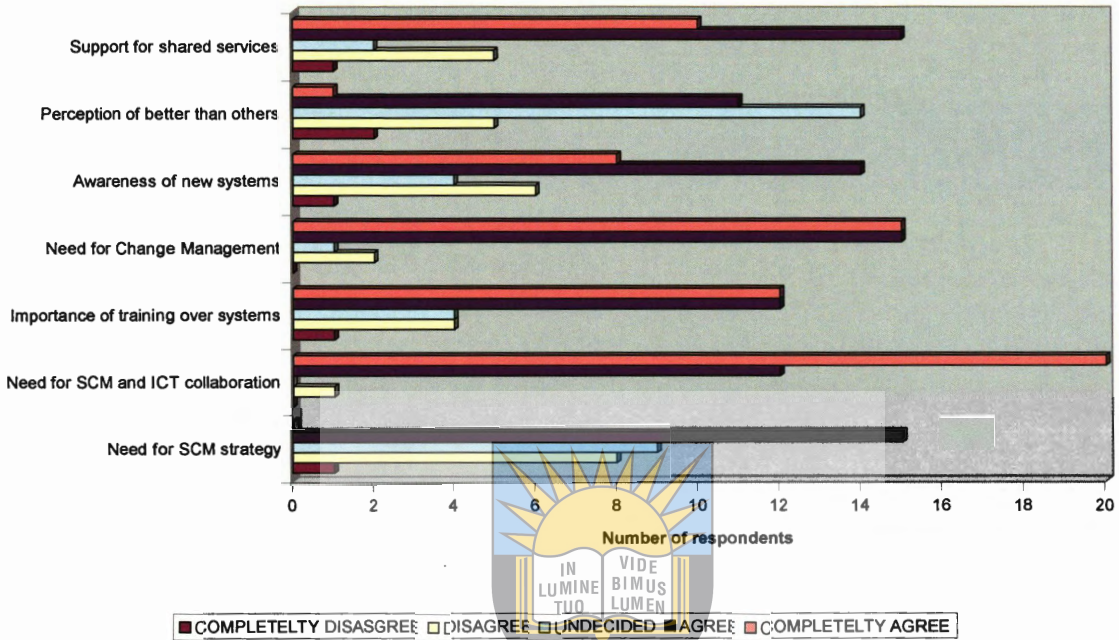
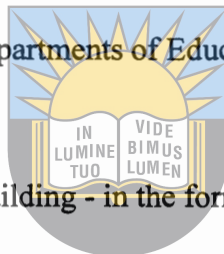


Figure 7: Perceptions on existing skills base, the need for SCM and IT collaboration.

Most officials acknowledge that an understanding of the basic tenets of SCM is far more important than introduction of a new information system. Only 45% of respondents agree that there is a clear strategy from the provincial IT leadership to address SCM requirements. An overwhelming majority of respondents welcomed the idea of collaboration and cooperation between IT and SCM practitioners with 97% having a clear understanding of the strategic role that both IT and SCM play in Government. This group of respondents positively identify with the idea of the Province considering setting up a “Shared Services Centre” to address the existing scarcity of IT and SCM skills in government.

On the basis of peer comparison mainly anchored on perception, only the departments of Education and Safety and Liaison consider other departments to be performing better on SCM than themselves. The departments of Education and Safety and Liaison respectively constitute the largest and smallest department in the provincial administration. It also emerged that unlike responses from the rest of the departments, communication concerning the much awaited centralized provincial electronic suppliers database has not filtered down to departments of Education and Safety and Liaison.



85% of respondents rate capacity building - in the form of training officials on IT procurement systems and SCM,- as being more important than introducing a new IT system. Also, it is quite telling that 91% of respondents consider Change Management as a critical element if success in the introduction of any new system is to be guaranteed.

Table 11 gives a summary of the key findings from the qualitative input of respondents using the dimensions of the ITPOSMO model.

| ITPOSMO<br>DIMENSION | SUMMARY OF RESEARCH FINDINGS                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Information          | <ul style="list-style-type: none"> <li>• The financial systems used by government run on old technology and are therefore not user-friendly. The systems currently in use have not changed to accommodate the ever-changing Information Systems requirements of government.</li> <li>• A system that would give information that could be used for reporting and payment facilitation and tracking is a major requirement.</li> </ul> |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | <ul style="list-style-type: none"> <li>• A new Information System is needed urgently regardless of poor state of IT user readiness. This is so because of the SCM information requirements that the existing systems cannot provide.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Technology | <ul style="list-style-type: none"> <li>• Overall, the financial systems used in government – especially the SCM support systems – are inaccessible mainly due to the poor IT infrastructure in the Eastern Cape Province. District offices and regional offices have not received adequate attention in the provision of ICT facilities and infrastructure and therefore IT support to districts and remote regions should be prioritized to enhance extent of access and use of IT systems.</li> <li>• Since the systems run on old technology, functional support is also not always readily available.</li> <li>• Linkages amongst existing financial systems would ease the burden of data quality and controls.</li> <li>• Many of the SCM practitioners concur that Information Technology is key to the successful rollout of the SCM Framework.</li> <li>• A provincial electronic suppliers’ database would facilitate supplier rotation, registration and quotations.</li> <li>• IT systems do not adequately meet most SCM information requirements.</li> </ul> |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"> <li>• There is a lack of coordination and synergy between IT and SCM units in almost all departments.</li> <li>• Government continues to witness duplication of systems across departments leading to unnecessary expenditure that could be avoided.</li> <li>• SITA should get the basics right like provide a stable network before moving to assist departments in other ICT matter.</li> <li>• SITA is perceived to be re-active rather than pro-active in meeting government ICT needs.</li> <li>• SITA should do more to enhance system security and backup to guarantee integrity of data</li> <li>• Ensuring interoperability and compatibility with other financial systems should be given priority.</li> <li>• Electronic document management solutions should be implemented urgently to handle the voluminous paper files containing SCM information.</li> </ul> |
| Processes | <ul style="list-style-type: none"> <li>• SCM and IT Processes are mainly paper-based. The SCM processes tend to be bureaucratic. Currently there are long and laborious procurement processes that causes inefficiency and delays in payment of suppliers.</li> <li>• Few of the IT and SCM processes are uniform and they vary from one department to another.</li> <li>• The SCM processes have not been well communicated for all</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

officials to understand. The processes are also not clear and well documented. IT staff find SCM processes confusing and inconsistent. SCM practitioners share the same views about IT processes.

- There is a clear understanding that it is not all SCM processes that can be automated.
- There is need for policy development in areas such as logistics management (stores, warehouses and fleet management) to avoid the circumventing of laid down procedures.
- There is need for an efficient helpdesk with a core team of IT and SCM staff to assist with analysis of Tenders.
- The National Treasury has the last say on the development, enhancement and amendment of systems and this leads to frustration by departments. In addition, this stifles innovation as regulations deter from trying new ideas.
- SITA regulations are not clear leading to violating of standards and best practices.
- SITA is currently not assisting as it delays in procurement transactions and their turnaround time is poor
- IT should develop change management strategies before introducing any new technology.
- Helpdesk support and a shared services are needed.

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Objectives and values</p> | <ul style="list-style-type: none"> <li>• There is a tendency for older and under-qualified SCM and IT officials to resist any change. The “Fear of the unknown” (IT) remains a key problem in ICT utilization in government</li> <li>• The importance of promoting an atmosphere that encourages learning and sharing of knowledge needs to be created.</li> <li>• Demographically, minority groups such as Whites, Indians and Coloureds are under-represented in terms of equity in SCM positions. Conversely, this group is fairly well represented in IT management echelons.</li> <li>• Influences from pre-1994 regimes in South Africa are prevalent in the work ethic and commitment to duty amongst IT and SCM officials. Traditional processes inherent in officials’ beliefs results in inherent resistance to change.</li> <li>• Participants overwhelmingly agree that IT and SCM functions should be immune from cultural practices, biases and clichés.</li> <li>• IT practitioners view their SCM counterparts as people who issue orders whereas SCM views IT as people who fix machines. The strategic importance of both ICT and SCM is undermined as a result of such myths and perceptions.</li> <li>• Lack of commitment to the public service is evident in many aspects of work. For example, officials tend to frustrate any efforts that threaten their personal interests. Technology is one such victim of sabotage. Lack of respect and abundance</li> </ul> |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | <p>of mistrust between IT and SCM practitioners exists. There is mutual suspicion and disregard for each other.</p> <ul style="list-style-type: none"> <li>• Resistance to change is a normal government phenomenon especially among older civil servants.</li> <li>• The typical lack of cooperation from officials from departments makes the work of the Provincial Treasury SCM and IT coordinators well-nigh impossible to perform.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Staffing and skills</p> | <ul style="list-style-type: none"> <li>• IT possibilities and capabilities should be fully understood by all stakeholders.</li> <li>• There is an alarming lack of capacity in IT and Finance sections of government departments. As a result, even the existing financial systems are severely under-utilized. There has not been sufficient training on the available financial systems.</li> <li>• Government officials that previously served as procurement Officers were translated into SCM practitioners without receiving adequate training. SCM training coupled by IT skills should be mandatory for this officials.</li> <li>• SITA faces challenges relating to capacity resulting in poor support given to departments.</li> <li>• Training of SCM personnel on IT systems is critically required.</li> <li>• Managers in departments are failing in recruitment processes</li> </ul> |

– there is a glaring mismatch between people’s competencies and job requirements as advertised in the media.

- There is a group of the older civil servants that have not previously worked elsewhere other than in government.

Some of the civil servants – especially those inherited from the former homelands - are perceived as being slow in appropriating technology.

- The older officials are not ready for any new system while younger staff are keen on using a new system.

- Lack of awareness and interest on training matters is common among officials.

- High staff turnover in critical posts such as IT and SCM has become common. The rate at which they are remunerated in government does not entice them to stay for long. This is exacerbated by poor people management that results in demotivated officials.

- Civil servants require security of tenure and change does not always guarantee job security.

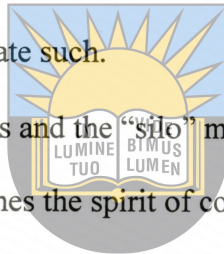
- The state of readiness of current SCM staff to appropriate a new IT system is suspect. SCM staff have low levels of basic computer literacy and hence need to build confidence first before a new system is introduced. The lack of readiness for a new system among SCM staff can be deduced from the way



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|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | <p>they are struggling with the existing systems.</p> <ul style="list-style-type: none"> <li>• Training and workshops to enhance the capacity of SCM practitioners on SCM are needed.</li> <li>• Many government officials have not received adequate training in all aspects of SCM let alone ICT</li> <li>• Technology is not the problem. The problem is with the envisaged system's rollout and implementation</li> <li>• Some officials are ready for new technologies on the basis of past training</li> <li>• IT staff are also often trained in Project Management and such expertise can be shared with the SCM practitioners</li> </ul>                                                                                                   |
| <p><b>Management and Structures</b></p> | <ul style="list-style-type: none"> <li>• There is a general scarcity of qualified and skilled managers for Information Technology and SCM in the Eastern Cape Provincial Government. Managers misuse the authority that comes with their rank to impose their views on helpless junior officials.</li> <li>• Time is not well managed across all departments especially as it relates to planning and coordination of SCM processes.</li> <li>• Strategic planning is done merely to comply with requirements. The allocation of resources to implement the strategic plans leaves a lot to be desired. Staff recruitment is without a plan and is done haphazardly.</li> <li>• Many functional line Managers underrate the role of SCM.</li> </ul> |

- Lack of communication to lower level staff from their Seniors
- There is need for buy-in from management and politicians on SCM and IT projects if success of this projects is to be guaranteed.
- SCM staff are usually sidelined in procurement of new systems and hence not able to judge state of readiness to appropriate such.
- Turf wars and the “silo” mentality is amongst various sections undermines the spirit of cooperation.
- There is need to build in-house capacity and create a stable work-force instead of over-reliance on consultants.
- Most IT managers do not feel that they have the requisite strategic support from their superiors as is evident from allocation of paltry budgets and other resources.
- There needs to be a shared vision on IT and SCM with staff.
- Though there is no generic prescribed structure, there is a strong feeling that IT and SCM should report to the same structures. All SCM structures report to the Chief Financial Officer (CFO) and this is seen a good thing.
- Most IT and SCM officials are currently overloaded with work as a result of understaffing.
- The location of SCM in the organisational structure in some of the departments is not in line with the guidelines issued by



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the Provincial Treasury. This has the potential to undermine the performance SCM mandate. All SCM units are supposed to report directly to the Chief Financial Officer of the respective department.

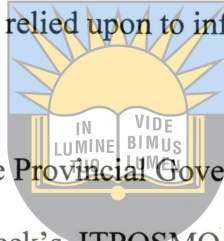
- The structural location of IT and IS has no bearing on the efficacy of systems support to SCM.
- The old authoritarian structures that still exist today prevent cross operational collaboration and cooperation. Most department's are still paranoid about the security of SCM information.
- SITA should play a central coordinating role though departments should not be constrained by SITA regulations. Departments need to be given autonomy to operate outside SITA if they so wish.
- SITA should henceforth play a bigger role in overseeing financial systems in government.. However, SITA staff should be trained to do more systems support
- The practice of SITA prescribing what departments need and not customising solutions to suit departments' requirements should be brought to a grinding halt.
- The dual role of service provider and agency that SITA plays is recipe for conflict of interest and mediocrity in service.

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Other resources</b></p> | <ul style="list-style-type: none"> <li>• All SCM processes should be supported daily by units that look after IT.</li> <li>• IT units should be more involved in crafting User Requirement specifications (URS) for systems. This includes giving technical advice to SCM practitioners and compilation of information that enhances SCM processes.</li> <li>• At the moment the support to departments from SITA is very disappointing and SITA does not represent value for money.</li> <li>• SITA services are too expensive because of the charging model used. It would be cheaper to source goods and services elsewhere if the law permitted.</li> <li>• ICT units should play a more prominent role in the department's strategy formulation.</li> <li>• There is need to clearly identify gaps in support to SCM processes before lasting interventions can be decided upon.</li> <li>• After introduction of any new technology, limited hand-holding should be given before users are left on their own to use software solutions and applications.</li> <li>• ICT should be used in evaluation and selection of new suppliers and when obtaining quotes to eliminate human errors.</li> </ul> |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Table 11: An overview of issues that influence IT support to SCM processes in departments.

## 5.6 CONCLUSION

The introduction of new Information systems will be resisted especially by those that have previously taken advantage of inadequate SCM information. For any reforms in procurement to take shape with the aid of information technology and systems, change management needs to be given serious attention. From the findings, it also emerged that SCM information that government obtains with the existing Information Technology and systems is inadequate and cannot be relied upon to inform and shape government procurement policy.



Decision makers in the Eastern Cape Provincial Government decision makers would do well to appreciate models such as Heek's ITPOSMO - in assessing the readiness of IT and SCM sections to embrace an Information system that lends support to the SCM Framework. From the responses, the need for an information system that adequately meets SCM requirements in departments was identified. Of concern is the current state of IT infrastructure which falls short of what it takes to support financial management reforms such as the introduction of SCM. On the basis of research outcome, a number of conclusions are drawn in the next chapter.

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## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 INTRODUCTION

The introduction of Supply Chain Management (SCM) in the Eastern Cape Provincial Government and its implications to Information Technology (IT) and systems as been the subject of discussion in this study.

In the first Chapter of the study, the researcher postulated that that the procurement reforms currently taking place in Eastern Cape Provincial Government require IT-enabled support due to the enormous volume of data and information requirements associated SCM. In Chapter 2 the researcher reviewed the existing body of knowledge on Information Technology, systems and SCM. The factors in the ITPOSMO model that have a bearing on the successful deployment of IT were discussed and the model's suitability for identifying and isolating gaps that often exist between reality and conception was introduced. Various studies on the socio-political impact of introducing IT in organizations was cited and the importance of aligning IT with the peculiarities of the of the SCM requirements was highlighted. Chapter 3 dealt with the various approaches to conducting a research of this nature. The researcher adopted qualitative research methods aided by a case study that was presented in Chapter 4. It emerged that use of qualitative information ensured that the researcher dealt with most nuances of SCM and IT within the Eastern Cape Provincial Government. Data analysis was undertaken in Chapter 5 and trends concerning the perceptions of IT readiness to support SCM processes, ease of access and use of system-generated SCM information and general SCM awareness was undertaken. The key themes that emerge from the analyses include the discovery that system and technology issues are not the only impediment to smooth rollout and support to the SCM function – all factors in Heek's ITPOSMO model have a role to play in determine the success or failure of any current or future information system intervention targeted at SCM processes.

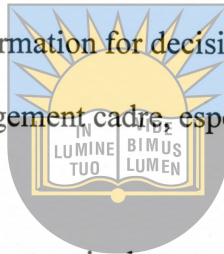
On the basis of the findings from the preceding Chapter, in this chapter, the researcher makes some recommendations aimed at informing IT support to SCM processes.

## 6.2 RECOMMENDATIONS

Clearly, with the aid of both the ITPOSMO model the research findings have emerged with the following factors that should be borne in mind before introducing an Information System that supports the procurement reforms in government:

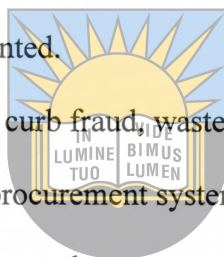
1. Eastern Cape Provincial Government departments would only be ready for a new SCM system once:

- a. The culture of using information for decision making is instilled or even decreed across the management cadre, especially within the provincial Treasury.
- b. The existing ICT infrastructure in departments – especially in the remote areas – is upgraded to meet modern standards.
- c. Government officials working as SCM practitioners require intensive training aimed at improving their understanding of the key tenets of the SCM Framework. Training aimed at improving the level of computer literacy in departments should be prioritised.
- d. The existing IT processes should be streamlined and reconfigured across departments with buy-in from users. The Provincial Treasury should get more involved in assisting departments with systems and tools that ease the compilation and retrieval of SCM information.
- e. ICT support units in departments should increase their capacity in the form of staff and skills. In addition, due consideration should be made in developing a shared ICT service to tap onto existing capacity in government. The State



Information Technology Agency (SITA) needs to radically improve the quality ICT support services that it gives to government departments.

- f. Rollout of SCM should be done in tandem with departmental ICT planning in order to ensure that synergies between the SCM and IT are tapped.
- g. Uniformity of Information systems and processes across departments should be prioritized. As a start, a provincial suppliers' management system should immediately be implemented.
- h. Effective mechanisms to curb fraud, waste, abuse and corruption, which undermine government procurement systems and impede competition should be developed and implemented.



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2. The following needs to be effected to narrow the conception-reality gap:

- a. Enforcing a culture of information use. A reliable and user-friendly repository of management information relating to procurement should be set up.
- b. IT support staff employed by departments as well as the State Information Technology Agency (SITA) require intensified training on technical and non-technical aspects of their job. IT staff should understand the business of SCM and demonstrate their support to SCM processes.
- c. Developing an all inclusive change management strategy that would ensure that procurement reforms under the umbrella of the SCM Framework are not done in isolation but that change is managed in use of Information technology and systems.

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# Appendix 8.1

## QUESTIONNAIRE ON INFORMATION TECHNOLOGY SUPPORT TO SUPPLY CHAIN MANAGEMENT PROCESSES



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## Preamble to the Questionnaire

### Information Technology Support to government Supply Chain Management processes:

The Eastern Cape Provincial Government introduced procurement reforms as encapsulated in the Supply Chain Management Framework. The implementation and success of SCM requires the support of information Technology and systems.

Two years since the promulgation of SCM instructions in the Eastern Cape, It is opportune to asses the extent and nature of IT support to SCM requirements.

### Aim of the Questionnaire:

This study seeks to determine the state of readiness of Information systems and technology in supporting procurement reforms currently championed under the banner of SCM.



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## INSTRUCTIONS

Thank you for your willingness to complete this questionnaire. Your answers will remain completely confidential and will in no way be divulged to a third person without your consent.

Please answer all the questions and choose only one answer per question. The questionnaire will take approximately 30 minutes to complete.

On the narrative part please be as precise as possible: use of bulleted answers might assist in this regard

Please decide whether you agree or differ with each statement and mark your answer with a tick (✓) in the applicable block.

The scale refers to the following:

- 1 = Completely disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = Completely agree

**Example: Question 1 – I view IT as a strategic management tool.**

|                                                                                                             | Completely Disagree                 | Disagree                            | Undecided                           | Agree                               | Completely Agree                    |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <b>If you <i>fully agree</i> with this statement, tick the square under “Completely agree”.</b>             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|                                                                                                             | 1                                   | 2                                   | 3                                   | 4                                   | 5                                   |
| <b>If you <i>do agree</i> with this statement, tick the square under “Agree”.</b>                           | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
|                                                                                                             | 1                                   | 2                                   | 3                                   | 4                                   | 5                                   |
| <b>If you <i>are not sure</i>, or do not know if you agree/disagree, tick the square under “undecided”.</b> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
|                                                                                                             | 1                                   | 2                                   | 3                                   | 4                                   | 5                                   |
| <b>If you <i>disagree</i> with this statement, tick the square under “Disagree”.</b>                        | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
|                                                                                                             | 1                                   | 2                                   | 3                                   | 4                                   | 5                                   |
| <b>If you <i>fully disagree</i> with this statement, tick the square under “Completely disagree”.</b>       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
|                                                                                                             | 1                                   | 2                                   | 3                                   | 4                                   | 5                                   |

THANK YOU FOR YOUR CO-OPERATION

## BIOGRAPHICAL DATA

✚ Place a tick (✓) in the appropriate box in response to all the questions:

### 1. BRANCH:

| Which branch do you belong to? |                                 |                          |
|--------------------------------|---------------------------------|--------------------------|
| 1.                             | Information Technology Services | <input type="checkbox"/> |
| 2.                             | Supply Chain Management         | <input type="checkbox"/> |
| 3.                             | Asset Management                | <input type="checkbox"/> |
|                                |                                 |                          |

### 2. DEPARTMENT:

| Which Department/Division do you work in? |                                                  |                          |                          |
|-------------------------------------------|--------------------------------------------------|--------------------------|--------------------------|
| 1.                                        | Provincial Treasury                              | <input type="checkbox"/> |                          |
| 2.                                        | Office of the Premier                            | <input type="checkbox"/> | 12.                      |
| 3.                                        | Agriculture                                      | <input type="checkbox"/> | 13                       |
| 4.                                        | Safety and Liaison                               | <input type="checkbox"/> | Roads and Transport      |
| 5.                                        | Sports Arts and Culture                          | <input type="checkbox"/> | Provincial Legislature   |
| 6.                                        | Social Development                               | <input type="checkbox"/> | <input type="checkbox"/> |
| 7.                                        | Public works                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 8.                                        | Education                                        | <input type="checkbox"/> | <input type="checkbox"/> |
| 9.                                        | Health                                           | <input type="checkbox"/> | <input type="checkbox"/> |
| 10.                                       | Housing Local Government and Traditional Affairs | <input type="checkbox"/> | Other:<br>Specify _____  |
| 11.                                       | Economic Affairs Environment and Tourism         | <input type="checkbox"/> | <input type="checkbox"/> |

### 3. LEVEL

| What level are you? |                             |                          |
|---------------------|-----------------------------|--------------------------|
| 1.                  | 16 – 13 (Senior Management) | <input type="checkbox"/> |
| 2.                  | 12 – 9 (Middle Management)  | <input type="checkbox"/> |
| 3.                  | 8 - 7 (Junior Management)   | <input type="checkbox"/> |
| 4.                  | 6 – 3 (Operational Staff)   | <input type="checkbox"/> |
| 5.                  | 2 – 1 (General Workers)     | <input type="checkbox"/> |

### 4. GENDER:

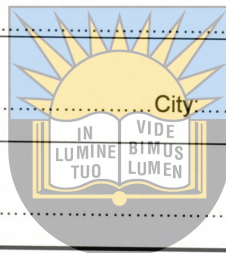
| Which gender do you belong to? |        |                          |
|--------------------------------|--------|--------------------------|
| 1.                             | Male   | <input type="checkbox"/> |
| 2.                             | Female | <input type="checkbox"/> |

**5. AGE CATEGORY:**

| Which age category do you belong to? |       |                          |
|--------------------------------------|-------|--------------------------|
| 1.                                   | 20-30 | <input type="checkbox"/> |
| 2.                                   | 30-40 | <input type="checkbox"/> |
| 3.                                   | 40-50 | <input type="checkbox"/> |
| 4.                                   | 50-65 | <input type="checkbox"/> |

**6. EXTERNAL STAKEHOLDERS**

| INSTITUTION |                                         |
|-------------|-----------------------------------------|
| 1.          | Name:<br>.....                          |
| 2.          | Location:<br>Country:..... City:.....   |
| 3.          | Nature of Business/Operations:<br>..... |

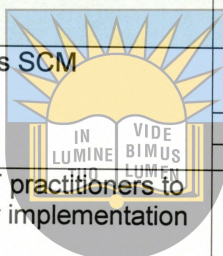


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## DIMENSIONS

|           |                                                                                                                | Completely Disagree      | Disagree                 | Undecided                | Agree                    | Completely Agree         |
|-----------|----------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>B)</b> | <b>SCM NEEDS :</b>                                                                                             |                          |                          |                          |                          |                          |
| 1.        | My section is involved in rollout of SCM processes                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 2.        | There is a real need for SCM in the Provincial Administration                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 3.        | I know the difference between traditional procurement and procurement under SCM                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 4.        | My job has been impacted on since the inception of SCM                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 5.        | SCM processes have been clearly spelt out and are understood in the organisation                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| <b>B)</b> | <b>ICT NEEDS:</b>                                                                                              |                          |                          |                          |                          |                          |
| 6.        | My section has the necessary IT infrastructure to support its job function                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 7.        | The Departmental IT section is sufficiently skilled and capacitated to support SCM requirements                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 8.        | I have been trained on information systems used for procurement                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 9.        | My section gets involved during the development, amendment or enhancement of IT system that impact on our work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 10.       | Support services outsourced from SITA enhances the performance of departmental IT.                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 11.       | IT systems and processes and policies have been documented and are well known in my section                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 12.       | The IT unit can improve its services if its budget allocation is increased                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 13.       | IT systems and support are a great impediment in the implementation of SCM                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |
| 14.       | There is a need to introduce new information systems in support of SCM                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                | 1                        | 2                        | 3                        | 4                        | 5                        |

|           |                                                                                                                        | Completely Disagree      | Disagree                 | Undecided                | Agree                    | Completely Agree         |
|-----------|------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>C)</b> | <b>INFORMATION REQUIREMENTS</b>                                                                                        |                          |                          |                          |                          |                          |
| 15.       | The information generated from existing system meets SCM reporting requirements                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 16. *     | Compilation and consolidation of required SCM reports is easy.                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 17.       | The lack of a uniform system for dealing with suppliers greatly undermines the credibility of SCM information.         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 18.       | The submitted monthly SCM information is utilised by its recipients                                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 19.       | There are major impediments in getting access to SCM information                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| <b>D)</b> | <b>STRATEGY ASSESSMENT</b>                                                                                             |                          |                          |                          |                          |                          |
| 20.       | There is a clear strategy to address SCM requirements                                                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 21.       | There is need for both SCM and IT practitioners to work closely in the development or implementation of any new system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 22.       | Capacity building with a focus on training is more important than introducing new technology and systems               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 23.       | Change management is an important element in introducing new systems and processes.                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 24.       | I am aware of plans to develop a provincial system to support supplier management                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 25.       | My department is performing better than others in the rollout of SCM                                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |
| 26. *     | I support the idea of shared SCM and ICT services in the Province                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|           |                                                                                                                        | 1                        | 2                        | 3                        | 4                        | 5                        |



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**E) NARRATIVE: In your view, briefly state how the following factors affect Information Technology support to Supply Chain Management (SCM) processes**

27. Technical factors

28. People factors

29. Management factors

30. Process factors



31. Cultural factors

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32. Structural factors (organization structures and lines of reporting, authority and responsibility).

33. SITA's role

| Make short comments on the following |                                                                               |
|--------------------------------------|-------------------------------------------------------------------------------|
| 34.                                  | Areas that IT support and systems need to focus on to improve SCM operations? |
|                                      |                                                                               |
| 35.                                  | The state of readiness of SCM staff to use a new Information system           |
|                                      |                                                                               |
|                                      |                                                                               |

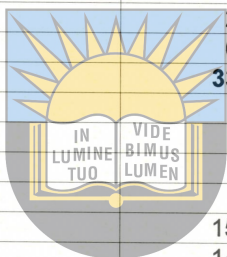
**THANK YOU FOR YOUR COOPERATION**



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SUMMARY OF RESPONDENTS TO RESEARCH QUESTIONNAIRE

| SECTION                                          | NUMBER    |
|--------------------------------------------------|-----------|
| Information Technology Services                  | 14        |
| Supply Chain Management                          | 18        |
| Asset Management                                 | 1         |
| <b>TOTAL</b>                                     | <b>33</b> |
| <b>DEPARTMENT</b>                                |           |
| Provincial Treasury                              | 14        |
| Office of the Premier                            | 2         |
| Agriculture                                      | 2         |
| Safety and Liaison                               | 2         |
| Sports Arts and Culture                          | 1         |
| Social Development                               | 2         |
| Public works                                     | 1         |
| Education                                        | 2         |
| Health                                           | 1         |
| Housing Local Government and Traditional Affairs | 3         |
| Economic Affairs Environment and Tourism         | 1         |
| Roads and Transport                              | 2         |
| Provincial Legislature                           | 0         |
| <b>TOTAL</b>                                     | <b>33</b> |
| <b>LEVEL</b>                                     |           |
| 16 – 13 (Senior Management)                      | 15        |
| 12 – 9 (Middle Management)                       | 14        |
| 8 - 7 (Junior Management)                        | 4         |
| 6 – 3 (Operational Staff)                        | 0         |
| 6 – 3 (General workers)                          | 0         |
| <b>TOTAL</b>                                     | <b>33</b> |
| <b>GENDER</b>                                    |           |
| Male                                             | 22        |
| Female                                           | 11        |
| <b>TOTAL</b>                                     | <b>33</b> |
| <b>AGE CATEGORY</b>                              |           |
| 20-30                                            | 2         |
| 30-40                                            | 8         |
| 40-50                                            | 17        |
| 50-65                                            | 6         |
| <b>TOTAL</b>                                     | <b>33</b> |



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SUMMARY OF QUESTIONNAIRE FINDINGS

| 7 DIMENSIONS<br>SCM NEEDS                                                                                        | COMPLETELY<br>DISAGREE | DISAGREE   | UNDECIDED  | AGREE      | COMPLETELY<br>AGREE | TOTAL |
|------------------------------------------------------------------------------------------------------------------|------------------------|------------|------------|------------|---------------------|-------|
| 1 Involved with SCM                                                                                              | 2                      | 2          | 3          | 13         | 13                  | 33    |
| 2 Considers SCM as important                                                                                     | 0                      | 0          | 0          | 8          | 25                  | 33    |
| 3 Understands SCM                                                                                                | 0                      | 0          | 1          | 16         | 16                  | 33    |
| 4 SCM impacts on job                                                                                             | 1                      | 3          | 1          | 17         | 11                  | 33    |
| 5 Aware of SCM requirements                                                                                      | 3                      | 7          | 6          | 14         | 3                   | 33    |
| <b>PERCENTAGE</b>                                                                                                | <b>4%</b>              | <b>7%</b>  | <b>7%</b>  | <b>41%</b> | <b>41%</b>          |       |
| <b>7.2 ICT NEEDS</b>                                                                                             |                        |            |            |            |                     |       |
| 6 My section has the necessary IT infrastructure to support its job function                                     | 3                      | 8          | 2          | 15         | 5                   | 33    |
| 7 The Departmental IT section is sufficiently skilled and capacitated to support SCM requirements                | 3                      | 11         | 6          | 12         | 1                   | 33    |
| 8 I have been trained on information systems used for procurement                                                | 5                      | 15         | 3          | 8          | 2                   | 33    |
| 9 My section gets involved during the development, amendment or enhancement of IT system that impact on our work | 4                      | 7          | 6          | 11         | 5                   | 33    |
| 10 Support services outsourced from SITA enhances the performance of departmental IT.                            | 2                      | 3          | 7          | 17         | 4                   | 33    |
| 11 IT systems and processes and policies have been documented and are well known in my section                   | 3                      | 14         | 5          | 9          | 2                   | 33    |
| 12 The IT unit can improve its services if its budget allocation is increased                                    | 0                      | 1          | 8          | 11         | 13                  | 33    |
| 13 IT systems and support are a great impediment in the implementation of SCM                                    | 4                      | 7          | 3          | 11         | 8                   | 33    |
| 14 There is a need to introduce new information systems in support of SCM                                        | 0                      | 2          | 3          | 8          | 20                  | 33    |
| <b>PERCENTAGE</b>                                                                                                | <b>8%</b>              | <b>23%</b> | <b>14%</b> | <b>34%</b> | <b>20%</b>          |       |

SUMMARY OF QUESTIONNAIRE FINDINGS

|                                        | COMPLETELY<br>DISAGREE | DISAGREE   | UNDECIDED  | AGREE      | COMPLETELY<br>AGREE | TOTAL |
|----------------------------------------|------------------------|------------|------------|------------|---------------------|-------|
| <b>7.3 INFORMATION REQUIREMENTS</b>    |                        |            |            |            |                     |       |
| 15 Adequacy                            | 5                      | 9          | 10         | 9          | 0                   | 33    |
| 16 Ease of use                         | 4                      | 15         | 6          | 6          | 2                   | 33    |
| 17 Credibility                         | 1                      | 2          | 3          | 14         | 13                  | 33    |
| 18 Utilization                         | 0                      | 4          | 14         | 12         | 3                   | 33    |
| 19 Ease of access                      | 1                      | 4          | 6          | 16         | 6                   | 33    |
| <b>PERCENTAGE</b>                      | <b>7%</b>              | <b>21%</b> | <b>24%</b> | <b>35%</b> | <b>15%</b>          |       |
|                                        |                        |            |            |            |                     |       |
|                                        |                        |            |            |            |                     |       |
| <b>7.4 STRATEGY ASSESSMENT</b>         |                        |            |            |            |                     |       |
| 20 Need for SCM strategy               | 1                      | 8          | 9          | 15         | 0                   | 33    |
| 21 Need for SCM and ICT collaboration  | 0                      | 1          | 0          | 12         | 20                  | 33    |
| 22 Importance of training over systems | 1                      | 4          | 4          | 12         | 12                  | 33    |
| 23 Need for Change Management          | 0                      | 2          | 1          | 15         | 15                  | 33    |
| 24 Awareness of new systems            | 1                      | 6          | 4          | 14         | 8                   | 33    |
| 25 Perception of better than others    | 2                      | 5          | 14         | 11         | 1                   | 33    |
| 26 Support for shared services         | 1                      | 5          | 2          | 15         | 10                  | 33    |
| <b>PERCENTAGE</b>                      | <b>3%</b>              | <b>13%</b> | <b>15%</b> | <b>41%</b> | <b>29%</b>          |       |



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