IT Service Management: THE KEY TO ACHIEVING INFORMATION TECHNOLOGY SERVICE IMPROVEMENT.

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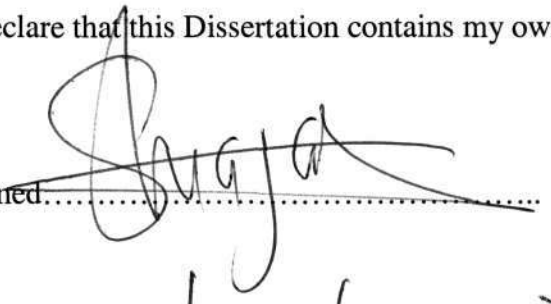
Declaration

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

I declare that this Dissertation contains my own work except where specifically acknowledged.



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I would like to thank God for giving me life, health and enabling me to persevere and complete this study.

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Abstract

The purpose of this study was to investigate whether, Information Systems Management (ISM), an Information Technology (IT) organisation within Department of Justice and Constitutional Development (DOJ CD), adopted the best practices in IT service management.

IT Service Management entails ensuring that accurate IT services are delivered to the business at the right price and with the right level of quality, according to Young (2005). The notion of quality IT services is a concern for the Department of Justice and Constitutional Development taking in to consideration that it has set a goal of modernising itself by implementing IT systems. The vision of the department is to make IT services such as email available to all employees. The vision will not be attained if these services are not always available. The literature study shows that IT organisations that implement IT Service Management deliver quality IT services to the users and business.

ISM claims to be aligned with Information Technology Infrastructure Library (ITIL) service management practices but lacks some of the structural elements that should be in place. The department has raised concern around whether the processes that they have implemented will yield improved IT services. The research evaluated available documents in view of uncovering implemented processes.

The results are steps for improving IT services at the DOJ CD. Firstly, it is recommended that ISM should rate each of the IT Service Management process according to its importance to the business, secondly to identify the relevant teams to manage identified processes, thirdly to make the DOJ CD a customer of ISM.

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1. Chapter One: Introduction

1.1 Introduction

Businesses in the 21st century have adopted Information Technology (IT) to enable them to achieve strategic goals. This is achieved by rapidly assimilating new technologies when automating business processes (Gerrard, 2004). This has not saved adoption of Information Technology from sustained and severe cost-cutting measures within many businesses. A result of cost cutting initiatives is increased Information Technology infrastructures underinvestment. Simultaneously businesses have increased their requirements for automation of some of their activities. This requirement for automation is achieved by investing in IT components like servers, applications and networks. A growing number of IT organizations are investigating opportunities to improve their ability to deliver key IT services reliably and cost-effectively.

Over the past few years, there has been a shift from a componentised view of IT to a services oriented view of IT. Componentised view of Information technology implies that personal computers, networks, servers and application are seen in their bare form as compared to viewing them as access the user receives. For example, email is an IT service comprised of applications, networks, servers and support staff. Business increasingly requires IT to display the services and true costs of running an IT organisation (Gerrard, 2004). In this way, IT can articulate the cost of providing the services rather than the costs of components. According to Gaughan (2003), some of the IT organisations cannot articulate the costs of services delivered to the business. Gaughan (2003) argues that IT organisations that cannot articulate its costs are in danger of being viewed as expensive.

In this research, the term Information Technology (IT) organisation refers to a business unit or department that provides IT services to the business. While the IT service provider or vendor refers to an external IT organisation that provides IT services to business internal IT organisation. This implies that an Internal IT organisation would employs services from IT

service providers to provide services to the business. In a way, an IT organisation works between the business and IT services providers to ensure that the business achieves its goals.

Gaughan (2003) studied an IT organisation that had many complaints from users around the lack of proper IT services. This organisation showed a significant improvement in customer satisfaction results after implementing processes to improve IT services. This shows that an IT organisation that needs to improve services to the business should implement processes to improve service. This business experienced the same problems as experienced by the Department of Justice and Constitutional Development (DOJ CD), a case study in point.

The objective of this section of this research process is to develop a plan for executing a research project. How consistently well IT executes an IT processes ultimately determines how much, if any, business value IT delivers. It is difficult, if not impossible, for IT to align itself with the business, become a strategic partner, and deliver significant business value if its process execution is not in place (Symons, 2005).

This section will achieve its objectives if it can bring to light a plan to undertake the research process in a concise and precise manner. The first chapter highlights the objectives of the research processes according Cooper and Schindler (2003). This chapter sets the scene on how the research unfolds. This section of the research will discuss the major components of the research processes as prescribed by Cooper and Schindler (2003).

This research aims to help the Department of Justice and Constitutional Development, referred to as the DOJ CD, improve IT services provided to the user community. The research studies similar challenges experienced by an organisation that Gaughan (2003) studied. This IT organisation was experiencing poor customer satisfaction results on IT services delivered by internal IT organisation. The ISM, the DOJ Internal IT organisation, faces similar challenges were it has to ensure that IT services are available to users. The DOJ CD is going through great lengths to provide desktops for all the users, but this battle is not won until the user community

has access to IT services that assist them to execute their tasks. Even basic IT services like email have a significant impact on increasing the efficiency of the DOJ CD.

1.2 Background

The DOJ CD aims to modernise itself by gearing towards hi-tech service delivery (http://www.doj.gov.za/2004dojsite/newsletter/hearsay/2000_aug_vol1%20nr1.pdf). Digital Nervous System (DNS) project aims to ensure that 11000 users countrywide receive personal computers, email access as well as training on Microsoft suite of products (http://www.doj.gov.za/2004dojsite/b_ism/ism_newsletters/2003_vg_%20june.pdf). The number of the DOJ CD offices with IT infrastructure is growing day by day according to the same publication. The Information System Management (ISM), the DOJ CD internal IT organisation, ensures that users have access to IT services as per figure 1.1, DOJ CD IT service management. The challenge of ensuring that IT services are delivered efficiently is faced by many IT organisations throughout the world.

The Director General (DG) of the DOJ CD pointed reliance on IT to make tasks efficient, faster and easy (http://www.doj.gov.za/2004dojsite/b_ism/ism_newsletters/2003_vg_%20june.pdf). The DG pointed out that modernisation of the DOJ CD goes beyond internal staff but extends to benefit the public. The ISM business unit is an enabler of the strategic direction of the DOJ CD according to the Director General. This emphasis states the reliance of the DOJ CD on the services that the ISM provides.

To address this challenge, IT organisations like the ISM are forced to understand IT from a services point of view. The second challenge for IT organisation is to account for services accurately. IT organisations should be in a position to express the cost and benefit of the services provided to support business activities as opposed to expressing the cost of IT components like personal computers, servers and applications. It implies that IT organisations refer to components when communicating internal to IT and communicate IT services when communicating with the

business. The basic requirement for an IT organisation is to understand IT from a service perspective in a way business can understand. Part of the problem is that many IT organisations cannot define the services in a way that support business objectives. In the same way as procurement, department and human resources provide services that enable business to achieve strategic objectives. IT has to aggregate all components, servers, personal computer and application as one unit or service to support a specific business need.

In the same way as the procurement department and the human resources department provide services to the business, IT organisations should have service management objectives. The notion of viewing IT from a service point of view cannot be avoided anymore. According to Adams (2004), the IT Service Management (ITSM) initiative should result in a more stable, reliable and available IT service for the end user, business process partner and customer. In effect, achieving stable, reliable and available IT services should result in a better overall IT services.

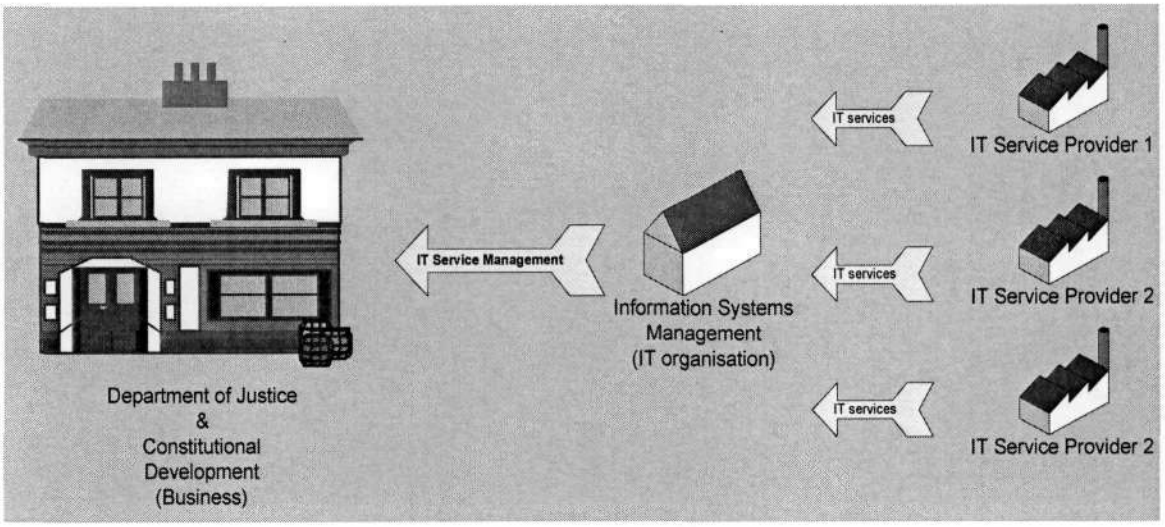

Figure 1.1, Demonstration of DOJ CD IT Service Management

IT outages negatively affect the businesses when an IT organisation cannot manage IT service (Adams, 2004). Adams (2004) refers to an organisation that was facing a dilemma of extended

service outages and, in some cases, significant business impact. This dilemma was resolved by implementing ITSM processes to improve the management of ailing IT operations. A business expects their IT organisation to run IT more efficiently like manufacturing plants or item processing centres Cameron (2005), This is because manufacturing plants have built processes that ensure that plants are operating optimally with minimum downtimes. Manufacturing businesses are reliant on operations processes put in place to measure performance of the operations and reduce downtimes.

1.3 Information Systems Management

The Information Systems Management (ISM), the Department of Justice and Constitutional Development CD internal IT organisation is one such business that faces the dilemma of having the problem of improving IT service to the expectation of the business. In some way, this translates from problems of managing IT operations as can be seen from incidents logged with Microsoft Premier Support Services. One of the problems is due to an ad hoc management of IT operations. Having realised this dilemma, ISM initiated few projects to improve IT services. This is one of the reasons for launching the Integrated Support Centre (ISC) in the beginning of October 2003 (http://www.doj.gov.za/2004dojsite/b_ism/ism_newsletters/2003_vg_%20june.pdf). The objective for implementing the ISC is to provide technical back up and assistance to the DOJ CD employees. The ISC is an IT support centre created by the ISM to accommodate IT service providers to the DOJ CD.

The Information System Management (ISM) is an internal IT organisation to the Department of Justice and Constitutional Development. This organisation brokers the relationship between external IT service providers and the DOJ CD (figure 1.1, Demonstration of DOJ CD IT service management). The ISM accommodates IT service providers at its support centre called the Integrated Support Centre (ISC). The ISC provides a means to centralise management of IT services to offer a single point of contact to the DOJ CD user community. In July 2004, the ISM published a tender as part of the process of reviewing the services delivered to the DOJ CD. The intention of tender RFT 345 /04 is to find IT services providers that meet the future business and

service needs of the DOJ CD. The tender documentation was supplied as part of the briefing session on the 16 August 2006. This implies that the ISM is using this mechanism to realign IT services that it provides to the DOJ CD. The tender documents have elements that touch on IT Service Management Framework referred to as the DOJ SLA to manage IT operations.

The question the ISM should ask is whether the processes described in the tender documents would assist in achieving the objectives of improving IT services. IT service providers are reliant on Request for Proposal (RFP) documents to base their understanding of what IT services the ISM require. The tender documents require all IT service providers to work within the ISM Service Management framework that is based upon Information Technology Infrastructure Library (ITIL).

The DOJ CD RFP has two main requirements in initiating this research. Firstly, the ISM requires an IT service provider that would satisfy future business and service needs. The DOJ CD is increasing its reliance on IT by deploying more solutions that the ISM supports. In August 2003, the ISM was managing over 22000 emails daily, indicating that technology has become mission critical (http://www.doj.gov.za/2004dojsite/b_ism/ism_newsletters/2003_vg_oct.pdf). The number of initiatives that require support increases year on year. Initiatives included the Justice Deposit Account System and Master's Administration System for Estates and Insolvencies.

Secondly, the RFP required the IT service provider to align their offering with IT Service Management principles as prescribed by Information Technology Infrastructure Library (ITIL) published with tender documents. It is prudent to evaluate whether the processes in the tender should be aligned to improve services. The research provides IT service providers with a view on the ISM ITSM processes as described in the tender documents. Without a clear understanding of the ISM expectation of the IT Service Management framework, IT suppliers might not fully understand the problems they may be facing.

The research should reveal whether IT service providers would achieve the objectives of improving IT services to the DOJ CD. The research will further try to determine the degree of alignment of the DOJ Service Level Agreement (SLA) with ITSM frameworks. ISM is required to ensure that the user community gains a positive experience from IT services. ISM is reinventing itself to best respond to the ever-changing business needs as described in the DOJ CD mission. This is more relevant because the DOJ CD has embarked on the project to make available a personal computer to each employee and making email accessible (http://www.doj.gov.za/2004dojsite/b_ism/ism_newsletters/2004_vg_feb.pdf). Such initiatives are costing the DOJ CD large sums of money hence the ISM should be in a position to express the business value of IT services it provides.

The ISM Outsource Tender encompass a request for the following services to be rendered to the DOJ CD: Service Delivery, Management, Distributed Services Management, Technical Management Services, Site Deployment Services, Application Support Services, Application Development Services, IT Training and Education, Body Shop Services and Document Archiving Services.

ITSM processes align with the Service Delivery Management service cluster prescribed in the tender documents. This part of the tender ensures that ITSM processes improve service delivery to the DOJ CD. IT service improvement is an imperative due to the uptake of IT services by the DOJ CD. There is a greater concern to institute programs that improve IT services delivered by the ISM. Ultimately, the DOJ CD should deliver personal computers, networks, and servers in way that can enable users to access IT services. As the foundation, this research brings to light the level of IT services at the DOJ CD. The Department has been asking ISM questions around the availability of IT services. These are listed below:

- Why does it take long to resolve problems?
- When is email back online?
- Why is the network down?
- When are things going to improve?

It is imperative for ISM to ensure that the DOJ CD receives trouble free computing while reducing the impact of downtime on the user. The research focuses on processes that ISM employs to ensure that the DOJ CD receives trouble free computing. This is prepared by evaluating the processes that ISM employs to manage IT services. The basis of any service-orientated business is to articulate types of services that such service providers provide. Once IT services are identified, the service provider establishes processes to manage delivery of such services. The point is to identify processes that ISM should implement to enable IT service improvement.

In this research, the aim is to establish the influence of IT Service Management processes of the DOJ CD and then to derive a view on how to improve IT services. Hence, the research will recommend the process to improve IT services moving into the future. This section leads to a literature review with the aim of finding references that support the hypothesis that IT Service Management improves IT services. The objective is to cover the hypothesis to find both supportive and contrasting evidence.

1.4 Literature Review

The demand by business managers' for lower IT costs and improved services has been increasing over the years (Brittain, 2002). IT organisations are required to deliver services on a multitude of IT technologies with a limited budget. Gartner survey shows an increasing interest by IT organisations to improve IT services delivered to the business (Curtis, 2005). Curtis (2005) explains that an increasing number of IT organisations implement IT Service Management (ITSM) with the intention of improving IT services. Curtis (2005) warns that ITSM is not a panacea for all ills in the IT operations environment. An overall management of IT management complements these processes.

ITSM entails ensuring that the right IT service is delivered to the business at the right price and with the right level of quality (Young, 2005). The key objective for IT Service Management is for organisation to achieve improvement in IT services. This implies that IT organisations that implement ITSM processes should see an improved service delivery at better prices. According to Young (2000), IT organisations that embrace ITSM begin to adopt and develop competencies in negotiation, service definition and pricing, service-level management, relationship management, and business planning, while simultaneously introducing higher degrees of rigour to traditional IT infrastructure management processes. Young (2000) argues that IT processes fuel ever-popular increase in the adoption of ITSM best practices such as Information Technology Infrastructure Library (ITIL).

The objectives of implementing ITSM differ from organisation to organisation but the underlying factor is IT service improvement. According to Curtis (2005), the ITIL has been at the forefront of best-practice and process methodology. ITIL emerged in the United Kingdom in the late 1980s and offered introductory knowledge on common process areas that had been nearly ignored by the IT community (2000). Because of increasing dependence on IT by enterprises to run their businesses and deliver on corporate goals, ITIL's process framework methodologies became a key aspect of IT discussions.

ITOs must ensure that there is a holistic approach to managing IT infrastructure. This approach includes the following three tenets: product, people and process as described by the Microsoft Operations Framework (MOF). Firstly, efficient management of IT infrastructure requires proper tools that enable the business to have a clear view of the IT systems. Secondly, because of the nature of an IT organisation service orientation, it needs to equip its staff with the correct skills to execute on the processes designed. In addition, motivated employees should complement the skills. Thirdly, all three tenets should have relationship with each other to create a strong tri-partite organisation that executes processes. ITSM is responsible for the process tenet of the Microsoft Operations Framework.

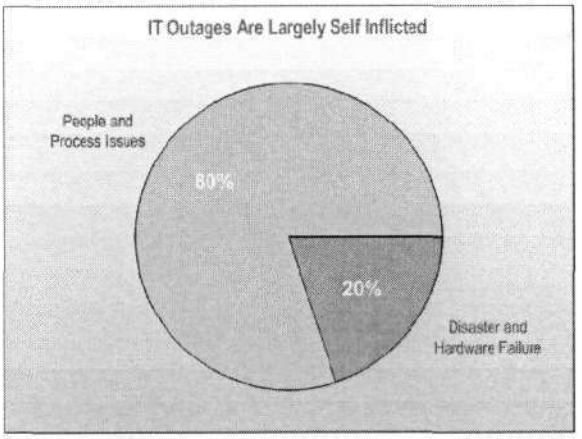

Figure 1.2, People and Process

(Gartner at http://www.gartner.com/)

A Gartner research study identified people and process as contributing 80% of IT outages (Figure 1.2, People and Process). It implies that IT organisation that intends to improve IT services should focus on people and processes. Adams (2004), the Research Director from Gartner said, "IT Service Management initiative should result in a more stable, reliable and available IT service for the end user, business process partner and customer". Adams (2004) researched an IT organisation that expended three years on continuous improvements to achieve the cost savings and level of efficiency that it attained. IT organisations that deliver good service are required to put in place processes that ensure service delivery. These processes consist of a series of repeatable and refined processes to manage the service.

However, ISM has chosen to align its IT processes with best practices of Information Technology Infrastructure Library (ITIL) to meet challenges of improved IT service. The assumption is that implementing ITIL service management processes could lead to improved IT service. The objective of this research is to evaluate the alignment of ITSM processes within the ISM. The analysis of this theory would indicate whether the ISM would be able to attain ITSM objectives of improving IT services. If the ISM implement IT processes in way ITIL support,

then it will achieve improved service. Otherwise, the research should identify focus areas for improving IT services in the form of a Service Improvement Plan.

1.5 Research Objective

The level of IT service provided to the DOJ CD by the ISM can be improved, a main reason for many initiatives with the ISM business unit. One of the initiatives includes outsourcing to IT services providers on the assumption that they would be able to provide better services. An assumption is because IT service providers bring better IT skills to add capacity to the ISM. The research evaluates whether the current IT processes within the ISM can improve the level of IT services delivered to the DOJ CD. This is approached with a view to ascertaining the alignment of the ISM IT Service Management processes with best practices as prescribed by the Information Technology Infrastructure Library.

Evaluating IT Service Management processes guides the ISM to determine if it can achieve its objective of improving IT services. The literature review indicates that organisations that implement ITIL service management processes attain improved IT services. This is achieved by evaluating IT Service Management processes of the ISM against ITIL service management processes to determine level of alignment between the two. The objective of this research is achieved if it can display to the ISM, areas that has needs focus to improve IT services. Cooper and Schindler (2003) views this part of the research process as a management dilemma.

1.6 Problem Statement

Many alternatives can be undertaken to ensure that the ISM improves IT services within the DOJ CD. The problem statement aims to formulate the DOJ CD dilemma into a more specific statement to be used to explain the problem. The aim is to identify the primary problem from related problems according Cooper and Schindler (2003).

As the management dilemma can be approached from many directions, it is crucial to ensure problem statement is clearly understood. The challenge is to formulate a problem statement that would assist in solving the management dilemma. IT Service Management processes should ensure that the users can receive support for all their IT woes. The ultimate aim is to ensure that users do not experience any degradation of IT services.

As part of the DOJ CD Digital Nervous System (DNS) project, most of the users would be acquiring Information Technology services like email. The ISM management should ask themselves what they should do to improve IT services to those users. Most of the organisation finds outsourcing IT operations to IT service providers as a solution to solve IT Service Management problems. One of the key mistakes made when outsourcing a subset of customer service and support process organisations is forgetting to map customer processes and not articulating where the outsourcer enters and exits (Bona, 2004). It seems to have been the case with the ISM, as the first outsourcing contract did not live to the expectation of the customer.

Bona (2004) recommends outsourcing contracts should not be based purely on operational metrics like number of calls handled or average call time, but should be augmented with pricing related service levels for customer satisfaction or other qualitative metrics. The second consideration that is important is for the IT organisation to undertake a pilot test of some of the key customer service processes to be outsourced, for a three to six month period. The relevance of testing the processes is that it will ensure that everyone understand what is expected of IT services. This research focus on improving IT Service Management processes of the ISM. This research hopes to test whether processes that the ISM has implemented can assist in making it achieve improved IT services.

The Microsoft Operation Framework (MOF) provides guidance around people, process, and technology in IT service management. This is comprised of three components of The Team Model, The Process Model and The Risk Management Discipline. Each focuses on enabling

technologies and best practices for achieving high systems availability, reliability, supportability, and manageability on the Microsoft platform.

The MOF Process Model is in line with the ITIL service management processes that operations teams perform to manage and maintain IT services. This is even though the MOF Process model specifies Microsoft technologies. IT processes are just one of the components that an IT organisation and an IT service provider should focus on to achieve IT Service Management objectives. This makes it compelling for organisations that intends to implement IT Service Management to review current IT Service Management processes. Hence, the research hopes to find an answer to IT processes that ISM has implemented.

Currently, IT services delivered through the Information System Management are deemed not to be of a good quality. Hence, the ISM issued a tender for managing the IT infrastructure. The tender claims to be aligned to the best practice of Information Technology Infrastructure Library (ITIL). Due to the fact ITIL is a best practice implies that it might be interpreted differently by the respondents to the tender. Secondly, the objectives of ITIL service management differ between ITIL implementers. Some of the objectives for implementing ITIL service management include cost saving or improving IT service delivery. This makes it compelling to evaluate whether the ISM IT Service Management processes are aligned to ITIL service management. This will be achieved by determining whether essential activities are in place to achieve ITIL service management objectives.

The purpose of this study is to examine factors that relate closely to IT Service Management processes at the Department of Justice and Constitutional Development (DOJ CD). The goal is to gain a new understanding on whether IT organizations, like the Information Systems Management, have the correct management structures to achieve objectives of IT service management. The goal of IT Service Management is to improve the quality of IT services to the business.

This study is designed to determine focus areas that enables improvement of IT service within Department of Justice and Constitutional Development. The research evaluates whether the fundamental components of IT Service Management are in place to assist the ISM to achieve improved IT services. The research concludes by identifying areas on which the ISM has to focus on. The objectives of this research will satisfied if it can bring forward the following:

- Determine IT Service Management processes that are implemented. It ascertains whether the minimum level of prerequisite items is available to support the process activities.
- Evaluate business objectives for implementing each process. It establishes whether there are organisational policy statements, business objectives providing both purpose and guidance in the transformation or use of the prerequisite items.
- Test whether the ISM executes on processes identified within the business objectives. It examines whether activities were being carried out.
- Evaluate roles and responsibilities for those managing processes. It is concerned with the governance of the process and ensuring that there is adequate and timely information produced from the process in order to support necessary management decisions.
- Test whether there is ongoing monitoring of the IT environment. It is primarily concerned with the on-going external review and validation of the process to ensure that it remains optimised towards meeting the needs of the customer.

The five areas above identify fundamentals that should be in place for the ISM to have a fully functioning IT Service Management processes. This is in line with control objectives described by the ITIL self-assessment tool. The control objectives assist an organisation that wants to assess its IT Service Management alignment with ITIL Service Management. The research is analysed based on these control objectives as will be discussed in Chapter Four.

1.7 Importance of the Study

The ISM should realise that there is a growing trend to use processes to stabilise IT environments. This is not a panacea for IT problems, but is a starting point for organisations that need to improve IT service levels. It is important to assess the processes that the ISM has implemented before it embarks on an IT service improvement plan. The research reveals the level of alignment with best practices as prescribed by ITIL service management. Against that backdrop, the ISM can start small and move slowly along the complex road to successful ITSM to improve IT service. The advantage, though not part of this research, is highly available systems and possible cost savings.

The ISM published a Request for Proposal inviting IT service to solicit plans to improve IT service within the DOJ CD. The RFP included the proposed IT Service Management framework that employed to deliver IT service within the DOJ CD. The research will be very useful for would be respondents to the DOJ CD Request For Proposal.

1.8 Research Outline

The research will evaluate the literature available to identify best practices in that area of Information Technology Service Management. This work is covered in the literature review in Chapter Two. Rudestam and Newton (2001) argue that the literature study is the dialogue between reader and writer; hence, it should capture the readers' attention. The aim of the literature review is not to reinvent the wheel but to build on the work done by others. The chapter will close by summarising the main selling points for and against the use of ITSM processes to improve IT services.

The purpose of Chapter Three is to state steps to follow to execute on the research plan (Rudestam and Newton, 2001). The research plan will begin by evaluating the work the ISM has done around some aspects of ITSM practices. The research would focus on case study type research evaluating the ISM as a case study. Evaluation of documented processes determines

which ITSM processes are implemented. The research uses publicly available documentation as source of data. The same sources of information that would be available to IT service provider that would responding to the Request for Proposal.

Chapter Four reviews the ISM service management practices against the literature reviewed in Chapter Three. This is a case study type research project. It emphasises detailed contextual analysis of a limited number of events or conditions and their relationships (Soy, 1997), whereas Yin (1994) defines the case study research method as an observed inquiry that investigates a contemporary phenomenon within its real-life context. The ISM best practices review emphasises the level of fit with ITSM best practices. Zucker (2001) quotes Miles (1984) when arguing that case studies should be analysed by building identifying themes and patterns, clustering cases, making contrasts and comparisons, and partitioning variables.

The model developed from the previous chapters gives an indication of what the ISM has done wrong. Chapter Four aims to present an analysis of different major findings to show how they contribute to solving the management problem. Then chapter five brings all the arguments and recommendations. Recommendations will be in the format of Service Improvement Plans (SIP).

1.9 Conclusion

The objective of the chapter is to draw a plan to execute a research process. The section highlighted the management dilemma faced by the ISM in which IT service processes are required to improve user experiences of IT services. An IT organisation that Gaughan (2003) studied could not articulate services that are delivered to the business hence it could not determine service levels provided. The DOJ CD is in a process of providing desktops to all the users, this battle is not over until the user community has access to IT services that assist them to execute on their tasks. This research establishes the capability of IT Service Management processes of the ISM to improve service and then to derive a view on improving service.

This implies that IT organisations that have implemented ITSM processes should see an improved service delivery, as will be discussed in the literature review in Chapter 2. The objectives of implementing ITSM differ from organisation to organisation but the underlying factor is IT service improvement according to ITIL. This study is designed to determine focus areas that enables improvement of IT service within Department of Justice and Constitutional Development. Management question will be satisfied by answering the research question to determine areas of focus within the ISM.

Initially the research should dispel the argument as to whether IT Service Management is a way to improve IT services. The Service Management Plan is based on whether the literature study agrees or disagrees with the notion of IT Service Management as a vehicle for improving IT services.

2. Chapter Two: Literature Review

2.1 Introduction

IT organisations are under constant pressure from business to deliver improved IT services within constrained budgets. The view of IT service delivery should be from the business point of view instead of what IT organisation think is required. This implies that IT organisations should transform themselves from viewing IT in its component form to a service-orientated one that delivers on specific business requirements. The notion brings IT closer to the business than before. The objective of this section is to evaluate work done in the area of IT management with a special focus on improving IT services to the business.

The aim of the literature review is to clarify relationship between the proposed study and previous work done on same topic (Rudestam and Newton, 2003). The literature review is a comprehensive survey of publications in a specific field of study or related to a particular line of research, usually in the form of a list of references or an in-depth review of key works. According Baeza-Yates (2001) researchers should not reinvent the wheel but draw from other sources in the same field. Chapter Two presents forth arguments for and against these types of management problems. It will also discuss the reason why the research should be undertaken (Rudestam and Newton, 2003).

The notion of viewing IT in its component form is also shared by Cameron (2005). Cameron (2005) argues that IT organisations should rather strategically collaborate with the business. Cameron (2005) remarked that CIOs from the mainframe times were often preoccupied with basic infrastructure purchase decisions and strategies. However, today, they no longer argue about commodity technologies, the wires in the wall, protocols over the wires, infrastructure management, or many other technologies below the level of the applications.

Chapter Two will achieve its objective if it clearly aligns the ISM management dilemma with work done around improving user experience of IT service. There must be a direct relationship between IT Service Management, referred to ITSM hereafter, and IT service improvement. The intention is to view IT service improvement from the user and customer perspective, with the ultimate goal of offering services according to what is agreed through Service Level Management process. The end of the section should be an expressed problem statement.

2.2 IT organisation Challenges

Young (2005) argues that there are three challenges of IT operations, which are cost-centric-view, IT maturation, and process revolution. Implementing IT Service Management can solve IT challenges (Young, 2005). These challenges are listed below:

Cost-centric

Businesses are moving away from the cost-centric view of IT's potential to a realization that IT can transform business processes (Young, 2005). Many organisations make IT procurement decisions based on IT components and business improvement. The IT organisation has to demonstrate and justify new investments. In some cases, IT systems cannot be put into operation, as they would leave frustrated users due to lack of processes to manage the system. An IT service provider invested $150 000 but saved $500 000 by training staff on ITSM processes resulting in satisfied customer and improved services (Brittain, 2005).

IT service providers realises that a lack of consistent policy and process procedures result in a reactive and chaotic IT organisation that offers poor IT service delivery and quality. This results in downtimes that cause IT staff to be in reactive mode to resolve the problem. In some cases businesses implement ITIL to improve communication between different departments within IT by setting up processes. These communication processes are in the form of Operation Level Agreements (OLAs) to negotiate level of service between parties.

These processes alleviate the problem of sending the users between different sections of IT when users are looking for a resolution to their problems. This implies that IT organisations will have to train employees to support projects in production. Increases on costs at this magnitude will make business to expect more value out of the investment. Hence, IT organisation builds a case for ITSM because it can ensure that IT investments are sustained into production or operations.

Information Technology Maturation

Already burdened with regulatory-compliance and corporate governance initiatives, IT groups are being pressured to improve operational efficiency and align IT with their organisations' overall business objectives (Integrien, 2005). Growing in maturity to become a proactive organisation requires effort, and it places IT at the threshold of the transition to IT service management. The focus of earlier IT organisation was on how IT components interrelate physically and logically. Now, an IT organisation has to develop an understanding of how the components of the IT infrastructure relate to the business services they support.

IT organisations must determine operational process maturity to improve IT operational processes (Vogel, 2002). According to Vogel (2002), there is a lack of defined processes that articulate how operational activities perform across platforms. These are also made worse by the lack of accountability within IT organisation. The IT organisation should build maturity models around processes to be able to measure the maturity of service provided to businesses. Consulting companies like Gartner developed maturity models to assist businesses to improve processes based on a maturity models, so that attention focuses on where the greatest improvement should be made (Pultz, 2005).

The Gartner model defines a process of managing IT maturity process and business support (Scott, 2004). The purpose of the Gartner model is to understand the maturity level of an IT organisation. The model also identifies areas that require focus.

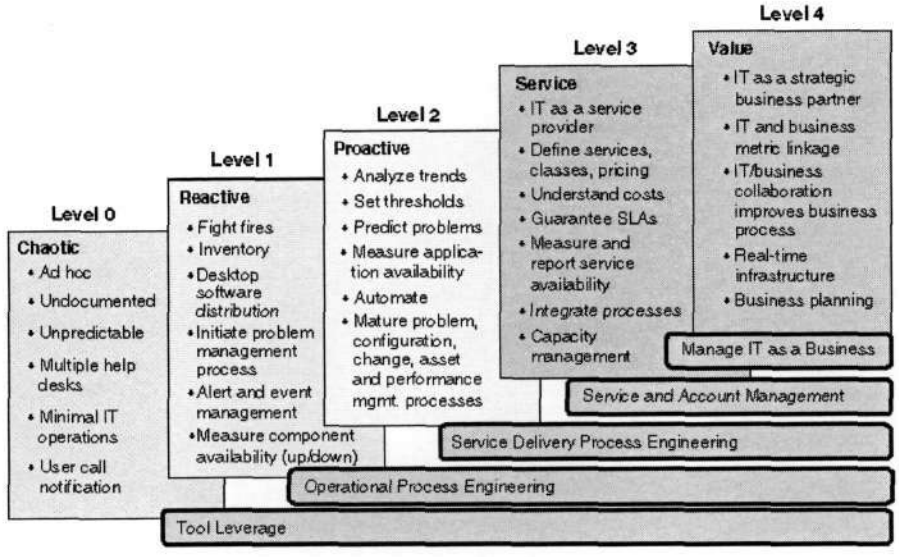

Figure 2.1, Gartner Research (February 2005)

http://www.csg.no/ppt/Hidas_nov06.ppt

Process Revolution

According to Young (2005), IT has been a follower in process management discipline. Young (2005) further argues that IT has been lagging behind in leveraging process innovation and implementing process innovation to deliver enhanced IT service while managing costs. For that reason, IT organisation should have process improvement measurements that can prove to the business that IT internal capabilities are increasing. These processes emanate from a holistic ITSM strategy to define consistent repeatable processes that improve services.

Fundamental question that many organisations ask is which process they have to focus on first. Process in IT is referred to as the most noticeable and measurable unit of work within IT organisations Adams (2004). IT Service Management (ITSM) processes are supported by the focus on IT management (Young, 2005). Young (2005) points out those organisations that intend to implement ITSM should orchestrate resources around which process needs to be optimised. ITSM models should indicate the intention to increase the maturity of an IT organisation

2.3 IT Service Management

IT organisation should show the distinction between ownership and non-ownership with respect to IT service. In the case of physical products, customers can obtain the desired benefits either by buying the item themselves or renting it. "Service Management" generally refers to the service industry as contrasted with the manufacturing and agricultural industry, and within several separate disciplines, to service-rendering activities within that discipline, e.g. ICT, housekeeping, car repair and maintenance.

The correct IT service delivery model enormously affected by business attitudes concerning IT organisations' innate potential (Young, 2000). Some business views IT as cost to business as compared to matured business that view IT as collaborating with the organisation. A low-risk business that view IT as a cost centre will be confronted with different strategic service delivery options than IT organisations that are in businesses that believe IT can help create competitive advantage.

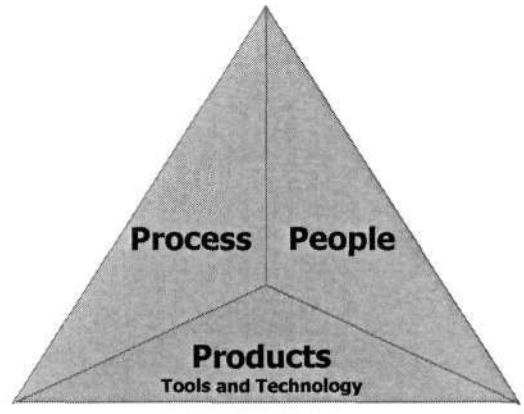

Figure 2.2, Microsoft Operation Framework,
http://www.microsoft.com/mof

ITSM embodies the people, processes and technologies that an IT organisation must employ to develop deliver and support appropriate and competitive IT services, at the levels necessary to support business (Figure 2.2, Microsoft Operation Framework). IT organisations are moving from a component orientation (such as networks, servers, storage, database and applications) to

managing business-oriented IT services. IT groups must prepare to articulate the overall performance of and the value it bring to the business (Vogel, 2002). Vogel (2002) further states that IT organisations will focus their attention on establishment of process performance baseline, identification of process integration points in relation to the operational goals of the business.

In another study, Adams (2004) revealed that ITSM initiative brought about significant savings to an organisation. The organisation studied embarked on ITSM initiatives due to misalignment with business needs and a lack of understanding of how IT components supported the business. The problem statement from the study by Adams (2004) has similarities with the DOJ CD in that the user sometimes did not know who to call for IT services. This resulted in long outage times and resolution times resulting in dissatisfied customers. Adams (2004) claimed that this business had a saving of $30 million in a period of two years by implementing ITSM.

An IT organisation saved 10% of the bottom line by implementing best practices according to a study done by Gaughan (2003). There was also a significant improvement in customer satisfaction results. For example, one large high-tech manufacturer was able to reduce service desk costs by 40% and still increase the overall customer satisfaction rating from 91% to 94%.

Pink Elephant published the names of organisation that went public on their achievement of ITSM initiatives (http://www.livetime.com/docs/wp_benefits_ITIL.pdf). The list follows.

Procter & Gamble

Procter and Gamble has seen a six to eight% cut in operating costs since implementing ITIL. Another ITIL project has reduced help desk calls by 10%.

Ontario Justice Enterprise

Ontario Justice Enterprise embraced ITIL two and a half years ago and created a virtual help/service desk that cut support costs by 40%.

Caterpillar

After applying ITIL principles, the rate of reaching the target response time for incident management on Web-related services jumped from 60% to more than 90% at Caterpillar.

IT organisations that implement IT Service Management initiatives tend to rely on ITIL service management framework according to many researchers. It seems to be that initiatives that have customer satisfaction or user satisfaction do not get full attention. This might be due to business understanding initiatives in terms of their monetary value.

2.4 Information Technology Best Practices

It is a daunting task for an IT manager to unravel the best practices and standards available. In consultation with other best practices, IT organisations can support the business to achieve its strategic objectives. Foster – Melliar, an ITIL training and consulting organisation, breaks up these best practices into IT Governance, Foundation Processes and Improvement Methodologies.

2.4.1 IT Governance

IT governance is the process by which decisions are made around IT investments (Symons, 2005). Symons (2005) further explains that the objective of IT governance is to show how to make decisions, who makes the decision, which is held accountable, and how the results of decisions are measured and monitored. According to the IT Governance Institute, IT governance is an integral part of enterprise governance and consists of the leadership and organisational structures and processes that ensure that the organisation's IT sustains and extends the organisation's strategies and objectives.

Symons (2005) views the four primary purposes of IT Governance as firstly being able to align the value of IT and business by creating the necessary structures and processes around IT investments, management can ensure that only those IT projects that are aligned with strategic business objectives are approved, funded, and prioritised. Secondly, to be managing risk

associated with implementing IT solutions. Thirdly, enforce accountability of senior executives around the integrity and credibility of financial information and controls. Lastly, to measure performance by implementing the IT Balanced Scorecard that consists of four perspectives: IT Value, User, Operational Excellence, and Future Orientation.

Gerrard (2003) views IT governance as a set of end-to-end processes to define roles and responsibilities and create a practical and actionable governance mechanism tailored to one's enterprise's decision-making style and management culture. Both Gerrard (2003) and Symons (2005) concur that IT governance objectives must be focused on defining processes that are related to decision making and accountability.

2.4.2 Foundation Processes

According to Desmond (2003), ITSM helps an IT organisation achieve three fundamental goals: achieve customer satisfaction, exceed customer expectations and manage customer perceptions. Key objectives of ITSM models are to better alignment of IT capabilities with business needs, improved demand management by focusing on service delivery, enhanced IT planning by basing commitments on user-agreements, improved customer satisfaction and better utilization of scarce resources.

IT organisations struggle to build adaptable operational processes that ensure that delivery of IT services (VanHook, 1999). Most Chief Information Officers (CIOs) find it difficult to articulate IT processes that support the business. There is a growing trend for companies to implement process improvement initiatives (Vogel, 2001). This trend also causes process skills to be clearly identified, and execution of the process drives homogeneity into the environment (e.g., infrastructure and application) over which the process has control.

Blum (2004) says that ITIL is one of the most commonly used frameworks currently used by over 39% of IT organisations that he studied. Of respondents using ITIL, the overwhelming majority (86%) consider it very or somewhat critical to achieving their IT process management

goals. There is a growing interest and awareness among IT organisation to adopt ITIL as a preferred service management process according to a poll by Gartner (Curtis, 2005).

Raffoul (2001) notes that ITSM processes are aimed at improving service quality and elevating performance consistency of the IT organisation. However, Mingay (2004) revealed that ITIL service management techniques profited an IT organisation. Some IT executives believe that implementation of ITSM does not necessarily lead to reduced costs (Curtis, 2005). IT professionals might relate the problem to adoption of the processes. Most IT projects fail because they do not have the user in mind. Debra (2005) proposes that IT organisation should consider automating most of processes because managing the processes might be too cumbersome. Implementing ITIL by the book can be a very expensive initiative, which will probably lead to no returns (Mendel, 2003). Hence, ITIL should be implemented in incremental steps. Thomas (2003) recommends enhancements of the measurement system with Six Sigma to improve processes that already exist.

2.4.3 Improvement Methodologies

A number of industries use process capability techniques to support business functions. Manufacturing industry is such industry that continually improves its manufacturing process to get more production. Information technology can only benefit from learning from other industries. General Electric is often heralded as the model Six Sigma organisation because Jack Welch, the former CEO of GE, has been so vocal about it (Young, 2003). Six Sigma, defines a process improvement approach that is based on statistical measurement, drives quality improvement, and reduces operational costs (Fry 2004). In the white paper, Fry (2004) said that it helps in developing detailed work instructions, and it defines a methodology for continually mapping, measuring, and improving the quality process. The difference between Improvement Methodologies like Six Sigma is that they tell how, but it does not tell what to do nor does it specify any best practices specifically for ITSM.

Using a combination of IT process methodologies and improvement methodologies can bring good results to a business. Desmond (2003) revealed that implementing some a documented process is a starting point to support the business requirements. ITSM models require that an IT organisation have a documented and repeatable process of managing services that it provides to the business. Hence, IT Service Management is deemed as being a process to support the business.

2.5 Information Technology Infrastructure Library: Service Management

As the most widely accepted de facto global approach to IT services management, ITIL provides a non-proprietary IT process framework that is centred on sound ITSM practices and principals (ITIL books, 2001). The Office of Government Commerce (OGC) owns the intellectual property rights to ITIL (Brittain and Mingay, 2002). According to Brittain and Mingay (2002), ITIL offers a non-proprietary framework for process and service management for heterogeneous environments contributions to service management. The point is that ITIL Service Management is a management process that helps customers to achieve business objectives that relate to IT services.

ITIL divides service management into two main components, service delivery and service support(http://www-5.ibm.com/services/ch/ism/download_ism/itil.pdf).

ITIL is structured as shown in figure 2.3; How IBM supports ITIL and provides ITIL-based capabilities and solutions. The components of Information Technology Infrastructure Library are listed below (Rudd, 2004).

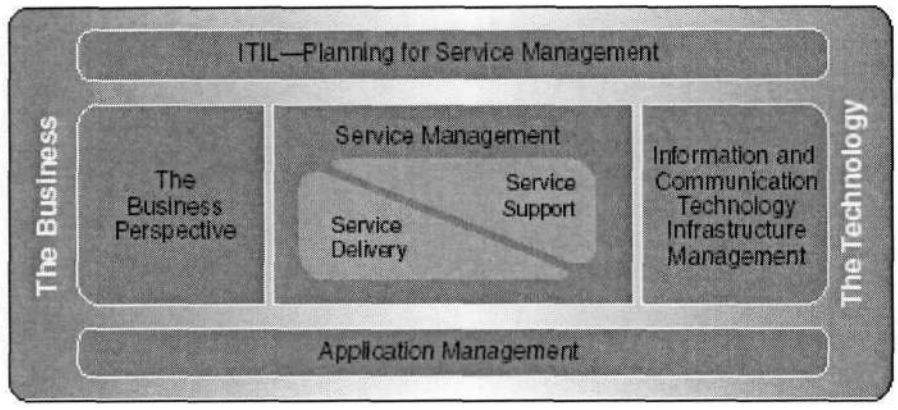

Figure 2.3, How IBM supports ITIL and provides ITIL-based capabilities and solutions (http://www-5.ibm.com/services/ch/ism/download_ism/itil.pdf).

The Business Perspective: Provides advice and guidance to help IT personnel to understand how they can contribute to the business objectives and how their roles and services can be better aligned and exploited to maximise that contribution.

Application Management: describes how to manage applications from the initial business need, through all stages in the application lifecycle, up to and including retirement. It places emphasis on ensuring that IT projects and strategies are tightly aligned with those of the business throughout the application lifecycle, to ensure that the business obtains best value from its investment.

Service Delivery: covers the processes required for the planning and delivery of quality IT services and looks at the longer-term processes associate with improving the quality of IT services delivered.

Service Support: describes the processes associated with the day-to-day support and maintenance activities associated with the provision of IT services.

ICT Infrastructure Management (ICT IM): covers all aspects of ICT Infrastructure Management from identification of business requirements through the tendering process, to the

testing, installation, deployment, and ongoing operation and optimisation of the ICT components and IT services.

Planning to Implement Service Management: examines the issues and tasks involved in planning, implementing and improving Service Management processes within a business.

Security Management: details the process of planning and managing a defined level of security for information and IT services, including all aspects associated with reaction to security Incidents. It also includes the assessment and management of risks and vulnerabilities, and the implementation of cost justifiable countermeasures.

The service management aspects of service delivery and service support refer to any aspect of the management of IT service provision. One of the main objectives of ITIL is to assist IT organisations to improve IT efficiency and effectiveness whilst improving the overall quality of service to the business within imposed cost constraints (Rudd, 2004). ITIL service management (service delivery and service support) aspects are consistent with the requirements for this research.

2.5.1 Service Support

Service Support: describes the processes associated with the day-to-day support and maintenance activities associated with the provision of IT services (Rudd, 2004). Service Support components of ITIL deals more with the day-to-day support and maintenance processes of incident management, problem management, change management, configuration management and release management plus the service desk function (Rudd,2004). Service Management functions described are as defined by Rudd (2004).

Service Desk (Function)

The objectives of service desk are to provide a central point of contact between users and the IT organisation. It provides guidance in creating and operating a service desk to provide an efficient

channel of communication between the user community and the IT service provider. Loss of the service desk affects the credibility of IT services because it is the face of IT, and it is the only point of contact for the user according to ITIL Service Management (Gliedman, 2005). Performance of the service desk should be measured in a way that it is representative of its function. Gliedman (2005) suggest that CIO's should have metrics like end-user productivity, and customer satisfaction ratings to measure the functional requirements of the service desk. These requirements should be measured in such a way that they expose the alignment between the IT organisation and with the business strategy (Brittain, 2004) because of lack of metrics to measure performance.

Incident Management

Incident Management process aims to restore normal service operation as quickly as possible and minimise the adverse impact on business operations. This ensures that the best possible levels of service quality and availability are maintained. Victor Kapella (Unknown) defines an incident as any event that is not part of the standard operation of a service and causes, or may cause, an interruption to, or reduction in the quality of that service. Incident Management is the process of recognising events that will affect the business, reacting appropriately to those events, and then responding to resume normal corporate operations (Miora, 2002).

At Gartner's 2003 Data Centre Conference, respondents believed there has been an improvement in IT operational process maturity (Scott, 2004). The results suggest that enterprises are moving away from chaotic and reactive management toward proactive and service management — often by starting with incident/problem and change management processes.

Problem Management

The process of problem management diagnoses the underlying cause of the incidents identified by the service desk. It arranges for correcting errors in the IT infrastructure and achieves proactive problem prevention. A study done by Gartner revealed that IT organisations regard problem management development and refinement as a critical issue (Brittain and Curtis, 2004).

They defined problem management as a mechanism to break down the barriers between various groups in the IT organisation that limit the success of problem management process.

The result of an efficient problem management processes is to reduce the number of incidents. This is done by finding the root cause of the problems in the incidents and finding mechanisms to avoid them. One of the questions asked in the study showed that about 10% of respondents do not measure problem management performance. What is worrying is that there is no way to know whether the process is effective and efficient, as it is not measured.

The point is that IT services are fallible – infrastructure problem are bound to happen. A survey about application performance done by Network World and Packeteer in June 2003 revealed the problems that IT organisation face with their distributed applications (Garbani, 2004). According to Garbani (2004), nearly 85% reported experiencing incidents of significant application performance degradation. Respondents said that incidents had at least moderate impact on employee productivity (82%), team productivity (77%), and customer service quality (79%).

Change Management

Polling results from Gartner's 2003 Data Centre Conference show that enterprises lack depth in change management process governance in the production environment (Brittain, 2004). The change management process ensures that standardised methods and procedures are used for efficient and prompt handling of all changes. This minimises the impact of change related incidents on service quality. Consequently, change management aims to improve the day-to-day operation of the IT organisation. Problems that relate to change management emanate from how IT organisation execute on this processes. IT organisations can create a sound management framework for their change processes by clearly specifying the roles of process owners and process information officers and allocating these roles to the appropriate people (Flint *et al.*, 2005).

Closing the loop on change management requires not only a well-defined process, but also a thoughtful approach to the individuals making the change and the type of changes that they are allowed to and capable of making (http://www.activereasoning.com/documents/changemgtwp.pdf). The white paper further states that the change processes cover only the front-end side of a change process as it does not detail how changes take place. A complete change management strategy can address a range of obstacles facing IT organisations undergoing transitions to reduce the effect on the user community and business.

Release Management

Release management is the introduction of new technology into the production environment, and is the first opportunity IT customers have to experience IT's newest or different capabilities (Vogel, 2004). Hence, it is important to manage this process effectively so that it can deliver quality releases. Good resource planning and management are essential to package and distribute a release successfully to the customer. Release Management takes a holistic view of an IT service change and ensures that all aspects of a release, both technical and non-technical, are considered together.

The objective of release management is to have new or different capability introduced to the environment with minimal negative effect on the production environment. Patch management can be considered a subset of release management as it aims to introduce a change to the system. The misconception is that patch management is seen as a security process rather than a change management processes (Vanston and Warrilow, 2004).

According to Vanston and Warrilow (2004) there is a need for a specialised change control/advisory board to ensure the appropriate focus on risk analysis and criticality ratings of patch releases. IT organisation struggling with release management processes must formalise activities that facilitate both release planning and distribution activities (Vogel, 2004).

Configuration Management

Configuration management is frequently used to describe the tasks associated with discovering and managing the state of elements that comprise an IT infrastructure, including storage, applications, hardware and networking. ITIL service management defines configuration management as providing a logical model of the infrastructure or a service by identifying, controlling, maintaining and verifying the configuration items in existence. One of the drivers for configuration management is a need to ensure process integration across application and systems. The configuration management process ensures that there is an alignment between IT and Business. Configuration management is the "heart" of nearly all IT operational processes, including problem, change, availability, performance, service-level and disaster recovery management, and each process has slightly different requirements. The question that many IT organisations ask is what strategies and best practices should be pursued to achieve process maturity and excellence in configuration management (Adams and Colville, 2004).

2.5.2 Service Delivery

Service Delivery covers the processes required for the planning and delivery of quality IT services and looks at the longer-term processes associate with improving the quality of IT services delivered (Rudd, 2004). The service delivery module of ITIL covers the more forward-looking delivery aspects of service provision and consists of service level management, financial management for IT services, capacity management, IT service continuity and availability management. These processes are principally concerned with developing plans for improving the quality of the IT services delivered.

Availability Management

Over the past 18 months, downtime has consistently emerged as a key issue during IT operations discussions as they deliver business innovation from their IT investments, improve IT service delivery, and reduced costs (Elliot, 2004). Elliot (2004) further states that 25% of down times are due to human error. Many of the IT organisations avoided the this problem by allocating training

budgets to educate staff better, standardizing and simplifying on products, creating or redefining singular processes that map to a defined IT service and developing process maturity models.

Availability management's goal is to optimise IT infrastructure capability, its services and the supporting organisation. This results in a cost effective, sustained level of service availability that enables the business to meet its objectives. Business processes increasingly reling on IT will continue to drive requirements of around-the-clock IT service availability (Scott, 2004).

The poll from Gartner conference of 2000 suggests that the trend is moving towards making IT critical to the business process (Scott, 2004). IT's maturity level is increasing as enterprises and vendors invest in improved quality of service for critical business applications, and during the designing process for new projects, enterprises have been taking a strategic and systematic approach to architecting for high levels of availability. IT organisations should find mechanism to achieve high availability for mission critical services.

Capacity Management

Capacity planning problems emanate from the failure of many IT organisations to recognise its value (Garbani *et al.*, 2004), Capacity management enables an organisation to manage resources in times of crisis and predict the need for additional capacity in advance. It describes the procedures necessary for planning, implementing and running this process. Garbani (2004) holds the view that many organisations follow a Kleenex approach to capacity management by throwing hardware to capacity problems. He holds a view that these problems occur because IT organisations perceive capacity management as infrastructure-component-specific.

TeamQuest (http://www.teamquest.com/pdfs/whitepaper/tqwp13.pdf, 2002) wrote a capacity-planning white paper focusing on IT operations from a point of operations analysis. Capacity planning involves monitoring the current system and planning for future changes to the workload and equipment. Capacity planning should be an ongoing process with a long-term objective of providing computer services to the user in a cost effective manner. It highlights performance-

modelling products that predict computer performance. Capacity planning can save business millions of Rands if properly done by using operational analysis that use equations that characterise a computer system for period of time.

IT Service Continuity Management

Many companies make the mistake of placing the entire responsibility for creating, maintaining, and carrying out business continuity planning (BCP) squarely on the shoulders of ITOs. With that as a premise, IT goes into componentised mode of supporting the business needs by making available components that might not be relevant. IT organisations role is to ensure that business continuity plans are executed according to business requirements. IT service continuity management describes managing an organisation's ability to continue providing a pre-determined level of IT service following an interruption to the business (Rankine *et al.*, 2004).

A business that provides critical services should define the role of every department in providing that service. ITO would be one such department that would have to formulate continuity plans to ensure that critical services are continued. This process is owned by Business Continuity Plans (BCP) and the IT continuity management process is a subset. One of the drivers of business continuity spending was the attack at World Trade Centre in the United States of America. Even mundane power failure can have catastrophic effects on a business hence an IT organisation requires IT services to be continued no matter what the problem is.

ITIL service management processes changes the paradigm for an IT organisation to view this components as supporting the business. The older IT organisations were managing business continuity by setting plans for reacting to a disaster as opposed to plans to minimise the impact of a disaster.

Service Level Management

IT organisations will increasingly be required to illustrate evidence of technology performance linked to business-relevant performance for real-time service-level management and adaptability

to changes within the business (Hudnall, 2005). Service level management's goal is to maintain and improve IT service quality. This occurs through a constant cycle of agreeing, monitoring and reporting IT service achievements. Service level management also instigates actions to eradicate poor service. It allows a stronger relationship to develop between IT and its customers as opposed to the help desk function, which build relationship with the user. Service-level management is a process layer that monitors and reports on the quality of the processes involved in service delivery (Garbani *et al.*, 2005).

Many CIOs sees this need to align business needs with as a holy grail due to the fact that service-level agreements (SLAs) are crafted from whatever IT can measure rather than from what is really meaningful to the service user (Garbani *et al.*, 2005). SLA is one of the least understood aspects of IT Services management due to the lack of formal definition of products/services and implementation of the process. Hudnall (2005) argues that the process usually has many owners and inconsistent user expectations, and this usually leads directly to "perceived" service issues dependent on the responsible operational delivery silos (e.g., servers, networks, and applications). The main problem about the perception of IT services is that IT organisations develop their own metrics to measure performance. A service-based performance management system starts with customer expectations, not the internal IT organisation objectives or monitoring capabilities concerning specific technologies and tools (Young, 2004).

In some cases users views Service Level Management process as a way to be alerted to potential Service Level Agreement (SLA) breaches in real time and to automate trouble spot identification. Some business uses the SLM process as a stick to beat non-performing IT suppliers. The key raised issue by Young (2005) is for IT organisation to demonstrate the business value of IT Services.

Financial Management for IT Services

Financial Management is the sound stewardship of the organisation's monetary resources. It supports the enterprise in planning and executing its business objectives. Financial management

for IT services supports the organisation in the areas of budgeting, IT accounting, and charging (http://mslibrary/research/mktresearch/butler/Intranet/Sep2002/%7bA5337DAC-D3BF-44BE-8022-DF3AA97C905B%7d.htm). Financial management is the key component of an IT department's credibility and success. Yet, many organisations have failed to develop the fundamental metrics and methodologies for measuring IT's contribution to the business (Gomolski, 2005). Organisations that do not measure financials from IT services perspective cannot express the value of IT to the business.

Gomolski (2005) argues that many ITOs cannot express true IT costs at all levels of IT service. This leads to a problem of balancing the costs of investing in IT with delivering services because ITOs cannot express their contribution in business terms. Most of the IT managers feel that IT Financial management process wants to make accountants out of them. The study done for Asia Financial Services Providers showed that IT spending makes up to 1% revenue (Rose, 2005). Costs can be seen as just an overhead costs that goes to IT if not managed properly. ITOs fail to realise that they need to use best practices and frameworks to assess the appropriateness of IT investments (Gomolski, 2005).

One global apparel manufacturer implemented the ITIL financial management processes in conjunction with an IT services procurement consolidation project. It was able to reduce overall consultancy rates by 15% globally while reducing the number of suppliers by 40% (Gaughan, 2002).

IT organisation attains the business objectives when they implement ITSM best practices described by ITIL (Rudd, 2005). According to Rudd (2005), the objectives of ITIL service management are to provide quality service to the business. The battle is not won until an IT organisation can improve the process by embarking on a Service Improvement Plan (SIP). The process should begin by evaluating the IT operations environment and focus on the areas of concern. Unfortunately, service provider due diligence of the client environment does not provide a total understanding of the holistic service delivery picture (Huntley, 2005). Huntley

(2005) argues that key cost and performance indicators (such as service levels and user satisfaction), efficiency/effectiveness, and performance trends are left out of due diligence exercises.

Embarking on a service management initiative without properly analyzing the environment can lead to disputes with the business, creating a negative trend with ITOs. Analysis of the an IT environment is a critical element to ensure that all parties have a solid understanding of the work to be done, the environment to be supported, and the performance and cost metrics before embarking on IT service improvement plan. Young (2004) says that the process should begin by evaluating customer expectations rather than ITO objectives or monitoring capabilities concerning specific technologies.

2.5.3 IT Service Management Assessment

The main objective of IT Service Management assessment is to evaluate the organisation's effectiveness in managing key activities described by the ITIL IT Service Management best practices framework. There is notion that you can manage what you cannot measure. The assessment of levels of effectiveness of IT Service Management processes depends on the maturity level of the IT organisation and the maturity of the individual service management processes. Areas of focus depend on what an IT organisation consider as strategically important to goals of the organisation.

ITIL Service Management self-assessment is one of the numbers of self-assessments that are important to IT processes, enabling an organisation to determine the extent to which it has adopted the better practice guidance Available from: the OGC (the Office Of Government Commerce). Microsoft developed an operation framework that enables organisations to achieve mission-critical system reliability, availability, supportability, and manageability of Microsoft products and technologies. Microsoft Operations self-assessment Tool is limited to Microsoft technologies.

The OGC self-assessment scheme is composed of a simple questionnaire which enables the IT organisation to ascertain which areas should be addressed in order to improve the overall process capability. The assessment is based on a generic framework, which recognises that there are a number of structural elements, which need to be in place for process management and for it to satisfy the overall intent and meet the needs of the customer. A main feature that makes OGC self-assessment compelling is that the OGC developed the Information Technology Infrastructure Library (ITIL). The OGC would know more about assessing ITIL than anyone else. However, this advantage might be a limitation as it might be biased toward ITIL self-assessment as the best methodology. Structural elements that ITIL self-assessment recommends are listed below (http://www.itsmf.com/bestpractice/selfassessment.asp).

Level 1: PreRequisites: ascertains whether the minimum levels of prerequisite items are available to support the process activities.

Level 1.5: Management Intent: establishes whether there are organisational policy statements, business objectives (or similar evidence of intent) providing both purpose and guidance in the transformation or use of the prerequisite items.

Level 2: Process Capability, examines the activities being carried out. The questions are aimed at identifying whether a minimum set of activities are being performed.

Level 2.5: Internal Integration: seeks to ascertain whether the activities are integrated sufficiently in order to fulfil the process intent.

Level 3: Products: examines the actual output of the process to enquire whether all the relevant products are being produced.

Level 3.5: Quality Control: concerned with the review and verification of the process output to ensure that it is in keeping with the quality intent.

Level 4: Management Information: concerned with the governance of the process and ensuring that there is adequate and timely information produced from the process in order to support necessary management decisions.

Level 4.5: External Integration: examines whether all the external interfaces and relationships between the discrete process and other processes have been established within the organisation. At this level, for IT service management, use of full ITIL terminology may be expected.

Level 5: Customer Interface: primarily concerned with the on-going external review and validation of the process to ensure that it remains optimised towards meeting the needs of the customer.

The goal of the self-assessment questionnaires is not to test whether there is complete conformance with ITIL. The aim is to give the self-assessing organisation an indication of how well it is performing compared to ITIL best practice. The questionnaire also aims to create awareness of management and control issues that may be addressed to improve the overall process capability.

To establish where a particular organisation stands in relation to the process capability framework, a variable number of questions should be answered. The questions are weighted, and the answers lead to whether one's organisation has passed or failed a particular area.

2.6 Service Improvement

ITOs are struggling to measure their own performance to deliver value by aligning IT with business needs (Gomolski , 2005). According to Gomolski (2005), assessing IT performance is a considerable task. First, an organisation must decide which factors to measure and how to measure them. To some extent to reduce costs is one aspect of delivering value but, IT organisation should focus on the right things. IT organisation can use the IT dashboard to measure the performance to help in aligning business-improved services within tight costs (Maurer, 2004). Maurer (2004) propose that organisation should have a "SMART" specific,

measurable, action-orientated, relevant and timely approach to IT performance measurement. The question that most ITOs should be asking themselves is how far they are from attaining the objective.

Recent polls of CIOs and business executives reveal that aligning IT and business goals remain their No. 1 or 2 priorities (Symons, 2005). Why is alignment so elusive, and when can enterprises ever expect to attain it? Symons (2005) notes that business that wants to attain business alignment should do so by implementing IT governance to hold management accountable. Symons (2005) argues that it does not describe a process that needs to be implemented to achieve this goal, whereas Young (2005) points out that ITO should implement Gartner's IT Service Delivery model to achieve improved performance.

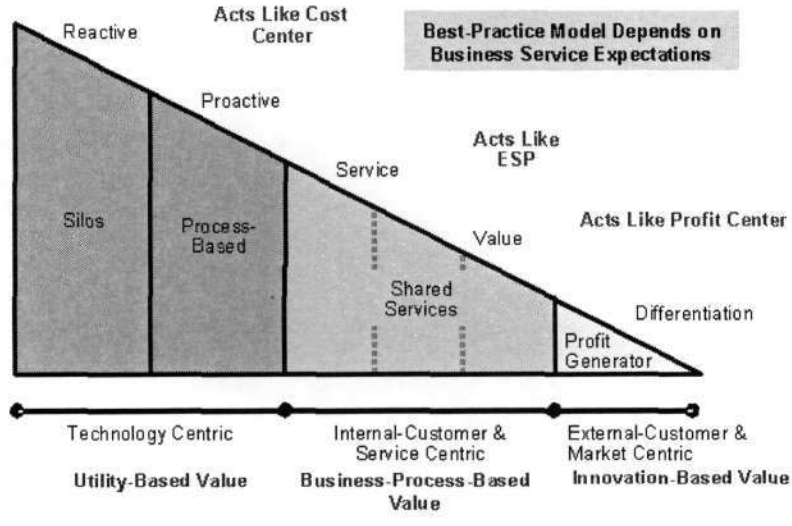

Figure 2.4, The Service Delivery Model Defined,

(http://mslibrary/research/MktResearch/Gartner2/research/129200/129216/129216.html)

The Service Delivery Model orchestrate resources around which is being optimised, so a key differentiator between models is what they focus on managing. The various models are listed below.

Silo: The siloed model is the traditional internal IT organisation.

Process-Based: The process-based service delivery model concentrates on the end-to-end cost and optimization of processes, rather than assets. ITIL service management enhances this model because ITIL is process based.

Shared Services: Shared services focus on optimizing the internal customer's experience, while explicitly achieving contractually negotiated cost and quality goals that are focused on service outcomes.

For Profit: The profit category has many models, none of which is dominant, but all focus on maximizing opportunity.

Key to achieving ITSM improvement plans is setting up the right personnel performance metrics and rewards to encourage IT operations staff to look beyond their reactive, "fire fighting" modes and devote the time and training required to documenting repeatable processes, becoming proficient in their execution and achieving predictable service quality. Initiatives of service improvement plans come with huge management commitment due to their intensity. Gartner's IT Management Process Maturity Model shows how IT organisations evolve over time toward higher levels of IT management process maturity (Young, 2005).

The IT Service CMM is a capability maturity model that specifies different maturity levels for organisations that provide IT service (Niessink *et al.*, 2005). The model can be applied to IT organisations that provide service internal to the business. IT Service CMM defines the same components as with Gartner's IT management process maturity model.

The model does not measure the maturity of individual services, projects or organisational units, but only that of the whole service organisation (Niessink *et al.*, 2005). The scope of IT Service CMM is around the service delivery process involved in creating the result for the customer, starting from identifying the needs of the customer until evaluating the delivered services (Niessink *et al.*, 2005). The primary objective is to enable IT service providers to assess their

capabilities with respect to the delivery of IT services, and to provide IT service providers with directions and steps for further improvement of their service capability.

The IT Service CMM fulfils these goals by measuring the capability of the IT service processes of organizations on a five level ordinal scale. Each level prescribes certain key processes that have to be in place before an organization resides on that level. Key processes implement a set of related activities that, when performed collectively, achieve a set of goals considered important for enhancing service process capability. Hence, organizations can improve their service capability by implementing these key processes

1. Initial level: The IT service delivery process is characterised as ad hoc, and occasionally even chaotic. Few processes are defined, and success depends on individual effort and heroics.

2. Repeatable level: Basic service management processes are established. The necessary discipline is in place to repeat earlier successes on similar services with similar service levels.

3. Defined level: The IT service processes are documented, standardised, and integrated into standard service processes. All services are delivered using approved, tailored versions of the organisation's standard service processes.

4. Managed level: Detailed measurements of the IT service delivery process and service quality are collected. Both the service processes and the delivered services are quantitatively understood and controlled.

5. Optimising level: Continuous process improvement is enabled by quantitative feedback from the processes and from piloting innovative ideas and technologies.

However, there are some reservations around measuring maturity levels for compliance sake. A capability assessment is about having many supporting documents to satisfy an audit because auditors are concerned with the process than the product produced (http://c2.com/cgi/wiki?CapabilityMaturityModel). It is for this process that the quality of the IT

service should have an ongoing measurement and improved. The IT Service CMM complements ITIL Service Management in that it is organised as an ordered set of key process areas that provide an improvement path for IT service providers (Niessink *et al.*, 2005). ITIL provides more detail on process implementation and process activities than the IT Service CMM does. IT Service CMM can be described as being focusing on IT Service Governance.

2.7 Conclusion

Many businesses are starting to move from viewing IT as components but to something that enables the business to achieve its objectives. IT organisation has taken upon itself to align IT operation to business objectives. As much as production organisation in a manufacturing plant is expected to operate under specific business requirements, so is IT organisation. IT Service Management provides and promotes the adoption of an integrated process approach to deliver IT services effectively to meet business and customer requirements.

The objective of this section is to find accounts of what has been published on IT service management. ITSM is the term used for process management surrounding the delivery of IT Services. The Information Technology Infrastructure Library, a popular service management model uses eleven processes to support the ITIL service management. Each and every process described in the ITIL service management has an objective to align IT services with business needs (Young, 2004)

The service management goals prescribed in the literature study are consistent with the objectives of the ISM in that the intention of the DOJ CD improves service delivery to employees and the South African public in general. The ITIL service management model is the only model that is consistent with ensuring IT delivers on business requirements (Garbani *et al.*, 2005). The rest of the models just build on top what has been done by the Office of Government Commerce (OGC). The ISM business should ensure that its processes are aligned to ITIL service management processes if the intention is to improve IT services. Once the processes have been

described, the ISM should continuously monitor the performance of service management processes within the DOJ CD. It implies that the ISM should ensure that key activities are preformed to achieve IT Service Management objectives set by the DOJ CD.

Gartner Research (2004) developed an IT maturity model, which defines maturity levels as chaotic, reactive, proactive, service, and value. IT Service Management processes assist organisations to move up to the maturity level to where IT is managed as a business. OGC further developed self-assessment questionnaires to assist IT organisations that need to determine their alignment to ITIL service management practices. This process would give the DOJ CD a picture of how well it had developed repeatable best practices in ITSM. The literature study showed that ITO that has implemented ITIL Service management best practices achieves business alignment by improving service. The assumption is that, if the DOJ CD ensures alignment with ITIL best practices would lead to both objectives. The limitation of ITIL is that it does not guarantee implementation hence the need for service improvement plan to measure the performance.

According to Adams (2004), an IT Service Management initiative should result in a more stable, reliable and available IT service for the end user, business process partner and customer. Adams (2004) further argues that the critical success factor for implementation of IT service management is to recognise the need for an IT operations strategy. This initiative requires changes that will have significant impact on organisational culture and that efforts must be made to overcome the reluctance to embrace change.

3. Chapter Three: Research Design Methodology

3.1 Introduction

The purpose of this section is to provide an insight into the evolution of solving the ISM business problem. This process enables the reader to evaluate the findings and conclusions produced by this research effort more accurately. The research design specifies the details of implementing the project and laying the foundation for conducting the project. This section details a methodology that would be applied to answer the problem statement. The DOJ CD aims to improve is to improve delivery of IT service to the department.

Malhotra (1996) quotes Sekaran (1992) by point out that research is a multi-step process and can be described as a systematic and organised effort to investigate a specific problem that needs a solution (http://www4.gu.edu.au:8080/adt-root/uploads/approved/adt-QGU20041014.161109/public/06Chapter5.pdf). The research design explains the process of finding alignment between the literature study and the problem experienced by the DOJ CD of poor IT service delivery. Sekaran (1992) further states that in business research organisations want to solve management dilemmas experienced with everything about products, services, and programmes. A research plan depends on what information is needed in order to make business decisions about a product, service, and programmes. The type of questions asked by the researcher sometimes determines what type of research should be conducted.

The DOJ CD ITSM processes referred to the DOJ SLA will be evaluated against ITIL service management. The literature study revealed that organisation that implements ITIL service management processes achieves improved service delivery. The DOJ SLA is evaluated based on the premise that ITIL service management practices improve service, as was shown in the literature study. This premise is in the same sense a limitation since some of the IT organisations do not have suitable plans for processes. The ISM claims to have developed the DOJ SLA based on ITIL hence, it is practical to use ITIL as a yardstick.

The evaluation would begin by considering the DOJ SLA as developed in the tender documents. It is expected to find processes and sub-processes that make up ITIL service management within the DOJ SLA. The aim is to discover if whether the DOJ SLA comprises of the same or similar processes that ITIL service management describes. Evaluation is in form of self-assessment questionnaires to uncover the extent to which the DOJ SLA is aligned with ITIL service management.

Having noted that some of the organisations do not execute on ITIL service management best practices, it is practical to determine whether the ISM has the capability to execute IT Service Management processes. This relates to capability maturity of the ISM by ensuring that the appropriate structures are in place to ensure that the process goes forward. The research design will be fulfilled when the DOJ SLA alignment to ITIL service management has been determined and the capability maturity of the ISM has been determined.

3.2 Research Types

Qualitative research is a research type that focuses on the experiences, interpretations, impressions or motivations of an individual or individuals, and that seeks to describe how people view things and why (Evans, 2000). It relates to beliefs, attitudes and changing behaviour, on the other hand, quantitative research is a research type that focuses on measuring and counting facts and the relationships among variables, and that seeks to describe observations through statistical analysis of data. It includes experimental and non-experimental research and descriptive research (research that attempts to describe the characteristics of a sample or population).

The qualitative-quantitative distinction concerning different research types is easy to identify (Collier et al, n.d). On the other hand, qualitative research places central reliance on nominal categories, focuses on relatively few observations, makes little or no use of statistical tests.

When a holistic and in-depth investigation is needed, a qualitative research type that follows a case study methodology is more appropriate (Tellis, 1997) . Tellis (1997) argues that case study methodology is well developed and tested as a scientific methodology. However, Bowen (1997) argues that there is no consistent methodology for undertaking a qualitative research. Tellis (1997) quotes Yin and Stake (1993) as having developed robust methodologies to undertake the qualitative type research by detailing the process of eliciting out the details from the viewpoint of participants by using multiple sources of data.

The research evaluates effort that has gone into improving IT services within the DOJ CD. As mentioned above, the premise is that IT Service Management best practices, when implemented, results in improved IT services. Data collection does not have any specified time or end and consists of semi structured interviews, participant observation and analysis of material already published. The research methodology evolves as new data is uncovered by the researcher, characteristics that are found in case study type of research.

3.3 Case Study Methodology

Research brings an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research (http://www.qual.auckland.ac.nz/). Tellis (1997) refers to Yin (1994) when defining the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not evident; and in which multiple sources of evidence are used.

By attempting to capture as many variables as possible, case studies can identify how a complex set of circumstances come together to produce a particular manifestation. It is a highly versatile research method and employs all methods of data collection from testing to interviewing.

One of the criticisms aimed at case study research is that the case under study is not necessarily representative of similar cases and therefore the results of the research are not generalisable (Hancock, 1998). Hancock (1998) notes that generalisability is not normally an issue for the researcher who is involved in studying a specific situation; it is an issue for the readers who want to know whether the findings can be applied elsewhere.

Tellis (1997) refers to Yin, Stake, Feagin and others by saying that case study research is not sampling research; that is a fact asserted by all the major researchers in the field. However, selecting cases must be done to maximise what can be learned in the period of time available for the study. The unit of analysis is a critical factor in the case study. It is typically a system of action rather than an individual or group of individuals. Case studies tend to be selective, focusing on one or two issues that are fundamental to understanding the system being examined.

Some of the early criticism of the case study as a research methodology was that it was unscientific in nature, and because replication was not possible. The literature contains major refutations by Yin, Stake, Feagin, and others whose work resulted in a suggested outline for what a case study protocol could include. Yin (1994) reminded the researcher that there is more to a protocol than the instrument. He asserted that the development of the rules and procedures contained in the protocol enhance the reliability of case study research. While it is desirable to have a protocol for all studies, Yin (1994) stated that it this essential in a multiple-case study. Tellis (1997) refers to Yin (1994) to indicate that the case study research methodology should consists of the following stages, design case, conduct case study, analyse case study and develop conclusions and recommendations.

The characteristics of case study type research fit well with the intention solving IT Service Management of matters at the DOJ CD. The research uses multiple sources of data hence making it a good candidate for case study type research. Secondly, according to Yin (1997) the inquiry investigates a phenomenon in its real life context with a depth of information as compared with other methods. Thirdly, the DOJ CD IT service matters are not analysed by comparing variables

to infer as required by the quantities research. Case studies are particularly useful when a detailed contextual view of an individual's life or of a particular phenomenon is required.

3.4 The Case: The DOJ CD

The idea was to choose a case where the IT organisation planned to improve IT services delivered to the business. This enabled the testing of the theory that that ITSM best practices do assist in improving services. The ISM management granted access to DOJ SLA, which relates to Information System Management, the ISM IT operations within the DOJ CD.

The objective of Information Systems Management (ISM) business unit within the DOJ CD is to enable the business achieve its strategic objectives. The ISM objective is to support the DOJ CD by ensuring that the entire business has access to reliable and available IT services. This is seen by a quick realization of the value of technology as a strategic business enabler. This has seen the formal adoption of an e-Government strategy in what is called, the e-Justice Programme. In order to manage and implement the programme properly, as well as to realise the many benefits that technology was able to add to its business processes, the Department formed the Information and Systems Management (ISM) business unit in the year 2000.

The ISM also manages and supports the IT infrastructure of the DOJ CD as well as develops IT services so that service can be delivered to the South African community. To enable the initiatives that the department has set itself to achieve, the Integrated Support Centre (ISC), a state-of-the-art call centre, was launched at the end of 2003 to provide technical backup and support to the DOJ CD employees with an intention to improve service.

3.5 Approach

This research is prompted by the need to improve IT Service Management practices at the DOJ CD. Literature study shows that IT organisations that implement IT Service Management best practices like Information Technology Infrastructure Library (ITIL) achieve improved IT

services. The objective is to test the alignment of the DOJ CD IT Service Management practices with ITIL against themes described by Office of Government Commerce (OGC). Deviations from ITIL best practices reveal areas that the DOJ CD should focus on to ensure improved IT services.

The OGC ITIL service management assessment tool is a self-assessment tool, which guides IT organisations through a series of questions to help one evaluate recommendations for improving ones ITIL compliance. ITIL self-assessment enables IT organisation to establish the extent to which it has adopted the IT Service Management best practices (http://www.itsmf.com/bestpractice/selfassessment.asp). The research process creates an awareness of management and control issues that may be addressed to improve the overall process capability resulting in improved IT services. The OGC is the same organisation that developed ITIL best practices hence it makes it important to use it as a guide. Secondly the tool is supported by the IT Service Management Forum (itSMF), itSMF is the only internationally recognised and independent organisation dedicated to IT Service Management (http://www.itsmf.com/bestpractice/selfassessment.asp).

The IT Service Management processes of the DOJ CD are analysed against management and control objectives as recommended by ITIL self-assessment. When analyzing the data collected, as special focus would be to categories data in the areas as above.

3.6 Data Collection

There are many data collection techniques that an IT organisation can choose to analyse the case depending upon practical considerations. Each has its own advantages and disadvantages. There is a basic distinction in data collection between primary and secondary data (Rudestam and Newton, 2004). Primary data is data collected by the immediate user(s) of the data expressly for the experiment or survey being conducted. By contrast, secondary data refer to any data collected by a person or organisation other than the user(s) of the data.

Tellis (1997) recommends a methodology proposed by Yin (1994) stating identifying tasks that must be carried out for a successful research project: preparation for data collection, distribution of the questionnaire, and conducting interviews. This methodology would be sufficient for an organisation that intends to conduct interviews as part of the research process. The questionnaire and interview stages can be skipped by going direct into the actual execution of the research. In this phase, the primary activity is that of collecting data that would help to address the problem statement.

According to Tellis (1997) in case studies, data collection should be treated as a design issue that will enhance the construct and internal validity of the study, as well as the external validity and reliability. There is already available documentation around IT Service Management activities within the ISM. The ISM collected this data as part of the tender documentation by interviewing the entire stakeholder within the DOJ CD. The DOJ SLA is one of the most important documents that are hinged on IT Service Management activities within the department. According to Rudestan and Newton (2004), the data collection method should ensure that correct data that is relevant to the study in question is collected.

The principal method used for the data collection was the documents, which have already been published through some other work done within IT operations. Data collection is concerned with procedures for gathering what are considered qualitative forms of data (either because the data is understood as qualitative or because the procedures through which the data are gathered are regarded as qualitative).

This section describes the data collection process to discuss the details of the source from which the data is derived. An interesting aspect of case study type research is that the researcher has no control over behavioural events (Tellis 1997). This is due to the event being contemporary but historical in nature.

Tellis (1997) quotes Yin (1994) saying some of the essential source of data in case study type researcher includes documentation, archival records, interviews, direct observation, and participant's observation, These sources of data should complement each other as opposed to competing with each other. However, data collection method in the case study type can be complex due to the difficulty of making conclusions, which can be generalised to other situations because information is so individual and particular.

Documents

Using documentation as a source of evidence in a research is criticised because data is very difficult to retrieve, the researcher is selective, which subsequently makes the research biased, and access to information is sometimes refused. Quantitative researchers accept that the goal of science is to discover the truths that exist in the world and to use the scientific method as a way to build a more complete understanding of reality (Thorne, 2000). To understand the reality of ITSM processes within the DOJ CD is to understand the DOJ SLA.

The DOJ SLA

The DOJ CD issued a tender in 2001 for network deployment, support and helpdesk establishment. The ICT Outsource Tender will encompass a request for most of the services to be rendered to the DOJ CD including Service Delivery Management, Distributed Services Management; Technical Management Services; Site Deployment Services; Application Support Services; Application Development Services; It Training and Education; Bodyshop Services And Document Archiving Services

The outsourced tender documents included the service management framework that the vendors should used to assist in managing IT operations with an intention to improve service and drive down costs. The purpose of the department's service management framework is to provide a holistic view of the DOJ CD business requirements for IT service delivery with expected service level measurements. The service management framework is hereinafter referred to as the DOJ SLA. Its objectives are to:

- define the scope of the services provided by supplier or vendor to the DOJ CD for the service,
- identify performance objectives for the delivery of all services relating to the service,
- document measurements for all services,
- document Key Performance Indicators for all supplier or vendor Service Management Functions relating to the delivery of the service,
- identify and document roles and responsibilities for both parties,
- define the plan for all parties to implement the agreed framework,
- Define the process to be adopted to manage the SLA.

In effect, the objectives of the DOJ SLA are in line with the objectives of ITIL service management best practices to improve services. The ISM requirement to define scope of the services provided by supplier or vendor to the DOJ CD for the service is a sub-process of service level management process. The only caveat is to expect service providers to define the service delivered to the business. It is expected from ISM to appoint a service level manager to negotiate service requirements with the business.

It is also worth noting that the objectives of the DOJ SLA refer to service level management processes without referring to the rest of the sub-processes. According to ITIL service management, service level management is only of one of the process, the rest of the process to provide the holistic IT service complements it. There might be a limitation in the method that the ISM approached ITSM as it is focused on service providers as compared to improving service to the business. The ISM does not clearly state the service improvement and cost control as imperatives. The question that needs to be answered is whether the DOJ SLA complies with ITIL service management practices.

This research has to answer the question of whether the DOJ SLA is in line with ITIL service management best practices. The answer is achieved by evaluating the objectives of the ISM against what ITIL service management has to achieve which is service improvement. However, it seems like the DOJ SLA is used as a mechanism to manage IT service providers, which indicates a misalignment between intention of the DOJ CD and the DOJ SLA.

The research begun with an idea that those IT organisations that implement ITSM processes realise improved services. According to Thorne (2000), qualitative research often takes the position that an interpretive understanding is only possible by way of uncovering or deconstructing the meanings of a phenomenon. Thorne (2000) further notes that data collection and analysis processes tend to be concurrent in a qualitative research, it is important to recognise that qualitative data analysis processes are not entirely distinguishable from the actual data

3.7 Conclusion

This chapter discussed research design techniques that are followed within the study of business research. A case based methodology was chosen on the basis that it goes deeper into the problem at hand. Yin (1984) described the case study methodology as examining the phenomenon in its real life context when there is multiple source of evidence and the boundaries are not known. Information Systems Management (ISM) has taken a strategic decision to roll out key projects to support the Department of Justice and Constitutional Development (DOJ CD) to improve service delivery to the DOJ CD employees and the South Africa population at large.

According to Collier (2003), the qualitative-quantitative distinction in different research types is easy to identify. On the qualitative side, such research places central reliance on nominal categories, focuses on relatively few observations, makes little or no use of statistical tests, and places substantial reliance on thick analysis. On the quantitative side, such research is based primarily on interval-level or ratio-level measures, a large N, statistical tests, and a predominant use of thin analysis.

According to Yin (1997), research brings an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Yin (1997) defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Yin, 1984).

By attempting to capture as many variables as possible, case studies can identify how a complex set of circumstances come together to produce a particular manifestation. It is an extremely versatile research method and employs all methods of data collection from testing to interviewing. Some of the early criticism of the case study as a research methodology was that it was unscientific in nature, and because replication was not possible.

This research is originates from the need to improve IT Service Management practices at the DOJ CD. The literature study shows that IT organisations that implement IT Service Management best practices like the Information Technology Infrastructure Library (ITIL) achieve improved IT services. The objective is then to test the alignment of the DOJ CD IT Service Management practices with ITIL against themes described by the Office of Government Commerce (OGC).

The OGC - ITIL service management assessment tool is a self-assessment tool, which guides IT organisations through a series of questions to help one evaluate recommendations for improving one's ITIL compliance. This process enables organisation to establish the extent to which it has adopted the better practice guidance Available from: OGC (the Office of Government Commerce). The research process creates an awareness of management and control issues that may be addressed to improve the overall process capability resulting in improved IT services. The OGC provides guidance to IT organisation that assess them against ITIL Service Management. Secondly, IT Service Management Forum (itSMF) supports the tool; itSMF is the

only internationally recognised and independent organisation dedicated to IT Service Management(http://www.itsmf.com/bestpractice/selfassessment.asp).

The IT Service Management processes of the DOJ CD are analysed against management and control objectives as discussed above. When analyzing the data collected, a special focus would be to categorize data in the areas as above. The decision to choose ITIL self-assessment techniques is because the ISM chose ITIL service management and secondly for the fact ITIL is a de facto standard for ITSM. The outsourced tender that the DOJ CD published had a service management framework that vendors should follow.

4. Chapter Four: Research Analysis

4.1 Introduction

The key chapter of the research project is to analyse the data that has been collected. The main purpose for undertaking this research study is to solve the dilemma experienced by the ISM in managing IT services delivered to the Department of Justice and Constitutional Development (DOJ CD). The dilemma faced by the ISM, Department of Justice and Constitutional Development internal IT organisation, is to ensure that IT services delivered are delivered to the requirements of the DOJ CD. This is done by investigating at whether the ISM executes on IT Service Management processes.

The purpose of this chapter is to provide analysis and synthesises of data collected in Chapter Three. Meaningfulness of data is determined by the particular goals and objectives of the project at hand by focusing on a particular research or evaluation questions being addressed (Sharp and Frechtling, 1997). Qualitative modes of data analysis provide ways of discerning, examining, comparing and contrasting, and interpreting meaningful patterns or themes as opposed to quantitative analysis, where numbers and what they stand for are the material of analysis as described by Sharp and Frechtling (1997).

This research focus on IT Service Management as a path to improve IT service as supported by the literature review. The literature view demonstrates that organisations that implements ITIL service management attains improved IT services. Questions that many organisations ask themselves are what it means to them to have improved IT services. Organisations asking this question claim that there is no quantifiable link between implementing ITIL service management with the increase in quality of IT service.

Organisations that require IT services to be improved should implement IT Service Management framework like ITIL Service Management. The Office of Government Commission OGC, a group that initially developed ITIL recommends using ITIL self-assessment to measure an IT organisation compliance with ITIL service management. Hence, ITIL self-assessment control objectives are used as a guide to create themes in order to categorise the data. This categorisation of data is required to make analysis of qualitative research meaningful. Secondly, the ITIL service management has basic questions that can be used to judge the degree of alignment to ITIL service management. The researcher should use questions from the self-assessment questionnaire to funnel focus areas within the environment. Data collection is limited to publicly available information from websites and tender documents. The main reason is that any IT service providers would be limited to the same data to do the same analysis.

The plan is to contrast and compare ITIL service management and the DOJ SLA to assess the level of compliance. The assumption is, if level of compliance is good, the DOJ SLA will achieve IT Service Management objectives. The assessments tests whether the ISM has implemented a minimum sets of processes, policies and procedures to ensure that task are executed. So far, the literature review has shown that organisations that implement ITIL service management achieve IT service improvement. Patterns identified within the ITIL assessment helps to analyze IT processes within an IT organisation. This is achieved by breaking down IT service management processes into smaller chunks that can be analysed. The level of IT Service Management maturity is determined by extent to which IT organisation performs against ITIL service management.

4.2 Case Study Analysis

Case study analysis is one means available to researchers for testing research questions. Analysis in case study research examines raw data using many interpretations in order to find linkages between the research object and the outcomes with reference to the original research questions

(Soy, 1997). Soy (1997) argues that the focus of case study analysis being to satisfy the research questions as described in Chapter One.

The IT Service Management processes at the DOJ CD are based on the ITIL service management. Hence, ITIL self-assessment is used to probe the DOJ SLA. As discussed in previous chapters, the ISM claims to employ the DOJ SLA as its IT Service Management framework. One factor that makes the case study type research difficult is because not only studies seek to investigate a topic in depth, but also because it investigates an area in which little prior research has been done.

Tellis (1997) refers to Miles and Huberman (1984), suggesting analytic techniques such as rearranging the array, placing the evidence in a matrix of categories, creating flowcharts or data displays, tabulating the frequency of different events, using means, variances and cross tabulations to examine the relationships between variables, and other such techniques to facilitate analysis. On the other hand, Tellis (1997) refers to Yin (1994) who mentions two strategies for analyzing case studies: One is to rely on the theoretical propositions of the study, and then to analyse the evidence based on those propositions.

Tellis (1997) proposes using pattern matching. This type of logic compares empirical pattern with a predicted one. In way, this method compares a known state with an unknown state to analyze the situation. According to Yin (1994) the overall concern remains the degree which the pattern matches the predicted one. This method of analysis is used because the research tests the degree alignment. Stake (1995) also presented pattern matching as a method on analysis along the same lines as Yin (1994). The method recommends comparing patterns within the DOJ SLA with ITIL service management processes to determine the level of compliance.

The self-assessment describes core processes that needs to be in place for an organisation processes to be ITIL compliant. The pattern matching method of analysis evaluates deviations from a predicted pattern by interrogating the data collected. The condition for the research is to test alignment of the DOJ SLA against ITIL service management by using self-assessment as described by OGC.

This would be achieved by showing patterns in the DOJ SLA to stress aspects of IT Service Management as prescribed by ITIL self-assessment. ITIL self-assessment presented in Chapter Four discussed highlights IT Service Management focus areas called control objectives. These control objectives define areas of focus within ITIL service management that has to be in place to ensure that the DOJ SLA can successfully execute on IT processes. Processes of developing themes for the research analysis are called data reduction (Sharp and Frechtling, 1997).

4.3 Data Reduction

Data reduction refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written up field notes or transcriptions (Sharp and Frechtling, unknown).In qualitative research data cannot be manipulated by using statistics, hence other methods are required for analysis. Qualitative research does not have a set procedure to analyse data because analysis begins during data collection. The research evaluated how organisations that implement ITIL service management were judged.

The ITIL service management self-assessment highlights aspects of ITSM control objectives to show the extent to which the IT organisation has adopted the better practice guidance from ITIL (http://www.itsmf.com/bestpractice/selfassessment.asp). The self-assessment highlight strengths and weaknesses of the IT service provision in way that makes management by an IT organisation simpler. The reason for using ITIL self-assessment is to make sure that data can be transformed so that intelligence can be made out of it. It would be difficult to analyse the DOJ SLA without this assistance. The objective is to make data reduction simpler. According to Yin (1994), data reduction and analysis is one of the least developed areas of research. ITIL service management self-assessment prescribes the following control objectives as discussed Chapter Two.

4.3.1 Prerequisites

The prerequisite theme determines whether IT Service Management processes that are implemented, it ascertains whether the minimum level of prerequisite items is available to support the process activities.

Problem Management

The DOJ SLA incident management processes are incorporated in the problem management function, whereas ITIL shows a clear distinction between the two. However, there are documented activities to manage both problem management and incident management. Responsibilities are not assigned to specific groups within the organisation, which might be a limitation to satisfy the prerequisite.

Help Desk

The ISM implemented the Integrated Support Centre (ISC), a single point of contact for queries at the DOJ CD. The Chief Information Officer of the DOJ CD noted successes of implementing ISC as adding value to the business. Management of ISC is outsourced to IT vendors to at register all incoming calls and for escalating and resolving technical problems, billing and payment queries, and customer complaints. This is in line with how ITIL views service desk function, as a central point for all customer queries; hence, the DOJ CD help desk meets the minimum requirements

Change Management,

The DOJ SLA identifies the IT service provider responsible for change management process within the DOJ CD. The DOJ SLA tables deliverables for this process by identifying activities undertaken to manage the change process. The change management process satisfies the prerequisites control objectives.

Release Management

The DOJ SLA identifies service providers responsible for release management process within the DOJ CD. The DOJ SLA tables deliverables for this process by identifying activities undertaken to manage release process. The release management process satisfies the prerequisites control objectives.

Configuration Management

Configuration management satisfies control objectives for prerequisites because it is assigned to an IT service provider. The process further identifies activities identified to manage the process.

Availability Management

The DOJ SLA highlights availability management as one of the process management areas but fails to identify activities. Availability management is only seen from a perspective of reporting the number of failures allowable per system. Availability management does not satisfy the requirements for prerequisites.

Capacity Management

The objectives of the ISM Capacity Management Function are clearly spelled out in the DOJ SLA. The roles and responsibilities of those managing capacity management processes are spelled out. ITIL views Disaster Recovery and Business Continuity as different processes within IT service continuity management. Disaster recovery is concerned with the recovery of IT components whereas Business Continuity is ensures continued use of IT services. According to ITIL service management, Disaster Recovery is a sub-process of the Availability Management process. The business continuity process of the DOJ CD is found in the DOJ SLA with procedure details and responsibility assigned.

The Cost Management Process of the DOJ CD satisfies the requirement for the prerequisites, it identifies the responsible person(s) and the procedure for managing this process has been identified.

Service Level Management

The ISM describes its Service Management Framework in the DOJ SLA. ITIL service management recommends using the Service Level Management (SLM) for managing the IT environment. The SLM processes have an identified owner referred to as account manager defined in the DOJ SLA. ITIL defines the roles of the Service Level Manager as to broker the relationship between an IT organisation and the business. However, there is an expectation that the DOJ SLA provides the ISM with new business requirements. The DOJ SLA does not identify any activities to for the SLM process as required by ITIL. For example, there are no identifiable processes that communicate with the DOJ CD as a customer to the ISM. There is an expectation from the IT service providers to report to the ISM.

Prerequisite control objective expects the ISM to identify activities that manage process and to assign responsibilities to those activities. The DOJ CD is required to identify activities in any form to manage the process. It does not prescribe which activities should be part of the process.

Some thought has gone into identifying service management processes that should be in place to make IT Service Management successful within the DOJ CD. ITIL service management identifies 11 processes that make up ITIL service management as compared to 14 identified within the DOJ SLA. The processes identify compliance with the prerequisite theme by identifying processes within the ISM service management framework that are closely linked to ITIL. However, there are no clear activities or procedures to support most of the processes.

4.3.2 Management Intent

Management Intent themes establish whether there are any organisational policy statements, business objectives (or similar evidence of intent) providing both purpose and guidance in the transformation or use of the prerequisite items.

There is no evidence from documents collected that identifies the ISM business objectives for implementing IT Service Management processes. There are no identifiable agreed procedures and stakeholder to whom the information is disseminated. It would seem that ISM is developing this process for the sake of just implementing. Integrated Support Centre (ISC) was established in 2003 to deal with the day-to-day logging of incidents.

The business objective for implementing the ISC is to the offer back up and support services, which are integral to the automation process and will significantly, contribute to the successful rollout of new technology within the DOJ CD (Vanguard, 2003). During the opening of the ISC, the CIO pointed out that the centre will provide a single point for centralised service management.

Support centre enables the help desk function to be the single point contact to user community. It is the only process that the ISM has implemented with clear intentions. The rest of the processes do not have any documented intentions. The ISM does not provide the guiding principles when it comes to support processes for the rest of IT Service Management processes.

4.3.3 Process Capability

Process Capability, examines the activities being carried out. The aim is to identify whether a minimum set of activities are being performed.

Problem Management

The ISM problem management process does not to present a clear scope of processes. The process capability requires boundaries within which a process applies as opposed to defining each process. The objectives of process capability are to reduce ambiguity for support staff on the scope of work. The DOJ SLA problem management explains the responsibilities of incident control, root cause analysis, error control, establish service achievements, complaint handling, address enquiries, and problem prevention.

The ISM process management does not include sub-processes as required by ITIL service management. There are specific activities that have to be in place for problem management to be successful. The DOJ SLA is limited to identifying these processes as responsibilities but not as activities. Hence, the DOJ SLA does not go into the details of how the process should be followed.

Help Desk

The ISM has documented service level, measures, targets and penalties without describing the underlying activities for the help desk function. Due to the lack of detail within the help desk sub-process, it is classified as not satisfying the process capability control objective. This limitation could be by design depending on which support model the ISM has chosen. A model where the service desk routes call for respective support teams without troubleshooting results in level of supporting processes at the help desk being lower.

Change Management

The scope of change management is to ensure that all changes to registered configuration items include: hardware and software products and versions used in the provision of IT services, and the inclusion of new items into the live environments, will be subject to change control procedures. The DOJ SLA identifies sub processes for accepting requests for change, allocating change priority, logging all change requests, categorizes change impact, and operational readiness testing to support change management process. Activities identified in the DOJ SLA change management do not share the same objectives as with ITIL change management. However, the DOJ SLA change management processes overlap with most areas that are required by ITIL service management change management. It does satisfy the process capability control objectives in that it does not identify activities for change management.

Release Management

To undertake planning, design, build, configuration and testing of hardware and software to create a set of release components for a live environment, an organisation needs to evaluate

change management processes. Release management works closely with change management as a release set is a collection of authorised changes, defined by the RFCs that it implements. The DOJ SLA release management procedures define the components of release planning, communication, preparation & training, release acceptance, and distribution and installation to manage releases within the organisation. Similarities between the DOJ SLA processes and ITIL service management processes reveal that release management satisfies process capability control objectives.

Configuration Management

The heart of configuration management is the configuration management database (CMDB) to record changes of configuration items (CIs). Ensure activities supporting configuration management that the CMDB is up to date. The DOJ SLA identifies the same activities as prescribed in the ITIL service management; it does not show where the DOJ SLA records CIs. The activities in this theme should ensure that CIs are recorded in the manner in which other processes can read from them. Configuration management has some of the activities aligned with activities of ITIL service management. Configuration Management satisfies the process capability control objective.

Service Level Management

The DOJ SLA encompasses both service level agreements and service management processes. This leads to confusion when analysing service level management processes. Some work has been done around the service level agreements without taking into consideration of the total service level management processes. Hence, the SLM processes miss a number of sub-processes that are required for process capability control objective.

Capacity Management

The DOJ SLA capacity management is to enable the ISM to meet its service level commitments for support levels, transaction volumes, turnaround times, and resilience and response times. However, the DOJ CD views capacity management as a process that is needed to support the

optimum and cost-effective provision of IT services by helping organisations to match their IT resources to the demands of the business. It is concerned with having the appropriate IT capacity and with making the best use of it, and is a key enabler for business success.

The DOJ SLA does not prescribe procedures to ensure sufficient future capacity to meet service level objectives. It misses the fundamental requirement for capacity management activities to begin at the business level. ITIL prescribes capacity management as being in line with the requirements of the business. Capacity management is not an IT decision but rather an activity that supports business capacity requirements. The DOJ SLA capacity management does identify sub processes that are required to ensure that business capacity requirements are met. It is limited to capacity management of IT components as opposed to being in line with business requirements. Hence, it does not satisfy the process capability control objective.

Availability Management

The availability management process ensures that IT services are optimised for availability and reliability in order to ensure that the requirements of the business are met. The sub-process or activities for this process needs to support the availability management objectives. The ISM does not have any documented availability management processes. However, the systems are expected to deliver according to specific parameters. The worrying fact is that these parameters might not have systems view but rather componentised view.

IT Service Continuity Management

IT service continuity management (ITSCM) is concerned with the organisation's ability to continue to provide a pre-determined and agreed level of IT services to support the minimum business requirements following a business service interruption. The process follows when the business has identified activities it deems to be crucial to the business.

The DOJ SLA does not display any process that manages the minimum business requirements following business service interruption requirements. ITSCM is a subset of, and provides support

to the overall business continuity management (BCM) process by ensuring that the required IT services / facilities (including computer systems, networks, applications, telecommunications, technical support and Service Desk) can be recovered within required and agreed business time-scales.

IT Financial Management

Financial management for IT services is concerned with helping the business to assess whether its IT Service is doing the best it can with the money it has. The business has to understand the true costs of providing a service and manage these costs professionally. Financial management of IT Services implements IT accounting and budgeting processes, and often charging processes for these IT services, allocating IT expenditure to services and recovering the costs of those services from the business customers to whom they are provided.

There is no charging method to control user behaviour with regards to demand for IT services. IT requirements tend to get out of control when there is no methodology to charge back the costs. Government departments including the DOJ CD should abide by the Public Management and Financial Act for accounting and budgeting practices (http://www.treasury.gov.za/legislation/acts/pfma/default.htm). This act covers all that would be necessary to manage costs within the department. The act is thus limited and does not discuss the requirements to control demand for IT services within the DOJ CD. The objectives for the DOJ cost management function is to ensure that the IT services are being provided in a cost-effective manner. It is limited to identifying forecasting and data collection as main components. IT Financial Management goes further to include costs recovery procedure for IT services rendered. There is an acceptable level of activities to manage the costs of IT within the DOJ SLA hence it satisfied process capability control objective for IT financial management.

4.3.4 Internal Integration

Internal Integration seeks to ascertain whether the activities are integrated sufficiently in order to fulfil the process intent. Many organisations implement ITIL Service Management without ensuring processes integrates with each other.

Problem Management

According to the DOJ SLA, a process records problem management activities within the help desk function. Activities that are captured make it easier for integration with the other processes. Incident management requires that incidents be matched against the problem and known error database. The problem management process does not show enough level of detail to satisfy internal integration.

Help Desk

The help desk function expects all queries to be directed to the help desk function as discussed in help desk section of the DOJ SLA. This fact is in line with the expectation of ITIL service desk function. The document does not discuss the planning requirements for the help desk function. There is an expectation that services within the ISM to be operational 24x7; hence, the planning structure has to consider those. Help desk staff should be able to access all information that reduces Mean Time To Resolution (MTTR).

Configuration Management

The core of the configuration management process is to have configuration management database CMDB for recording configuration items (CIs). Many processes are reliant on the CI in the configuration database; hence, it should be in healthy state to support the IT Service Management process. The DOJ SLA details some of day-to-day tasks that should be executed to ensure that CMDB is healthy. There is no clear indication of the interfaces of the CMDB with other systems management databases. CMDB might consist of a mixture of documents, spreadsheets and databases hence the DOJ SLA should clearly state these interfaces. There is not

enough level of detail in the data collected to satisfy the internal integration theme for configuration management.

Change Management

The DOJ CD change management method and procedure applies to handling of all changes to the IT services. The emphasis is on minimising the impact of any change on the quality of the services provided. Changes within the department go through proper change management procedures as prescribed by ITIL by employing the use of Change Advisory Board (CAB). There is also an extensive use of request for change that is approved by the CAB committee. Change management procedures satisfy the requirements.

Release Management

The objective of release management is to ensure that all CIs released to the environment are traceable, secure and that only correct, authorised and tested versions are installed. The DOJ SLA release management section requires specific deliverables, which will satisfy the internal integration theme. It does not satisfy some of the answers of the self-assessment that is required by ITIL.

Service Level Management

The DOJ CD does not have Service Level Management process as required by ITIL service management. It makes it difficult to compare services provided with agreed services levels because it is not clear what level are required by the business. Fortunately, the DOJ CD has documented service catalogue to identify the services provided by the ISM. It does not show how the services are negotiated with the business.

IT Financial Management

The Public Financial and Administration requires all state departments to adhere to stringent correctness and completeness of expenditure and income reports. In the past financial year, the ISM presented its financial report to the Director General of the Department of Justice and

Constitutional Development with the intention of accounting for the costs. The Auditor General also audits the ISM on a yearly basis to ensure that the controls that have been put in place are abided by.

The charging mechanism seems to be missing from the costs management process of the department. There is a sense of a charging policy within the department even though it is not documented. Some of the costs are centralised within the ISM, while some are distributed to other Business Units. ITIL requires a clear charging policy, an issue that is not clearly identified within the DOJ SLA.

Capacity Management

Capacity Management in the internal integration theme tests whether there are businesses plans to ensure that there is sufficient capacity to support planned services. There are elements of capacity management reporting in the DOJ SLA that do not discuss the plans that are available to manage future capacity requirements. The capacity management function is likely to lead to misinterpretation because it sets expectation on capacity management performance without setting business goals. ITIL requires the capacity management of each resource to feed from the service management process, which feeds from business capacity management. The capacity management process fails to integrate from business capacity management to service capacity management through to resource capacity management as required by ITIL.

IT Service Continuity Management

IT Service Continuity Management (ITSCM) is a subset of business continuity management; hence, the business should have BCM in place before embarking on ITSCM. IT contingency plans feeds from the BCM in that sense. The DOJ SLA does not display the BCM in the way as prescribed by ITIL. BCM is expected from to inform ITSCM of the required service criticality / priority. The DOJ SLA use disaster recovery as a channel to achieve business continuity objectives, a process that ITIL discourages.

Availability Management

The DOJ CD measures the availability of the application to measure the compliance of the Service Providers. It is defined as the application not being available to the user community for whatever reason. Availability is not a standalone process that only looks at the individual in the IT environment.

4.3.5 Products

The products theme examines the actual output of the process to investigate whether all the relevant products are being produced. Products theme requires processes to have a set of deliverables that needs to be produced on a continuous basis. Deliverables guarantee that procedures implemented can be assessed.

Service Desk

ITIL requires that the help desk be the only contact with the user community. It is imperative for this function to have all the necessary information to make quick decision when resolving user issues. The DOJ SLA requires that the help desk function produce requirement report to measure its performance. The documents also detail the services that are offered by the help desk. What is missing is a form of workload analysis for staffing purposes. The consequence of an insufficiently manned help desk function is poor response to customer issues.

Problem Management

The problem management process of the DOJ CD requires that all the incidents that have been reported be logged. This process should be supported by regular feedback to inform the user about the status of the incident. The problem management process at the DOJ CD does not show enough detail to test whether user community is kept in the loop. However, the process expects the customer satisfaction survey to reveal limitations involved in the process. During the research, there was no evidence of customer satisfaction surveys that were measuring the process. It is worth mentioning that management reviews are discussed to review logged incidents. The problem is that there is no clear evidence of IT operations within the department

to escalate the cases on an ongoing basis. The question asked is when are non-resolved incident escalated to management for review.

Configuration Management

The IT organisation is required to have a Configuration Management Database CMDB in place. The product of a fully functioning configuration management process is to have a CMDB that is up to date. The DOJ CD process does not spell out the CMDB in the detail.

Change Management

Changes to the environment always use a CMDB as a basis for items to be changed. The process requires that formal changes be recorded approved and reported on. The ISM has gone further in developing a user requirement specification as a method for documenting approved changes. The change management process is well in line with the requirements of ITIL Service Management.

Release Management

The release management processes at the DOJ CD has the basic components identified to support the process. There are clear products for each release management processes, which include release planning for each release, testing, training, and documentation, which are the basic building blocks for release management processes. The produce for the release management are in line with the expectation of product theme.

Service Level Management

The relationship with the customer is managed by the service level management. This is the only processes that talks to the customer concerning negotiating services. The biggest requirement for these processes is for proper reporting structure. The ISM processes take a view of service level agreements (SLA) as opposed to Service Level Management SLM as required by ITIL. The process produces standard service level agreement reports that should be reviewed by the business.

IT Financial Management

The building blocks of the ISM cost management process results in a forecasting service, cost reduction, data collection of cost, analysis, budgeting and reporting. The results from the DOJ costs management function will assist the management of the ISM to manage and predict the future costs.

Capacity Management

Capacity management processes are about making sure that the business continues to operate in time of crisis. The capacity management process is based on the capacity management database (CMD) as a basis for referencing to meet future service levels. Capacity management has to produce an up to date and reliable capacity management database from which business can plan future capacity needs. This process helps management by giving the current performance of the IT infrastructure. The ISM capacity management processes do refer to historical capacity, but fails to refer to any capacity management database. There is an underlying assumption that historical data is stored for referencing and reporting. Thus, the capacity management process produces data required to fulfil the production theme with this limitation.

IT Service Continuity

IT service process should produce the reports concerning the management of risk to the business. The ISM reviews business continuity plans periodically to ensure that continuity plans stay current. The process is supplemented by the requirement for testing the activity to ensure business continuity plans can be carried out. Secondly, ITIL service management requires alternative IT contingency planning options that would provide potentially acceptable service levels for cost consideration.

Availability Management

The ISM highlights availability numbers and not the management of availability. However, standard reports are produced to view application failures. The availability management of the ISM satisfies the production theme, IT service providers are required to report on availability

monthly. Many IT organisations measures performance of IT service provider on the basis what is reported on the availability of systems.

4.3.6 Quality Control

Quality Control is concerned with the review and verification of the process output to ensure that it is in keeping with the quality intent. This control objective evaluates if there are standards and other quality criteria applicable made clear to all those who are executing the process. The control objective ensures the execution is of expected quality. To ensure that quality of the processes is achieved, suitable training should be provided to those who carry on the processes. The second major component of quality is for an organisation to set quality targets, review them and document them as part of the service level agreement.

The ISM service management processes do not show standards or quality criteria for process management activities. Responsibilities for determining quality criteria are left to IT vendors. Similarly, the responsibility of quality trained support staff is left to the IT vendors. There are service level targets prescribed in the DOJ CD processes. Thirdly, there is no dependent use of suitable tools to support the processes. The DOJ CD does not have a measure to ensure the quality of its IT Service Management practices.

4.3.7 Management Information

Management Information is concerned with the governance of the process and ensuring that there is adequate and timely information produced from the process in order to support necessary management decisions. The management information theme is about ensuring that the ISM can make intelligent decision on the information that is provided to proactively improve services.

Help Desk

The ISM does not prescribe standards for the registration of incidents and for call handling. IT Service providers employ their own standards in the registration of incidents within the

organisation. The ISM desk has set target objectives for the help desk but they lack detail for reaching to those targets. Due to the size of the Integrated Support Centre ISC, IT service providers use tools for managing the help desk function.

Service Level Management

The ISM has set up underpinning contracts, which are referred to as service level agreements, with outsourced vendors to act as third line support. Service level agreements are between the DOJ CD and the ISM hence the negotiation targets for service level agreements. The entire process of the ISM does not seem to have an operational level agreement (OLA) and Underpinning Contracts (UC) in mind. Training of support staff falls outside the ISM area of responsibility because the environment is outsourced. However, the DOJ CD is in the process of training members of the ISM around service management best practices as prescribed by ITIL.

Problem Management

The ISM does not prescribe standards for the registration of incidents and for call handling. IT service providers within the ISM employ own standards to for the registration of incidents within the organisation. The help desk has targets objectives for the help desk but they lack detail for reaching to the targets.

Change Management

There is reference to the user specification requirement document in the change management process of the ISM. The document is used to affect the entire request for changes to the CIs. It is not clear to what extent the documents are used.

Release Management

The ISM prescribes standards for release management and the process is followed. There are multiple tools within the ISM to assist with the release management. There are no identifiable processes for releasing CIs into the environment.

Service Level Management

The ISM does not have a service level management as required by ITIL service management self-assessment. The focus is mostly on service level agreements as opposed to managing the end-to-end service. The ISM service level agreement manages capability of the IT service provider to deliver IT services. ITIL service management requires that the IT organisation to communicate and interact with the business through this process. The DOJ SLA does not meet the product theme because it is not focusing on the requirement of ITIL.

IT Financial Management

The Public Finance and Management Act, No. 29 of 1999 regulates the financial management in the national and provincial governments. The act prescribes the reporting structures within which government departments should operate. This process is supplemented by the processes identified to forecast IT service delivery expenditures. It fails to discuss charging policies within the department. The ISM as with the rest of the business units with the DOJ CD presents the financial reports to the rest of the business. Having said that, ISM satisfies the product theme of the IT financial management.

Capacity Management

IT Service Management processes do not identify the standards and other quality criteria applicable to capacity management activities both explicit and applied. There is an element of review of capacity management and objectives. However, this is all left to be managed by IT vendors within the ISM. Capacity management tools are not explicitly mentioned within the processes of the DOJ SLA.

IT Service Continuity Management

The DOJ process does not state and review targets or objectives for IT service continuity management. The ISM set targets to monitor the performance of the system without linking this information back to the customer.

Availability Management

There is no observable process for managing availability as far as standards activities. The DOJ SLA display availability numbers that has to be met to satisfy service level. The objectives for availability management are limited to improving availability performance.

There are no observable roles and responsibilities of those who are assigned to manage the process. Outsourcing contracts tend to let the IT service providers decide who they make responsible for activities within their own structures. The management information control objectives are concerned with the governance of the process and ensuring that there is adequate and timely information produced from the process in order to support the necessary management decisions. The cause for concern is that the ISM requires management information on processes they might not fully understand. The requirement for highly available systems implies that the ISM should appreciate what it means to have highly available systems. The ISM might have good understanding of their requirements but the fact that it is not articulated in a document might lead to problems.

4.3.8 External Integration

External integration examines all external interfaces and relationships between the discrete process and other processes that have been established within the organisation. IT Service Management is about a collection of processes that ensure that the ultimate service is delivered to levels that are agreed on. The basic requirement is for all the processes to be able to exchange information since they are independent of each other. It is achieved by building specific interfaces with other processes. Interfaces assessed in the ITIL self-assessment framework is used as a guide to display the amount of detail required when developing external integration interfaces.

Help Desk

It is rare to find service desk function without incident management doing the background work. It is a requirement that this process should be able to exchange information with other process. This exchange of information can take the form of meetings between all the interested parties. It is crucial for the help desk function to be able to interface the following processes. There are no clear interfaces between the help desk and incident management. The DOJ SLA shows that there should be an interface but it does not go into the details on what the interfaces should consist of. Service level management and change management do not go into detail about what interface are established with incident management.

Incident Management

The Incident management process requires that information be exchanged with other processes within service management. Incident management process requires that the DOJ SLA explicitly state what interfaces are required. The DOJ SLA process does not show the level of interfacing that is required to satisfy incident management. Incident management processes identified in the DOJ SLA refer to purpose for interfacing with different processes. It does not discuss specific interfaces with other processes. The incident management is expected to identify explicitly how those interfaces should be. Incident management process does not interface with configuration management regarding the quality of configuration records, highlighting any issues, and the potential flagging of items. This process does not interface with change management regarding the details of any changes to resolve problems or on emergency actions undertaken. It also misses service level management regarding the priority handling of problems and the potential impact on service level agreement performance.

Problem Management

The problem management processes within the ISM are explicitly documented processes. The process does not identify interfaces with itself to relate problem and/ or known errors. The level of interfacing that is required in the DOJ SLA is not observable for problem management.

Configuration Management

Configuration Management interfaces with other IT Service Management processes to make a success of the total configuration management process. The function is closely linked with release management and change management and none of them shows the required level of interfaces. Release management should interface with configuration management process in order to keep the Definitive Software Library (DSL) consistent with the Configuration Management Database (CMDB). It does not seem to have a reference to configuration management database to store configuration items. Most of the other processes requires Configuration Items (CIs) found in the CMDB hence the database is important for successfully supporting the configuration management processes. The interfaces display the purpose of each interface but lack the definition of how the interface should look. The purpose for the interface is a starting point but may cause misunderstanding when defining interfaces.

Change Management

For change management to be successful it is required for it to interface with other processes. There is no observable interface with problem management regarding changes required to resolve problems / known errors. The service desk does not a receive notification of change schedule, notification of change progress, obtaining information concerning incidents and calls relating to change. The service level management is not informed regarding the change schedule and potential change impact on service level agreements. The processes of the ISM does not highlight the level of detail required to ensure that change management processes interface with itself and support other processes.

Release Management

Configuration management does not interface with release management relating to actual software and hardware components and inter-relationships, identifying any changes / additions. Change management concerns the change records for any new or changed CIs. Capacity management for verification and possible amendment of space requirements on software library

datasets / files. Release management should interface with availability management to ensure that there is successful distribution of configuration items.

Service Level Management

Service level management is the only process that interacts with the business. This process should have a view of the overall IT Service Management delivery mechanism. It is hence crucial that it interfaces with all the other process. The negotiations of service levels are handled by this process. This ensures that processes that interfaces with availability management regarding service levels, change management concerning potential impact of changes to agreed service levels, ensure that the service catalogue is integrated and maintained as part of the configuration management database (CMDB) are in place. This level of interfacing is not satisfactory.

IT Financial Management

Interfaces for IT financial management ensures that IT costs are accounted in such a way that the business can understand them. The DOJ SLA cost management processes do not break down costs by:

- business area revenue total
- broken down by business area
- problems and costs associated with IT accounting
- Information pertinent to service charging.
- Management to determine pricing policy, to forecast unit costs, and for planning cost recovery.

These levels of interfaces are not found in the DOJ SLA processes. The DOJ SLA cost management processes fails to identify interfaces that are necessary to integrate with other processes.

Capacity Management

The capacity management process needs to interface with service level management concerning services and workloads to be monitored and proposed service levels for new workloads. This ensures that services can be delivered when adding new services to the environment. The process also has to interfaces with IT financial management for IT Services concerning chargeable resource utilization.

Other processes that have to interface with capacity management include configuration management to obtain details of IT components and workload deployment across them, change management for details of any changes proposed to existing workloads and to feed back the results of a performance impact analysis. IT Service Continuity Management to incorporate ITSCM requirements for all recovery options into the Capacity Plan and to assess the impact of RFCs on recovery options. The DOJ SLA capacity management does not have the required level of interfaces to satisfy the interface theme.

IT Service Continuity

IT service continuity management should interface with availability management for risk mitigation and testing availability management components of the plan, including operating level agreements / support contracts. IT service continuity lacks the level of detail to satisfy the interface theme. In all cases, the DOJ SLA IT service continuity does not identify how those interfaces look like.

Availability Management

The DOJ SLA availability management processes identify processes that it should interface with but does not identify the actual components that would be interfacing.

External Internal requires specific relationships and interfaces to be described in order for processes to integrate. The ISM refers to interfaces with other processes but does not explicitly

indicate what those interfaces should be. A meeting between different process owners to discuss how the processes affected each other is a good starting point.

4.3.9 Customer Interface

Customer Interface is primarily concerned with the on-going external review and validation of the process to ensure that it remains optimised towards meeting the needs of the customer. This should be undertaken by performing customer satisfaction surveys, by talking to customers, by talking to IT staff and by analysing the processes in action. From this assessment, short, medium and long-term strategies can be developed. It may be that 'quick wins' will need to be implemented in the short term to improve the current situation but these improved processes may have to be discarded or amended as part of the medium-term or long-term strategies.

The basic requirement for meeting the customer requirement theme is always to check with the customer if the activities employed are satisfactory. Customer satisfaction surveys can be employed to monitor the level of satisfaction concerning processes implemented. The organisation should have a service improvement agenda in mind when undertaking the customer satisfaction surveys.

A customer survey in the September 2005 CIO's report showed that the DOJ CD made an effort to measure the level of satisfaction with regards to project to rollout upgraded IT infrastructure. This included surveying respondents on email stability, email performance and Intranet Speed. It does not necessarily measure user satisfaction concerning the processes but the DNS II project.

The DOJ CD processes do not check with the customer whether the activities performed by IT Service Management adequately support the business needs. The ISM implements processes based on what they consider important to the business. It is not clear whether the ISM conducts customer surveys to measure the level of satisfaction of the customer. Survey information is crucial for service improvement plan because the ISM can use it as a basis for an improvement

plan. None of the process of the ISM displays a means to measure customer satisfaction on processes that manage IT services.

4.4 Conclusion

The key chapter of the research project is to analyse the data that has been collected. Tellis (2004) quotes Yin (1994) by saying that "Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence to address the initial propositions of a study". Tellis (2004) further argues that analysis of case study is one of the least developed aspects of the case study methodology. Case study methodology provides a means to analyse cases where numbers are not material for analysis.

ITIL self-assessment as published by the Office of Government Commerce (OGC) provides a pattern and theme to discern IT management processes within the ISM. It categorise IT Service Management into control objectives of prerequisites, management intent, process capability, internal integration, products, quality control, management information, external integration, and customer interface. The assessment is based on a generic framework, which recognises that there are a number of structural elements, which need to be in place for process management and for it to satisfy the overall intent and meet the needs of the customer.

There are prerequisite items for most processes within the ISM service management framework. The concern is that the DOJ SLA does not show any clear activities or procedure to support most of the processes. The DOJ SLA does not display any management intentions to implement IT processes. However, the Integrated Support Centre (ISC) was implemented as a single point of contact with the user community towards the end of 2003. Normally processes to handle indents from a help desk point of view accompany the support centre. These processes are not included in the DOJ SLA. The assumption that is made is that the IT service providers own these processes. The point is that that the ISM has not developed IT processes that clear states how it expects the service to be provided. The ISM relies on IT service providers to deliver on what

they perceive to be satisfactory. This slows service delivery when changing service provides. Every time there is a change in IT service providers, then there will be a new process that will have to be implemented.

The scope of processes within the ISM is not clearly defined and would lead to ambiguity and confusion. Supporting processes would be developed from prerequisite that have been identified in the previous section. The ISM should make an effort to guide IT service providers on what they expect from them. It is appropriate for the ISM to document expectation on deliverables for IT processes rather than to expect IT service providers to do in on their own. The guidance on how everyone should behave is not clearly defined.

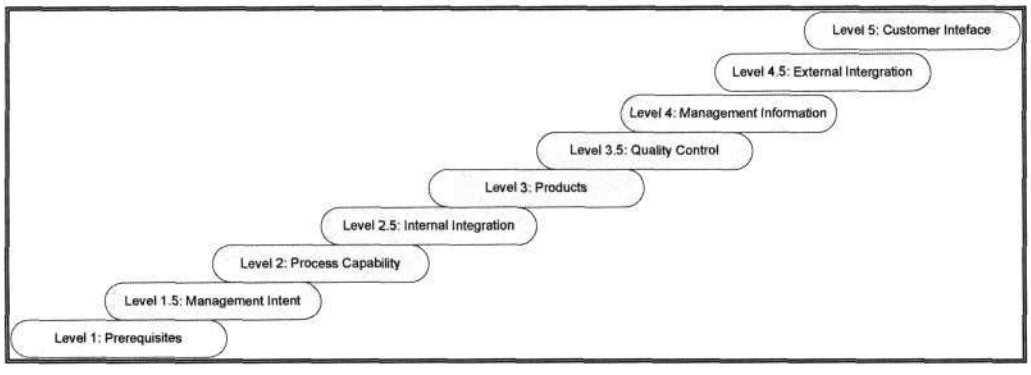

Figure 3.1, OGC Maturity Model

http://www.itsmf.com/bestpractice/selfassessment.asp

The control objective of quality control evaluates whether there are standards and other quality criteria applicable made clear to who are executing the process. The second major component of quality is for the ISM to set quality targets, review them and document them as part of the service level agreement. The DOJ SLA displays the targets that have to be met to satisfy the service level agreements but fails to identify standards and quality criteria.

The management information control objectives is concerned with the governance of the process and ensuring that there is adequate and timely information produced from the process in order to

support the necessary management decisions. The ISM must ensure that they understand their internal process before they require IT service providers to behave in a particular way. This leads to control objectives that specify the relationships with all process mangers or owners. The management control objectives are not identifiable.

External Integration requires specific relationships and interfaces to be described in order for processes to integrate. The DOJ SLA refers to interfaces with other processes but does not explicitly indicate what those interfaces should be. A meeting between different process owners to discuss how the processes are affecting each other is a good starting point.

The heart of any service management activities is to ensure that the customer receives value out of IT investment. Activities are managed by service level agreements as negotiated between IT organisation and business. Service Level Management provides the verification that what is delivered conforms to user expectations and identifies the areas to be improved for a better service (Garbani *et al.*, 2004).

The ISM seems to fall into the same trap that many IT organisations do of thinking that service level agreements are an instrument used to be informed of deviations from service agreements. The service level management is meant to facilitate communication between IT and the business. The DOJ SLA processes do not have the processes that communicate directly with the customer. It implements processes on basis of what they consider important to the business. Generally, the DOJ SLA does not have the control objectives that should be in place to make IT Service Management a reality. The DOJ SLA fails the test of whether it is aligned to best practices as prescribed by ITIL service management. The DOJ SLA identifies most of the processes as recommended by ITIL service management. However, key activities that manage DOJ SLA are not clearly articulated by the ISM. The recommendations are discussed in Chapter Five.

5. Chapter Five: Conclusion and Recommendations

5.1 Introduction

The objective of this study has been to determine whether the Information Systems Management (ISM), internal IT organisation to the DOJ CD, executes consistent IT processes to deliver IT services. How consistently well an IT organisation executes IT processes ultimately determines how much business value IT delivers (Symons, 2005). IT organisation delivers value to the business by ensuring that IT services are delivered according to business requirements. An IT organisation that cannot articulate services that it delivers to the business cannot determine value to the business (Gaughan, 2003).

The literature review revealed that an IT organisation that implements IT processes attains improved services to the business. IT Service Management as prescribed by the Information Technology Infrastructure Library (ITIL) is the means to identify IT processes that organisation should implement. All of the processes described in the ITIL service management have an objective to align IT services with business needs (Young, 2004). This has been proven by the literature review. This study is designed to determine focus areas that enables improvement of IT service within Department of Justice and Constitutional Development. It takes into consideration that being ITIL aligned is not enough until the organisation manages key activities to ensure IT processes are executed. The research identifies areas that the ISM should give attention to achieve objectives of IT service management. Objectives of IT Service Management are in line with what the DOJ CD hopes to achieve, that is, to ensure that the users have access to reliable IT services.

The average IT organisation spends anywhere from 25% to 45% of its total IT operational expenses on unplanned and unscheduled work (Symons, 2005). The total expenses exclude the actual costs to users when IT services not available. This unplanned and unscheduled work

primarily results from inferior IT services management processes, which is a reason for the ISM to guard against these downtimes so as to enable the DOJ CD achieve its strategic objectives.

The DOJ SLA, the ISM IT Service Management framework, includes all the processes that are recommend by ITIL service management. There is also a claim from within the ISM that it aligns itself to the best practices of ITIL service management. However, there are no clear policy guidelines for providing both purpose and guidance on IT processes.

Because there are no identifiable, business objectives it makes it difficult to assign responsible people to manage IT processes. The assumption is that IT service providers would undertake the responsibilities on their own and distribute work internally. It is still expected from the ISM to assign person or persons that own these IT processes so that they can provide guidance to IT service providers.

Customer involvement is key to the success of any IT Service Management initiative. There is no observable evidence that identify the involvement of the DOJ CD in any of the processes. The DOJ CD as the business seems to be receiving IT service depending on how the ISM negotiates with IT service providers. The ISM seems to fall in the same trap that many organisations that fail to perceive service level management as a means to be informed of any deviations from service level agreement. Many IT organisations use customer surveys as a way of continually monitoring the services that are provided.

5.2 Research Approach

A case study methodology was chosen because the research focuses on one organisation, the Department of Justice and Constitutional Development (DOJ CD), by dwelling into the IT processes as provided by the ISM, the DOJ CD internal IT organisation. Yin (1984) described the case study methodology as examining the phenomenon in its real life context when there are multiple source of evidence and the boundaries are not know.

This research intentionally relied on secondary data, implying that the data that is already collected. This is not a limitation on a research itself according to Rudestam and Newton (2004). There is already available documentation around IT Service Management activities at the ISM. The ISM collected this data as part of the tender documentation by interviewing the entire stakeholder community within the department. The DOJ SLA is one of the most important documents that are hinged on IT Service Management activities within the ISM.

The principal method used for the data collection was the documents, which have already been published through some other work done within IT operations. Data collection is concerned with procedures for gathering what are considered qualitative forms of data. The most important document is the service management framework referred to the DOJ SLA. The ISM claims that all the information that needs to be required for responding to the Request for Tender (RFP) will be found in that document. All the documents are analysed against ITIL self-assessment to determine area of focus.

5.3 Recommendations

The problem statement articulates concerns with regards to IT Service Management practices at the DOJ CD. The initial challenge is to identify IT Service Management processes within the ISM. The literature study revealed that IT organisations that implement IT Service Management processes achieve improved IT service. The second part was to identify focus areas that would assist the ISM to improve IT services.

Chapter Four, research methodology, discussed ITIL self-assessment as a guidebook for analysing the DOJ SLA. ITIL self-assessment assist IT organisations and IT service providers to measure the service process maturity of organizations. This is based on a number of structural elements, which need to be in place for process management to satisfy the overall intent and meet the needs of the customer.

The ISM should understand the state of the infrastructure and the capability of management technology, standards policy, and configuration management processes before the undertake IT service improvement plans. Once the state of the infrastructure has been established, a vision should be determined by answering the question on where the ISM want to be and how it will know it is getting there. This is makes it compelling the ISM to assess the state of the IT environment.

The analysis in Chapter Four exposed limitations in the overall IT Service Management processes with the ISM and the ISC. The DOJ SLA claims to be aligned with ITIL service management practices but lacks some of the structures elements that should be in place. It came out clear that the ISM should evaluate effectiveness in managing key activities described in the areas of the ITIL service management best practices framework.

In the white paper, IT service maturity assessment, RL Information Consulting recommends assessing the IT environment as a first step to achieving IT Service Management (http://www.itsm.info/ITSM Assessment Paper.pdf). The paper argues that IT infrastructure is one of the components of IT Service Management but not the focus point. One of the recommendations from the white paper written by Remedy, an IT consulting organisation, is to build an IT service model (Raymarc, 2004). The ISM has gone through this path already by developing DOJ SLA. DOJ SLA is the framework that the ISM employs to execute on IT Service Management processes. The DOJ SLA claims that the DOJ SLA is aligned to ITIL. IT organisation should strive to move the IT operations from being chaotic to proactive (Figure 2.4, the service delivery model defined). However, the recommend steps for the ISM to improve IT services at the DOJ CD are listed below.

Rate Each of the Process

Rate each process according to its importance to supporting IT Service Management objectives. The goal is to end up with as close a representation as possible to what really exists. Only then

can the ISM begin to identify realistic improvement opportunities. Identification of business objectives is followed by developing procedure to support the needs to the DOJ CD. Once procedures have been identified, a policy can be communicated with the DOJ CD user environment. This process will ensure that the users understand what processes to follow. Secondly, those managing the process will understand the objectives and goals to be achieved for each process. This fact requires the ISM management to be involved and support the processes implemented by IT service providers. The management of the DOJ CD is required to support this process because it requires many changes to the business. The DOJ SLA should be based on the requirements of the DOJ CD and not what the ISM assumes.

Identify the Relevant Team

Identity all the processes that support IT Service Management objectives and assign owners. The owners should develop activities or procedures that support each process. This task should not be left to IT service providers because they might be issues of misalignment with customer expectation. It should be noted that IT service providers do not negotiate IT service with the DOJ CD directly. The ISM is responsible for the DOJ CD customer satisfaction. It is important that the ISM identifies relationship manages with the DOJ CD.

Customer Satisfaction

The ISM should make the customer, the DOJ CD, part of the IT Service Management processes. The ISM does not seem to have any mechanism to communicate service levels with the DOJ CD. ITIL recommends use of Service Level Managers to act as broker between the ISM and the DOJ CD. The service level management process should be the only single point of contact with the business. These activities should result in to a more satisfied customer (The DOJ CD).

5.4 Matters for Further Study

IT processes are just one aspect to IT Service Management that delivers services to the business. ITIL service management focuses mainly on IT processes (Figure 2.2, Microsoft Operation

Framework, http://www.microsoft.com/mof, Microsoft Operations Framework). People and Technology are two other resources to be aligned in a way that achieves improved IT services. The internal IT organisation like the ISM should define the right structures, roles, rewards, and critical skills sets. It might be a bit of challenge for the ISM because the environment is outsourced. This does not limit the ISM to ensure that IT service providers are rightly staffed. A further study could review whether IT service providers to the ISM are correctly staffed to ensure that IT Service Management objectives are achieved.

Many IT organisations fail to focus on people matters when implementing IT Service Management initiatives. This shortcoming can lead to a lack of clear vision and goals that map to business requirements of improved IT services.

5.5 Closing Summary

Success of IT projects are decided once the user experience the services delivered by IT. The value of services that IT provides is usually determined during this phase. Hence, it is crucial that IT organisations execute on processes that ensures value is added to the business. The objective of this research was to determine whether the DOJ CD (Department of Justice and Constitutional Development) operates consistent processes that ensure that users have a positive experience of IT services.

IT Service Management is once such processes that assist IT organisations to align IT services to the business. Throughout the literature review, it was revealed that IT organisations that implement IT service management attains improve IT services. This study is designed to determine focus areas that enables improvement of IT service within Department of Justice and Constitutional Development.

The study revealed that there are no identifiable business objectives to implement some of the IT Service Management processes. It questions whether there are clear motives from DOJ CD to

improve IT services. IT Service Management objectives are paramount to ensure that all the stakeholders recognize the desired state of the IT environment. The DOJ CD does not seem to be involved in articulating business requirements for IT services.

The study recommends that the DOJ CD should firstly identify and rate the IT service management processes that support the business. The DOJ CD should firstly define the objectives of the business with respect to IT. In a way setting a stage for how the business views the Information Systems Management (ISM). The ISM should rate and implement IT Service Management processes that support these business objectives. This is crucial, as it would ensure alignment between ISM and the DOJ CD. Secondly, assign owners to identify IT service management objectives. The purpose is to make individuals accountable for ensuring that the goals are met. Lastly, the DOJ CD should continually measure satisfaction of the user community of the IT services supplied. Customer satisfaction surveys serves as feedback mechanism back to ISM.

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Appendix A: List of acronyms

CAB	Change Advisory Board
CIO	Chief ICT Officer
CI	Configuration Item
CMDB	Configuration Management Database
CMM	Capability Maturity Model
ICT	Information and Communications Technology
ITIL	IT Infrastructure Library
ITSC	IT Service Continuity
ITSM	IT Service Management
*it*SMF	IT Service Management Forum
OGC	Office of Government Commerce
SLA	Service Level Agreement
SLM	Service Level Management

Glossary

Availability - Ability of a component or service to perform its required function at a stated instant or over a stated period of time. It is usually expressed as the availability ratio, i.e., the proportion of time that the service is actually available for use by the customers within the agreed service hours.

Change Management - Process of controlling changes to the infrastructure or any aspect of services, in a controlled manner, enabling approved changes with minimum disruption.

Classification - Process of formally grouping Configuration Items by type, e.g., software, hardware, documentation, environment, application.

Configuration Management Database (CMDB) - A database which contains all relevant details of each CI and details of the important relationships between CIs.

Customer - Recipient of the service; usually the customer management has responsibility for the cost of the service, either directly through charging or indirectly in terms of demonstrable business need.

DOJ CD – Department of Justice and Constitutional Development is responsible for the administration of the courts and constitutional development of the Republic of South Africa.

DOJ SLA –IT Service Management framework developed to manage IT service within the DOJ CD. The ISM claims that DOJ SLA is aligned to ITIL service management.

Downtime - Total period that a service or component is not operational, within agreed service times.

First-line support- Service Desk call logging and resolution (on agreed areas, for example, MS Word).

IT – A group of people or organisation that work in the Information Technology environment.

IT environment - A collection of hardware, software, network communications and procedures that work together to provide a discrete type of computer service. There may be one or more environments on a physical platform, e.g., test, production. An environment has unique features and characteristics that dictate how they are administered in similar, yet diverse manners.

ICT- The convergence of Information Technology, Telecommunications and Data Networking Technologies into a single technology.

Incident - Any event which is not part of the standard operation of a service and which causes, or may cause, an interruption to, or a reduction in, the quality of that service.

ISM –Information System Management is responsible to deliver IT service to the Department of Justice and Constitutional Development.

IT Infrastructure - The sum of an organisations IT related hardware, software, data telecommunication facilities, procedures and documentation.

IT service - A described set of facilities, IT and non-IT, supported by the IT Service Provider that fulfils one or more needs of the customer and that is perceived by the customer as a coherent whole.

ITIL self assessment – identifies important processes, enabling an IT organisation or IT service provider to establish the extent to which an organisation has adopted the better practice guidance Available from: OGC (Office of Government Commerce).

IT Service Provider- The role of IT Service Provider is performed by any organisational units, whether internal or external, that deliver and support IT services to a customer.

ITIL - The OGC IT Infrastructure Library a set of guides on the management and provision of operational IT services.

IT Operations - All activities and measures to enable and/or maintain the intended use of the ICT infrastructure.

IT organisation –The role of IT organisation is performed by organisational units internal to deliver and support IT services to a business.

Problem Management - Process that minimises the effect on customer(s) of defects in services and within the infrastructure, human errors and external events.

Second-line support- Where the fault cannot be resolved by first-line support or requires time to be resolved or local attendance.

Service- One or more IT systems which enable a business process.

Service Catalogue - Written statement of IT services, default levels and options.

Service Level Agreement (SLA)- Written agreement between a Service Provider and the customer(s) that documents agreed Service Levels for a service.

Service Level Management (SLM)- The process of defining, agreeing, documenting and managing the levels of customer IT service, that are required and cost justified.

User -The person who uses the service on a day-to-day basis.

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30 JULY 2007

MR. MMM MAJAKE (202527040)
GRADUATE SCHOOL OF BUSINESS

Dear Mr. Majake

ETHICAL CLEARANCE APPROVAL NUMBER: HSS/0412/07M

I wish to confirm that ethical clearance has been granted for the following project:

"IT service management: The key to achieving information technology service improvement"

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years

Yours faithfully

.....
MS. PHUMELELE XIMBA
RESEARCH OFFICE

cc. Post-Graduate Office (Christel Haddon)
cc. Supervisor (Craig Blewett)