



*Operational effectiveness of the information technology function
in business process change: A case study in a financial services
firm*

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University of Cape Town

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Thank you to my wife, Ricki-lee, for being a constant source of inspiration and encouragement. I am eternally grateful to you for allowing me to make this sacrifice.

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Abstract

In order to address the need to remain flexible in dynamic business environments, organisations must focus on the effectiveness of their core operational processes. The importance of operational effectiveness has been claimed to have a direct influence on business performance. In order to improve their effectiveness, many organisations invest in information technology (IT) systems, even though the extent to which these technological initiatives influence operational effectiveness is considered to be largely misunderstood by the organisations who employ them.

In this dissertation, the relationship between the Operations and IT departments of a financial services firm is investigated. This study pays particular attention to the factors that have the potential to influence the ability of the organisation to align its strategies. This enquiry takes the form of two distinct research questions: 1) What factors in the organisation have an impact on the success of business process change proposals? 2) How is the role of IT perceived in the preparation of business process change initiatives?

The study involved conducting semi-structured interviews with members of both departments. A qualitative inductive approach was used to analyse the data collected from these interviews in order to identify themes. The emergent phenomena were then considered in conjunction with the literature on organisational effectiveness and strategic alignment, in order to develop a theory that answers the research questions.

The findings of the theory that developed resulted in four main relationships. They were: how understanding business processes contributes to improved service delivery; how important communication is in contributing to organisational performance; how effective planning has an impact on product complexity; and the impact that effective organisational planning has on the relationship between IT and operations.

The results of this study showed that although there was intention to improve alignment between business and IT strategies, with some noteworthy initiatives emerging, there have been a number of factors inhibiting successful alignment. Some of these factors include: a lack of trust in IT solution delivery, IT remaining ignorant to the impact of process changes, the inability to effectively allocate the business analysis function to the correct change proposals, and the silos of process knowledge that exist within operations.

The recommendations of this study include: improvements to the visibility of business processes; methods to improve knowledge sharing; and strengthening the focus of the business analysis function.

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1 Introduction

In this introductory chapter, the broad background to the research project is presented. The concerns that motivated this study are highlighted and framed as research questions. The research objectives are then defined. The chapter concludes with the outline for the remainder of the dissertation.

1.1 Introduction to operational effectiveness

The marketplace is becoming an increasingly competitive environment and, as such, organisations constantly have to adjust their strategies in order to remain relevant. According to Sabherwal and King (1992), the rate of change experienced in the environment, the scarcity of operational resources and the level of competition between organisations all affect an organisation's ability to operate effectively. This is confirmed by researchers who conclude that the above factors actually reduce the accuracy and effectiveness of an organisation's ability to plan strategically (Salmela, Lederer and Reponen, 2000).

In organisations that do not sell IT solutions, the IT function supports the core business processes, thus contributing to business performance. However, organisations tend to focus on either the effectiveness of the IT function or the operational effectiveness that results from the IT function (Santa, Ferrer, Bretherton and Hyland, 2009). The concern is that focusing solely on either of these could have an impact on the organisation's ability to derive true value from its information technology resources.

1.2 Research context

This study is conducted within a financial services company in South Africa, Allan Gray. The financial services industry is complex and is impacted by external political, economic and social influences. This puts pressure on organisations such as Allan Gray to be responsive to changes in these external environments. The internal business processes within the organisation are performed by operational staff who are in turn supported by teams of information system (IS)

experts. According to Armistead, Pritchard and Machin (1999), business processes can refer to operational processes that are concerned with the value chain of production and delivery of services; support processes that support the value chain operational processes; and direction-setting processes that are concerned with formulating strategy and policy. Change requests impact upon operational processes from business users to the IS department. This contributes to an increased complexity in business processes which in turn has the potential to impact on the organisation’s ability to remain effective. In addition to operational changes, strategic change initiatives are also being imposed on lower-level operational departments. In order to address the research needs identified above, this study will be focussed on the experiences of operational staff and information system experts in dealing with business process change requests at Allan Gray.

1.2.1 The impact of change on business processes

Since 2011, the number of high-impact change requests has gradually decreased from a high of one hundred and fifty-one cases per quarter to a low of three reported cases (refer to **Figure 1**). This has been as a result of radical efforts from the organisation’s information system employees to implement more sustainable systems that would reduce the need for high-risk change requests.

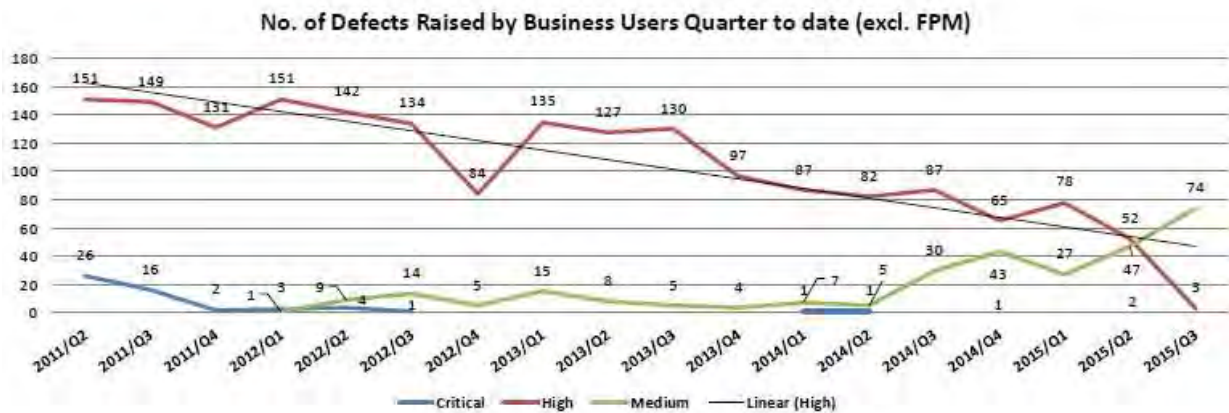


Figure 1: No. of defects raised by business users, quarter to date (source: Allan Gray)

These figures illustrate that the information systems that are in place are maturing from the perspective of high-impact process changes. As the high-impact requests have decreased, so the medium-impact requests have increased dramatically from a low of three requests per quarter in quarter one of 2012 to a high of seventy-four requests in quarter three of 2015. These medium-impact change requests do not affect the organisation’s core systems (as exhibited in **Table 1**), but they do have an impact on important daily business processes that influence the effectiveness of the organisation’s investment and customer services. These services are critical in providing value and wealth creation for Allan Gray’s client base.

Table 1: Risk impact classification of change requests (source: Allan Gray)

Rating	Characteristics Considered	Steps to be followed in the delivery cycle
High	<ul style="list-style-type: none"> ● The change poses a high risk to a critical business process. For example, changes that impact the following processes may be (but are not necessarily) considered as of high business impact <ul style="list-style-type: none"> ○ pricing processes ○ certain trading processes ○ certain SWIFT changes ● It is a complex technical change ● It impacts more than one key system ● It is considered a major system release ● There is very little independent verification that can be done to check if the change is correct in testing or production 	<ol style="list-style-type: none"> 1) Formal requirements analysis (written specification signed off by the relevant business stakeholder) 2) Software development 3) Business analyst or tester testing (functional, regression or integration, whichever is applicable for the release) 4) Business user testing or business user verification of business analyst/tester testing 5) Release approval
Medium	<ul style="list-style-type: none"> ● It is an isolated change that will not affect any other process ● Changes that impact client reporting may be (but are not necessarily) considered as medium business impact ● It affects reports or communication to clients ● A process exists that would catch any failures from the change ● It does not impact a key business process ● It is a technical change considered to be understood and not complex 	<ol style="list-style-type: none"> 1) Requirements analysis done and noted in the On-time log. Requirements agreed to by business user via email or verbally 2) Software development 3) Testing - can be done by developer, business analyst or tester and may or may not include functional, regression or integration (depending on the release) 4) Release approval
Low and None	<ul style="list-style-type: none"> ● It is an isolated change with no impact on any other item ● It is new functionality that has not been used before and can be deployed and not used in production ● Information is not sent externally ● It does not impact a key business process ● A process exists that would catch any failures from the change ● It is a technical change considered to be understood and not complex 	<ol style="list-style-type: none"> 1) Requirements noted in the On-time log 2) Software development 3) Testing can be done by developer, business analyst or tester and may or may not include functional, regression or integration (depending on the release) 4) Release approval

1.3 Objectives of the research

Two research questions form the basis of this study. These two questions will be explored in the context of the organisation:

1. What factors in the organisation have an impact on the success of business process change proposals?
2. How is the role of IT perceived in the preparation of business process change initiatives?

1.4 Rationale for the study

Operational effectiveness is essentially an operation's ability to provide high quality and efficient value to the organisation. Although much research has been published on operational effectiveness (Reich and Benbasat, 2000), there are a number of contradictory views around what exactly contributes to it, prompting the need for additional research.

Business processes, at the operational level, are processes that contribute to the main value chain of an organisation (Armistead et al., 1999). These exist at a lower, more task-oriented level to that of the criteria for operational effectiveness. Regardless of the distinct difference between these levels, the relationship between the task-level operational processes and the operational effectiveness criteria needs to be maintained in order to affect business performance positively.

Within the literature, the concept of strategic alignment emerges in an attempt to provide an approach to improve operational effectiveness. The literature explicitly states that while researchers have an understanding of strategic alignment, practitioners seldom understand the application thereof.

There is also a distinct lack of applied studies in the field of strategic alignment research (Santa, Ferrer, Bretherton and Hyland, 2009). This dissertation is therefore an opportunity to investigate these concepts within a financial services organisation such as Allan Gray.

1.5 Outline of the dissertation

- **Chapter 1**

This introductory chapter has provided a context for this study. It introduces the topic of operational effectiveness and provides a brief description of the organisational context for the study of Allan Gray.

- **Chapter 2**

This chapter is the review of literature on the key concepts. It includes the concepts of operational effectiveness, technological effectiveness, organisational responsiveness and the alignment between information technology and business strategies.

- **Chapter 3**

This chapter presents the methodologies and methods applied in this research study. It includes the considerations of the data gathering, data analysis and the overall design of the process. It also includes a discussion of the validity of the methods followed in this study.

- **Chapter 4**

This chapter covers the findings generated by the methods selected in Chapter 3.

- **Chapter 5**

This chapter is a discussion of the findings from Chapter 4, in the context of the research literature.

- **Chapter 6**

This final chapter concludes the study and makes recommendations based on the findings.

1.6 Conclusion

This chapter introduced the reader to the concept of operational effectiveness. The context of the research study was highlighted, which contributed to the formation of two research questions. The outline for the remainder of the dissertation was then discussed.

2 Literature review

This chapter is a review of literature relevant to the research topic and research questions. It begins with an explanation of the uncertainty of business environments and how organisations strive to operate effectively in dynamic environments. Next, it discusses organisational responsiveness as contributing to the effectiveness of the organisation, as well as the influence that strategic planning has on responsiveness. Finally, the impact of planning and alignment on business performance is discussed.

2.1 Environmental uncertainty

Organisations operate in increasingly uncertain environments. Uncertainty in this context is described by Newkirk and Lederer, (2006, p.381) when the authors state that “uncertainty is the difference between the amount of information required to perform a task and the amount of it already possessed by the organisation”. According to Choe (2003) there are three dimensions to the environmental uncertainty in which an organisation typically operates. These are dynamism, heterogeneity and hostility.

Dynamism is believed to be the most difficult dimension of uncertainty to manage (Grant, 2003). Miller and Friesen (1980) define this dimension as the rate and unpredictability of change experienced within the environment. For simplification purposes, the definition has been reduced to the mere rate of change. Where some authors agree with this simplification, others argue that it should rather consist of two elements, namely changeability and unpredictability. A few examples of the types of threats that dynamism brings includes the rate at which products become obsolete, the rate of technological change, and the unpredictability of demand (Teo and King, 1997).

The second dimension of environmental uncertainty, heterogeneity, is described by Newkirk et al., (2006) as the “diversity of the external factors that influence an organisation.” Diversity in this instance is defined as the sheer amount of uncertainty in the environment (Kearns and

Lederer, 2004). Examples of heterogeneity in action include the changing habits of customers and changing product lines (Teo et al., 1997).

The third dimension is hostility and according to researchers this can be defined as the competition within the environment in which an organisation exists, as well as how scarce the resources are within the environment (Miller and Friesen, 1983). Here threats that can affect the organisation include scarce labour, scarce materials, and competition on measures such as price, product and quality (Teo et al., 1997).

2.2 Operational effectiveness

According to Sherman and Zhu (2006), operational effectiveness is not only about efficiency, but rather the combination of efficiency and quality that is delivered to the customer in the form of a service. Globalisation and advances in technology make it increasingly difficult for organisations to gain a competitive advantage (McAfee and Brynjolfsson, 2008). In order to remain competitive, organisations need to be aware of the environment in which they operate and respond to changes quickly. This sensing of and responding to the environment is essentially the organisation's level of agility (Sambamurthy, Bharadwaj and Grover, 2003).

This agility is a key trait for organisations in hypercompetitive markets (Zaheer and Zaheer, 1997), although agility in this sense is not referring to the organisation's actions as a whole. Organisations can be agile in a number of different sub areas, namely its operations, interaction with customers etc. (Sambamurthy et al., 2003). New technologies are also vital to an organisation's agility as they allow organisations to use the power of leveraging and act more agile than ever (Roberts and Grover, 2012).

2.3 Organisational responsiveness as achieved through strategic planning

When it comes to strategic planning, Newkirk and Lederer (2006) indicate that different researchers suggest different approaches to planning. The two main approaches that have

emerged are the incremental and comprehensive planning approaches. Ciborra (1994) suggests that organisations plan according to the incremental approach as this approach allows them to be more flexible in responding to change. McFarlan (1971) on the other hand favours the comprehensive approach as this allows the organisation to plan inclusively and exhaustively. In any case, it is important for the organisation to select the appropriate approach as an incorrect approach selection might inhibit the organisation from planning successfully (Newkirk et al., 2006).

Opinions on the two approaches are varied. Sambamurthy, Zmud and Byrd (1994) argue that incremental planning is effective because it includes the personal judgement and experiences of the people involved in the planning exercise. This is argued against by Raghunathan and Raghunathan (1991) who note that the well-defined analysis exhibited by the comprehensive approach makes it the more effective choice. Another factor where the comprehensive appears more effective is its advanced level of integration with business strategy (Raghunathan and King, 1988) whereas it is not so for the incremental approach (Ciborra, 1994). Earl (1993) argues for the use of the incremental approach as its planning is reviewed continuously, yet consists of only a few important members of the organisation. The converse is true for the comprehensive approach where plans are reviewed periodically (McFarlan, 1971) and when done include a large number of members of the organisation (Earl, 1988).

2.4 Impact of alignment on organisational performance

Suppose that information systems and business strategies weren't aligned; what would the expected outcome on organisational performance be? Renaud and Kalika (2008) believe that alignment alone does not drive business performance. Rather the ability of an organisation to manage the change of states of alignment and non-alignment is seen as key to driving organisational performance. This view may appear confusing as it could imply that no alignment at all may spur an improvement in business performance.

Tallon (2007) strongly opposes this view and believes that alignment between IS and business strategies can impact business performance directly. The act of alignment, although well known

by managers, is still a top priority for them (Tallon et al., 2001). There are a number of reasons why this alignment continues to elude management (Luftman et al., 2009). Firstly, the term 'alignment' lacks definition, leaving managers unable to realise the true meaning of what it means to align business and IS. Secondly, managers try to solve all of their alignment issues in a single attempt. Thirdly, managers place a lot of focus on aligning IS strategy to the existing business strategy, instead of aligning them to each other. Finally, managers have a tendency to consider IS strategy as infrastructure alone, when in reality it stems far beyond just hardware and processes.

The alignment paradox

There is disagreement among authors on the validity to the claim that IS and business alignment has an influence on organisational performance. One of the first examples of an author who was in agreement with this claim was King (1978) who felt that alignment definitely created value for an organisation. Baker, Jones, Cao and Song (2011) added that it would be profitable and provides organisations with a competitive advantage. Particular examples of where alignment proves valuable are the improved quality of decision-making, improved levels of customer satisfaction and the ability to automate business processes with more precision (Margolies et al., 2013).

Tallon (2003) however believed that alignment does not in fact provide improvements to an organisation's performance, and this was termed the alignment paradox. This notion was further supported by Chen et al., (2010) when they said that alignment might even lead to a lack of flexibility and stagnation. Because of alignment, controls were believed to be tightened and the organisation unable to respond to the environment in as swift a manner as is desired by organisations today. (Benbya and McKelvey, 2006).

Shpilberg et al., (2007) agreed that there is evidence that inflexibility exists post alignment, but this is usually only the case when IS systems are too aligned to current business strategy and hence become inflexible in responding to change. Gerow et al., (2014) put the inflexibility claims

to rest by showing that their research proves that the paradox does not exist and that alignment does in fact lead to an improvement in organisational performance.

Dimensions of alignment

As is evident from the research, there is a lack of consensus around alignment and what it means to an organisation. According to Chan and Reich (2007) there are four dimensions to alignment, namely the strategic, structural, social and cultural dimensions. These authors conclude that only two of the dimensions, strategic and structural, actually have the ability to influence organisational performance. Other researchers disagree and believe that the strategic dimension of alignment is the only one that can influence performance (Henderson and Venkatraman, 1993).

Regardless of which of the dimensions of alignment contribute towards an improved performance, Reneud and Kalika (2008) believe that generally when IS and business are aligned that there is an impact on organisational performance. This notion is supported by Singh and Woo (2009) when they explain that organisations which have failed to align these strategies experience worse performance than those who do.

An organisational view of alignment

Organisations often do not realise what exactly needs to be aligned in order for strategic alignment to take place. Chan et al., (2007) propose that this could be due to the fact that the theory behind strategic alignment is lacking. Lim, Stratopoulis and Wirjanto (2013) disagree with this idea and feel that the theory of alignment has in fact matured and that its importance is widely understood. The counter argument from Chan et al., (2007) is that authors do not agree and there is a distinct lack of consistency in the literature.

Organisations are often misled by thinking that having the same structures and policies in place throughout different areas of the organisation itself would lead to alignment across the board. Wagner, Beimborn, Franke and Weitzel (2006) go on to explain how different branches of a bank all shared the same structures and policies, and yet difference levels of operational

performance were experienced. The authors attribute the higher levels of performance to cohesion and connectedness between the IS and business teams in those departments. Their research concludes with them claiming that cross-functional understanding between departments is vital to improved performance in a service environment.

Research shows that the social aspect of alignment is important when it comes to alignments ability to influence performance. Wagner and Weitzel (2012) mention teamwork between IS and business, as well as the quality of working relationships, as examples of where the social aspect becomes important. More recent findings show author's belief that the social aspect alone is not enough and that there are other important views on alignment. According to Wagner, Beimborn and Weitzel (2014) these are the strategic and intellectual alignment view, the structural alignment view, and the social aspects of strategic alignment. Chan (2002) agrees on the importance of the social aspect and that the methods applied at the strategic level are too formal to affect a positive change. A part of the social aspect is the informal collaboration that occurs, and this is mostly ignored by researchers. In a modern service-environment, this existing literature falls short.

Other proponents for the importance of the social aspect include Baker, Jones, Cao and Song (2011). Their research shows that literature on alignment is increasingly focussing at the strategic level, whereas the actual implementation of alignment occurs mostly at the lower operational level. If organisations are to achieve what they plan to, then they need to ensure that adequate resources are allocated to their alignment efforts.

Technological effectiveness

According to Arvidsson, Holmstrom and Lyytinen (2014) organisations are at risk of becoming blind to the strategic intent that information systems provide. The often occurs unwittingly, where the technical implementation of an IS system is successful, but the strategic alignment between IS and business strategy is unsuccessful. According to the authors, the alignment fails when a new IS system is implemented but does not introduce enough of the desired change into the organisation.

In order to achieve the levels of change desired, Whittington (2003) believes that organisations need to embrace a strategy-as-practice perspective. This perspective recognises that technological strategies are linked to environmental variables and is a response to the view that strategy formulation often neglects the human-element. Organisations can achieve this by considering the goals as well as the steps to achieving those goals from the perspective of the agents in the system who seek to introduce change.

Organisations also need to steer clear of becoming cognitively entrenched. Sanger and Singh (2012) define this as fixed frames of reference held by an organisation that prevent them from recognising changes in the environment around them. Arvidsson et al., (2014) disagree that these fixed frames are necessarily a bad trait for organisations, as they can be useful to organisations who operate in stable environments and who wish to fix their patterns of thinking. They do however agree that fixed thinking can be treacherous to organisations who operate in dynamic environments and whose operations desire a certain level of complexity.

Factors influencing alignment

Although there has been a substantial amount of research on the impact of alignment on business performance, not enough has been done on the factors that influence IT and business alignment itself (Burn and Szeto, 2000). One possible reason for this could come from the idea that alignment is not universally important across all organisations (Sabherwal and Chan, 2001). Chan et al., (2006) found that there are five main factors that affect an organisations ability to align their strategies. These are shared domain knowledge, sophistication of planning, prior IS successes, the size of the organisation, and the uncertainty experienced in the environment.

Shared domain knowledge is important to aligning strategies because without it, domains of expertise within the same organisation would not truly understand what the other domains provide to the organisation. Vitale et al., (1986) echo this when they claim that a lack of IS knowledge on the part of management leads to poor alignment between business and IS strategies. In order for alignment to be effective, leaders from IS and the business need to

understand each other's domains in order to engage in dialogue around each other's processes (Reich and Benbasat, 1996).

The sophistication of planning is important to aligning strategies because without it managers would have no structure to work within. Raghunathan et al., (1991) view planning as acting with foresight in a complex and dynamic environment. Without this structured approach to alignment, organisations will struggle to make the alignment gains that they desired (Lederer and Mendelow, 1987).

Success in previous IS projects is also a key factor to alignment because organisations usually build off of their previous attempts in these domains. Martins and Kambil (1999) agree that organisations look at past projects in order to gauge the success of future IS strategies. Another important case for the IS domain is that organisations can improve their track record of implementation if recent success has occurred in IS (Chan et al., 2006).

The size of the organisation influences the ability to align strategies, particularly because of how complicated larger organisational structures can become (Chan et al., 2006). This also impacts another factor, planning sophistication, because larger organisations require more formal structures be put in place in order to promote alignment between strategies (Hale and Cragg, 1996). Other researchers disagree that larger organisations negatively impact alignment. Cragg, King and Hussein (2002) argue that organisational slack, which is found in larger organisations with more layers of management, allows the organisation to concentrate closely on alignment. Others follow, claiming that although smaller firms might appear to promote alignment in a better fashion due to their centralised processes, it's the larger firms with more managerial slack that allows the size of the organisation and the level of alignment to correlate with one another in a positive manner.

Finally, the final factor is the uncertainty experienced in the surrounding environment. It is important because uncertainty promotes the need for improved processing of information and more well-defined information systems (Daft and Lengel, 1986). This view is seconded by Chan

et al., (2006) who asserts that organisations that operate in very dynamic environments tend to invest more capital in robust information systems.

2.5 Conclusion

This chapter described both operational effectiveness and organisational responsiveness, and how they can be achieved through strategic planning. The impact of the strategic alignment of business and IT strategies on business performance is also discussed. Lastly, the chapter concludes with a discussion on the main factors contributing to strategic alignment between business and IT strategies. The next chapter will discuss the methodology used to address the research questions posed in Chapter 1.

3 Methodology and methods

In this chapter, the research design for addressing the research questions will be explained. This is achieved by firstly highlighting the need for a qualitative study, followed by an explanation of case study methodology and the appropriateness thereof for this study. The approach to data collection and analysis is presented. Finally, ethical considerations and the validity of the chosen methodology are discussed.

3.1 Research design

According to Maxwell (2005), qualitative research design consists of five components, namely goals, conceptual framework, research questions, methods and validity (**Figure 2**). Any study undertaken in a management research setting is unlikely to progress according to a linear process. Rather, the focus of the research design needs to shift to and from each of these components, prompting the need for a qualitative study. Although the author’s research design is structured along these five components, it promotes interconnectedness and flexibility throughout.

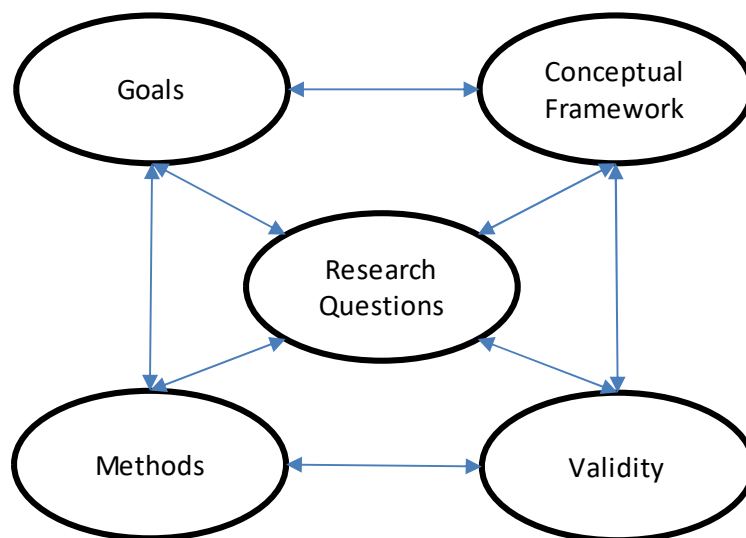


Figure 2: An interactive model of research design (Maxwell, 2005, p.3)

Drawing on this approach to research design, the research goals and questions were presented in Chapter 1, while the concepts for framing these questions were explained in Chapter 2. In this chapter, the methods and issues of validity are discussed.

3.2 Methodological discussion

Partington (2002, p.1) describes management research as dealing with “the production and legitimation of knowledge of the various forms of knowledge associated with the practices of management”. Considering that this study is management research, it is worthwhile to understand how management research differs from social research. According to Easterby-Smith, Thorpe and Jackson (2012), there are three main features that distinguish management research. Firstly, management practice is eclectic and, as such, managers are seen to work across multiple boundaries and knowledge disciplines. The implication for researchers is that they need to consider the underlying assumptions of the study.

The second distinctive factor is that managers have a tendency to be well educated (Easterby-Smith et al., 2012). The implication for researchers here is that they have to consider the level of education of the manager and the possibility that the manager may wish to contribute to the production of knowledge in a joint capacity with the researcher. The third distinctive factor is that management research often results in practical outcomes.

In considering how these features apply to this study, assumptions of knowledge and reality are aligned with an interpretivist perspective that posits that reality is given meaning by people rather than being objective and that knowledge is created as an investigation proceeds.

While this study was not conducted as a collaborative study that formally involved the interviewees in the design and implementation of the study, this is an option for similar studies. The intention with this study was to describe and understand but also produce relevant knowledge that could have a practical application.

According to Yin (2003) there are three conditions that contribute to deciding which research strategy to employ. These conditions are: 1) the type of research question being posed; 2) the control that the researcher has over events; and 3) whether the focus is on historical or contemporary social phenomena. For the research study reported in this dissertation, the focus is on contemporary social phenomena, where the researcher has very little control over events, and where the research question is raised from a practical problem in an organisational context. Yin confirms that case studies are preferred when these conditions are met. This study will therefore make use of a case study as its research strategy.

Strategy	Form of research question	Requires control over behavioural events?	Focusses on contemporary events?
Experiment	How, why	Yes	Yes
Survey	Who, what, where, how many, how much	No	Yes
Archival analysis	Who, what, where, how many, how much	No	Yes/No
History	How, why	No	No
Case study	How, why	No	Yes

Figure 3: Relevant situations for different research strategies (Yin, 2003, p.6)

The study will be an investigation of the research phenomenon in a real-world context. The methodological approach adopted is a single case study. Grounded theory principles were used to analyse the data collected from interviews.

3.2.1 Case study research

Yin (1984) describes a case study as a research strategy where “how” or “why” questions are being asked about contemporary events, as opposed to historical events. It is also where the researcher has little or no control and cannot manipulate behaviour, as may be the case with experimental research strategies.

Regarding the selection of a single case versus multiple case studies, Stake (1995) believes that the case study approach studies the complexity and specificity of a single case: that is, the study of a complex and integrated system within its own specific context. This case study is focused on the effectiveness of the IT and business functions and not on the effectiveness of the entire organisation. The single case study approach will therefore be used for this study within the institutional operational division at Allan Gray.

3.3 Data collection

For research purposes, there are two main types of data, namely primary and secondary data. Primary data is data that is collected by the researchers themselves. Secondary data is data that has been collected from studies performed by other institutions. Data can also be categorised as quantitative and qualitative data. Qualitative data is collected to gain an understanding of the underlying reasons for particular behaviour or beliefs, using typically unstructured or semi-structured methods. Quantitative data, however, uses numerical data, collected from larger samples via structured methods, with results able to be generalised to a larger population.

The types of data that are relevant to my case organisation are primary, qualitative data. The study involved collecting data from sources within the case organisation, Allan Gray. A purposive sample of participants from either side of the focus of enquiry (i.e. the Information Technology and Operations departments) were selected. Participants varied in the number of years they had been with the company, demographic information and level of education. Those approached were staff members deemed to be influenced by change decisions made involving Information Technology and Operations. Semi-structured interviews were the primary data collection vehicle used in this study. Examples of the questions that were posed to interviewees are included in **Appendix C** and **Appendix D**.

3.3.1 Interviews

As the experience and perceptions of people were sought, interviews were selected as the method of data collection most suited to this study. Easterby-Smith et al., (2012, p.126) explains the importance of interviewing:

“This approach aims to use language to gain insights into social and organisational realities. This takes place through discovering the views, perceptions and opinions of both individuals and groups through the language they use; the main method to achieve this is the in-depth interview.”

There are, however, a number of concerns that need to be addressed in order to get the most out of interviews. These are the ability of the interviewer to conduct an interview, as well as the ability to avoid certain types of interview bias. The types of interview were also considered before designing the set of interview questions. Of the three types - highly structured, semi-structured and unstructured - the type most suited to this study was the semi-structured approach. Semi-structured questions would allow the interviews to remain open and flexible, but at the same time allow the participant to be gently guided towards a general objective.

Ten interview participants were selected for this study. Five interviewees were selected from across the Operations department, and the other five from various positions in the IT department. Purposive sampling was used to select this sample as I believe that a representative sample would be obtainable by using my judgement.

I conducted a pilot interview with a colleague in order to test my questions and the responses. I used this pilot to adapt my question set, in order to optimise the time spent interviewing participants. The sample is indicated in **Table 2** below.

Table 2: Research participants

Operations participants	Years of experience	Education
O1	6 years	Bachelors degree
O2	9 years	Bachelors degree
O3	7 years	Masters degree
O4	9 years	Bachelors degree
O5	7 years	Bachelors degree

IT participants	Years of experience	Education
IT1	7 years	Diploma
IT2	7 years	Honours degree
IT3	9 years	Bachelors degree
IT4	10 years	Bachelors degree
IT5	4 years	Bachelors degree

3.4 Data analysis

In the data analysis phase of the study, the text data collected was analysed using grounded analysis principles. This approach classifies themes and patterns in the data by following a coding process (Zhang and Wildemuth, 2009). Grounded analysis allows these themes to emerge from the process, rather than searching for themes that are decided in advance, as is the case in content analysis (Easterby-Smith et al., 2012). In keeping with the holistic approach of grounded analysis, analysis was done 'by hand' during the coding process in order for the process to remain as practical as possible, i.e. coding software was not used.

In terms of qualitative data analysis, the alternative approach would be content analysis. In describing the difference between the two approaches, Easterby-Smith et al. (2012, p.163) note that "with grounded analysis, the researcher stays closer to the data and any observations made need to be carefully placed in context."

According to Easterby-Smith et al. (2012, p.167), there are seven main stages to grounded theory analysis. The origin of this analysis stems from the work of Glaser and Strauss (1967), whose work proposed an imaginative yet rigorous approach to analysis. The seven steps are:

1. Familiarisation with the data
2. Reflecting on the data
3. Conceptualising the data
4. Cataloguing of concepts
5. Re-coding of the concepts
6. Linking concepts to enhance theory
7. Re-evaluation of analysis

This was the approach taken in the data analysis phase of this study. The reason it was selected was because it allowed for an understanding of the context in which data was collected, and more so because it was better suited to an inductive study. **Table 3** below shows an example of the first round of coding.

Initially the interview transcripts were compared to the audio recordings that were taken during the interview sessions. Themes and patterns were then selected through iterations of comparative analysis. The first stage of coding entailed analysing the data and establishing initial concepts. These concepts were then refined to reflect how they differ from each of the other concepts that emerged.

Table 3: Example of coding

	Interview 1	Coding 1
Interviewer:	How good is IT at understanding business processes on the operational side?	
IT Employee 1:	<p>I think we do a fairly good job. There are obviously times where I think some things the Business Analysis and Development are missed between the Developer and the functions. business user. I there probably could be better interaction and better communication with regards to the changes and the understanding of what's supposed to happen. So I think we just need to have more interaction between the business and the development so that everybody is on the same page and we all get the same result at the end of the day.</p>	<p>Communication can be lacking between the Business Analysis and Development Consistency between IT output and operational expectations is important.</p>

In stage two of the data analysis process the concepts were condensed into initial emergent themes or codes. Examples of some of the initial codes include “communication can be lacking between the business analysis and development functions” and “consistency between IT output and operational expectations is important”.

In stage three of the process the first round of codes was re-evaluated. Some codes were deleted. Others were merged with competing codes to build stronger codes. Stage four entailed searching for categories within the second round of codes (**Table 4**). Care was taken to categorise each concept and the interview from which it originated. From a total of 181 initial codes, a set of 22 themes emerged (**Table 5**).

Table 4: Example of categorisation of codes

Redundant checking of information	Feeling that the business performs redundant activities	Interview_1
	Business trust their own checks rather than ITs information	Interview_1
	Business puts in their own additional processes into the system	Interview_1
	Operations are putting too much pressure on themselves	Interview_5
	Trusts the system as only check those things that the systems recommend the user checks	Interview_5
	Operations have internal checks that re-check what is delivered by IT	Interview_6
	Risk mitigation takes place through additional manual checking, which is a time waster	Interview_6
	Wasting time by rechecking information that should be correct in the first place	Interview_6
	Avoid manual process manipulation in order to ensure accuracy of data	Interview_7
	Rechecking of processes takes place up to four times	Interview_9
	Mistakes in this industry have the potential to be very severe, hence the need for multiple checks	

Table 5: Twenty-two initial themes

Understanding individual role in change cycle	IT as an enabler of organisational performance
Business impression of IT	Ability to retain IT staff
Redundant checking of information	Business acting as sole decision-maker
Turnaround time as an element of client service	Understanding impact of process changes
Communication between IT and business	Silos of knowledge within operations
Quality of requirements gathering	Understanding of business processes
Understanding when the Business Analysis function is required	Including end user in system development
Quality control gates	Impact of product complexity
Scope creep of IT responsibilities	Increased presence of industry regulation
Influence on client service quality	Management of expectation
Rate of change in the organisation	Learning from past mistakes

In the third stage of the data analysis process the relationships between each of the 22 themes were analysed. This resulted in a set of phenomena or theoretical codes (Easterby-Smith et al., 2012). The set of ten phenomena form the basis of the theory upon which this study is based.

Table 6: List of emergent phenomena

Trust in IT solutions	Level of communication between IT and operations
Redundant checking of information	Communication between IT and business
Business impression of IT	Understanding individual role in change cycle
Learning from past mistakes	
Influence on client service quality	Silos of knowledge within operations
Turnaround time as an element of client service	Understanding of business processes
	Business acting as sole decision-maker
Quality control gates	Quality of requirements gathering
Including end user in system development	Understanding when the Business Analysis function is required
Impact of product complexity	Management of expectation
Rate of change in the organisation	Scope creep of IT responsibilities
Increased presence of industry regulation	
Understanding impact of process changes	IT as an enabler of organisational performance
	Ability to retain IT staff

3.5 Ethical considerations

Utilitarianism is relevant to the research study as human experiences were studied. In terms of utilitarianism, all of the benefits of the proposed study can be weighed up against the costs of conducting the research. According to Mill (1998), utilitarianism is defined as the maximum utility derived from an action. By conducting this research and interviewing all of the stakeholders involved in the process, I aim to use the results of the research study to gain a better understanding of their positions in the workplace. Following this, recommendations will be made for the purpose of improving relationships between the company's Information

Technology and Operations departments. The study has the potential to benefit working conditions for employees.

The Information Technology department could have a better understanding of what the Operations department requires and how to deliver this as effectively as possible. A potential cost for the Information Technology department might be that an additional process might need to be added to their busy schedule, i.e. the process that would result from my research. I do believe, however, that the benefit derived from such an improvement will reduce the re-work that is often performed when Information Technology does not completely understand the Operations department's requirements.

Prior to every semi-structured interview, participants will be briefed on the informed consent attached to this study. This informed consent will assure the participant of the anonymity, privacy and confidentiality with which the study is being conducted, as well as the interviewee's right to withdraw from the interview at any time. An example of an informed consent form is attached with this proposal.

3.6 Trustworthiness and validity

Golden-Bibble and Locke (1993) propose that there are three key criteria to the definition of validity in a naturalistic enquiry. These are the authenticity of the researcher's understanding, the plausibility of their concerns and the criticality of their assumptions. Authenticity refers to the understanding that the researcher has of the actions taking place within the organisation under study. Plausibility refers to the claim that the concern of the study links into the ideas of other researchers in the field. Finally, criticality refers to the point of the study and whether novel claims are being made.

With regards to the trustworthiness of qualitative research, Guba (1981) proposed four criteria for its evaluation. These can be seen in **Table 7** below.

Table 7: Scientific and naturalistic terms appropriate to the four aspects of trustworthiness

<i>Aspect</i>	<i>Scientific term</i>	<i>Naturalistic term</i>
Truth value	Internal validity	Credibility
Applicability	External validity / Generalisability	Transferability
Consistency	Reliability	Dependability
Neutrality	Objectivity	Confirmability

The credibility of the study was ensured by virtue of performing a number of activities. The first was the application of well-established research methods popular to management research. The second activity that promotes credibility of the study was an initial investigation into the operations of the organisation. This investigation was also used to generate a number of research questions for this study. When interviews were conducted, participants were informed that they could remove themselves from the interview at any stage. They were also required to sign an informed consent document. This ensured that the participants were aware that their responses would remain anonymous. Finally, an extensive study of the research on organisational effectiveness in IT and operational settings was conducted.

In order to maintain a level of transferability, details related to all of the participants involved in the study was considered. This is to assist in allowing researchers to transfer the findings of this study to other contexts.

Dependability is the level of reliance maintained throughout this study. Efforts have been made to ensure that data was collected in a consistent manner.

Confirmability refers to the assurances that the data collected and analysed contained no bias on the part of the interpreter. Interviews, although semi-structured, were designed with certain themes in mind. This allowed for interview data to be cross-referenced across participants.

3.7 Conclusion

This chapter began with an overview of the research design. Following this, it addressed the type of research strategy to employ, depending on the questions being asked and the focus of the study. The case study strategy was proposed due to the study asking: 1) “how” and “who” research questions; 2) the researcher not requiring control over behaviour; and 3) the focus being on contemporary events. A single case study was conducted within the institutional operational division at Allan Gray, whereby grounded theory principles were used to analyse the data collected from interviews.

Following three stages of data analysis, ten phenomena emerged as the foundation of the theory upon which the study is based. Finally, the chapter concludes with the ethical considerations and validity of the study whereby the credibility, transferability, dependability and confirmability of the process are assured. The next chapter presents the findings of this study.

4 Presentation of Findings

The findings are drawn from the analysis of the data collected in this study. Data from IT and operational employees was analysed in order to build an understanding or theory of the case study, namely the IT and operational departments at Allan Gray. The outcome of the analysis is presented in this chapter as a set of phenomena. These ten phenomena were condensed from twenty-two emergent categories through a process of refinement. In this chapter, the phenomena are presented and the nature of each of these phenomena will be discussed. Quotes taken from interview transcripts are used to illustrate the categories.

The analysis of the findings takes into consideration the research questions posed by the author. The research questions are repeated below.

1. What factors in the organisation have an impact on the success of business process change proposals?
2. How is the role of IT in perceived in the preparation of business process change initiatives?

The sections presented below refer directly to the tabular reports in **Appendix F**.

4.1 Phenomenon 1: Trust in IT solutions

Right from the outset of interviewing candidates, there was evidence that the operations department were not fully trusting of IT. There was a sense from the IT perspective that the business does not fully trust the solutions that IT provides and therefore perform their own operational checks to validate information before disseminating it to investors. Without trust in IT, the business will not be able to align its strategy to that of the IT department.

“They have a lot of redundant stuff in place, just as a check to make sure that what we’ve got there is the correct thing. So if a report is at one stage out by a certain value then they

lose confidence in the system and so they're starting to recheck the stuff to make sure that the values that are presented are correct."

(IT employee 1, Interview 1)

4.1.1 Redundant checking of information

The IT department are fully aware of the rechecking on the operational side and understand what impact sending incorrect information to an investor would have on the organisation:

"If you do not have reliance or comfort in the stability of the system, then you do extra things on the side to get that comfort. In the organisation, and our area specifically, they do multiple reworking's...I would say they do four times as much reworking as they need to do. Not that they don't find something new each time, it's just that it's a factor of instability and a definition of materiality. Obviously in financial services materiality is different to other industries."

(IT employee 5, Interview 9)

There is an important consideration as redundant checking of information does not lend itself to the efficiency expected from operational effectiveness.

4.1.2 Business impression of IT

The impact of developing a solution of inferior quality is that operations tend to lose faith in the ability of the IT function to provide value. This is confirmed by the below quote, where the interviewee refers to the loss of confidence that operations have in IT when they don't receive the correct information.

“I don’t know what would cause them to reject stuff, but perhaps maybe there’s a function change or something in the underlying and its now affecting the prices so now their confidence in IT is sort of decreased...so they sort of go back and recheck things to make sure that its fine, and that process just sort of stays in place.”

(IT employee 1, Interview 1)

The quote above also alludes to the impact that a process change (another phenomenon) has on the trust in IT solutions phenomena. Regardless of what the underlying cause of the incorrect information is, operations will, according to the interviewee, lose faith in their ability. In order to remain technically effective, operations need to see the strategic strength than can be sought from working with IT.

4.1.3 Learning from past mistakes

One of the reasons why the business is not performing optimally on the Institutional Operations side is the fact that legacy system issues have to be considered. These have a negative impact on the effectiveness of the operations department and their ability to provide better reporting solutions for clients.

“On the other side of our business things work well as there aren’t so many legacy issues and people refusing to buy into IT. Over there the business and IT work together. But in the past year I can see things moving and finally get into to work in the right way.”

(IT employee 2, Interview 4)

This view is confirmed by the next quote where the interviewee defines a successful change request as one that does not create additional legacy issues. By following this sentiment, the organisation will be in a better position to avoid damaging legacy issues in the future. Chan et

al., (2006) mentions that prior information system project successes are important in influencing alignment, as organisations take the opportunity to learn from past failures and successes.

“...If it goes in time to do their job. If the business user thinks it’s successful, and if it doesn’t come back with issues. And if it doesn’t create technical debt.”

(IT employee 4, Interview 8)

4.2 Phenomenon 2: Influence on client service quality

Any event that has the ability to impact an investor negatively is a risk to the organisation’s reputation. An example of an event that emerged via the coding process was sending incorrect financial statements to investors. When asked about the accuracy of our reporting system information, an interviewee responded:

“I think it’s very accurate. I guess that opinion is mostly based on a belief that we have the most accurate back office in the South African asset management crowd. At that level, I think we’re clear to our clients and prices we publish in markets are highly accurate and highly reliable. I think internal inaccuracies are found before they reach the market.”

(IT employee 4, Interview 8)

“I think IT enables internal efficiencies and client service reasonably well. I don’t think is much scope for IT for us to shift investment alpha. I’d like to think that IT can provide a lot more value, in the first chunk particularly.”

(IT employee 4, Interview 8)

These events are import to manage because further investigation revealed that IT employees feel that IT has a strong influence on the service that the organisations delivers to clients. This is

confirmed by Hill (2005) when the author claims that quality is one of the five important factors that define operational effectiveness.

4.2.1 Turnaround times as an element of client service

The interview data on timing show that time is a factor in the organisation's ability to perform effectively i.e. the shorter the time taken to deliver a client's investment statement, the better the organisation's client service levels from the perspective of the client. Unfortunately, the organisation's internal processes influence the ability to send these statements timeously. An interview with an operational employee reflects this:

"Well it's more reporting, so in Invest+ the reports are too slow, or the reports are not being printed in the printing packs that they should be coming out in. And then with Fundamental it would either be slow system issues like the performance of the system, or some interest accruing issues like cents. Actually just like the reports that generate when we check the Pricing, sometimes we have discrepancies on there and I need to chat to the FPM Support Analyst about it, to find out if it's a legitimate issue."

(Operations employee 1, Interview 2)

The same importance is placed on the IT department's ability to deliver an efficient service to their internal clients, namely the operations department. For example, IT employees believe that in some cases the developers need to be able to fix issues immediately without being held back by system constraints.

"So then the developer develops on the test environment obviously after the analysis we identify the problem or the requirement. It is documented if it's a requirement. If it's an issue like a wrong function or something that could have gone wrong which gave rise to an incorrect result, the developer will fix it on the fly."

(IT employee 2, Interview 4)

While this approach makes sense in an agile environment, developers need to ensure that quality standards are still met. This is confirmed by data collected in Interview 5 where the interviewee claims that accurate information is vital to the organisation's reputation as investor's put their trust with them. Client service effectiveness therefore includes both accuracy and speed.

"Because we have built in validation checks, we pick up issues as they arise, but I am quite confident in the information. I'm 99% sure that things are right. As an organisation we always want to send out accurate information, and clients put their faith in us that our numbers are correct. We want to send our information that is correct, so we'll actually double check information that IT provides. Up until a point where we can do random sample testing, so I'm fairly confident."

(Operations employee 3, Interview 5)

4.3 Phenomenon 3: Quality control gates

In this phenomenon, the interviewees bring attention to the quality of the output presented by IT. It appears that the testing of solutions is not done as frequently as needed. This is generally reported by the IT employees who are the ones concerned with the quality of the output as they recognise that an inferior quality service means more development work for them in the long-run. This risk is identified by IT employee 2:

"...we don't have user-acceptance testing, so none of the people in the business...although the Portfolio Admin Manager sometimes does it. So our processes are very different to everyone else. UAT doesn't exist, so the business analysts do it on behalf of the business. We pray we get it right 90% of the time. Had there been UAT I think a

lot less recurring production support items. It's not really a perfect world, but agile you need to give and take a bit. You can't be agile in terms of analysis and development, but then want to follow a full critical production support change control process. And I think we need to find that medium right now. We also just can't put things in willy-nilly into production because it will just burst at the seams."

(IT employee 2, Interview 4)

This extract explains the constant need to balance incremental and comprehensive planning within the organisation. Within an agile environment, organisations are limited by the amount of planning that they're allowed to perform upfront. In order to operate according to the agile methodology, organisations break projects down into small steps and complete them one by one.

4.3.1 Including end user in system development

In terms of being actively involved in the change request process, operations employee 1 was interested in the prospect of giving input and learning at the same time.

"I would actually like to give my input and learn at the same time."

(Operations employee 1, Interview 2)

The same attitude is not shared by operations employee 3 who believes that IT are best suited to solving IT challenges. This employee feels that operations can assist in idea generation and by proposing ways to improve existing processes.

"Not really. If it was something that interested me, then I would obviously want to be involved, but I'm happy just to send through the request. Sometimes I feel that it's quite

easy to change, but the guys who work on the system obviously know it better and what other reports that change will affect. Me as a front-end user, I don't really know what's going on in the background, but as team we are contributing by thinking about ways for IT to make things better for us."

(Operations employee 3, Interview 5)

"...but sometimes we try and initiate ways of doing things better. For example, we suggested uploading spreadsheets into FPM, automatically entering certain transactions that we can pre-empt, but these aren't on a daily basis. These are on an ad-hoc basis."

(Operations employee 3, Interview 5)

In contrast to the views of operations employee 3, operations employee 4 sees themselves as vital contributors to the requirements gathering process. There should be a balance of inputs from both the strategic and operational levels. By focussing solely on the wants and needs of the strategic functions, the organisation is neglecting to account for the impact decisions have on the mechanics of day-to-day processes.

"I sometimes feel that we are left out of the loop because the user is the best person to go to in terms of trying to figure out what is best for the request. You do need the high level top people to give their input, but it's nice for the normal user to be giving some input around what's redundant. I think it's important for the user to sit in on these discussions."

(Operations employee 4, Interview 6)

4.4 Phenomenon 4: Impact of product complexity

Operational and IT employees both reached the conclusion that the current systems were not designed for the sheer complexity that the organisation's latest product offerings require. IT employee 2 found that the organisation's willingness to please institutional clients on an individual level had contributed to the complexity of the operational systems. Because the system was not designed for so many exceptions, IT constantly has to spend time fixing issues as a result of all of these exceptions.

"Yes, so FPM currently doesn't cater for all possibilities. So it only caters for simple or work arounds, but once it gets complicated or out of the ordinary then it's difficult to deal with stuff like that."

"Well for the Africa Bond Fund, the answer is no because of the complexity of the product and the way they're stretching FPM to deal with it. The system was probably never designed for funds like that. For Invest+, I think the performance is fairly ok. It's a good tool to use. The data from there is good. It's user-friendly. It doesn't break-down as much. So those are the two systems I mainly use."

(Operations employee 2, Interview 3)

"It's too much to customise the system so much in the beginning. We started from humble beginnings, but we're customising too much. One client wants something one way, and other clients want it in a totally different way. We're constantly in fix mode."

(IT employee 2, Interview 4)

The issue of complexity does not only relate to the product's themselves, but also to the performance framework that overlays each product offering. According to operations employee 4, this framework causes the department to perform twice as much checking as the organisation's competitors normally perform. The quote below makes it perfectly clear that this

framework does not provide any benefit to the operational department and only works from a strategic perspective.

“...We’re doing double work compared to our competitors because we’re the only company that uses this manager system.”

(Operations employee 4, Interview 6)

“No. It works really well from the portfolio manager’s perspective.”

(Operations employee 4, Interview 6)

4.4.1 Rate of change in the organisation

Most employees are convinced that the organisation is changing faster than before, and on many different fronts. Regarding client transactions, the introduction of new products has meant that the operational department has had to process an increasing number of financial instructions.

“...the Life department is actually growing quite big, and clients are always withdrawing and contributing, and there are also a lot of transfers...especially between new product pools.”

(Operations employee 1, Interview 2)

The investment environment in which the organisation operates also appears to be becoming more complicated and competitive. Operations employee 4 has found that organisational performance has had an impact on the amount of requests and transactions from clients, as well as on the amount of unique informational requests that those conducting business development initiatives seek. The requests for information are also last minute, with the new business

development teams not considering the operational impact of setting deadlines that are near impossible to meet.

“So in our department, just these last two weeks we’ve had numerous last minute requests for presentations and ad-hoc requests. There has been an increase in requests. You can see that there is a lot of hype; a lot of activity going on...”

“... We service very high pressured teams. Our requests from them are often last minute. This is especially true for Namibian and Botswana clients.”

“...but a lot of the things they request are over and above things we normally do. They request things that we’re doing for the first time, so we have to do them manually. They’re so scared of their clients leaving that they over promise, and then we’re the ones caught up in it. It’s frustrating for us because we don’t do it for our South African clients.”

(Operations employee 4, Interview 6)

Regarding change requests, IT employee 5 found that requests arrive from multiple levels within the organisation. A major concern would be whether these levels and their subsequent requests are in alignment with one another. If they are not, this would add unnecessary complexity to the organisation’s operational processes.

“It varies, from anyone who’s actually doing operational work themselves, or the manager that oversees the business area. Directors of divisions etc... It’s wide ranging.”

(IT employee 5, Interview 9)

4.4.2 Increased presence of industry regulation

A significant portion of client requests that operational employees receive pertain to industry regulatory reports. Operations employee 2 claims that the organisation is receiving more of these requests from clients. The organisation is also putting more pressure on its internal processes to deliver reports to clients as quickly as possible. This employee also exhibits an understanding of the urgency for financial information in this industry.

“Yes I think so, definitely. There are a lot more requests now for information, especially with the regulatory requests and when they invest in different products.”

(Operations employee 2, Interview 3)

“I think we’re putting more pressure on ourselves. Before our deadlines were day five, and we’ve moved it to day three for a lot of our clients, so we’re actually looking to get things out a lot earlier. Overnight reports are setup to automatically be sent off. We’re getting all of these industry standards as well, with ASISA. I’m not sure if there’s an industry standard in terms of a deadline. You also don’t want to send clients old data, I mean prices are finalised on day one, and you’re only sending your report five days later, so by then your information is stale...so that’s why we’re continuously under pressure.”

(Operations employee 2, Interview 3)

Industry alignment is seen to be important to operational employees 2 and 4. Operations employee 2 believes that knowing what information to send clients is important. Less variety of reports also leads to less complexity in terms of individual client exceptions in the reporting system.

“Yes that means less variety or reports, all asset managers will have the same templates that they use, and it makes it all easier for everyone I guess.”

(Operations employee 2, Interview 3)

“I suppose; I don’t know any other way that it could be. I think it’s aligned with a whole lot of other companies.”

(Operations employee 4, Interview 6)

Considering that environmental uncertainty is a key factor influencing organisational alignment (Chan et al., 2006), it is important that the organisations manages its operations in accordance with the dynamic regulatory landscape.

4.5 Phenomenon 5: Understanding the impact of process changes

In the below extract, IT employee 1 recognises the knock-on effect of process changes and that impacted entities need to be managed by IT. When interviewed, operations employee 2 referred specifically to some of the impacts mentioned by IT. Regardless of whether IT are aware of the limitations to what they can change at any one time, operational processes are being negatively affected.

“For now I think it is adequate. There’s obviously room for improvement and that’s part of our change with Fundamental and the performance issues we have with Fundamental. So I think we’re always striving to better the systems and efficiencies and the speed at which things are run. But there are of course limitations to how much change you can make to something at a stage. So we look at which factors are impacted.”

(IT employee 1, Interview 1)

“They’ve done a few big things this year isn’t it? Well basically FPM releases are supposed to increase our performance, but they don’t always do so. We’ve had issues

where the NCDs have not being calculated correctly, or our Orbis processes aren't right...but now the biggest issue for me has been the Africa Bond Fund."

(Operations employee 2, Interview 3)

In the following quote, IT employee 2 remarks that some solutions were released to operations without having undergone thorough testing or impact assessment. The quality of IT output will improve should the correct impact analysis be undertaken, as they will have a better understanding of both the impact that a change has on other reports as well as the impact on business processes which rely on these reports.

"...Because processes were not tested properly. There was no impact analysis done. So critical reports such as schedule of income, internal portfolio...they are key in terms of pricing. Those are massively big stored procedures and often used by other reports all over the show. There are 25 reports that call the internal portfolio central function."

(IT employee 2, Interview 4)

Operations employee 4 has had experiences where IT have shifted priorities from supporting existing processes to focussing on the development and support of proposed upgrades of said existing processes. The business still relies on the existing processes up until the point where the new processes are released to the business, therefore IT need to factor this into their development strategy.

"So I wouldn't say they can't solve the issues, as much as they have capacity issues. They don't have enough developers to work on the reports. Or the other big reason is that they are busy with setting up a new report, and according to them its time wasted working on an old report. But we know that the old reports are probably going to be servicing us for the next year, can you just test the reports...I know that you're working on this new

report but there are other extra reports and funds that are being launched all of the time and we have to..."

(Operations employee 4, Interview 6)

When Santa et al., (2009) remark that the technological effectiveness of an organisation is influenced by recognising changes in the environment, this includes the immediate operational environment.

4.6 Phenomenon 6: Communication between IT and operations

4.6.1 Communication between IT and business

IT employee 1 displays a distinct feeling of being left out of the knowledge sharing between IT and operations. This has left the employee unaware of the business processes that operational employees follow.

"I think they know their processes. From an IT-perspective we're sort of on the outside...I don't know all their processes that they have to follow or what they do...so that's sort of a grey area."

(IT employee 1, Interview 1)

In the following four quotes, operations employee 1 describes their experience in communicating with the IT department. Firstly, this employee recounts the recurring issues that need to be logged with IT but don't get resolved due to capacity issues. The employee then mentions that they have to usually contact the IT department regarding the status of change requests, rather than IT communicating it to them. Operations feel that having some of the third-party software vendor's personnel on the department floor will contribute to shorter

turnaround time for change requests. The speed at which IT is already delivering at is attributed to the close proximity of IT to the business. After a change has been processed, operations would appreciate consistent feedback from IT on the status of their requests. This is part of what operations consider to be an attribute of a success change request.

“Well on our daily flow that we have, I mean, its consistent errors that come up like all the time...so it’s every day that there are small errors but sometimes it can be ignored as it hasn’t been fixed yet by FPM. So it’s been logged but it hasn’t been fixed. So it could be for a week...the same error could be coming up, but then I would obviously need to liaise with the FPM Support Analyst and find out if it has been fixed or not.”

“Maybe get some of the vendor’s employees in to our offices, sitting on our floor, which could actually help us...like it used to be in the past. So having them present would be great.”

“Yes, they’re quick, but that’s because they’re so often in our space I guess...otherwise we can’t produce.”

“By looking at the turnaround time I guess. Timing them, like when I send the email, and the response time of them getting back to me...and obviously the follow-up as well”

(Operations employee 1, Interview 2)

Some operational employees deliver change requests to IT verbally. In these cases, there is no email trace or log of the instruction, which makes it difficult for IT to track what was requested.

“There’s a big difference between the ways we work with change requests than other companies. I usually get a change request directly from the Head of Pricing, sometimes not even on an email or a log but verbally.”

(IT employee 2, Interview 4)

Operations employee 4 claims that internal secondments within the organisation are effective in improving the quality of communication between IT and the business. The belief is that once the secondment has passed and the employee returns to their original domain, that they'll have a better understanding of the other departmental processes. This is understood to improve the quality of communication between departments.

"I was always for secondments within businesses, or just taking time out to sit with the team and find out how they do things. That's something that I brought up in my group that I would love to see how I'm servicing other teams in and around my area. So quick half an hour sessions of finding out what they do, what they need from us...that'll make life easier for them. So knowing when in the day they're busiest. If I know that you are doing scrums, then I won't send a request and for someone to come back to me because by then I might be in a meeting. It's routine. People know when you're setting meetings, or when teams are busy with certain things, so we wouldn't log things during that time. We make sure that we do things when people are at their desks."

(Operations employee 4, Interview 6)

The interview process also revealed that there is a communication problem within the IT department itself. IT employee 5 proclaims that changes are sometimes not communicated amongst their employees and this is significant because changes have the potential to impact other reports.

"I'd like to be warned about it before I know that it's happening. Very often you find that after the fact, "oh by the way this is what we're doing". Like, "we edited the report

because so-and-so says we should do this” meanwhile it’s a huge, big product that has gone...”

(IT employee 5, Interview 9)

4.6.2 Understanding individual role in change cycle

Operations employees are aware of whom to approach regarding change requests on different systems. They have a sense of the importance of trying to assess the nature on their side first, before involving IT in the matter.

“Ok well the FPM Support Analyst will be guy number one that I go to, and if it is an Invest+ issue then I will chat to the IT Ops Analyst.”

“Well I would need to investigate it first and then pass it on to them if I can’t find the problem on our side.”

(Operations employee 1, Interview 2)

IT employee 3 understands their role in change requests relating to pricing, and when to involve their manager in a decision-making capacity. This employee also recognises the need for the user to be involved in the initial requirements analysis phase, as well as in the hand-over process.

“It’ll be pricing, and then if I make the change...if I make the change then I need my line manager to approve the change once I’ve made sure that I’ve tested it, and put it on the log. It’ll either be a senior developer or any other approver.”

“Well definitely at the testing level. Firstly, from an analysis point of view, if you’re doing analysis and you need feedback from them to explain their request then yes. Secondly, when they sign-off for UAT testing, then yes. Once it’s in production as well then they need to make sure that the item is working there as well, because there must be some scenario that you haven’t catered for.”

(IT employee 3, Interview 7)

IT employee 4 relays the initial employee’s view that operations need to attempt to analysis any requests from their side before approaching IT. This approach promotes the sharing of knowledge across the two domains, as the operational employee is forced to analyse the issue. When the IT department are eventually brought into the frame, operations will be better prepared to engage on the matter of the strategic alignment of the change proposal.

“Absolutely, they should. They’re the first person to highlight the need. I think there should be an internal process, before it hits IT, to ensure the correctness of the need. I think for bigger requests it should be clearly written down, it must be properly articulated. Again for bigger requests, when it first hits IT there needs to be a “did we get it right” conversation in a way. Sometimes the specification is collaboratively written, it it’s not it needs to be...did we get it right, did we understand it correctly, can you make some suggestions either based on technical expertise or other IT options.”

(IT employee 4, Interview 8)

4.7 Phenomenon 7: Silos of knowledge within operations

As mentioned by Chan et al., (2006), the sharing of domain knowledge is critical for strategic alignment between IT and operations. Operations employee 1 shares the fact that they feel that

knowledge is definitely segregated in the business. What's concerning is not that information is only segregated between IT and operations, but that it is segregated within operations itself.

"I understand most of our daily flow, as to what's happening, but I mean some's meaning could be elaborated in more detail. Knowledge is definitely segregated and kept in silos within the area."

(Operations employee 1, Interview 2)

Operations employee 4 highlights the trend that knowledge workers are reliant on their managers for approval with most processes. Other operational employees have expressed their experience with not being able to perform their core function until their manager had returned to the office, should they have been away temporarily.

"So it would be me, and then I'd speak to my manager and ascertain whether it's a valid i.e. if it's a valid request that we can send, but normally we can make the call by ourselves. If things don't tie up, then it's almost obvious that something is wrong."

(Operations employee 4, Interview 6)

The issue of high turnover within the IT department has also been an issue for employees in the operations department. Operations employee 4 maintains that when experience IT employee leave the organisation they take their valuable process knowledge with them. Newer IT employees are not seen to be keeping up and this is creating issues for the operations department as the backlog of their change requests is not being attended to.

"So I think the older staff, which have worked on phasing in the new system, they know what they're talking about. Because there are always new staff members joining with the turnover being high, it's difficult because I feel like we have to explain ourselves over again. In fact, we've got logs of reports that were not correct, like logs from two or three

years ago where the reports are still not correct. This is because things have just been handed over to new people all of the time. The people are knowledgeable but more than likely you are going to be explaining to a new starter.”

(Operations employee 4, Interview 6)

The impression that knowledge is not being shared within operations itself, and between operations and IT is shared by IT employee 4. They believe that in order to keep operational processes running efficiently, the operations department employees who hold most of the knowledge are heavily relied upon.

“I think it’s a challenge to understand business processes in this environment, because the knowledge is locked up in resources that are quite thin and very heavily used to keep the operations running efficiently. I think in the last two to three years the IT delivery has gone through a phase where it was not perceived to be delivering well, and I think now it is delivering well.”

(IT employee 4, Interview 8)

4.7.1 Understanding of business processes

Operations employee 1 discusses the impact of the environment on business processes. Over month-end clients request most of their reports and as such the systems were not performing optimally for the operations department. These types of impacts are important to consider from an IT strategy perspective and should be incorporated into their planning.

“No, it has been slow recently too. People have been experiencing problems. But it could possibly be over month-end and quarter-end, as we’re still in the quarter-end cycle.”

(Operations employee 1, Interview 2)

The lack of standardisation surrounding the new product processes are causing difficulties for operational employee 2. IT are not delivering an effective solution in this case as the process has yet to be standardised. This lack of standardisation is not due to a lack of effort, but rather to the uncertainty experienced in administering a fund in an emerging market.

“So with the Africa Bond Fund we do it as it comes in. If it happens, then we just have to find a fix. It’s difficult to say that IT can be better. Currently they do as much as they can, but they will never fully be on the same level where I think they should be. This is because things are not very standard.”

(Operations employee 2, Interview 3)

Business processes also exist within the greater IT department, and these two have an impact on the output that IT provide to operations. An example here is the balancing of automatic and manual quality testing.

“We have automated test cases, but when you make a functional change, in terms of category then regression is going to fail because your functional environment and you control environment are different. So you can’t always rely on an automated script to pick up issues, especially when we do functional changes.”

(IT employee 2, Interview 4)

Operations employee 3 recognises the benefit of shared knowledge and the impact this has on business process understanding. This employee recognises the IT department’s willingness to understand change requests and the impact that they may have on the operations department.

“A lot of the time they would come to us and chat to us and basically ask what the purpose is for the change request, so they can get an understanding of the report or the transaction type, and then I think in that way they can understand what is needed.”

(Operations employee 3, Interview 5)

An important consideration in the literature on the alignment between IT and business is the uncertainty in the environment surrounding the organisation. IT employee 3 relates to unknowns and the necessary response that needs to be made. Again, a sense of preparedness for said uncertainty assists IT in understanding business processes. This employee also notes the importance of shadowing users in operations, but the inability to accomplish this due to time constraints. This is seen to be a very valuable exercise as developers in the business do not have a good enough understanding of the business processes within operations.

“Mostly it’s in terms of pricing because I support that system mainly, and the integration warehouse. So most of the requests are either to investigate a query with regards to a price that’s not coming up either because of configuration or unknown reasons. So we do an investigation and if there is a change required then we change it based on the business rules that they want. Yes, so those are the main requests.”

(IT employee 3, Interview 7)

“My idea is that we actually spend time shadowing users, but there just isn’t any time with our current backlog. But I think that’s the ideal route, to sit there and understand the process and also to see the bigger picture. If there was like a diagram which showed you how the processes work, but I haven’t seen that and I’ve been here for so many years. So I don’t know what the knock-on effect is. I know when pricing ends at 4pm and 6pm, but that’s not actually the end of the process. That’s just the start, the business continues pricing, but I haven’t seen that. It would be nice to understand the whole flow and how

everything fits together, but four and half years later I still haven't seen that. I think in all the areas, not just pricing, that would be important to know. Especially when you start, because if you're new you don't know anything. If you had that bigger picture, then you could understand how your role fits into the process."

(IT employee 3, Interview 7)

IT employee 4 also believes that there is a lack of visibility of the operational processes, and that a suitable process documentation tool is currently being sought after.

"Some are, some aren't. I know they've been looking for a process documentation tool, so there's obviously awareness that there could be better visibility. I guess that the timelines are met means they are consistently well done."

(IT employee 4, Interview 8)

4.7.2 Business acting as sole decision-maker

The interview process uncovered a number of views on the tendency of the business to dictate changes onto IT, rather than the changes being mutually discussed. By not engaging with IT on prospective changes, the IT strategy will unlikely be considered, and as such there is unlikely to be any alignment between IT and operational strategies.

"Well I think it's accurate based on what was required at the stage when it was put in place. So we obviously deal with a set logic on how we calculate things, which is defined by the business."

(IT employee 1, Interview 1)

Operational employees also expressed the tendency for senior employee's requests to be met without considering the impact of their requests on the rest of the business.

"The biggest person would be our Head of Pricing probably, because if a change ever needs to be made then they would be that person."

(Operations employee 2, Interview 3)

"I would say it's your manager firstly, because they can prioritise things. Sometimes if a user submits a request, the IT team won't necessarily prioritise it. I guess that's somewhere where the business falls short. They will listen to your request, but it all depends on where it gets prioritised. It goes much higher on the list if it gets the backing of your manager."

(Operations employee 3, Interview 5)

The urgency that is placed on certain requests by senior operational employees is understandable however, as they are often servicing the needs of other decision-makers in key areas of the business.

"Our deadlines are also very short. Because our deadlines are short, and presenters and portfolio managers want information immediately, if the report is incorrect or something is wrong in the system then we just manually calculate it and send it off."

(Operations employee 4, Interview 6)

The decision-makers in key areas of the organisation are felt to be driving operational strategy, with operation decision-makers having little influence on the matter. Operations employee 4 claims that this is being done without regard for the sustainability of the operational processes.

“As much as we’re frustrated with the systems, the business demands so much at such a rapid pace...like our manager systems, and extra funds going into the system etc. Well the business expects that our systems must just suck it up. I understand the potential for success from the funds moving into the manager system, but I don’t think the people who make these decisions realise the amount of pressure it puts on the rest of the business. We have to do so many manual workarounds because things aren’t working. So the demands do come from the people at the top and we don’t have control over that. As much as we try and put things off until the system can cope with it, the system is not at a stage where it can cope with all of these extras. I do feel sorry for the people who have to deal with all of the new system issues going forward. It’s tough.”

(Operations employee 4, Interview 6)

From an IT perspective, IT employee believes that the IT department is acting too much like operations and this is as a result of the decision-makers in operations dictating that IT operate in this manner. This employee recognises the importance of quality testing, a strong contributor to operational effectiveness.

“Generally, the most successful ones are those that considered the impact beforehand and what they actually want from it. I think that stems from the larger issues in our area. For a long time, there has been a reliance on IT to behave like the business, so there was never any user testing, there were no requirements, and information was all one-sided.”

(IT employee 5, Interview 9)

4.8 Phenomenon 8: Quality of requirements gathering

The below quote from IT employee 1 highlights the need for sophisticated planning when it comes to gathering requirements from operations. Better planning allows IT to engage with

operational processes that are subject to change and uncertainty. It also promotes consistency between IT output and operational expectations.

“So I think we just need to have more interaction between the business and the development so that everybody is on the same page and we all get the same result at the end of the day.”

(IT employee 1, Interview 1)

Poor requirements gathering is also a source of inefficiency and poor quality for the organisation. Sending a request back to a requester in order to fulfil the minimum initial informational requirements is a severe waste of an organisation’s resources.

“There has been times when there’s too little information to pass a change request log onto a BA because it just says “this is not displaying” but there’s no real link to whatever’s displaying...so sometimes there is too little detail.”

(IT employee 1, Interview 1)

Delivering what was requested, as well as time to deliver, are important factors for operations employee 2 in assessing the success of a change request.

“If the outcome is as close to one hundred percent to the request that was made and the efficiency that comes with that.”

(Operations employee 2, Interview 3)

According to operations employee 3, it is clear what is expected from operations on a daily basis. The business processes are well defined in their opinion.

“Yes, I mean IT send out a daily mail to everyone saying these are the reports that need to go out, and if any are missed everyone in the business is aware. This is because they’re included in that mail. So I think everyone knows what needs to be done and by when it needs to be done. But there are also system constraints during month-end, more specifically where the system can’t handle the amount of strain that all of the users are putting on it.”

(Operations employee 3, Interview 5)

Requirements planning will have been done to a high level of quality should the user’s job become simpler to perform and they’re able to perform their core function better, says operations employee 3.

“I guess if we can do our job easier. So less time spent checking things that the system could do for us quite easily, so that we can rather spend our time on other things. So things that we ultimately get measured on are how quickly we can send out our reports. There were a lot of changes that were done, and if you look at the data is extracted in terms of month-end and when it’s complete, then you will see that things are getting done a lot earlier.”

(Operations employee 3, Interview 5)

An important consideration when performing requirements planning is that what appears to be small process changes often become far more complex than originally anticipated. This point relays the fact that organisational size and environmental uncertainty should be factored into any requirements planning exercise.

“Not all of the logs require because it might be a small change, or you think it might be a small change, and it sometimes explodes into a big change. Most of the time it’s a change to a current process. If there’s a new or major process, then you actually do your own

analysis as a developer. If you don't have a BA or if you want a BA, then I guess you could ask one of the BA's if they are available."

(IT employee 3, Interview 7)

4.8.1 Understanding when the business analysis function is required

IT employee 1 describes the business analysis function as the middle-man between operations and IT. This interviewee also suggests that removing the business analysis function in some cases may strengthen communication between the developer and the business user, should the change request facilitate such an interaction.

"So the BA is sort of the middle man between business...the business goes to the BA, the BA goes to the Dev, the Dev goes back to the BA, and the BA goes back to the business. So maybe cut out the middle man in some instances and go straight from the Dev to the user...so they're both on the same page. This might make it easier."

(IT employee 1, Interview 1)

IT employee 2 raises the point that developers in the business typically do not have a deep enough understanding of operational processes. This argument uncovers the value that the business analysis function brings to the organisation.

"So it's a combination of a business requirement with a touch of technical, which functions in FPM will be preferred and why, and prove that the data exists in these functions that you're looking for. This is all we want to give the developers because they have not been doing it, and the developers aren't business people so they have no idea that if I capture this transaction do I even look in a transaction table...because they don't

know. If you look at the code and where things have gone wrong, it's purely where there was a combination...the combination of developer and BA wasn't a strong enough unit to understand or represent the business and its legacy. When we went live we took on twelve developers, all on contract. One or two business analysts, all on contract. And they ran with whatever we wanted."

(IT employee 2, Interview 4)

IT employee 3 does not argue for or against the place of the business analysis function in the organisation, but rather remarks that in some areas of the business there is no BA layer. In these cases, the user takes on the BA function informally and deals directly with a developer. This user would then be responsible for confirming that the output meets the desired quality criteria.

"Fairly good I would say, but...well the business doesn't really change that much...well when it does change there is a BA involved and the BA kind of helps or assists with the understanding for the developer in that sense for IT. But for pricing we don't have a BA, so there's direct interface between the developers and the user. So the user basically becomes the BA because that's the same person that's doing to testing, and it's the same person giving the requirement. So there is no official documentation that says they need this, this is how I want it etc."

(IT employee 3, Interview 7)

This employee however still believes that requirements are miscommunicated when no business analysts is involved in requirements gathering. The BA function is seen as a critical to achieving a quality output.

"Yes we always have issues, especially when there is not BA involved. When we get the request from the user and the user doesn't always give you all of the information. So issues could arise there. For example, you could start working on it and then they could

decide they want to start changing it because it's not exactly the way they wanted it to work. That is called scope creep. Secondly, you could get to the point where they're happy and they've signed it off but then they test it in production and decide that it is how they wanted it to work but there is something I forgot to tell you. So now you need to go back and work on it again, or work on the extra item that was related to that. If there was a BA involved, I would say that BA would probably ask questions that the developer wouldn't ask. That's because they would understand the entire process and how it fits in. The developer gets the request and he starts working on it."

(IT employee 3, Interview 7)

In the below statement, IT employee 3 sees that there are definite gaps in IT where the business analysis function should operate.

"You do the analysis. I wouldn't always expect the BA to look at our processes or our systems, but in most cases if it's a report for example some of our BA's know SQL. They can then look at the SQL and go "oh well, this is a small change here". But there isn't a BA that's looked at our integration systems because I don't think they quite know what's going on, or don't want to know. There's a gap there."

(IT employee 3, Interview 7)

Finally, IT employee 4 believes that users do not have the skills necessary to act as a business analyst on behalf of the business, and therefore that professional business analysts should carry out this function.

"I see it. They're not always directed at me, but I see the prod support request coming through. Some of them very, very clearly need a BA involved in that they don't have the time to write it down properly, or they're written it down properly...it appears if you get a business analyst involved they can tease out a much better solution."

(IT employee 4, Interview 8)

4.9 Phenomenon 9: Management of expectation

In terms of aligning the business and IT departmental strategies, both sides need to be aware of each other's limitations in order to operate efficiently. IT employee 2 feels that the business expects IT to respond to changes on very short notice. They also state that the operations department is only concerned with the outcome of change requests, and not necessarily the impact that changes have on operational effectiveness.

"Before it was business wanting something quickly, then there's a quick check, it goes into production on the fly. I'm speaking about four years ago. And what we found was that we were sitting with these huge amounts of production support issues."

(IT employee 2, Interview 4)

"I do try and negotiate the terms of the request with the Manager. We also need to weigh up the cons. If you are going to try and force something in with twenty minutes to go for pricing for one fund that has a special case on it that you're aware of, you can't really jeopardise the rest of them if you're going to force something in terms of development. We're slowly getting there."

(IT employee 2, Interview 4)

"I do see the business need, and the urgency that they put on IT which I don't think is fair. They need to be upfront when they pick up their problem."

(IT employee 2, Interview 4)

Managing expectations does not only relate to the relationship between IT and the business, but also to the expectation that investors place on the business. Feedback received by operations employee 3 indicates that clients expect the institutional business to offer them web-based investment statements.

“At the moment yes, but in the future it would be great if we could move into web-based systems. So regarding the client surveys there were a few responses where clients mentioned that our reports are quite outdated, and they’d like to view reports on their tablets in certain formats.”

(Operations employee 3, Interview 5)

From the IT perspective, employee 3 has experienced challenges when business rules change and IT are expected to manipulate the system for critical business processes. In these cases, the business does not realise the importance of adhering to the rules of the pricing process system. This employee has also seen the benefit that web-based screens have versus having to process work via an application.

“I think with pricing its quite difficult because...so we’ve had a few cases recently where...so the business knows their rules and the pricing process is based on certain rules. There have however been cases recently where instruments; they know they can only price an instrument that is held and in FPM. But there was one instrument recently where it wasn’t matching those criteria, yet they wanted it to be priced. So then we are expected to bend the system just to make sure that this instrument gets into the pricing universe and so they can price it. So at the business level they should have told someone, but now the next day came it was like “why is it not being priced”. They know their system has verified rules based on their rules and if there is something that they require that is out of the ordinary it should occur to them that something is not going to work here. Don’t expect it to work the next day because every system is based on rules.”

(IT employee 3, Interview 7)

“If you look again, the web screen becomes quite handy. They can manage instrument data; they can do pricing on these web screens. Previously they needed to be in an application. The pricing specialist has the pricing down from 16:30 to 16:15. So we’ve saved 15 minutes. It doesn’t sound like much but it’s 15 minutes that he doesn’t need to do pricing. And with customer reports, they can see if client information is correct etc. They all assist with helping the business make better decisions.”

(IT employee 3, Interview 7)

IT employee also believes that IT system logic is struggling to keep up with business rule changes imposed by operations.

“I don’t really know either to be honest. The user, I would think, should know. In their mind it probably is always a small change, but the architecture of the system isn’t always as flexible to the need. So your pricing is very rigid and conforms to certain rules. We then bend the rules to fit certain scenarios. There are always those exceptions. It’s not always that black and white. So in the user’s mind it might seem simple, but when you start looking at the dev, then you have to figure out how this all fits in. Then I need to say well this is not going to be a small change. A lot of items need to change to make the request work.”

(IT employee 3, Interview 7)

In the quote below, IT employee 4 recalls the business informing IT of strategic changes after they have already been implemented, with IT having to rush to manage the knock-on effect of these changes.

“Yes I think so. I think quite frequently we end up delivering under pressure or after the fact for various reason. If you’re delivering something after the fact, this has changed, go and find all of the places that were affected and make it right. Or this has changed and we’re going to raise issues as we find them. In that kind of scenario, I don’t really know what timely is. I think the critical stuff is done timely.”

(IT employee 4, Interview 8)

The last two quotes from IT employee 4 speak to the fact that the expectation of IT is very high, but that the organisation is not using technology enough. They are blind to the strategic value that IT can provide and only use the technology that they are aware of.

“People expect more from technology. I think that this area does not use technology enough. They only use what they know.”

“I definitely think there is a vast room for improvement. I think the obvious one is that we do not have an intranet portal. How do we in this day and age not support an internet portal?”

(IT employee 4, Interview 8)

4.9.1 Scope creep of IT responsibilities

In the below quote, IT employee 1 comments on the importance of distinguishing between what should be an IT process and what should be an operational process.

“I don’t know...it is difficult. I think it varies from user to user. If you give people what they need to work, they’re not as demanding and also if you give them a bit they start asking for more and more so it all depends on the type of person as well. It is also the amount you take on the IT side versus how much becomes a business process. If you take

on too much of their processing and put it into your systems it also creates a greater margin for error, so there's more errors that could arise as you're now trying to code something for a particular way for something, and the business just changes the way they process something..."

(IT employee 1, Interview 1)

However, operations employee 3 believes that strategic alignment is taking place and will continue to strengthen moving forward, so much so that the functions could merge and "integrate". The operational processes in portfolio admin side of operations are almost fully automated and therefore very reliant on IT to support them.

"Yes, so I think that might be the future where the business is going. And a lot of the guys in the portfolio admin team have moved across to IT as well. I can see the roles becoming integrated."

(Operations employee 3, Interview 5)

IT employee has a different option, and while they acknowledge the benefit of strong communication between IT and operations, they believe that IT should not be responsible for running the operations of the organisation.

"Well working closer together so you can understand, creating channels for communication so you can engage...but obviously you can't change all things all of the time. So there needs to be an identification from the business where they know what area is a pain, and then you figure out the process. There's no point in IT running business's role as well."

(IT employee 5, Interview 9)

When it comes to scope creep of IT responsibilities, IT employee 5 sees the responsibilities of the operations department as including the driving of organisational change. This is in response to operations not always buying in to the strategic intent of IT. The business should be the one requesting the change through a desire to perform more effectively. Change should not be forced onto operations by IT.

“Well every business case should have a delivery manager. It should also have a champion or a sponsor. Those should always be from the business. It should not be up to IT, but unfortunately that’s been the case lately. The domain owner should facilitate the request but not actually drive it.”

(IT employee 5, Interview 9)

4.10 Phenomenon 10: IT as an enabler of organisational performance

A number of interviewees felt that IT is a driver of organisational performance. This concept of being a driver of performance is seen to work both ways, in that IT can influence performance positively and negatively depending on their solution output.

“Yes. Our deadlines are business-driven. Our function is essentially to support the business.”

(IT employee 1, Interview 1)

Here operations employee 1 claims that IT system performing affects operations negatively. Operational employees have subsequently experienced delays in completing their daily processes.

“Not really, because these systems are slowing me down. The administrators have to wait, then we have to wait, there is a knock-on effect on our processes.”

(Operations employee 1, Interview 2)

Regardless of the negative opinions expressed above, operations employee 4 comments that the IT department have a positive impact on operational effectiveness. This employee concedes that operations place too much urgency on their requests to IT, and this is due to the fact that operational clients (investors and investment-related departments within the organisation) expect information to be delivered to them more efficiently. Other factors that influence the effectiveness of IT are the capacity issues mentioned previously, and the reliance on manual workarounds. IT are well aware that operational employees can manually perform any function that is automated by IT systems. This is essentially a safety net for operational processes, but does introduce an element of risk into the organisation as manual processing does not guarantee any meaningful level of accuracy.

“It think they’re pretty good. The problem is that most of our things are critical. If it’s not critical, where they tell us that they don’t have capacity, then the issue is that they know that we can do things manually and that there’s a manual workaround for most things. There are also risks in doing it manually though.”

“No. If we can get the system to run things at a faster pace that’ll be awesome. It’s amazing that we’re so used to things running slowly that we carry on with our work.”

“There are so many issues I could talk about, but at the end of the day they know we can do these manual changes.”

(Operations employee 4, Interview 6)

IT employee 3 is optimistic about the service that IT provides, and maintains that better IT systems will allow the organisation to respond to changes in the environment more efficiently.

If IT can continue improving their systems, then they'll be in a position to focus on new initiatives rather than simply maintaining the status quo.

"IT is an enabler in my mind. Without IT this business would not be able to function. The better we are at delivering processes to the business (updating processes, enhancing them, new business processes with are automated by IT processes), the faster the business can react, be more proactive, and focus on new business initiatives rather than just current day-to-day processes. If we can automate more processes, then we can focus on new developments."

System availability is also recognised, with IT employee 3 realising the importance of system uptime. Should IT systems fail, it will be very difficult to maintain business processes.

(IT employee 3, Interview 7)

"So that first portion, the change board, it's important that I see that stuff because it can effect availability of our operations team. So if we break services, or we do stuff over the weekend that affects operations then it can be negative. It's of an organisational risk mitigation function."

(IT employee 4, Interview 8)

4.10.1 Ability to retain IT staff

The issue of retaining key members of the IT department is a recurring one, with employees from both the operations and IT department remarking on it. The nature of why employees from this area of the business are leaving is multifaceted and falls beyond the scope of this study. It is however import that it is recognised and that this study analyses its part in the theory under development.

IT employee 1 mentions that staff capacity within the IT department has affected their ability to operate effectively. The causes of these resignations mostly appear to be isolated cases, with examples including relocating to other parts of the country, or taking up fulltime study.

“Our speed is affected by our capacity as well. There’s quite a bit going on so obviously our delivery times are affected so...the movement within IT...so we’ve had a lot of resignations and new starters and all those things add on to our operational effectiveness.”

“People have been getting opportunities to grow and have more direction in their field. Others have relocated or taken up studies.”

(IT employee 1, Interview 1)

The availability of skills within the IT department also has an impact on the service delivery that IT offer. In some cases, specifically surrounding the FPM system, changes requests are dependent on outsourced skills as the company providing the FPM system is solely responsible for all development on the system.

“Well, if they can, if they know what the problem is and if they can sort it out immediately then are good...but if it’s something that they can’t sort out quickly then they need to outsource the fixing. But they’re quite quick.”

(Operations employee 1, Interview 2)

The issue of product quality is brought into the frame when IT employee 4 recalls the skills required to test a change request. It is important that testers have the necessary technical and business skills and understand the scope of any change requirement before releasing a solution back to the user.

“So the BA has to test that the functional requirements have been met, because a tester...like we don’t have dedicated testers here, maybe one that has been employed permanently to be a tester. The tester here is working on an automated tool and he picks up other things, so our testers are seconded to us for three or four months, and it’s fine for them to do regression but it depends. You can pick up if somebody is really into it and starts to understand, but for three or four months we really just get them to run regression. We can’t let a business requirement that they have not been involved in be tested by someone who doesn’t have the experience.”

(IT employee 2, Interview 4)

Operations employee 3 also mentions the IT staff capacity issue as one that often comes up as an excuse whenever a change request is sought. The impact is recognised by operations employee 4 as the operations department are left to complete their processes manually. This has an impact on the efficiency of business processes and opens up the possibility of errors occurring.

“So we would log it with Institutional Support, so it’s basically the Portfolio Administrator or PA team. So we’d first discuss it amongst ourselves. If we find that it’s going to benefit us all and not just benefit one, then we’d log it with Institutional Support and then they push it over to the relevant team. I can remember we had this futures thing that we’re getting on a weekly basis where we need to do margin transfers for clients. So I logged it with FPM Support, and they worked out a spreadsheet that we can now upload into FPM. So there are things that the system can do, but it’s all about capacity i.e. if IT has capacity. It seems at this company that there is always a shortage of IT people.”

(Operations employee 3, Interview 5)

“So at the moment we are told that there’s not much IT can do for us with a lot of the reports that we log. Therefore, we have to manually do a lot of these reports, unless is major things like new pools and new funds that were launched and we actually need something to work with.”

(Operations employee 4, Interview 6)

4.11 Conclusion

The application of inductive qualitative analysis resulted in 22 categories that were further analysed to produce 10 phenomena. The ten phenomena, 1) trust in IT solutions, 2) influence on client service quality, 3) quality control gates, 4) impact of product complexity, 5) understanding the impact of process changes, 6) communication between IT and operations, 7) silos of knowledge within operations, 8) quality of requirements gathering, 9) management of expectation and 10) IT as an enabler of organisational performance are presented and explained in this chapter. This chapter presented these as preliminary findings that have emerged through this study. The following chapter will explain the relationships between the phenomenon and build theory to answer the research question.

5 Discussion of findings

In this chapter the findings presented in Chapter 4 are discussed. It extends the understanding of the effectiveness of the Information Technology function in business process change within Allan Gray, by answering the research questions: 1) What factors in the organisation have an impact on the success of business process change proposals? 2) How is the role of IT in perceived in the preparation of business process change initiatives? The questions are answered through the analysis of the relationships between the phenomena that were developed as preliminary findings. This is illustrated through a systems dynamics diagram. The main drivers of this diagram are then discussed.

5.1 Research Question 1: What factors in the organisation have an impact on the success of business process change proposals?

The ten key phenomena are represented in the qualitative systems dynamics diagram in **Figure 4**. The diagram contains three reinforcing loops (R1, R2 and R3) and one balancing loop (B1).

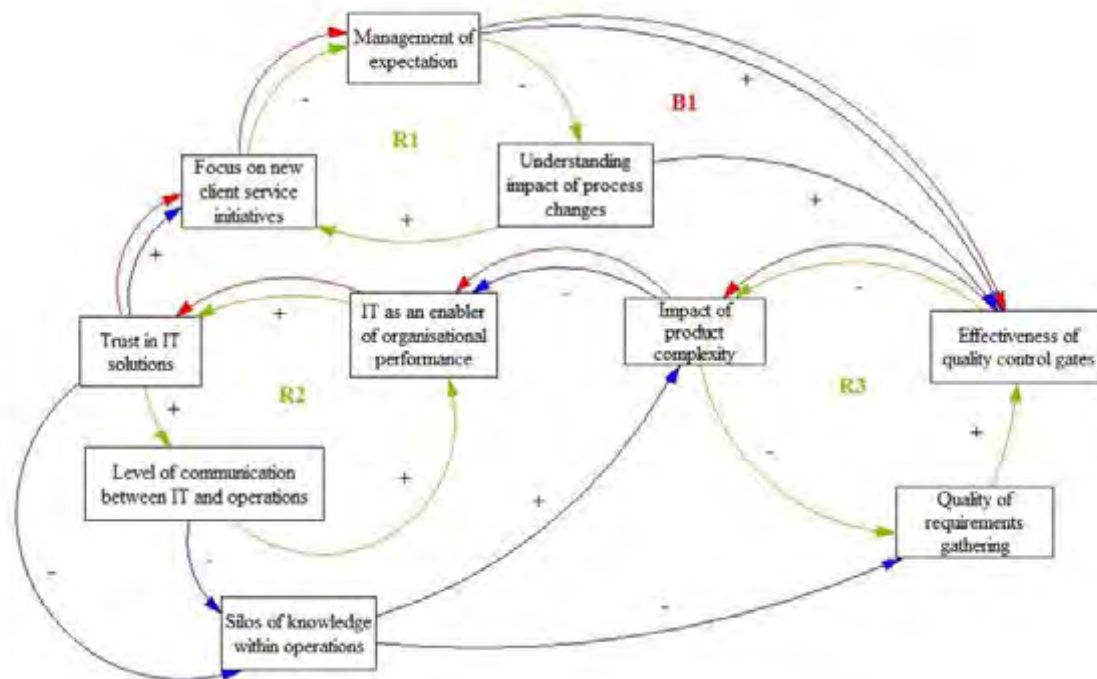


Figure 4: Emergent theory

5.1.1 Loop 1: Business processes (R1)

The first loop involves the relationship between managing the expectation of the IT function, understanding the impact of process changes, and the focus of preserving high levels of client service quality. The relationships within this loop describe how understanding business processes contributes to improved service delivery.

Understanding impact of process changes

There have been a large number of business development initiatives recently which saw the creation of a number of African-domiciled investment products. This has put additional pressure on a system that is already operating within severe constraints. This has highlighted the need for IT to gain clearer foresight when making process changes, as knock-on effects of changes are too frequently discovered after the fact.

According to Chan et al., (2006) the sophistication of planning is vital to an organisation's ability to align its strategies. With correct planning, and understanding each other's requirements and

responsibilities, the departments will grasp what each expects from the other. The management of expectation works both ways in this case, where it is the duty of operations to inform IT about what they need to know and vice versa.

Influence on client service quality

The influence on client service quality includes the impact of turnaround time as an element of client service. According to Zaheer et al., (1997) the ability to act in an agile manner in responding to environmental changes is key to remaining operationally effective. Operations generally tend to be more interested in the efficiency aspect of effectiveness, whereas IT are more interested in delivering a quality service. This tendency to focus on quality emerged from the fact that IT now know that operations have had negative experiences with IT delivery.

As confirmed by Luftman et al., (2009), aligning business and IT strategies presents its challenges to management. The balance between delivering information to an investor as quickly as possible and delivering wholly accurate information needs to be constantly managed. Renaud et al., (2008) believe that alignment never remains constant and that organisations must be able to manage changes between alignment and non-alignment in order to remain effective.

Management of expectation

As alluded to previously, operations consistently put seemingly unnecessary pressure on IT to deliver. The focus of the investment team has been to standardise their internal performance management grading system. This system of classification, along with the opening of additional African investment portfolios, has increased the workflow recently. Operations, in essence, provide an administrative service to the investment function at Allan Gray. The investment department therefore expects a certain level effectiveness from this service.

According to Sherman et al., (2006) operational effectiveness is defined as the provision of both an efficient and high quality service. In order to remain effective, operations need to continuously establish the investment function's definition of quality and efficiency. This way,

the investment function knows what to expect from operations, and operations knows what to expect from IT as the measures of effectiveness have been clearly defined.

5.1.2 Loop 2: IT and business process relationships (R2)

The second loop involves the relationship between the level of trust that operations have in IT solutions, the level of communication between IT and operations, and the influence that IT has on organisational performance. The relationships within this loop describe how important communication is in contributing to organisational performance.

Level of communication between IT and operations

According to Wagner et al., (2012) the social aspect of alignment between IT and operational strategies is an important consideration when considering operational performance. Since moving into the new building a few years ago, the IT and operations departments now sit in the same working area. Interviewees claimed that this has had a significant impact on the frequency of communication between the two departments.

The issue, however, lies with the fact that the quality of communication is not as well received. A recurrent theme in a number of IT interviewee responses is that previous negative experiences have broken relations between the departments, and that operational managers do not fully trust in the solutions that IT provide. This had led to the operations department performing their own additional risk checking beyond that performed by the IT systems.

IT as an enabler of organisational performance

The impact of product complexity clearly has an impact on the IT department's ability to influence organisational performance positively. The uncertainty that these products bring to the operations department means that more time and resources are spent just keeping the business running. In order to achieve any sort of performance gains, the business needs to do more than operate in a cycle of maintenance. As Whittington (2003) mentions, in order to

achieve the desired levels of change, an organisation must link its strategies to the environmental variables that influence it.

The business needs to adopt this approach as investor's are beginning to ask for more innovative reporting methods. Delivering outstanding service quality to investors is an important goal for Allan Gray, and in order to achieve this the increasing complexity of business processes need to be carefully considered.

Trust in IT solutions

The issue of trust has placed additional complexity to the daily business processes that operations completes. The additional checks mean that the organisation is performing multiple instances of what are essentially the same checks. This is seen as a waste of resources and does not fit the Agile methodology that IT subscribe to.

Arvidsson et al., (2014) suggest that organisations are at risk of looking past the strategic advantages that IT can provide. In order for IT to provide these advantages they need to strengthen their success rate by providing services that drive organisational performance. A positive success rate will in turn improve the impression of IT from the perspective of operations, encouraging further attempts at strategic alignment.

5.1.3 Loop 3: Organisational planning (R3)

The third loop involves the relationship between the impact of product complexity, the quality of requirements gathering, and the effectiveness of quality control gates. The relationships within this loop illustrate how effective planning has an impact on product complexity.

Quality of requirements gathering

Gathering operational requirements was difficult for the Information Technology department. The major challenge for IT was understanding when and where to employ a Business Analyst to perform the requirements gathering function. It became difficult to manage the need for a Business Analyst in most cases because the department subscribes to the Agile methodology.

The aim is for the department to break down work into manageable chunks, and for the processes to remain as lean as possible. In order to accomplish this lean philosophy, the BA function was looked at as being too cumbersome for the simpler change requests.

Ideally the IT department would want to predict exactly what changes require the services of a BA, and which changes don't. This would work as the organisation would be employing their resources optimally, which allows them to respond to unknown changes more efficiently (Sambamurthy et al., 2003). In order to reduce the number of incorrect allocations (assigning/not assigning a Business Analyst when they should/shouldn't be assigned) the organisation needs to engage critically with the operations department when making the initial allocation judgement. By sharing their knowledge with IT, the operations department will give IT a good idea of the larger extent of the change throughout the business.

Quality control gates

Quality control is implemented in a number of stages throughout the change management process. The process owner on the IT side is responsible for the change from a higher level to that which a tester would approach a request. The onus is on the process owner to decide whether or not a request is critical and therefore requires further testing resources involved.

Technological effectiveness, according to Arvidsson et al., (2014), cannot be achieved if an organisation neglects the changes in the environment that surrounds them. While fixing an organisation's frame of reference works in stable environments, the approach does not bode well for organisations operating in highly complex environments. The financial services industry is highly competitive, dynamic and relies on the efficient delivery of precise information. By avoiding cognitive entrenchment, the operations department will give IT the best possible chance at understanding what is expected of them in order to operate effectively.

Impact of product complexity

The decisions that impact product complexity are mostly made at the highest level of the organisation. The newer African investment portfolios are pushing the existing software systems beyond their initially designed capacity. Cragg et al., (2002) found that larger organisations are better at aligning their internal strategies, and hence produce more sophisticated plans. While this is true for the manager system that was devised by the investment department, the system does not align well with the current strategies of the operations and IT departments. In order to improve the situation, the quality control function with operations needs to engage critically with the investment department before the aforementioned systems are implemented.

Silos of knowledge within operations

The hoarding of knowledge on the part of operations has led to the formation of a number of highly segregated functions within the organisation. Reich et al., (2000) states that domain knowledge needs to be understood across functions in order to facilitate a healthy dialogue on strategy. The dialogue begins with improved communication between departments. It is important that this communication takes place both internally within and externally between departments. Issues such as loss of knowledge due to staff turnover need to be considered.

Figure 2 illustrates all of the variables that have an impact on the success of change proposals. These variables include silos of knowledge within operations, quality of requirements gathering, effectiveness of quality control gates, impact of product complexity, level of communication between IT and operations, IT as an enabler of organisational performance, trust in IT solutions, understanding impact of process changes, focus on new client initiatives and management of expectation. The variables not described above will be addressed in this section.

5.1.4 Loop 4: Systems development lifecycle (B1)

The fourth loop involves the relationship between the management of expectation, the effectiveness of quality control gates, the impact of product complexity, the influence of IT on organisational performance, the trust that operations have in IT solution delivery, and the focus on client service initiatives. This greater loop contains elements of all three other loops and illustrates the impact that effective organisational planning has on the relationship between IT and operations, as well as the feedback loop between business processes and planning.

5.2 Research Question 2: What is the perceived role of IT in the preparation of change initiatives?

Information Technology is viewed as an enabler of change in the organisation, but not necessarily the driver of change. The expectation of the IT function must be managed, as experience shows that the operations department have a tendency to rely so heavily on IT that it borders on taking advantage of their services. At an employee level, operational employees need to consider the limited business process knowledge that IT possess before making requests. This can be accomplished through constant refinement of the alignment initiative.

Luftman et al., (2009) stresses that managers struggle with alignment as they try implement alignment strategies in one attempt. They also fail to recognise that alignment is not about adapting the IT strategy to the ways of the operational strategy. Rather it is about compromise and understanding, and above all else organisational performance. Another crucial aspect is the perception that IT consists of hardware and software alone. The operations department must consider that IT has its own process dependencies and business rules to adhere to.

5.3 Conclusion

The systems dynamics diagram highlighted four important relationships. The dynamic relationships of how business processes contribute to improved service delivery, how communication between IT and business operations contributes to organisational performance, how organisational planning impacts product complexity, and the systems development lifecycle is also explained in this diagram. The systems dynamics diagram presented in this chapter explains the relationship between operations and IT with IT recognised as an enabler of change in the organisation, although it is not viewed as a driver of change. The next chapter concludes the study by providing a summary of the dissertation as well as the recommendations derived from the research study.

6 Conclusions and recommendations

This section presents a summary of the dissertation, as well as the recommendations derived from the research study.

6.1 Summary of results

As indicated in the introductory chapter, this dissertation was conducted with the intention of understanding the role that IT plays in change management requests within the Operations department at Allan Gray. The purpose was also to identify factors that influence the success of change proposals, as well as the perception of IT in any change-related undertaking. A number of key issues emerged from this study, namely the quality of requirements gathering, the silos of knowledge within Operations, the level of communication between IT and Operations, and the lack of understanding around the impact of process changes.

Regardless of the issues presented, the employees interviewed were optimistic that the intentions of the two departments are sound and would result in a more effective operational environment. An important theme that emerged from this study is the positioning of the business analyst function in the organisation. While the organisation takes an agile approach to IT processes, a more deliberate planning approach could be considered as well. While the incremental and emergent approaches are more personal, the comprehensive approach is considered more effective in its ability to allow integration with business strategy.

6.2 Recommendations

The recommendations for Allan Gray involve creating greater process impact visibility, facilitating methods to improve knowledge sharing and improving the focus of the business analysis function.

6.2.1 Improving the visibility of business processes

Data from the study indicates that business process documentation tools are already being considered by the IT department. The recommendation is to continue pursuing this tool as a means to improve the IT department's ability to understand operational processes. The organisation, however, needs to consider this initiative in the context of strategy alignment to ensure it is applied effectively. The visibility tool needs to complement both operational and IT strategies. If it does not, it may run the risk of becoming redundant.

6.2.2 Methods to improve knowledge sharing

Operational decision-makers are in the execution phase of initiatives that aim to reduce the dependencies on key functions within the organisation. Instead of having knowledge tied up in inaccessible resources, the initiative's purpose is to spread the process knowledge to more areas of the operational staff complement. This initiative is expected to improve the organisation's ability to manage most forms of environmental uncertainty. If an organisation requires more information to perform a task than that which it currently possesses, then the organisation will experience uncertainty. In this equation, the organisation does not possess enough information if that information exists only in silos. Therefore, by making that information more accessible, the organisation is improving its ability to manage uncertainty.

6.2.3 Improving the focus of the business analysis function

Analysis of the study data reflected that the organisation is not employing their business analysts as effectively as they could. The primary reason for this is that assigning a business analyst to a change request involves making a complex decision around the criticality of the change to the organisational processes. Making an incorrect allocation decision often leads to multiple instances of requirements gathering, incorrect testing and, in the end, solutions that do not meet the intended purpose. The recommendation is for the organisation to take a holistic view of the change process and perhaps incorporate the business analysis function into the allocation decision.

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Systematic literature review

The methodology selected for the literature review is that of a systematic literature review. The approach used for this exercise is the five phase approach of vom Brocke et al. (2009). This approach involves reviewing the scope of the study, conceptualising the research topic, conducting the search, summarising the results of the search, and finally interpreting the findings.

2.1. Definition of review scope

The scope of the study's review focusses on operations management in a service context. The coverage of the literature includes looking at operational effectiveness in a service environment, as well as the relationship between information systems and operations in a service-oriented context. Although much of the operations management literature focusses on the manufacturing industry, our focus remains on the applications to the service enterprises.

2.2. Conceptualisation of research topic

The conceptual framework or way we choose to look at the problem sees us looking at operations and the relationship between the critical functions and the support functions. This view will be achieved through the completion of the systematic literature review as well as the combining of different views.

The key concepts to be used in the literature review search are *organisational effectiveness*, *information systems alignment* and *operational responsiveness*.

2.3. Conducting the search

A search exercise was conducted to determine the appropriate sources of literature for the literature review. The searches were performed via the Web of Science online database, subject to the following constraints:

Refinements
Databases - Web of Science Core Collection
Research Domains - Science Technology
Research Areas - Business Economics
Timespan - 2005-2015
Language - English

Firstly, the total number of search results from each of the key concepts yielded 258, 256 and 96 for organisational effectiveness, information systems alignment and operational responsiveness respectively.

Secondly, the results were screened for eligibility. The eligibility criteria were related to the article's relevance to organisational effectiveness in a service-management environment. Following the screening process, twenty articles across all three concept terms remained. These twenty contributions will subsequently be summarised and form the basis of the literature review.

Concepts
Organisational effectiveness
Search terms
Organisational effectiveness
Refinements
Databases - Web of Science Core Collection
Research Domains - Science Technology
Research Areas - Business Economics
Timespan - 2005-2015
Language - English
Initial results
258
After eligibility screening
5
Articles
The role of cross-functional teams on the alignment between technology innovation effectiveness and operational effectiveness
Operational effectiveness and strategic flexibility: scales for performance assessment of new product development systems
Developing a step-by-step effectiveness assessment model for customer-oriented service organizations
The effect of social network structures at the business/IT interface on IT application change effectiveness
Organizational Culture and Organizational Effectiveness: A Meta-Analytic Investigation of the Competing Values Framework's Theoretical Suppositions

Concepts
Information systems alignment
Search terms
Information systems alignment
Business-IT alignment
Refinements
Databases - Web of Science Core Collection
Research Domains - Science Technology
Research Areas - Business Economics
Timespan - 2005-2015
Language - English
Initial results
256
After eligibility screening
13
Articles
Antecedents and outcomes of strategic IS alignment: An empirical investigation
How Social Capital Among Information Technology and Business Units Drives Operational Alignment and IT Business Value
Strategic alignment between business and information technology: A knowledge-based view of behaviours, outcome, and consequences
Alignment of business and information strategies and its impact on business performance
Looking toward the future of IT-business strategic alignment through the past: a meta-analysis
The necessary alignment between technology innovation effectiveness and operational effectiveness
On the assessment of the strategic value of information technologies: Conceptual and analytical approaches
Integrating the IS functions after mergers and acquisitions: Analysing business-IT alignment
Leveraging Information Technology Infrastructure to Facilitate a Firm's Customer Agility and Competitive Activity: An Empirical Investigation
The role of cross-functional teams on the alignment between technology innovation effectiveness and operational effectiveness
Information systems use as strategy practice: A multi-dimensional view of strategic information system implementation and use
Incremental and comprehensive strategic information systems planning in an uncertain environment
How information systems strategy moderates the relationship between business strategy and performance

Concepts
Operational responsiveness
Search terms
Operational responsiveness
Refinements
Databases - Web of Science Core Collection
Research Domains - Science Technology
Research Areas - Business Economics, Engineering
Timespan - 2005-2015
Language - English
Initial results
96
After eligibility screening
2
Articles
Operational Capabilities: The Secret Ingredient
Supplier relations and supply chain performance in financial services processes

INFORMED CONSENT



University of Cape Town

Consent to Participate in Research

Dissertation Title:

Responsiveness of the Information Technology function in Organisational Change: A case study
in a financial services firm

I am currently conducting a research study towards the completion of my Masters in Philosophy (Engineering Management). I have selected you to participate in this study as you are an employee within the Information Technology or Institutional Operations departments of Allan Gray.

Purpose

The purpose of this study is to determine employee's experience with change management, with particular reference to the relationship between IT and Operations.

Process

The process will entail a semi-structured interview at Allan Gray which will last approximately 20 minutes.

Benefits

The benefit to the organization would take the form of ways in which to manage the complexity of changes within operations in the future.

Confidentiality

Any information that you contribute will remain strictly confidential and your anonymity will be assured.

Right to withdraw from interview

You retain the right to withdraw from the interview at any stage within the process. You may also opt to pass on certain questions and only respond to those that you feel comfortable asking.

Name of Participant:

Signature of Participant:

Date:

Thank you for your cooperation,

Researcher: Richard Ball

Signature:

Contact: rballe33@hotmail.com

Supervisor: Dr. Corrinne Shaw

Signature:

Contact: corrinne.shaw@uct.ac.za

Questions for operational employees

1. Introduction

What is your role in the organisation?

Work experience to date?

Length of time spent in current role?

2. Change request scenario

What are the typical change requests that you submit on a daily basis?

Who is normally involved in such a change request?

What was your role in the change request?

3. Operational effectiveness

3.1. Cost

How frequently are you faced with having to rework operational processes?

Are you performing optimally as a result of your business processes?

3.2. Quality

How good are IT at understanding your business processes?

How can IT understand your business processes better?

How well defined are your business processes?

3.3. Flexibility

Is the company experiencing increased levels of competition from competitors?

Are your immediate customers becoming more demanding over time?

How good are IT at adjusting to your changing needs?

3.4. Speed

How effective are IT in delivering timely solutions?

3.5. Reliability

How reliable are your operational processes in delivering value to clients?

4. Technological effectiveness

4.1. Information quality

How accurate is the information you receive from your IT systems?

How satisfied are you with the format of this information?

4.2. System quality

Is the performance of the systems you use adequate?

How productive are you as a result of these systems?

4.3. Service quality

Who are the critical people involved in any IT change request?

How would you define a successful change request?

How will you measure this?

4.4. User satisfaction

Do you expect to be actively involved in change requests or system development?

4.5. Organisational impact

How are changes imposed by IT affecting our performance as an organisation?

Questions for IT employees

1. Introduction

What is your role in the organisation?

Work experience to date?

Length of time spent in current role?

2. Change request scenario

What are the typical change requests that you receive on a daily basis?

Who is normally involved in such a change request?

What was your role in the change request?

3. Operational effectiveness

3.1. Cost

How frequently are Operational employees faced with having to rework operational processes?

Are Operational employees performing optimally as a result of your business processes?

3.2. Quality

How good are IT at understanding operational business processes?

How can IT understand these business processes better?

How well defined are operational business processes?

3.3. Flexibility

Are your immediate customers becoming more demanding over time?

How good are IT at adjusting to Operational user's changing needs?

3.4. Speed

How effective are IT in delivering timely solutions?

4. Technological effectiveness

4.1. Information quality

How accurate is the information that your IT systems deliver?

How satisfied are you with the format of this information?

4.2. System quality

Is the performance of the systems that IT deliver adequate?

How productive are Operational employees as a result of these systems?

4.3. Service quality

Who are the critical people involved in any IT change request?

How do you expect to be involved?

How have you experienced challenges in receiving a change request from a business user? (communication)

How would you define a successful change request?

How will you measure this?

4.4. User satisfaction

How should Operational users be actively involved in change requests or system development?

4.5. Organisational impact

How are changes imposed by IT affecting our performance as an organisation?

Interview number 1

IT Employee #1: IT Ops, we manage the relationship between business operations and IT...so the interaction between the two teams essentially.

Interviewer: What is your work experience to date?

IT Employee #1: 11 years in IT, working from desktop support up to application support now.

Interviewer: And the length of time that you've spent in your current position?

IT Employee #1: 4 years

Interviewer: What are the typical change requests that you would receive on a daily basis?

IT Employee #1: I don't work...well...I'm more removed now since we restructured it...in terms of my relationship to operations. But in general it's like report changes, permission changes down from the business side...and changes to the way is returned. So it's basically the report changes that we deal with. So if things are not returning the correct values then we sort of go deeper in and the developers go and check the functions and how things are calculated within the system and presented to the users.

Interviewer: Ok so you're also involved in the relationship between the developers and the output of the business processes?

IT Employee #1: Yes

Interviewer: Who is normally involved in processing those change requests?

IT Employee #1: So the way we normally work is...so let's use Julie as an example...Julie will send a request like "this report hasn't got xyz data in it and it's supposed to have". Then we'll assign the report to a Business Analyst (BA). The BA will then do the investigation to see where the change needs to happen or what exactly needs to be altered to get the result that she wants. Then the BA will go to the Developer; the Developer will then rewrite whatever functions are lying underneath it, or changes to the report required. It will then go through a testing cycle

where one of the testers will test that the output is correct. Julie will then sign-off that she is happy with it and then it will go through pre-production and then into production.

Interviewer: What is your normal role during this change request cycle?

IT Employee #1: So we deal with the releasing of the code to the environments, mostly actually we deal with the pre-production and the production releases. So depending on what it is we'll be involved in it. If it's a manual release, then we've got automated processes where a manager will sign off the code change which will be automatically done through our systems to process it into production.

Interviewer: With regards to processes on the operational side of the business, are operational frequently faced with having to rework their processes?

IT Employee #1: They have a lot of redundant stuff in place, just as a check to make sure that what we've got there is the correct thing. So if a report is at one stage out by a certain value then they lose confidence in the system and so they're starting to recheck the stuff to make sure that the values that are presented are correct.

Interviewer: So those checks are duplicating what is being done on your side basically?

IT Employee #1: Yes

Interviewer: And is that due to small errors?

IT Employee #1: I don't know what would cause them to reject stuff, but perhaps maybe there's a function change or something in the underlying and its now affecting the prices so now their confidence in IT is sort of decreased...so they sort of go back and recheck things to make sure that its fine, and that process just sort of stays in place.

Interviewer: Do you think that the employees on the operational side are performing optimally as a result of your processes?

IT Employee #1: I think the extra checks do take some of their time. I think if we can implement all of the checks within our actual system then we don't have to go recheck values and run your VBA macros or something just to get values to tie up to what Invest+ or Fundamental is saying. That would allow them to be more productive.

Interviewer: How good is IT at understanding business processes on the operational side?

IT Employee #1: I think we do a fairly good job. There are obviously times where I think some things are missed between the Developer and the business user. I there probably could be better interaction and better communication with regards to the changes and the understanding of what's supposed to happen. So I think we just need to have more interaction between the business and the development so that everybody is on the same page and we all get the same result at the end of the day.

Interviewer: And so would that probably be someone like a BA?

IT Employee #1: So the BA is sort of the middle man between business...the business goes to the BA, the BA goes to the Dev, the Dev goes back to the BA, and the BA goes back to the business. So maybe cut out the middle man in some instances and go straight from the Dev to the user...so they're both on the same page. This might make it easier.

Interviewer: So the business process, how do you think that IT could potential understand them better?

IT Employee #1: I think communication is probably going to be the best way to understand what user requires.

Interviewer: Do you think business processes are well-defined from an operational sense?

IT Employee #1: I think they know their processes. From an IT-perspective we're sort of on the outside...I don't know all their processes that they have to follow or what they do...so that's sort of a grey area.

Interviewer: Are you finding that your immediate customers are becoming more demanding over time i.e. the users that you service?

IT Employee #1: I don't know...it is difficult. I think it varies from user to user. If you give people what they need to work, they're not as demanding and also if you give them a bit they start asking for more and more so it all depends on the type of person as well. It is also the amount you take on the IT side versus how much becomes a business process. If you take on too much of their processing and put it into your systems it also creates a greater margin for error, so there's more errors that could arise as you're now trying to code something for a particular way for something, and the business just changes the way they process something...

Interviewer: So you're taking on the processes on your side but you're not necessarily having the direct knowledge of the users in that sense.

IT Employee #1: Yes.

Interviewer: How good do you think IT is at adjusting to operational user's changing needs?

IT Employee #1: I think we do fairly well. We've done some big changes recently around all the funds changes that have happened with the Africa funds. I think we handle change well. Inevitably what it becomes is a business has a requirement for a date, and then when it comes to IT it's sort of a hard deadline i.e. "we need this by xyz date".

Interviewer: So your deadlines are dictated by the business users in that sense?

IT Employee #1: Yes. Our deadlines are business-driven. Our function is essentially to support the business.

Interviewer: How effective is IT in delivery effective solutions in a timely manner?

IT Employee #1: Our speed is affected by our capacity as well. There's quite a bit going on so obviously our delivery times are affected so...the movement within IT...so we've had a lot of resignations and new starters and all those things add on to our operational effectiveness.

Interviewer: And why do you think so many people are leaving?

IT Employee #1: People have been getting opportunities to grow and have more direction in their field. Others have relocated or taken up studies.

Interviewer: From the technology side, how accurate do you think the information that your IT systems deliver is in terms of meeting the needs of the operational users?

IT Employee #1: Well I think it's accurate based on what was required at the stage when it was put in place. So we obviously deal with a set logic on how we calculate things, which is defined by the business.

Interviewer: So it's accurate to the date when the initial requirements were put in place?

IT Employee #1: Yes, so if the way in which somebody has calculated something has changed then that would be the business requesting a new calculate...so the request to do a change to a function or something or a report will bring the new value back based on whatever logic needs to be updated.

Interviewer: So you mentioned earlier about the confidence in some of the IT processes so if there is a change do they have a...

IT Employee #1: So if there's a change...sometimes there's a knock-on effect where you're not realizing that something else is using the same function and then that thing gets affected because you changed 'Report A' and 'Report B' now has a different value...and because of that sort of issue the business says "oh well we need to take a step back and re-check all these things" because now they've got no faith in reports being correct going forward.

Interviewer: How satisfied are you with the way that we present the information to the business?

IT Employee #1: I don't deal directly with the BA's to know how the process changes affect the information. The BA does the analysis and they'll get the information from the business and

then come to the Dev with a specification for a change. I'm not regularly involved in that section so...

Interviewer: Is the performance of the systems that IT delivers adequate, in your opinion?

IT Employee #1: For now, I think it is adequate. There's obviously room for improvement and that's part of our change with Fundamental and the performance issues we have with Fundamental. So I think we're always striving to better the systems and efficiencies and the speed at which things are run. But there are of course limitations to how much change you can make to something at a stage. So we look at which factors are impacted

Interviewer: So is that to do with the impact analysis tool?

IT Employee #1: The impact analysis that we do on our side is more of a...if you're changing code X is this thing somewhere else, and it'll go and run through all of our codes bases in subversion...so is this function present in anything else. That's what impact analysis does, it makes sure that your change to one thing does not have an impact on other things.

Interviewer: So is the Fundamental software something that gives you a lot of change issues?

IT Employee #1: So FPM is something that has response issues. So we're busy with replication to try and move the reporting load off of the Fundamental database, so that's one way in which we're trying to improve.

Interviewer: Do you think that the operational users are more productive as a result of the IT systems?

IT Employee #1: I'm not sure what their baseline is for productivity.

Interviewer: Who are the critical people involved in any IT change request?

IT Employee #1: It's a couple of people. We split up reports into responsibilities for a BA and a Dev, so it all depends on what needs to be changed. We also have a manager that approves changes over a week, but that's on a rotational basis.

Interviewer: How do you expect to be involved in change requests?

IT Employee #1: So generally we're either involved in setting up the test environments or getting the environment setup for testing. If there's something manual that needs to be done with a software release to either pre-production or production, that'll be our interaction with the change request. We're more of a software release function.

Interviewer: Have you ever experienced challenges in receiving a change request from a business user?

IT Employee #1: There has been times when there's too little information to pass a change request log onto a BA because it just says "this is not displaying" but there's no real link to whatever's displaying...so sometimes there is too little detail.

Interviewer: How would you define a successful change request?

IT Employee #1: With the implementation of code into prod that the users confirmed they are happy with.

Interviewer: And how would you measure that?

IT Employee #1: There's no set way...the only metric we have is the surveys that get sent out on an ad-hoc basis, but that's just finding out how the system has been...has there been any issues...that's more of a general survey than a specific one to a user for an issue. What you could also use as a measurement is, if a change has been put into production, does the user come back with other issues that are related to that same thing.

Interviewer: How should the operational users be actively involved in change requests or system development?

IT Employee #1: I think they need to have an input where the logic on how we're calculating something or how we need to design something for them. So I think they need to have the initial input to say what's required in as much detail as possible for the Dev to implement the changes and create the report or screen or something that they actually want to use.

Interviewer: And if they're not overly technical whereas a Dev is very technical?

IT Employee #1: That is where the BA comes in. The BA needs to interpret what the user is saying into a more technical spec for the Dev to actually create the....and the BA obviously has more business knowledge than the Dev...so those two things are key to getting what the user wants.

Interviewer: How are the changes imposed by IT affecting our performance as an organization? So things that aren't requested by the users, but that IT deem fit to roll out.

IT Employee #1: Most improvements are either to speed or capacity or security related that needs to be done. It's also changing platforms to move with the times. Things become outdated and become no longer supported by vendors so we need to be looking for the next thing to improve operational effectiveness of all the teams.

Interviewer: Thank you very much, I really appreciate your input.

Coding Data

Coding - Part 1	
Cognisant of part played in the change cycle	Interview_1
Feeling that the business performs redundant activities. Business have had negative experiences in the past.	Interview_1
Business trust their own checks rather than IT's information.	Interview_1
Time is a factor in the business's ability to perform effectively	Interview_1
Communication can be lacking between the Business Analysis and Development functions. Consistency between IT output and operational expectations is important.	Interview_1
Removing the BA layer in some cases can strengthen the communication between developer and business user.	Interview_1
Feeling left out; unaware of operational activities	Interview_1
Important to distinguish between what should be an IT process and what should be an operational process. No limit to how little or how much a user can request from IT in terms of development. Puts burden on IT if the latter.	Interview_1
Large scale change taken place recently.	Interview_1
Recognises definition of IT as a function to support the core business functions.	Interview_1
Staff capacity impacting ability to deliver timely solutions. Resignations are impacting ability to delivery timely solutions.	Interview_1
Lack of growth opportunities within IT.	Interview_1
Feels that definition of process is defined by business.	Interview_1
Business tend not to trust IT solutions after something unexpected takes place. Business puts in their own additional processes into the system.	Interview_1
Weighing up cost of change vs benefit. Recognition of knock-on effect of process changes.	Interview_1
Looking at ways to improve system performance for the benefit of the users.	Interview_1
Defined job functions for BA and Developers; this is evident in the splitting of change requests into manageable chunks.	Interview_1
View is that their function is only called upon as a last resort if something needs to be done manually.	Interview_1
Experiencing cases where user doesn't submit enough information.	Interview_1
Feels that success is defined by the immediate user's level of satisfaction in the outcome.	Interview_1
Considers the knock-on effect of changes made via a change request.	Interview_1
User needs to explicitly state what they require, in as much detail as possible.	Interview_1
BA is more technical than user, and more business oriented than developer.	Interview_1

Coding - Part 1	
Issues are had when reports are slow to generate.	Interview_2
Confident of who to approach for what issue.	Interview_2
Tries to resolve issue before approaching IT.	Interview_2
Outstanding change requests causing delays in operational processes.	Interview_2
Time delays due to having to contact the support analyst.	Interview_2
Feeling a lack of decision-making ability	Interview_2
Perceived backlog on IT's side.	Interview_2
Seeing value in having some IT vendors sitting close to the internal IT department.	Interview_2
Doesn't understand all operational processes fully.	Interview_2
Product offering is growing.	Interview_2
Impact of product offering on operations not considered.	Interview_2
New product impact on operations is not simplified.	Interview_2
IT performance dependent on whether they have the in-house skills available.	Interview_2
Location of IT to operations has a positive impact on query resolution.	Interview_2
Business processes are not immune to errors.	Interview_2
What could impact a client negatively is seen as a risk.	Interview_2
Versatility in report output is important.	Interview_2
Timing of operational cycles places a burden on IT system performance.	Interview_2
The effect of slow system performance has a knock-on effect within operations.	Interview_2
Speed of query resolution is important.	Interview_2
Follow-up communication post query resolution is considered important.	Interview_2
Sees the value in providing input to change requests.	Interview_2
Impact of system development exercises is not understood.	Interview_2

Coding - Part 1	
New products are most concerning from operational perspective.	Interview_3
Preference for informal approach.	Interview_3
Complexity of new products impedes ability to perform optimally.	Interview_3
Software applications can not handle increasingly complicated products.	Interview_3
IT effectiveness is dependent on level of process standardisation	Interview_3
Clients are requesting more information related to regulation	Interview_3
Priority is considered by IT	Interview_3
Information system was not designed for the new products being created	Interview_3
All change requests are vetted by the Head of Dept.	Interview_3
Delivering what was requested as well as time to deliver are CSFs for change management requests.	Interview_3
Ineffective systems a cause of frustration for the user.	Interview_3
Feels that the user's input will be invaluable to system development; solution will be more effective and efficiently delivered.	Interview_3
Trade-off between functionality and performance.	Interview_3
Performance enhancements have lead to further problems in processing.	Interview_3

Coding - Part 1	
Change request received informally from key decision maker.	Interview_4
Operations are only concerned with the outcome of the request	Interview_4
Timing of change lease is dependent on business processes.	Interview_4
Release process is more robust.	Interview_4
The business expecting changes to be made on short notice.	Interview_4
Impact analysis is key to better quality.	Interview_4
Balance between automatic and manual quality checking.	Interview_4
Severity	Interview_4
Ability for developer to fix on fly is key	Interview_4
Experience of IT staff critical	Interview_4
User-acceptance testing is not done due to time constraints.	Interview_4
Lack of management buy-in into business analysis specification	Interview_4
Developers don't understand business processes	Interview_4
Past issues with reliability of solutions have decreased confidence in IT's ability	Interview_4
Break projects down into manageable chunks	Interview_4
Legacy issues in the business affect IT effectiveness negatively	Interview_4
Quality vs quantity of testing	Interview_4
Business places unfair urgency on IT	Interview_4
Uncertainty of new products	Interview_4
Aiming to please customer only - adding to complexity of system	Interview_4

Coding - Part 1	
Business suggest improvement initiatives and not just issue requests	Interview_5
Better use of information important to the business	Interview_5
IT capacity comes up as an excuse	Interview_5
Users asked to test solution occasionally	Interview_5
System output (reports) is important - must be done on time	Interview_5
Proximity of IT to Operations has improved system effectiveness	Interview_5
Interaction between functions is good. Functions could merge in future.	Interview_5
IT interested in understanding operational processes	Interview_5
Clarity around what output is expected from operations	Interview_5
Accurate, timely reports contribute to client service levels	Interview_5
Client access to information is not done well enough.	Interview_5
Operations are putting too much pressure on themselves	Interview_5
Executives put timing pressure on operations	Interview_5
Standardising informational outputs is a key trend within the industry	Interview_5
Accuracy of information is vital	Interview_5
Client feedback indicates their desire for online statements	Interview_5
Number of concurrent sessions over month-end hampers ability to remain effective	Interview_5
Trusts the system as only check those things that the systems recommends the user checks	Interview_5
Manager who shouts the loudest gets their request processed first	Interview_5
Seniority of requester determines priority	Interview_5
Success would be if user's job become simpler, and can do core function better	Interview_5
User involvement only warranted if user was interested	Interview_5
Recognition of IT's value as a driver of business	Interview_5
Backlog prohibiting IT from achieving greater success	Interview_5

Coding - Part 1	
Dependent on a variety of IT informational reports	Interview_6
Refers to authority figure before making change request	Interview_6
Realises the importance of clearly identifying the problem	Interview_6
Capacity issues mean IT cannot resolve problems immediately	Interview_6
Preference given by IT to new reports, while old reports are still operational	Interview_6
Reporting processes can be maintained by operations	Interview_6
Wasting time by rechecking information that should be correct in the first place	Interview_6
Staff turnover is high and knowledge is lost	Interview_6
Relationship building between IT and operations would help each to understand the other's daily processes and dependencies	Interview_6
Recognition of where function fits into greater department.	Interview_6
Core business performance puts a strain on operations and the request for reports and presentation packs.	Interview_6
Information requests are last-minute, adding pressure to operations.	Interview_6
New business development puts strain on informational requests.	Interview_6
Business decisions driving operations.	Interview_6
Manual workarounds often becomes the default position.	Interview_6
Important to meet deadlines	Interview_6
The way information is presented is standardised across many other asset management companies.	Interview_6
Business processes have adapted to the slowness of IT systems	Interview_6
Short-staffed in the operations area.	Interview_6
Manager system benefits the business at the strategic level, but complicates operations and IT.	Interview_6
Feedback of change request receipt is important.	Interview_6
Accuracy is important.	Interview_6
User must be included in process as they know what is redundant and what isn't. This is not apparent from the strategic-level.	Interview_6
Operational turnaround times are short.	Interview_6

Coding - Part 1	
IT need to be able to resolve unknown issues.	interview_7
Aware of the need for an authority figure to approve changes.	interview_7
Checks what results from development versus what he expects to receive.	interview_7
Business rules change and IT are expected the manipulate system for critical pricing processes.	interview_7
Avoid manual process manipulation in order to ensure accuracy of data.	interview_7
No business analysis function in some areas. User acts as BA, and deals directly with developer.	interview_7
Realising the benefit of understanding the big picture of the department.	interview_7
Demand from customers is increasing, but means quality and backlog needs to be considered.	interview_7
Business users bypassing the normal channels and contacting developer directly, without speaking to the product owner.	interview_7
Not sacrificing quality for speed.	interview_7
Accuracy is of utmost importance and lack of accuracy can lead to loss of income or reputation.	interview_7
No time for IT to take stock of process, but rather rush to fulfill the business' requests.	interview_7
Web screens are more efficient than having the user process items within an application.	interview_7
Miscommunication of requirements when no BA involved.	interview_7
Small changes often turn out to be big changes.	interview_7
IT system logic struggles to keep up with business rule changes.	interview_7
Gaps in IT where BA's should operate.	interview_7
Changes mustn't impact other reports.	interview_7
Further requests are only indicators of whether a change has had a negative impact on other reports.	interview_7
Users to explain business requirements	interview_7
Better IT systems allow the business to react to changes faster.	interview_7

Coding - Part 1	
System availability is important to sustaining business processes.	Interview_8
Clear that operational deadlines are being met.	Interview_8
Silos of knowledge exist which makes it difficult for IT to understand business processes well.	Interview_8
Need for a process documentation tool as there is a lack of process visibility.	Interview_8
The business informs IT of strategic changes after they have been implemented, with IT having to rush to keep up with the knock-on effect of these changes.	Interview_8
Difficulting in deciding what is and isn't a critical item.	Interview_8
System accuracy affects investors directly, with investors trusting our figures when they're published.	Interview_8
The quality control person is important.	Interview_8
BA's need to assist in the specification of a request.	Interview_8
Low risk changes are directed straight to developers.	Interview_8
Quality and timely.	Interview_8
Need to avoid solutions that create technical debt.	Interview_8
Operations should discuss bigger change requests internally before submitting to IT.	Interview_8
IT drive client service performance.	Interview_8

Coding - Part 1	
Known changes vs unknown changes.	Interview_9
Unknowns are the technologies that haven't been tested internally but can improve business processes.	Interview_9
Change arrives from multiple levels of the organisation.	Interview_9
A change is deemed important if it has the potential to stop business on a particular day.	Interview_9
Rechecking of processes takes place up to four times.	Interview_9
Communication between operations and IT is important.	Interview_9
Few connection points i.e. easy access to decision makers in the business.	Interview_9
Expectation of IT is high.	Interview_9
Completion rate of projects in the organisation is high compared to others.	Interview_9
Changes are implemented more often as the organisation is quite stable relative to other organisations who have a greater appetite for change.	Interview_9
Our lack of a web system for the institutional client base is worrying.	Interview_9
The systems are used for processes beyond the scope of the original system's design.	Interview_9
Enhancements are needed.	Interview_9
Change requests impact more than just IT and business i.e. legal, compliance, stakeholders, administrators, clients.	Interview_9
Cases where changes have not been communicated across the IT department.	Interview_9
IT acting too much like the business and ignoring testing, documentation etc.	Interview_9
The business should actually drive the changes and not IT.	Interview_9
New systems leading to greater reporting efficiencies.	Interview_9

Coding - Part 2		
Understanding individual role in change cycle	Cognisant of part played in the change cycle	Interview_1
	Confident of who to approach for what issue.	Interview_2
	Tries to resolve issue before approaching IT.	Interview_2
	Aware of the need for an authority figure to approve changes.	Interview_7
	Users to explain business requirements	Interview_7
	Operations should discuss bigger change requests internally before submitting to IT.	Interview_8
Coding - Part 2		
Business impression of IT	Business have had negative experiences in the past.	Interview_1
	Business tend not to trust IT solutions after something unexpected takes place.	Interview_1
	Past issues with reliability of solutions have decreased confidence in IT's ability	Interview_4
Coding - Part 2		
Redundant checking of information	Feeling that the business performs redundant activities.	Interview_1
	Business trust their own checks rather than IT's information.	Interview_1
	Business puts in their own additional processes into the system.	Interview_1
	Operations are putting too much pressure on themselves	Interview_5
	Trusts the system as only check those things that the systems recommends the user checks	Interview_5
	Operations have internal checks that re-check what is delivered by IT	Interview_6
	Risk mitigation takes place through additional manual checking, which is a time waster	Interview_6
	Wasting time by rechecking information that should be correct in the first place	Interview_6
	Avoid manual process manipulation in order to ensure accuracy of data.	Interview_7
	Rechecking of processes takes place up to four times.	Interview_9
Coding - Part 2		
Turnaround time as an element of client service	Time is a factor in the business's ability to perform effectively	Interview_1
	Issues are had when reports are slow to generate.	Interview_2
	Time delays due to having to contact the support analyst.	Interview_2
	Speed of query resolution is important.	Interview_2
	Ability for developer to fix on fly is key	Interview_4
	System output (reports) is important - must be done on time	Interview_5
	Accurate, timely reports contribute to client service levels	Interview_5
	Executives put timing pressure on operations	Interview_5
	Important to meet deadlines	Interview_6
	Clear that operational deadlines are being met.	Interview_8

Coding - Part 2		
Communication between IT and business	Communication can be lacking between the Business Analysis and Development functions.	Interview_1
	Feeling left out; unaware of operational activities	Interview_1
	Outstanding change requests causing delays in operational processes.	Interview_2
	Seeing value in having some IT vendors sitting close to the internal IT department.	Interview_2
	Location of IT to operations has a positive impact on query resolution.	Interview_2
	Follow-up communication post query resolution is considered important.	Interview_2
	Preference for informal approach.	Interview_3
	Change request received informally from key decision maker.	Interview_4
	Issues to be communicated timeously	Interview_4
	Proximity of IT to Operations has improved system effectiveness	Interview_5
	Relationship building between IT and operations would help each to understand the other's daily processes and dependencies	Interview_6
	Feedback of change request receipt is important.	Interview_6
	Cases where changes have not been communicated across the IT department.	Interview_9
Coding - Part 2		
Quality of requirements gathering	Consistency between IT output and operational expectations is important.	Interview_1
	Experiencing cases where user doesn't submit enough information.	Interview_1
	Delivering what was requested as well as time to deliver are CSFs for change management requests.	Interview_3
	Clarity around what output is expected from operations	Interview_5
	Success would be if user's job become simpler, and can do core function better	Interview_5
	Realises the importance of clearly identifying the problem	Interview_6
	Checks what results from development versus what he expects to receive.	Interview_7
	Small changes often turn out to be big changes.	Interview_7
Coding - Part 2		
Understanding when the Business Analysis function is required	Removing the BA layer in some cases can strengthen the communication between developer and business user.	Interview_1
	Defined job functions for BA and Developers; this is evident in the splitting of change requests into manageable chunks.	Interview_1
	BA is more technical than user, and more business oriented than developer.	Interview_1
	Developers don't understand business processes	Interview_4
	No business analysis function in some areas. User acts as BA, and deals directly with developer.	Interview_7
	Miscommunication of requirements when no BA involved.	Interview_7
	Gaps in IT where BA's should operate.	Interview_7
	BA's need to assist in the specification of a request.	Interview_8
	Low risk changes are directed straight to developers.	Interview_8
Coding - Part 2		
Quality control gates	No limit to how little or how much a user can request from IT in terms of development. Puts burden on IT if the latter.	Interview_1
	User-acceptance testing is not done due to time constraints.	Interview_4
	AGILE is all about getting things done quicker and smoother - so there is a risk in that	Interview_4
	Users asked to test solution occasionally	Interview_5
	Operational turnaround times are short.	Interview_6
	Business users bypassing the normal channels and contacting developer directly, without speaking to the product owner.	Interview_7
	Difficulting in deciding what is and isn't a critical item.	Interview_8
	The quality control person is important.	Interview_8

Coding - Part 2		
Scope creep of IT responsibilities	Important to distinguish between what should be an IT process and what should be an operational process.	Interview_1
	Interaction between functions is good. Functions could merge in future.	Interview_5
	Communication between operations and IT is important.	Interview_9
	The business should actually drive the changes and not IT.	Interview_9
Coding - Part 2		
Influence on client service quality	Errors in information processing have an impact on service demand.	Interview_1
	What could impact a client negatively is seen as a risk.	Interview_2
	Client access to information is not done well enough.	Interview_5
	Accuracy is key for operations	Interview_6
	System accuracy affects investors directly, with investors trusting our figures when they're published.	Interview_8
	IT drive client service performance.	Interview_8
Coding - Part 2		
Rate of change in the organisation	Large scale change taken place recently.	Interview_1
	Product offering is growing.	Interview_2
	New products are most concerning from operational perspective.	Interview_3
	Core business performance puts a strain on operations and the request for reports and presentation packs.	Interview_6
	Information requests are last-minute, adding pressure to operations.	Interview_6
	New business development puts strain on informational requests.	Interview_6
	Change arrives from multiple levels of the organisation.	Interview_9
Coding - Part 2		
IT as an enabler of organisational performance	Recognises definition of IT as a function to support the core business functions.	Interview_1
	The effect of slow system performance has a knock-on effect within operations.	Interview_2
	Recognition of IT's value as a driver of business	Interview_5
	Manual workarounds often becomes the default position.	Interview_6
	Business processes have adapted to the slowness of IT systems	Interview_6
	IT rely on the fact that is the systems are down, operations can manually change processes.	Interview_6
	Better IT systems allow the business to react to changes faster.	Interview_7
	System availability is important to sustaining business processes.	Interview_8
	New systems leading to greater reporting efficiencies.	Interview_9
Coding - Part 2		
Ability to retain IT staff	Staff capacity impacting ability to deliver timely solutions.	Interview_1
	Lack of growth opportunities within IT.	Interview_1
	IT performance dependent on whether they have the in-house skills available.	Interview_2
	Experience of IT staff critical	Interview_4
	IT capacity comes up as an excuse	Interview_5
	Capacity issues mean IT cannot resolve problems immediately	Interview_6
	Short-staffed in the operations area.	Interview_6

Coding - Part 2		
Business acting as sole decision-maker	Feels that definition of process is defined by business.	Interview_1
	Inability to make decisions; constantly having to wait for managerial approval.	Interview_2
	Feeling a lack of decision-making ability	Interview_2
	Priority is considered by IT	Interview_3
	All change requests are vetted by the Head of Dept.	Interview_3
	Manager who shouts the loudest gets their request processed first	Interview_5
	Seniority of requester determines priority	Interview_5
	Decision makers require information immediately, which places burden on operations	Interview_6
	Business decisions driving operations.	Interview_6
	Few connection points i.e. easy access to decision makers in the business.	Interview_9
	IT acting too much like the business and ignoring testing, documentation etc.	Interview_9
Coding - Part 2		
Understanding impact of process changes	Recognition of knock-on effect of process changes.	Interview_1
	Feels that success is defined by the immediate user's level of satisfaction in the outcome.	Interview_1
	Considers the knock-on effect of changes made via a change request.	Interview_1
	Impact of system development exercises is not understood.	Interview_2
	Performance enhancements have lead to further problems in processing.	Interview_3
	Impact analysis is key to better quality.	Interview_4
	Manual intervention is required	Interview_6
	Preference given by IT to new reports, while old reports are still operational	Interview_6
	Cognisant of processes that are affected by making changes.	Interview_7
	Changes mustn't impact other reports.	Interview_7
	Further requests are only indicators of whether a change has had a negative impact on other reports.	Interview_7
	Change requests impact more than just IT and business i.e. legal, compliance, stakeholders, administrators, clients.	Interview_9
Coding - Part 2		
Silos of knowledge within operations	Doesn't understand all operational processes fully.	Interview_2
	Refers to authority figure before making change request	Interview_6
	Staff turnover is high and knowledge is lost	Interview_6
	Silos of knowledge exist which makes it difficult for IT to understand business processes well.	Interview_8
Coding - Part 2		
Understanding of business processes	Business processes are not immune to errors.	Interview_2
	Timing of operational cycles places a burden on IT system performance.	Interview_2
	IT effectiveness is dependent on level of process standardisation	Interview_3
	Timing of change lease is dependent on business processes.	Interview_4
	Balance between automatic and manual quality checking.	Interview_4
	IT interested in understanding operational processes	Interview_5
	Number of concurrent sessions over month-end hampers ability to remain effective	Interview_5
	Dependent on a variety of IT informational reports	Interview_6
	IT need to be able to resolve unknown issues.	Interview_7
	Realising the benefit of understanding the big picture of the department.	Interview_7
	Need for a process documentation tool as there is a lack of process visibility.	Interview_8

Coding - Part 2		
Including end user in system development	Sees the value in providing input to change requests.	Interview_2
	Ineffective systems a cause of frustration for the user.	Interview_3
	Business suggest improvement initiatives and not just issue requests	Interview_5
	User involvement only warranted if user was interested	Interview_5
	User must be included in process as they know what is redundant and what isn't. This is not apparent from the strategic-level.	Interview_6
Coding - Part 2		
Impact of product complexity	Complexity of new products impedes ability to perform optimally.	Interview_3
	New product impact on operations is not simplified.	Interview_2
	Software applications can not handle increasingly complicated products.	Interview_3
	Information system was not designed for the new products being created	Interview_3
	Uncertainty of new products	Interview_4
	Aiming to please customer only - adding to complexity of system	Interview_4
	Backlog prohibiting IT from achieving greater success	Interview_5
	Manager system benefits the business at the strategic level, but complicates operations and IT.	Interview_6
	Only company that makes use of the complex, manager system.	Interview_6
	The systems are used for processes beyond the scope of the original system's design.	Interview_9
Coding - Part 2		
Increased presence of industry regulation	Clients are requesting more information related to regulation	Interview_3
	Market participants require data instantaneously	Interview_5
	Standardising informational outputs is a key trend within the industry	Interview_5
	The way information is presented is standardised across many other asset management companies.	Interview_6
Coding - Part 2		
Management of expectation	The business expecting changes to be made on short notice.	Interview_4
	Operations are only concerned with the outcome of the request	Interview_4
	Business places unfair urgency on IT	Interview_4
	Client feedback indicates their desire for online statements	Interview_5
	Business rules change and IT are expected the manipulate system for critical pricing processes.	Interview_7
	Web screens are more efficient than having the user process items within an application.	Interview_7
	IT system logic struggles to keep up with business rule changes.	Interview_7
	The business informs IT of strategic changes after they have been implemented, with IT having to rush to keep up with the knock-on effect of these changes.	Interview_8
	Expectation of IT is high.	Interview_9
	Our lack of a web system for the institutional client base is worrying.	Interview_9
Coding - Part 2		
Learning from past mistakes	Business users need to document instances where things go wrong. IT require track record	Interview_4
	Legacy issues in the business affect IT effectiveness negatively	Interview_4
	No time for IT to take stock of process, but rather rush to fulfill the business' requests.	Interview_7
	Need to avoid solutions that create technical debt.	Interview_8