Alignment of Business Strategies and Information Systems and Processes in Large Organisations

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Declaration:

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

Mona Gabriel-Seow
Abstract
Many organisations are finding that their IT systems and processes are not supporting their business directions. Strategic alignment refers to how an organisation’s business direction aligns with their information technology systems and processes. The premise underlying the research described in this thesis is that strategic alignment is beneficial for organisations on the basis that to fully engage in the required business and to gain the outcomes expected, the IT systems and processes are needed to support the business strategies. Two research questions were posed to explore the way organisations can address this problem: what initiatives an organisation can put into place to undertake strategic alignment; and the dimensions of an organisation that influence its choice of alignment approach.

Six case studies within four large organisations were investigated across three approaches to strategic alignment identified from the literature: One-Off Alignment; Continuous Alignment Driven by Business Direction; and Continuous Alignment Driven by IT Systems and Processes. A research methodology was developed for this study, adapted from Eisenhardt’s (1989a) case study methodology, to exploit the opportunities provided to the researcher as an experienced industry practitioner and significant director of events. Case study data were collected based on the role of the researcher within the organisation and were discussed in light of issues of relevance identified from the literature. Comparisons were made between the case studies and across alignment approaches. Alignment criteria, adapted from previous research were used to draw general conclusions regarding the commonalities and the differences amongst the case studies. The relationship between the alignment of IT systems and processes with business directions was investigated within each alignment approach. Additional issues were raised regarding the organisation’s strategy and culture specific to each case study, leading to post-hoc investigation, additional conclusions and future research directions.

It was concluded that One-Off Alignment was an effective approach for large scale business diversification requiring significant IT restructuring. Continuous Alignment was found to be effective for evaluating business driven IT initiatives while the establishment of a projects office supported continuous alignment to business strategies. The success of three different alignment approaches within the same
organisation during the same time period showed that different alignment approaches can be successful depending on the context. There was also evidence that the four organisations displayed expected alignment behaviour according to Defender and Prospector organisational characteristics (Miles and Snow 1978).

These findings are expected to contribute to strategic alignment decision making for organisations in similar sets of circumstances. This project confirms the value of the insider researcher and provides the opportunity for real world projects to inform theory and be informed by theory.
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This study fulfils a long held wish to systematically examine and document part of my journey in the IT industry and enable the insight gained from my experiences to be of benefit to other researchers and to the body of knowledge of information systems. It is from collective research and insights that humanity forges ahead in the many fields of sciences and arts. Speaking about human endeavour ‘Abdu’l-Bahá stated in London in 1912: “Mysteries that were hidden he [humanity] discovers; and secrets that were concealed he brings into the light. By Science and by Art he brings hidden powers into the region of the visible world. Man perceives the hidden law in created things and co-operates with it”.1 This study is inspired by the words of ‘Abdu’l-Bahá and seeks to uncover insights into the science and art of Information Technology.

Dedicated to the advancement of the science and art of Information Technology and to my husband Dr Jimmy Seow who encouraged me to fulfil this dream.

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Chapter 1. Introduction

1.1 INTRODUCTION

Strategic alignment of an organisation’s business direction and its information technology systems and processes is of core interest to its success (Elmorshidy 2013, Walter, Kellermanns, Floyd, Veiga, and Matherne 2013). Although the benefits of strategic alignment have been recognised for some time (Byrd, Lewis, and Bryan 2006, Chan 2000, Chan 2002, Henderson and Venkatraman 1993, Hirschheim and Sabherwal 2001, Luftman 2015, Tallon 2007b, Wagner 2014, Walter et al. 2013), successfully implementing it remains a persistent and pervasive problem (Hirschheim and Sabherwal 2001, Luftman 2015), and questions remain as to what approaches may have been implemented successfully by organisations.

This research was motivated by the need to identify the ways in which organisations approach alignment and to examine whether there are any general principles that can be applied to increase the chance of success.

The aim of this research is to examine how some organisations have attempted to align their internal information systems and processes with their strategic business direction by investigating the alignment approaches and mechanisms employed.

This chapter provides an introduction to the thesis by stating the problem being investigated motivating the research problem and questions identified and presenting a brief review of the relevant literature situating the research. The following sections discuss the scope and significance of the research, describe the research approach and methodology, outline the thesis structure presented in subsequent chapters and summarise the research findings and conclusions.

1.2 BACKGROUND

The way organisations conduct business is a major cause of their success or failure and hence their structure, financial decisions, strategic approaches, and technological infrastructure are of interest to both business practitioners as well as theorists. Increasingly organisations are looking toward technology to not only support basic business functions such as accounting, customer management and marketing
predictions, but also provide innovative ways to successfully compete in existing and new business ventures.

The alignment between an organisation’s business direction and its IT systems and processes, termed strategic alignment, is acknowledged to be crucial to its success by establishing a positive link between strategic alignment and increased business value and performance (Chan, Huff, Barclay, and Copeland 1997, Chan and Reich 2007, Henderson and Venkatraman 1993). High alignment leads to better organisational success (Aversano, Grasso, and Tortorella 2013, Chan 2000, Chan 2002, Cragg, King, and Hussain 2002, Hirschheim and Sabherwal 2001) while low alignment leads to a reduced ability to realise the benefits of IT investments and, in some instances, has led to total business loss (Chan et al. 1997, Chan and Reich 2007, Henderson and Venkatraman 1993, Langley, Smallman, Tsoukas, and Van de Ven 2013, Lucas Jr and Goh 2009). Thus strategic alignment can be further defined as the synergy between this business direction and the organisation’s IT commitment and is looked at to lead to greater business success (Aversano et al. 2013, Chan and Reich 2007, Hirschheim and Sabherwal 2001, Kwanroengjai, Liu, Tan, and Sun 2014).

As the financial and technological investment in an organisation increases, there is greater complexity in determining how the technological infrastructure and systems interact with the existing business goals and processes. There is increasing pressure on organisations to fully leverage the advantages of new information technologies (Avison, Jones, Powell, and Wilson 2004, Oliveira and Martins 2011). Increased investment does not automatically increase alignment and may in fact exacerbate problems (Byrd et al. 2006) and it is apparent that despite the increasing reliance on technology by organisations, there is ongoing and persistent difficulty in aligning IT strategies, systems and processes to support business goals and directions (Byrd et al. 2006, Kappelman, Nguyen, McLean, Maurer, Johnson, Snyder, and Torres 2017, Luftman 2015). Due to the ongoing nature of this problem, it is crucial to have a focussed look at the way some organisations attempt strategy formulation and implementation and to determine how strategic approaches impact the level of alignment attained (Bergeron, Raymond, and Rivard 2004, Henderson and Venkatraman 1993, Tarafdar and Gordon 2007). In addition, organisations should be looking to base their strategic alignment approaches on theoretical foundations and not just accepted practices (Samanta 2007).
A number of factors affect organisations in their motivations towards strategic alignment and their choice of approach adopted, such as: organisational structure and culture; governance; technology infrastructure; and information system processes (Buckby, Best, and Stewart 2005, Miles and Snow 1978, Ward and Peppard 2002). Alignment can be viewed not as a static single-dimensional factor but as multi-dimensional, covering diverse areas of an organisation, including: IT and business strategies; structural; social; cultural; levels of alignment; governance; and IT competencies (Chan and Reich 2007, Reich, Sauer, and Geronimo 2008, Tarafdar and Gordon 2007, Wu 2015).

Strong governance has a positive influence on an organisation’s alignment between IS and business strategies (De Haes and Van Grembergen 2009, Henderson and Venkatraman 1993) while organisational type such as Defender, Prospector, Analyser and Reactor organisations used by Miles and Snow (1978), influences an organisation’s strategic choice (Croteau and Bergeron 2001, Hirschheim and Sabherwal 2001, Yayla and Hu 2009). The internal and external pressures experienced by organisations impact their strategic alignment (Porter 1980, 1985, 2001) and their interplay has been shown to have influence over the types of strategic alignment approaches an organisation may utilise (Hemmatfar, Salehi, and Bayat 2010, Porter and Millar 1985, Rivard, Raymond, and Verreault 2006).

Henderson and Venkatraman’s Strategic Alignment Maturity (SAM) model (1993) has been prominent in the literature and describes four domains: business strategy; information technology strategy; organisation infrastructure and processes; and information technology infrastructure and processes. The SAM model allows for external and internal influences such as described in Porter’s model (1980), as well as allowing for the motivational forces on organisations which have been described in a number of other studies (Andrews, Boyne, Law, and Walker 2009, DeSarbo, Di Benedetto, Song, and Sinha 2005, Edgar and Lockwood 2011, Prahalad 1993, Prahalad and Hamel 1990, Robson 1997).

Other strategic planning models are also in line with SAM (Loukis, Sapounas, and Aivalis 2006, Porter 1985, 2001, Tallon and Kraemer 2002, Tumolo 2002, Wagner and Weitzel 2008, Ward and Peppard 2002). These studies show that there are a number of approaches that can be utilised in an organisation’s attempt to plan and manage strategic alignment.
Different types of alignment approaches have been proposed in the past, including a unidirectional linear process alignment approach commencing with goals and traversing specified steps toward alignment (Boar 2001, Robson 1997, Samanta 2007, Sledgianowski and Luftman 2005). This approach has been defined by this study as “One-Off Alignment”. The term “one-off” has to date been associated tangentially with strategic alignment, such as “one-off events” or “one-off activity” rather than as an alignment approach (Avison et al. 2004, McAdam and Brown 2001). The One-Off Alignment approach defined in this study comprises processes to effect a single view or outcome. Other strategic alignment approaches recognise that continuous planning and management processes are needed to maintain alignment. These have been defined in both the literature (Broadbent and Weill 1993, Henderson and Venkatraman 1993) and in this study, as “Continuous” alignment.

Implementing an alignment approach requires looking at the way organisations plan and manage strategic changes. Strategic planning and management research has suggested that strategic choice is influenced by the nature of the relationship between an organisation’s IT and the business areas (Avison et al. 2004, Henderson and Venkatraman 1993, Loukis et al. 2006, Tallon 2007b, Tallon and Kraemer 2002, Wagner and Weitzel 2008). For example, in operational planning approaches, IT has been regarded in a support role to the business, whereas, in strategic planning approaches, IT has been regarded as being in partnership with the business. A strategic choice model by Robson (1997) describes a complex relationship between three elements associated with an organisation: its environment; its values and objectives; and its resources. The inter-play of these three elements influences an organisation’s strategic choice and hence planning and implementation.

Previous studies have defined dimensions to evaluate attempted alignment (Buckby et al. 2005, Chan and Reich 2007) and arising benefits (Chan and Reich 2007, Tallon 2007b). Mechanisms of alignment include such constructs as corporate partnerships and alliances (Grant and Baden-Fuller 2004, Hirschheim and Sabherwal 2001). Project management can also be regarded as a mechanism of alignment (PMI 2015, Reich et al. 2008, Srivannaboon and Milosevic 2006).

A number of common tools and processes are used by organisations to assess and assist in strategic alignment planning and implementation, including, Balanced Scorecard, Hype-Cycle, Current and Future State analysis (Earl 2003, Gartner 2006,
The variety of approaches and models indicates that a number of differing ways are being utilised by organisations, raising the question of how and in what circumstances these differing approaches can be implemented.

1.3 RESEARCH PROBLEM AND QUESTIONS

There is an overall need to investigate the alignment between the strategic business directions of an organisation and the technology and systems used to support the business. Specifically two questions can be asked:

R1 – What initiatives can an organisation put into place to initiate or progress the strategic alignment between its business goals and direction and its IT systems and processes?

R2 – What characteristics or dimensions of an organisation can influence its choice of alignment approach?

The main objective of this study is to extend the understanding of these two fundamental questions, in the context of both the literature and real-world endeavours by investigating how a number of organisations have attempted to align their internal information systems and processes with their strategic business direction.

1.4 KEY AREAS IN THE LITERATURE WARRANTING FURTHER INVESTIGATION

From the perspective of the two research questions, the literature review shows it is beneficial for organisations to have close alignment between their Information Technology (IT) systems and process and their business direction, on the basis that to fully engage in the required business and to gain the outcomes expected, the IT systems and processes needed to support and enable the business strategies.

The overall premise that strategic alignment is desirable indicates that there are areas warranting further investigation to better understand the approaches, mechanisms and contributing factors that promote alignment.
Looking at an organisation’s motivation for strategic alignment also warrants further investigation, as this may give valuable insights to why an approach or mechanism for alignment is selected, the level of commitment to the chosen approach and the measures for successful implementation. This leads to a need to investigate the external and internal pressures organisations are placed under to move towards alignment, as well as the impact and influence of organisational type, governance measures and alignment strategies used by organisations. These areas are addressed within the context of the research undertaken in this study.

Two broad alignment approaches are identified in the literature, One-Off Alignment and Continuous Alignment. However, the circumstances under which these approaches may be beneficial warrants investigation. The available and utilised tools and techniques for strategic planning and implementation are also discussed in the literature, thus the investigation of the use of tools and techniques within the context of specific organisations is also worth investigating. The literature has also indicated that IT/IS systems and processes may impact strategic planning and implementation in organisations suggesting it may be useful to look at this in the context of specific organisations.

Investigation is also warranted in how mechanisms of alignment are utilised in real-world situations, how they and the alignment success are measured and how effective they are. One such area of investigation is project management as it has been used as a mechanism of strategic alignment.

Finally, the interplay of factors such as organisational type, available resources, capability levels and competencies in a real-life environment and conditions would greatly add to the understanding of which strategic approaches benefit organisations within specific conditions and environments.

1.5 RESEARCH SCOPE

Six case studies within four organisations were investigated to provide insight to the strategic alignment approach chosen by the organisation, its effectiveness in the context of its organisational type, the internal and external pressures exerted on it and the types of strategic approaches it utilises, its resources, its capabilities and competencies.
The research focuses on alignment to business direction based on an information systems (IS) and processes strategic perspective and not from an information technology (IT) resources perspective. The benefits of IT resources such as wireless technology, cloud computing, mobile devices and other emerging technologies are discussed in the literature, however, as IT resources are constantly evolving, investigation of alignment from this perspective is beyond the scope of this research (Chen, Wang, Nevo, Benitez, and Kou 2017, Gil-Garcia 2014, Luo and Bu 2016, Sheng, Nah, and Siau 2005).

The research questions are examined primarily from the basis of current research in the area of organisational theory, strategic planning and implementation and alignment between business and information technology direction.

This study seeks to investigate and understand the processes that may be adopted in organisations in determining and implementing strategies, within real-life business situations. This includes taking into account environmental and organisational factors that may have affected the strategic approach and outcomes. The main theme of this study, therefore, is through investigating strategic approaches used by organisations to align their IT systems and processes to their business direction, to gain insight into the relative success of the various strategies. The anticipated outcome of this study is a set of conclusions for successful alignment approaches and strategies which are potentially applicable in similar organisational and business environments.

1.6 RESEARCH APPROACH

An interpretive, qualitative approach is taken for the research design of this study. A case study methodology is proposed based on Eisenhardt (1989a) and further developed and expanded into a Research Methodology delineating the seven steps of case study research: defining research questions and identifying issues; selecting alignment approach and case study; determining instruments; providing for flexibility and opportunism, analysing data; referring back to the theoretical context and making conclusions. The chosen methodology leverages defined instruments, develops and adapts them for the current research and applies the adaptations in six case studies undertaken in recent business and corporate settings. Measures of and criteria for strategic alignment based on previous studies were investigated and provide a mechanism for comparison between the approaches investigated in the case studies.
including Balanced Scorecard (Kaplan and Norton 1996b), Business Strategy (Bergeron et al. 2004), IS competencies (Tarafdar and Gordon 2007) and the Strategic Alignment Maturity Model (Luftman 2004a, 2015, Luftman and Kempaiah 2007).

The researcher’s role as an insider and significant director of events, as a consultant and project manager engaged by the investigated organisations, formed the basis of the case studies. This provides an insider view with the researcher as a significant director of events, and also allows for exploiting the opportunistic nature of the case studies and the determination of relevant issues for investigation.

Six opportunistic case studies covering four different organisations are investigated within the context of the approaches to alignment. Each case study was assigned to an alignment approach from the brief provided by the organisations for the case study.

Three alignment approaches, based on the two (One-Off and Continuous) identified in the literature were expanded by the Research Methodology. These were One-Off Alignment, Continuous Alignment Driven by Business Direction and Continuous Alignment Driven by Information Technology (IT) Systems and Processes. Within each of these approaches, one or two case studies were investigated in detail, focussing on the issues raised from the literature. A number of case specific issues were encountered and investigated within the context of the relevant case study in relation to alignment practices. Alignment criteria were defined to facilitate the assessment of an organisation’s alignment of IT systems and processes with their business directions.

It is recognised in this study that alignment assessment is undertaken within the context of the professional work and engagements investigated and not generalised to the organisation as a whole.

1.7 SUMMARY OF CASE STUDIES

Approach 1: One-Off Alignment

The One-Off Alignment approach indicates attempts many organisations make at the commencement of the business, or at times during the course of the business life, in an effort to align the IT and the business directions. This was a particularly common approach for organisations to undertake when creating new businesses, procuring new
IT systems or undertaking business reengineering projects. This approach was investigated in three case studies.

**Case Study 1: Establishing a New Alliance**

This case study investigated a utilities organisation which had initiated a new business unit comprising of a new alliance with an external organisation. There were no specific business processes or IT systems or processes in place. This case study was classified as One-Off Alignment as new business and IT systems and processes were being established. The effect of early operational and reporting outcomes and on the ultimate business outcome was investigated.

**Case Study 2: New Operational Processes for an Existing Alliance**

This case study investigated a utilities construction company participating in a joint venture with a different utilities organisation which had also initiated a new business unit ahead of specific IT systems being put in place. However, at the time of the study, the need had been recognised and steps were being put in place to provide IT and systems support for business objectives. This case study was classified as utilising the One-Off Alignment Approach as there were new processes and systems required to be put into place and major re-engineering of existing systems, processes and operational and contractual frameworks. The outcomes of the business unit were examined and compared with Case Study 1, particularly with respect to the organisational culture and organisational type.

**Case Study 3 – Designing New Enterprise Architecture**

This case study was within the context of a large financial institution and investigated a large IT project to establish a new enterprise-wide architecture, termed the Enterprise Architecture (EA) initiative, and to transform the business processes and data. The purpose of the transformation was to establish an information system and processes to enable new business directions for a consolidated customer base and cross-selling of the organisation’s products to customers. The engagement was initiated as a specific attempt by the organisation to enable its information and application structures to leverage further product sales within its existing customer base.
As such it was recognised as a major One-Off Alignment initiative and categorised as a One-Off Alignment Approach. The expected impact of the new systems on the business was explored and a brief assessment of the expected alignment discussed.

**Approach 2: Continuous Alignment Driven by Business Direction**

This approach, investigated a strategy that continuously aligned the IT systems with the business directions of the organisation. The driver for alignment in this approach was pressure from the business unit owners. This approach was investigated in one case study.

*Case Study 4 – Establishing an Alignment Assessment Process*

This case study investigated an initiative of the organisation to actively assess proposed IT systems and technologies specifically in the context of the expressed business direction of the organisation. As such the case study was assigned to the Continuous Alignment Approach.

**Approach 3: Continuous Alignment Driven by IT Systems and Processes**

The final approach describes continuous alignment with IT systems and processes as the major driver.

This approach investigates strategies established to enable continuous alignment of initiatives and projects with the business directions using the IT systems and processes as the mechanism of alignment. Two case studies were investigated, both of which used project management as a mechanism of alignment. In Case Study 5 it was the business unit which was the instigator for implementing a business process office to provide project management discipline and methodologies. By contrast, in Case Study 6, it was the IT systems and processes previously set up by the organisation that required the same discipline and management to be applied to the business areas. As such these next two cases studies were categorised into Project Management driven by business and Project Management driven by IT systems and processes respectively.

*Case Study 5 – Establishing a Business Projects Office*

This case study investigated the establishment of a Projects Office to align the undertaking of business projects to the business direction of the organisation.
using project management methodologies and practices. This case study was undertaken in the same organisation as Case Studies 3 and 4, allowing comparisons of the three methods and some conclusions regarding the efficacy of the different methods within the same organisation.

**Case Study 6 – Establishing a Project Management Framework**

This case study investigated the establishment of a project management framework and project management approaches heavily based on standard project management theory and practice to provide standards and mechanisms as gateways to ensure alignment of projects with business direction and derived policies. The organisation was a primary industry owner-operated organisation to manage the production and marketing of the product.

### 1.8 SIGNIFICANCE OF THIS RESEARCH

An opportunity was seized for a systematic study of organisations and their strategic alignment initiatives based on organisational and strategic. An extended series of case studies across different organisations provided understanding and insight into what motivates organisations to undertake these initiatives, how they are structured and implemented and their expected and eventual outcomes. This allowed for focussed investigation of real-life strategic alignment initiatives within the context of six markedly varying case studies across four different organisations, providing a valuable view of the motivations of organisations for strategic development, observations and conclusions from key personnel within these organisations and the understanding and insight of the outcomes of these initiatives.

Three different approaches (One-Off Alignment and two types of Continuous Alignment) used during the same timeframe within a single organisation provided a unique perspective of the motivation and choice of the organisation and the eventual outcomes expected. The comparison of different organisations using similar based alignment mechanisms, such as Business Projects Office and Project Management Framework, and their respective successes provides an invaluable understanding of the organisational objectives and strategies used. The similar difficulties experienced by the two alliance partnerships in two case studies also highlighted significant issues and problems that these organisations had to address. These insights offer valuable
lessons to consider to other practitioners and organisations that may be faced with similar situations.

The researcher’s role as a “passionate participant” (Lincoln, Lynham, and Guba 2011, p. 110) rather than as a detached observer, and as an insider and significant director of events, formed a key motivation for the systematic research of theory practice for strategic alignment within the context of real-life case studies. This perspective provided for a theoretical basis for exploiting the opportunistic nature of the case studies and the determination of relevant issues for investigation with a formal Case Study Methodology (Eisenhardt 1989a, Eisenhardt and Graebner 2007) adapted and developed further for this research. This role of insider as passionate participant and a significant director of events is regarded as a major contribution of this research that brings a rare perspective to the body of practice and knowledge within the context of theory and best practice.

1.9 SUMMARY OF FINDINGS

It was concluded that there are a number of effective methods and mechanisms for alignment of IT systems and processes to an organisation’s business direction. One-Off Alignment was an effective approach for business diversification while Continuous Alignment was effective for evaluating business driven IT initiatives, while establishment of a projects office and project management framework supported continuous alignment to business strategies. Additionally there was evidence that different alignment approaches can be successful depending on the context. This was confirmed by the success of three different alignment approaches within the same organisation during the same period.

Organisations also exhibited expected Defender and Prospector organisational characteristics. It was concluded that recognition for the importance of alignment varied with different organisational type and cultures, with success being predominant in the organisations that actively planned for and implemented projects or initiatives to address strategic alignment.

During detailed analysis of each case study a number of peripheral issues were highlighted, specifically the relationship between alignment and an organisation’s characteristics, business models and strategies used as an alignment response and
specific tools and mechanisms relevant to alignment. These and other peripheral issues were listed as potential areas of investigation for future research.

It was also concluded that non-alignment was a factor. In the first two case studies, it was recognised that the outcomes for alignment were not successful even after concerted attempts due to a lack of recognition of the importance of alignment (Case Study 1) or the inability of proposed systems and processes to provide the needed alignment due to disparate needs of the organisations involved (Case Study 2). Conversely the lack of initial alignment in the EA initiative was its main driver for significant resource and financial investment to align the organisation’s IT and IS infrastructure with its business directions. Additionally a recognised non-alignment of a proposed IT system in the same organisation was the trigger to review the organisation’s IT policy and make adjustments to accommodate the proposed technology.

Finally, the Case Study Methodology, the research methodology developed for the investigation of the six case studies, was shown to be useful in the context of real world problems and investigations.

Future research is suggested to further investigate the inter-relationship between organisational type and alignment approach and to define a model synthesising alignment approaches and tools. Future research in investigating practitioner books and articles such as CIO “how-to-books” and the extent these are based on theoretical approaches is also suggested.

1.10 OUTLINE OF THE THESIS

The thesis is presented in a total of eight chapters. Following the current introductory chapter, Chapter 2 focuses on the alignment literature and forms the theoretical foundation of this study, formulating issues for potential investigation. The literature review investigates alignment theories and methods and defines alternate alignment approaches.

Chapter 3 proposes the methodological philosophy and approach to the study determining a qualitative interpretive approach using the participative case study method as an appropriate way for investigating these issues. This was particularly
pertinent as the researcher was a long term professional within organisations and the primary facilitator of these case studies. The criteria for assessment are also defined.

The Case Study chapters 4, 5 and 6, each dedicated to an alignment approach, describe the case study investigated for the relevant approach and follow the seven steps delineated by the Case Study Methodology described in Chapter 3. Pre-analysis of each of the case studies looked at preliminary classification of the case study to the appropriate alignment approach and determination of relevant issues. The preliminary categorisation to an alignment approach was based on the engagement’s purpose and context provided by the organisation. During the analysis phase of the case study, the alignment approach is validated in light of the data collected. Data collated for the issues are analysed and an alignment assessment is undertaken based on the criteria developed in Chapter 3.

Chapter 7 looks at the overall findings of the research in the broader context of strategic alignment, looking at the three alignment approaches and specifically a cross-alignment comparison. The success of an alignment approach over others with respect to the business and IT contexts is discussed.

Chapter 8 concludes the thesis and describes its significance to current and future business practice and future research.

1.11 CHAPTER SUMMARY

This chapter introduces the premise and drivers for the investigation of strategic alignment within the context of four large organisations through six case studies. The background to why organisations engage with alignment is outlined and the problems they face identified. The research questions are stated and the methodology is introduced. The six case studies and the organisations to be investigated are outlined followed by the summary of the findings.

The next chapter looks at the literature in light of the two research questions and identifies and discusses issues that warrant investigation with respect to strategic alignment.
Chapter 2. Literature Review

This chapter reviews the theory and practice of how organisations attempt to align their business direction and the many systems and processes that support their business. This is termed strategic alignment and looks specifically at the alignment between the information systems and processes and the strategic direction of the organisation. This chapter reviews the research covering the definition of alignment, factors shown to impact alignment and various approaches, frameworks, models and tools used in the planning, implementation and management of alignment.

From this review a number of pertinent issues are raised to investigate as part of the current research. Additionally some counter-arguments to alignment have been examined.

2.1 WHAT IS ALIGNMENT?

With the increasing pace of technological advancement, there is a greater dependence on technology for an organisation’s systems and process and its vision of the future. Hence the alignment of an organisation’s business direction, and the information technology systems and processes in place, termed strategic alignment (Morrison, Ghose, Dam, Hinge, and Hoesch-Klohe 2012), is a core importance to its success both at any given time and for the future and is of top concern of organisations (Kappelman et al. 2017).

2.1.1 Definition of Alignment

Alignment of business and IT strategies refers to the synergy between the direction an organisation is taking for its business activities (such as consolidation and expansion of market share or expansion into new sectors) and the direction of the information technology (IT) commitment and take-up (Bergeron et al. 2004, Henderson and Venkatraman 1993); in effect “the integration of strategies relating to the business and its IT/IS” (Avison et al. 2004, p225). The underlying premise is that if IT direction supports the business ideals and the goals, then business goals and objectives will be able to be fulfilled more easily. Research has identified that organisations can suffer from a lack of a systematic relationship between business and IT domains (Reich and Benbasat 1996, Wagner 2014) and has indicated that enterprises will struggle to perform successfully if their business and IT strategies are

Cortada (1998) also stressed the importance of business strategy and IT strategy needing to be aligned. He reported that this was a growing trend, with more organisations aligning IT with business goals than previously. The more recent work of Aversano et al. (2013) and Kwanroengjai et al. (2014), and the confirmation that strategic alignment is indeed a major factor of organisational business success (Gerow, Grover, Thatcher, and Roth 2014), shows that this continues to be important.

2.1.2 Dimensions of Alignment
IT strategy was seen by Bergeron et al. (2004) as 4-dimensional: competencies; role of IT; systems design; and development and infrastructures. These are represented in a gestalt model of strategic alignment as shown in Figure 2-1.

![Gestalt Model of Strategic Alignment](image)

Figure 2-1 Gestalt Model of Strategic Alignment (Bergeron et al. 2004)

This model predicted that “conflictual coalignment patterns of business strategy, business structure, IT strategy, and IT structure” (Bergeron et al. 2004, p. 1013) led to lower levels of business performance, while increased alignment led to improved business performance. Hence this is the main incentive for strategic alignment.

Henderson and Venkatraman (1993) postulated that strategy involves both formulation of strategy, which is the choices regarding positioning the business within the market, and implementation of the strategy, and that the economic performance of a business results from management creating a strategic fit between the market position of an organisation and the creation of its support structures for
business execution. However, strategic fit is dynamic and thus “is not an event but a process of continuous adaptation and change” (Henderson and Venkatraman 1993, p 2). This view is extended by Chan and Reich (2007) who state that alignment is not a static single-dimensional factor or process but rather there are multiple dimensions to alignment such as strategic, structural, social, cultural as well as different levels of alignment within an organisation. These dimensions, proposed by Chan and Reich (2007), have also been investigated by a number of other researchers as discussed below.

**IT Strategies and Business Strategies**

Traditionally IT strategies describe the directions taken by the organisation to introduce and utilise new technological advances to support business. For example, some commercial application systems provide the capability to gather customer information and the history of the customer’s transactions together, such as Customer Relationship Management (CRM) systems. This provides a powerful tool for the organisation to help the customer in any direct dealings (e.g. service calls, progress of service / products sales) or can provide avenues of on-selling or up-selling other products and services. These type of initiatives look at what is needed and how these activities can be improved.

Business strategies more specifically refer to the direction the organisation is taking in developing its footprint in the industry (Casadesus-Masanell and Ricart 2010). Reich and Benbasat (2000) identified the link and inter-relatedness between IT and business strategies as of major significance. Buckby et al. (2005) defined and discussed dimensions for alignment between IT strategy and business direction. The questions they asked had practical operational implications to determine whether the strategic plan linked to the business plan.

Bergeron et al. (2004) proposed an operational approach to alignment. Traditionally a contingency relationship between organisation strategy and organisation structure had been investigated with the premise that organisations whose strategy and structure were aligned should be less vulnerable to influences from external factors and less subject to internal inefficiencies. That means that strategic change creates the need for more information gathering, interpretations and synthesis, which leads to changes in organisational structure. Thus organisations will be “more effective when
there is a match between the information processing requirements of their strategy and their information processing capacities” (Bergeron et al. 2004, p. 1004).

**Structural Dimensions**
Chan and Reich referred to structural alignment as alignment which is influenced by the location of IT decision processes and the management reporting relationships, the extent of IT centralisation or decentralisation, the deployment of IT personnel and the informal relationship structures within the organisation (Chan 2002, Chan and Reich 2007). Their conclusion was that more complex IT structures as of themselves were not necessarily an indicator of business success, however increasing structural complexity together with stronger IT management could lead to increased organisational growth and profitability (Chan and Reich 2007).

**Social Dimensions**
Chan and Reich (2007) defined social dimensions within alignment as the extent that business and IT executives understand and commit to the business and IT mission, objectives, and plans and necessitating the collaboration of business and IT staff at all levels. Other studies have also indicated that shared understanding and collaboration between an organisation’s business and IT personnel has a positive impact on alignment (Preston and Karahanna 2009, Reich and Benbasat 1996, Tan and Gallupe 2006).

**Cultural Dimensions**
This dimension focussed on the importance of cultural fit between business and IT and the requirement that alignment is culturally supported by the organisation to ensure success (Chan and Reich 2007).

Robson’s strategic analysis model (Robson 1997) looked at the interpretation of the cultural mix of the organisation and its objectives and investigated models of culture and objectives and models of power and structure.

Other research (Miles and Snow 1978, Miles, Snow, Meyer, and Coleman Jr. 1978) provided a predictive model of an organisation’s behaviour based on whether the organisation is either conservative or innovative. Conservative organisations, termed Defenders, valued low-risk strategies, secure markets and well-test solutions. Innovative organisations, termed Prospectors, valued ground-breaking, high-risk payoffs. The differences in attitudes affected investment and expansion strategies.
Robson (1997) also extended this categorisation to groups within companies and the relative attitudes to technology, marketing and other initiatives.

Miles and Snow’s model (1978) regarding organisational type model found that different organisational types prefer differing strategic business directions and hence developed differing strategic planning processes. For example, Prospector organisations valued ground breaking high risk strategies and looked for new markets, and hence they were more likely to enter alliance partnerships. The strategic planning process for these organisations would be more attuned to external factors. Organisational type and behaviour based on Miles and Snow (1978) are discussed more fully in Section 2.1.3.

Robson (1997) contended that the objectives of an organisation would shape the strategy formulation. There are three influences of the objectives for a strategy: scope of strategy; market focus; and corporate goals. The extent and scope of the strategy can be determined by comparing the financial objectives with the current performance.

Levels of Alignment

Chan and Reich (2007) recognised that alignment should be present at all levels within an organisation and be reflected in its organisational structure, its systems and projects and reflected at the individual cognitive level. They postulated that there were challenges in attaining alignment and stated that, in some circumstances, there was a counter argument for alignment particularly in circumstances where strategy is not clear due to turbulent and unpredictable environments; or that, if IT and business strategies were too tightly aligned, it could be deleterious for the outcomes of an organisation.

This is particularly evident in the Kodak-Eastman case of missing the digital revolution (Lucas Jr and Goh 2009). Here the company’s technological direction did not take into account the digital trends that were disruptive to the whole industry: Kodak’s management response did not take the trend to digital photography seriously enough. Overall the digital revolution from film to digital photography took two decades. However during this time Kodak-Eastman revitalised and re-engineered their film processing processes and, although they had even made strides into the digital technological world, did not move their core business in that direction. As a result of its failure to take advantage of this new technology Kodak, which was the
clear market giant of the photography industry, experienced a nearly 80% decline in its workforce and loss of market share and stock price (Lucas Jr and Goh 2009) and eventual demise (Langley et al. 2013).

**Impact of Governance**

The specific challenges for the management of IT projects and project teams have been called IT governance, defined as “the preparation for, making of and implementation decisions regarding goals, processes, people and technology on a tactical and strategic level” (Simonsson and Johnson 2006, p. 14). The governance of IT projects and processes has been extensively investigated and frameworks aiming to integrate this with alignment to business direction have been proposed (Dahlberg and Kivijärvi 2006, Larsen, Pedersen, and Andersen 2006, Tu 2007). Where IT governance practices are mature in an organisation, there is greater alignment between IT and business direction (De Haes and Van Grembergen 2009), with organisations introducing IT governance practices to achieve that better alignment. IT governance is a continuing issue of investigation within for the success of IT initiatives (Asgarkhani, Cater-Steel, Toleman, and Ally 2017).

Buckby et al. (2005) investigated governance dimensions such as whether there was regular communication between the senior executive roles including the Chief Executive Officer (CEO), the Chief Information Officer (CIO) and the Chief Financial Officer (CFO) and if the CIO had a high profile on the executive board. For example, they investigated whether the organisation had a Business-IT Relationship Manager thus implying that the organisation was monitoring the interaction between the two strategic plans.

Governance at strategic levels, such as at executive levels, and governance at operational levels, such as the IT or IS manager, is a major contributing factor to Henderson and Venkatraman’s classic Strategic Alignment Model (Henderson and Venkatraman 1993). IT governance mechanisms enable strategic alignment which positively impacts organisational performance (Wu, Straub, and Liang 2015).

### 2.1.3 Factors Impacting or Influencing Alignment

A major driver of alignment has been the increased confidence in IT investment as a positive relationship between greater alignment and increased organisational performance (Byrd et al. 2006). Increased investment does not automatically
improve alignment: in fact where there is misalignment, increased IT investment can often exacerbate the problems by increasing expectations and magnifying poor organisational performance (Chan 2000, Chan 2002). Therefore researching the impacts and influences from and on alignment has been of interest in the literature.

**Organisational Type**
Organisational type refers to the size and structure of an organisation and raises questions as to whether large organisations approach alignment differently to smaller organisations and whether highly structured organisations differ in their strategic approach from those more informally structured organisations.

Yayla and Hu (2009, 2012) found that high strategic alignment has a positive effect on organisations where there is high uncertainty. Where there is low uncertainty (e.g. where there are few competitors) organisations may not need high degrees of alignment in order to be successful.

As previously mentioned, organisational characteristics affect the impact of strategic alignment. Miles and Snow’s (1978) framework for organisational type proposes four profiles: Defender; Prospector; Analysers; and Reactor. Miles and Snow’s (1978) findings relevant to this research are discussed in detail below.

Defender organisations were entrepreneurial in that they aggressively attempted to prevent competitors, in order to create a stable domain, by constant innovation to differentiate from their competitors, and creating strong barriers for the competition entering the market. Their other characteristics included large investment in technical expertise and efficiency and strict cost control mechanisms.

Prospector organisations, in contrast to Defenders, actively sought new markets and focused on innovation of new products and services. They avoided being limited to a narrow band of technologies or products and their mode of operation was more akin to facilitation and openness rather than that of strict control. These organisational characteristics were commonly evident in technology companies strong in innovation and invention.

Analyser organisations fell between the two extremes of Defenders and Prospectors. Typically they exhibited stability as well as ability to change, with their core strength
being in marketing rather than research and development. They also attempted to accommodate both stable and changing environments in their organisation’s structure.

Organisations typed as Reactors were typically inconsistent and unstable. As a consequence they existed in a state of almost perpetual instability and responded inappropriately to environmental change and uncertainty.

Defenders and Prospectors tended to focus on technology use and efficiency rather than increasing market share or innovation. On the other hand, Analysers tended to focus on financial performance (Yayla and Hu 2009, 2012).

According to the Miles and Snow (1978) model, the various organisation types responded differently in how they addressed three strategic areas: entrepreneurial; engineering; and administrative. The entrepreneurial problem defined how the organisation managed its market domain, specific goods or services or target segment of market share. The engineering problem defined how the organisation applied its solutions or products to the entrepreneurial problem which becomes its point of differentiation. The administrative problem defines how the organisation established systems and processes to resolve issues faced by the previous two problems as well as allowing innovation.

Andrews et al. (2009) have also confirmed the fit between organisational strategies and organisational categorisation of Prospector, Defender, Analyser and Reactor, with however, less consistency between organisational structure and processes.

Hirschheim and Sabherwal (2001), using Miles and Snow’s (1978) definitions of organisations, showed that the four types of organisations used different business strategies. They found that this resulted in a differing role played by their Information Systems (IS) departments as well as differing sourcing arrangements and different information systems structure within the organisation. Hirschheim and Sabherwal (2001) termed this categorisation by organisational type into IS role, IS sourcing and IS structure as an Alignment Profile. They postulated that Defender organisations provided enhanced service and high quality products to a target niche market, Prospector organisations continually sought new markets and were often the creators of change in the markets, while Analyser organisations aimed to minimise risk and maximise opportunities for development and growth (Hirschheim and Sabherwal 2001). Defender organisations preferred an efficient IS role with a
centralised structure and will often outsource many IS functions. Alignment for Defender organisations translates to low cost IS delivery. In contrast, Prospector organisations tend to have an opportunistic IS role with a decentralised structure and will service the IS functions in house. Alignment for Prospector organisations relies heavily on business leadership providing direction for IS functionality. Differing from both, Analyser organisations look for a comprehensive role from their IS department and will selectively outsource or insource IS functionality depending on the nature of the capability, with IS decision making often shared between business units or departments. The Analyser strategy looks at the strengths of centralisation and decentralisation which supports both existing business operations as well as helping to identify and utilise new products and services, hence endeavouring to achieve alignment through partnering with IS.

This categorisation is summarised in Table 2-1.

<table>
<thead>
<tr>
<th>Alignment Profile</th>
<th>Infusion</th>
<th>Alliance:</th>
<th>Utility:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alignment through Business Leadership</td>
<td>Alignment through Partnering</td>
<td>Alignment through Low Cost Delivery</td>
</tr>
<tr>
<td>Business Strategy</td>
<td>Prospector</td>
<td>Analyster</td>
<td>Defender</td>
</tr>
<tr>
<td>IS Strategy</td>
<td>Opportunistic</td>
<td>Comprehensive</td>
<td>Efficient</td>
</tr>
<tr>
<td>IS Role</td>
<td>Insourcing</td>
<td>Selective Sourcing</td>
<td>Outsourcing</td>
</tr>
<tr>
<td>IS Sourcing</td>
<td>Decentralised</td>
<td>Shared</td>
<td>Centralised</td>
</tr>
<tr>
<td>IS Structure</td>
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<td></td>
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</tbody>
</table>

Table 2-1 Alignment Profiles of Organisations by Type (Hirschheim and Sabherwal 2001)

Hirschheim and Sabherwal (2001) found that maintaining alignment proved difficult for many organisations despite the tendency of the organisational types towards the described approaches and strategies. The reasons for misalignment, although complex, showed that organisations sometimes made paradoxical decisions that took them out of alignment.

**Internal and External Influences**

An organisation experiences internal and external pressures to move towards alignment between its business goals and information systems and processes. Porter (1980) refers to five influences which can shape the behaviour of an organisation. These affect an organisation’s view of the market and hence its response to it and its ability to survive. These five forces refer to the threat by competitor organisations new to the market to those already existing in the market place, the threat from suppliers of an organisation’s materials and/or products, the threat from substitute
products in the market place and the threat from buyers within the market. Each of these threats were shown to have a major influence on the success of organisations in the market place (Porter 1980, 1985, 2001). Porter’s Five Forces are described briefly below.

**The Threat of Entry of New Competitors into the Market**
An organisation benefits from the scarcity of other organisations able to provide the service or product. The fewer an organisation’s competitors, the stronger is the position of the organisation in the market and its profitability.

The greater the barriers for new organisations to enter the market, the less likely it is that new players will enter and create serious competition for the original organisation. These new organisations may represent a potential threat to the organisation’s market position.

**The Threat from Existing Competitors**
An organisation will also be competing directly for market position, and hence sales for its products or services, with already existing organisations. An organisation needs to ensure that it retains prominent market position compared to existing competitors.

**Supplier Power**
Suppliers of resources and/or materials also are a source of potential power and influence over an organisation. Reliance on a single supplier increases this power. Organisations need to position themselves so as to reduce dependence on suppliers as much as possible by sourcing new suppliers. Many organisations will consolidate suppliers to provide savings by economies of scale. However this benefit may need to be tempered by the risk of a single supplier.

**Bargaining Power of Buyers**
Customers can be a source of pressure to an organisation to reduce prices and thus reduce profitability. The larger the size of the customer base, the greater the pressure that can be exerted.

**Threat of Substitute Products**
The existence of alternative products or resources also reduces the competitive advantage of an organisation by effectively diluting the market share. If there are alternative products in the market place, an organisation has to ensure that its product
is competitively placed either by virtue of cheaper pricing or new features that effectively reduce the attractiveness of competitive products.

**Interplay of Porter’s Five Forces**

The interplay of the Porter’s Five Forces can be used as an effective strategy for organisations (Porter 1980, 1985, 2001). For example, reducing the threat from other competitors may assist in reducing the buyer bargaining power threat, as it effectively increases an organisation’s position as supplier to its customer base.

Ward and Peppard (2002) described the expansion of the information boundaries of an organisation to include external partners. This is indicated by the emergence of e-marketplaces or exchanges prompting the emergence of Industry Requirements Planning, (IRP) systems linking the separate Enterprise Resource Planning systems (ERPs) of organisations together. ERP is an industry established term denoting the full scale resource planning for an organisation including IT, financial, human, customer and supplier relationships (Ragowsky and Somers 2002, Tarhini, Ammar, and Tarhini 2015). These external forces can be viewed as drivers for the establishment of alliances and partnerships with external parties.

Tumolo (2002) investigated the benefits, disadvantages, critical success and failure factors arising from emerging technologies. These factors have both an external and internal perspective. External forces from emerging technologies include competitive advantage while internal forces could include changes to internal business processes due to the disruptive impact of these technologies. Both these forces may well impact the adoption of these technologies by the organisation and would warrant further investigation, especially with respect to peripheral issues such as privacy and security problems, potential anti-trust behaviours, potential for the formation of monopolies or cartels as well as concerns of profitability (Tumolo 2002).

**Influence of Capabilities and Competencies**

Henderson and Venkatraman (1993) raised a number of issues related to organisational capability and competency: implications from information technologies in the business operations itself; alternative perspectives for leveraging information; whether the locus of IT competence is inside or outside operations (e.g. outsourcing or in-house retention of IT expertise); the executive role of senior management for leveraging IT; and how an organisation structures its IT functions.
They suggested that it is not specific technology but the organisational capabilities that is important to differentiate an organisation’s operations from their competitors.

Tarafdar and Gordon (2007) also recognised that information systems (IS) competencies affect process innovation and affect organisational strategic behaviour, including competitive advantage. They defined an organisation’s competency as its ability to deploy and combine resources to create a capacity to achieve a required objective. Examining a number of IS competencies including knowledge management, collaboration, project management, and IT Governance, they found that organisations can improve the innovation and development of their business processes by developing and strengthening relevant IS competencies. IT innovation capabilities were also recognised as valuable organisational resources by Wu (2015). Reich et al. (2008) proposed a model for aligning knowledge gained from an organisation’s projects to the organisation’s business value. Other studies in project management methodologies have identified that initiating projects that align to an organisation’s strategic goals served to align to its business strategy (Kaiser, El Arbi, and Ahlemann 2015, PMI 2015, Srivannaboon and Milosevic 2006). Portfolio management, in categorising and determining whether projects continue or not, is another aspect of using project management as a mechanism of strategic fit (Unger, Kock, Gemünden, and Jonas 2012). Project Management methodologies and discipline also include the establishment of organisational structures such as project, program or portfolio management office (PMO) and have been shown to assist organisations to improve the strategic fit of their initiatives and projects (Aubry, Hobbs, and Thuillier 2007, Letavec 2006, Philbin 2016, Unger et al. 2012).

Other research has confirmed the link between strategic type and IS capabilities with environmental factors (DeSarbo et al. 2005) by developing the Miles and Snow’s (1978) model further. The additions made by DeSarbo et al. (2005) looked at marketing, management and performance.

### 2.2 APPROACHES TO ALIGNMENT

There are numerous major theoretical approaches for strategic management and planning for organisations. Investigation of these is essential to identify the most effective strategic approaches and tools to apply in an organisation, and to provide a contextual framework to the processes being investigated. The strategic approaches
described below can be used to align IT strategies and processes with business strategic direction.

Most alignment approaches comprise initiatives, systems or processes that establish alignment at a specific point of an IT to Business strategic relationship (Winter and Fischer 2007, Winter and Schelp 2008). However such linear and unidirectional strategic alignment approaches (Boar 2001, Chan et al. 1997, Sledgianowski and Luftman 2005, Winter and Fischer 2007, Winter and Schelp 2008) are focused on a single or discrete alignment event or process rather than a set of continuous processes or continuous alignment effort as indicated by Broadbent and Weill (1993). Hirschheim and Sabherwal (2001) also indicated that alignment represented associated processes over time particularly in the context of interdependent changes in business and IS strategies. They envisaged a continual strategic alignment process between business strategies and the organisation’s IT strategic direction and support Henderson and Venkatraman (1993, p. 5): “…strategic alignment is not an event but a process of continuous adaption and change”.

Samanta (2007) proposed an alignment approach based on an organisation’s maturity and capital allocation methodologies thus allowing for alignment over time.

To maintain alignment, planning and management processes have been recognised as necessary (Broadbent and Weill 1993).

Another approach to alignment is to look for business alliances or partnerships as a mechanism for corporate learning or for accessing learning from other organisations (Grant and Baden-Fuller 2004). However Hirschheim and Sabherwal (2001), in their study of strategic alignment, identified alliances as a key of alignment, defined as alignment through partnering. Typically the organisation chooses an Analyser strategy that supports existing business operations as well as helping to identify and utilize new opportunities (Hirschheim and Sabherwal 2001). This means that the IS systems and processes need to be flexible to enable adapting to the new situations and support the organisation in partnering with other businesses (Hirschheim and Sabherwal 2001).
2.3 FRAMEWORKS AND MODELS OF ALIGNMENT

Business models refer to the way an organisation operates, whereas an organisation’s business strategy is defined by the way an organisation seeks to differentiate itself and position its footprint in the marketplace (Casadesus-Masanell and Ricart 2010, Teece 2010). Alignment between business direction and IT needs to take into account an organisation’s business models as well as its business strategy.

Sledgianowski and Luftman (2005)’s alignment model describes a linear and unidirectional approach starting with the establishment of goals and the team (see Figure 2-2), and hence objectives. Next, the IT and business touch points and linkages need to be understood and the gaps prioritised for addressing. Specifying actions which can utilise a range of activities is crucial, along with the success criteria used to determine achievement of alignment. Finally sustaining alignment is required as an ongoing activity.

The importance of analysing and understanding the current state model underpins the success of determining the future potential of an organisation. Ward and Peppard (2002) stated that a thorough analysis of the “current-state” situation, including factors outside the organisation, was essential to determine the direction and actions to take for expansion. They concluded that analytical techniques and frameworks available were insufficient to carry out an impact analysis of IT on a business, although they can aid in the understanding of some of the issues arising.
The strategic framework favoured by Ward and Peppard (2002), based on Treacy and Wiersema (1993), indicates three states for the business: survival; success; and prosperity. Treacy and Wiersema (1993) predicted that, if an organisation was rated beyond the “success” state for at least one business competency, (that is one of “customer intimacy”, “product leadership”, or “operational excellence”), it needed to be at least equal to competitors in the other two areas for the organisation to be profitable.

In effect, business competencies that are within the “success” state are impacted by poor performance from other competency areas, adversely affecting the business’s profit and advantage. Ward and Peppard’s model (2002) easily explains why some excellent successful initiatives fail to generate the expected profit and advantage in companies. The Treacy and Wiersema model (1993) is further expanded by Ward and Peppard (2002) to incorporate the three strategic initiatives: strategic applications; operational applications; and high-potential projects. Earl (2003) proposed a similar model with four states: competitiveness; basic applications; visionary; and experimental initiatives. The first two states of Earl’s model are similar to Ward and Peppard (2002)’s two states. Ward and Peppard (2002) third state of high-potential projects can be viewed as a hybrid between the visionary and experimental initiatives of the Earl model.
Córdoba (2009) presented a methodological framework for the process of information systems (IS) planning in organisations. In defining the framework, two systems theories are used: the “Boundary critique”, which enables critical reflection on values and assumptions about potential situations; and “Autopoiesis” which fosters continuous dialogue, listening and mutual collaboration between participants. Córdoba (2009)’s framework describes a number of processes including: analysis of stakeholder understandings prior to the selection and implementation of planning methods; continuous identification of stakeholders concerns; and critical reflection for improvement of IS planning (Córdoba 2009).

Samanta (2007) offered an alignment framework, which expected an organisation's maturity and extent of capital allocation in providing for business and IT alignment over time. According to Samanta (2007)’s model three states of maturity exist, “infant”, “mature” and “ripe” referring respectively to an organisation’s life-cycle: “infant” refers to start-ups with the requirement to expend resources without expectation of return; “mature” refers to organisations in economic balance with regards to their strategic goals and funding; and “ripe” refers to post-maturity stage of organisations requiring contingency capital. Samanta (2007) proposed that there were different activities required by the business and IT arms of the organisation for each of the maturity stages such as establishing strategies and outsourcing IT for start-ups, and innovation of products for “ripe” organisations.

According to Samanta (2007), business to IT alignment was expressed when both the Business and IT areas of the organisation were functioning at the same level of maturity, indicated by working on activities appropriate to the same level. The attractiveness of this model was that it offered a transparent value system, allowing the business and IT areas to assess the maturity and hence alignment.
Alignment of Business Strategies and Information System Processes in Large Organisations

The Strategic Alignment Model (SAM) (Henderson and Venkatraman 1993), simplified in Figure 2-3, describes four fundamental domains of strategic choice: business strategy; information technology (IT) strategy; organisational infrastructure and processes; and information systems (IS) infrastructure and processes.

Henderson and Venkatraman (1993) specified two types of integration: strategic integration, linking business and IT strategy reflecting external factors; and operational integration linking organisational infrastructure and processes with IS infrastructure and processes, reflecting internal factors. This model also provides for the interaction and influence of the four domains with each other.

Galbraith (2011) proposed an organisational perspective to alignment. He researched organisations and their relationship to five key elements proposed in the Star Model: Strategy which refers to business direction; Processes referring to the flow of information; Reward Systems referring to powerful motivators of people addressing organisational goals; Structure which refers to the location of the decision-making power; and finally People referring to human resources and policies. The interactions between all the five components of this model were represented as a five pointed star from which the name was derived. Interestingly, there are elements from Galbraith’s Star Model (2011) such as Structure, Process, Strategy and the interactions which support SAM, (Henderson and Venkatraman 1993).
2.4 STRATEGIC PLANNING AND MANAGEMENT

There are also a number of approaches and processes to effect alignment. These include planning for the alignment processes, analysis of the strategic environment and objectives, choosing the strategy to be applied, and implementing the strategy chosen. This section examines these processes and compares the approaches taken by the literature.

2.4.1 Planning for Alignment

The process of strategising involves a choice of alternative strategies and ultimately implementation of the chosen strategy. Without the latter processes, strategic planning would remain just that and never have results for a business. A distinction is also drawn between operational planning and strategy planning (Henderson and Venkatraman 1992). Operational planning for business success focuses on cost reduction and efficiency whereas strategic planning focuses on business differentiators for a competitive edge and increased business performance (Tallon 2007a, Tallon and Kraemer 2002). Both planning approaches were considered crucial for business success and both demanded close alignment of business and IT strategies Kwanroengjai et al. (2014).

Boar’s strategic planning (2001) can be used to provide the initial alignment between IT processes and systems and business direction. Boar (2001) identified five phases to strategic planning: strategy statements; objectives and goals; strategic moves; change management plan; and commitment plan. Boar’s (2001) model suggested that the “future of the business”, represented as the starting position, is the focus and purpose of strategic planning and stressed that the organisational structure should be a function of strategy while IT organisational design should enable the strategy.

Kwanroengjai et al. (2014) viewed two necessary dimensions as part of an organisational operating model: business process integration; and business process standardisation. The former serves to share information across the organisation while the latter serves to ensure the same outcomes from a process, independent of who conducts the process or where it is completed (Kwanroengjai et al. 2014).

Galliers and Sutherland (2003) proposed information management strategies which included business strategies, IS strategies, IS planning and the organisational environment. Galliers (2007) also discussed a systems strategic framework which
incorporated knowledge creation, change management and deliberate and explorative strategies for alignment, although he stated that the focus should ideally be on the strategic process rather than the strategic outcomes (Galliers 2006).

The role of IT is essentially to enable business to cope with the accelerating change in technology and to enhance business decision-making due to the provision of more timely and more highly integrated information (Cortada 2011, Robson 1997). Three areas are described where IT can be of particular assistance, namely in the automation of: data acquisition; financial planning; and expert-system-based decision analysis.

Robson acknowledged that the limitations of IT were predominantly in the meaningful interpretation of collected data. Nevertheless, a clear role for decision support systems is recognized to provide “timely and integrated information” (Robson 1997, p. 28) to senior management.

Robson (1997) adapted Johnson and Scholes’ model (1993) to address three factors of strategic management: Strategic Analysis; Strategic Choice; and Strategy Implementation, and investigated their interaction with factors affected by business planning.

Robson’s model (1997) has been consolidated from her individual models, for this study, and is summarised to enable an overview of the concepts raised (as shown in Figure 2-4). Robson’s three factors are discussed next.

![Figure 2-4 Consolidated Model for Strategic Management (Robson 1997)](image_url)
2.4.2 Strategic Analysis

Strategic analysis is regarded as the focus of the strategic planning process by Robson (1997) and is consequently discussed in considerable detail.

According to Robson (1997) strategic analysis involves understanding three broadly categorised factors: environment; values and objectives; and resources.

Robson (1997) points out an interesting correlation between these three areas and Sun Tzu’s five factors: economic influences, company culture, leadership, logistical factors, organisational structure and order (Cohen 1980). For convenience, Robson has retained Johnson and Scholes’s (1993) definitions.

Environment: An organisation’s environment comprises events, issues and factors which influence its performance but over which it has no control (Robson 1997). This would include market forces, economic climate, and disruptive technologies.

Values and Objectives: Values and Objectives, or Culture, is defined by Robson (1997) as an organisation’s assumptions and perspective on problem solving. It is the way of thinking and responding to issues and problems adopted by the organisation and actively propagated throughout the organisation.

Resources: Robson (1997) discusses an organisation’s resources as comprising human and material resources resident within an organisation as well as those external to an organisation but readily available, such as defined by value chains as described by Porter (1985).

The complex relationship between these three elements is viewed as a fundamental tool for undertaking the strategic management process.

Avison, Eardley, and Powell (1998) found that it was important to the strategic process to incorporate vision into an organisation’s business strategy. Although not specifically categorised, incorporating vision may be seen as closely aligned to strategic analysis.

Environmental Analysis

Environmental analysis increases the quality of strategic decision-making. The environmental factors which need to be determined include socio cultural, economic, technological and political-legal factors. The processes described by Robson (1997) for environmental analysis include the widely used Porter’s Five Forces model.
Alignment of Business Strategies and Information System Processes in Large Organisations


Porter’s Five Forces model has been discussed earlier in this chapter with respect to forces applied to an organisation. However it is particularly relevant to strategic management and is discussed here with respect to this perspective. The theory has been widely used in the commercial business sector for some time to give good indications as to the profitability of a business (HJ Ventures International 2011, Recklies 2001, Strategic Advantage Inc. 2003, 2011) and is still highly relevant to the changing face of business due to the impact of the Internet and electronic business (Karagiannopoulos, Georgopoulos, and Nikolopoulos 2005).

The Five Forces model defines five major influences on an organisation which are relevant to strategic management. The threats from new competitors or new products can significantly erode market share or, as previously discussed, can destroy markets and even industries. The increasing power of buyers and suppliers can also seriously affect an organisation’s profitability.

Often it is a combination of two or more forces which present a more common threat to organisations, such as new players coupled with new products.

Analysis of Resources


The BCG matrix, using a two-by-two grid, “classifies businesses, divisions or products according to the present market share and future growth”, (Robson 1997, p52). The model then provides information on the relationship between an
organisation or product’s current status or future revenue potential and the appropriate management response.

The defining features of core competencies for an organisation’s services or products include the following: the capability to access a wide variety of markets; the benefits to the organisation from the products or services; and the degree of difficulty for a competitor to copy. Core competencies also represents the complex coordination of the organisation’s skills and technologies (Prahalad and Hamel 1990). Interestingly Boar’s (1997) definitions in his Strategy Framework are very similar to Prahalad and Hamel (1990).

Porter (1985) discussed the value chain as part of a competitive way an organisation may consolidate or build its resources. The value chain describes the complex relationship arising from the perceived economic value of products or services by the buyers and the composite costs associated with their production. The building of these value chains allows for the systematic way of understanding the resources required to build the organisations final products and services and the sources from which they can be procured.

### 2.4.3 Strategic Choice

Robson (1997) presented techniques for the formulation, evaluation and selection of strategic alternatives.

Strategy formulation is based on investigating three areas: the basis; the direction; and the alternative methods. Porter (1985) provided a model by which to compare the basis of the strategies such as product differentiation, cost of leadership, and focus / niche.

Strategic direction can be determined by either a market or product focus, which in turn predicts the seven strategic options that should be undertaken. A number of alternative methods are also presented, including a five-by-three grid to determine strategic thrust and targets.

Robson (1997) suggested a number of factors that need to be considered for strategy evaluation and selection, including appropriateness, feasibility and desirability. The selection of the strategy will depend on the trade-off balancing the risks with the returns, which are modelled by yet another two-by-two grid.
2.4.4 Strategic Implementation

Implementation of the selected strategic option is the final aspect of Strategic Management. Robson’s definition of implementation is “making any necessary adaptations to structures, the systems and the people of the organisation” (Robson 1997, p67). Thus the distinction between implementation and formulation is arbitrary as both are actions carried out by the organisation and could be said to be subjective and unique for a given time and circumstance.

The three elements affecting implementation are: resources; the organisational structures required to sustain the implementation; and the people and systems required to support the strategy. These were discussed extensively by Robson (1997) and address a variety of aspects of an organisation including the style of organisational structure, its age and maturity and the way it manages its people. How these factors can be practically incorporated into strategic management within a corporate setting for information technology direction is then determined.

Boar’s (1997) emphasis on the importance of gaining knowledge relevant to the strategy, is similar to Robson’s concept of strategy for actualities and strategy for potentialities. For example, preparing for a wide range of potential events is similar to utilising scenario planning. Boar’s (1997) paradoxical strategic thinking can be used in response to changing environmental conditions and is similar to Feeny, Ives, and Piccoli (2003) conclusion that evolutionary initiative for IT strategic projects is a good technique for responding to environmental changes and business objectives.


The dynamic and changing nature of an organisation’s business strategies was acknowledged by (Robson 1997). More recent works also indicate that strategic implementation is process oriented and not static with Galliers (2006) focussing on
the strategic process. Karpovsky and Galliers (2015) stated that current IT/IS to business alignment is limited due to its static nature and suggested that more focus be put on the investigation of those practices which engender alignment, while Wilson, Baptista, and Galliers (2013) refocussed IS alignment as a dynamic process between knowledge creation and strategy.

2.5 MEASURES AND TOOLS OF ALIGNMENT

To fully incorporate strategic planning and implementation approaches, a series of practical tools and processes are required to translate theory into practice. Specific tools and measures, based on theory and utilised by organisations to implement their strategic plans and choices, are discussed.

2.5.1 Measures of Alignment

There are a number of measures of alignment, as indicated by Avison et al. (2004). One of the most recognised is the Balanced Scorecard (Kaplan and Norton 1996a, b, Kaplan and Norton 2001a, b) which provides benchmarks for performance in three key non-financial areas: a business’ relationship with its customers; the business’ key internal processes; and learning and growth within an organisation.

Kaplan and Norton (1996b) identified four processes in order to bind short-term activities to long-term objectives: in translation of the vision, the business clarifies and gains consensus for the direction; communicating the vision and linking this to goals and performance criteria; planning targets, aligning initiatives and determining resources; and finally feedback and lessons learned. Although not explicit in their description but inherent in its design, Kaplan and Norton’s (1996b) model showed these as a continuous process supporting the view that alignment is a process and not an event (Henderson and Venkatraman 1993, Hirschheim and Sabherwal 2001).

Henderson and Venkatraman (1993) also viewed alignment as a function of two characteristics: the interrelation between external and integral components termed “strategic fit”; and the integration between business and functional domains termed “functional integration” (Henderson and Venkatraman 1993, p. 6). From this they derived four alignment perspectives: strategy execution; technology transformation; competitive potential; and service level.
Segars and Grover (1998) focus primarily on 30 measures from the perspective of organisational leadership for planning alignment with the organisation’s strategy, planning analysis, and planning capabilities. These determine planning success.

Measures derived by Karimi, Gupta, and Somers (1996) are focussed on an organisation’s strategy and the IT Leader’s rank and role looking at how they perceive themselves on 8 attributes such as corporate officers, managers, IT specialists and profile in the organisation.

Other measures include the extension of Venkatramen’s STROBE model (1989) to eight measures: aggressiveness; analysis; internal defensiveness; external defensiveness; futurity; innovativeness; proactiveness; and riskiness (Chan et al. 1997). Chan et al. (1997) investigated these eight measures for company aggressiveness, business performance, IS effectiveness and IS support for the eight measures. These measures focus on the determination and planning of business direction and alignment to the IS strategy in place predominantly from the perspective of corporate leadership.

Bricknall, Darrell, Nilsson, and Pessi (2007) have also examined how the Balanced Scorecard or similar tools could be implemented to align business strategy and IT strategy, while Samanta (2007) suggested a framework to assess the results of collaborative actions as a measuring scale of the effectiveness of alignment. Some measures involve the perceptions of adopters of technology (Moore and Benbasat 1991). Based on Tallon’s (2007b) work that showed greater alignment was an indicator of increased perceived business value, one measure of alignment may be increased IT business value. Tallon and Kraemer (2002) showed that executives with more focused IT goals perceived IT and strategic alignment practices contributed to higher perceived levels of IT business value.

Other measures of alignment, which look at the alignment of business direction and IS processes, have been investigated by Bergeron et al. (2004), Tarafdar and Gordon (2007) and authors of the Strategic Alignment Maturity Model (SAMM) (Luftman 2004a, 2015, Luftman and Kempaiah 2007).

Luftman and Kempaiah’s SAMM defined six criteria for organisational strategic maturity, namely Communications Maturity, Competency / Value Measurement, Governance, Partnership, Scope & Architecture, and Skills Maturity (Luftman 2004a,
2015, Luftman and Kempaiah 2007). These are typically measured on a five point scale by a team of IT and business representatives.

### 2.5.2 Tools and Mechanisms for Alignment

The changing nature of the IT environment also makes the aligning of business and IT strategies more difficult. In past years large, complex and expensive systems have progressively been replaced by systems designed for shorter time frames and generally regarded as replaceable within a few years. Cortada (1998) listed a number of trends, summarised in Table 2-2, that emphasise the changing nature of the IT environment and the need for adequate tools to manage the change.

<table>
<thead>
<tr>
<th>Previous IT Environment</th>
<th>Current IT Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow Depreciation</td>
<td>Quicker Depreciation</td>
</tr>
<tr>
<td>Large Systems</td>
<td>Modular Applications</td>
</tr>
<tr>
<td>Aging Applications</td>
<td>Throw-Away</td>
</tr>
<tr>
<td>Long Development Cycles</td>
<td>Rapid Deployment</td>
</tr>
<tr>
<td>Internal Focus</td>
<td>External Focus</td>
</tr>
</tbody>
</table>

Table 2-2 Changing Nature of the IT Environment (Cortada 1998)

According to Earl (2003), applications focussed on supporting and providing competitive advantage for current business practices require an IT-intensive set of processes to provide high quality and efficient services and products to the market. Tools and mechanisms to implement the approaches and processes for alignment are reviewed in this section and include tools that assess technology and/or business direction needs.

**Balanced Scorecard**

The Balanced Scorecard is a strategic management tool, developed by Kaplan and Norton, to provide strategic measures along four perspectives: financial; customer; internal business process; and learning and growth (Kaplan and Norton 1996a, b). Kaplan and Norton (2001a) added to their initial model, termed a “Strategy Map”, to describe an organisation’s critical elements and the linkages to its strategy. The Strategy Map specifies the following: objectives for growth; value propositions for increasing customer base; innovation and excellence in products, services and processes; and investments required to sustain growth. The wide acceptance of use of the Balanced Scorecard by organisations for over 25 years has seen it adapted three times, termed 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Generation Balanced Scorecards, and applied to strategic management, and business performance management (Hoque 2014, Lawrie and Cobbold 2004).
**Cassidy’s Tools**

Cassidy’s Tools (Cassidy 1998, 2006) looked at determining the mission and vision of an organisation or part of it, its strategic objectives, its information systems and business goals, its technological and information architecture and finally its policies and service architecture. The use of Cassidy’s general approach (Cassidy 1998, 2006) was used within a number of tools for corporate strategic planning (Gammelgard, Lindstrom, and Simonsson 2006, Strnadl 2006).

**Earl’s T-Portfolio**

One tool, the T-Portfolio model by Earl (2003) proposed a quadrant approach assessing visionary, competitiveness, experimental or basic capability to shaping the business or support for the business as shown in Figure 2-5.

This tool provided for the assessment of an organisation’s systems and technologies to determine whether they supported or were leading business direction.

![Figure 2-5 T-Portfolio Model (Earl 2003)](image)

**Gartner Hype Cycles**

The Gartner Hype Cycle (Fenn and Hung 2011, Gartner 2006, 2017, Linden and Fenn 2003) (Figure 2-6) showed the relative life-cycle of technologies and systems over time, assisting organisations to identify where in the life-cycle the particular technology or process may be situated and hence assisting in determining its usefulness to the organisation.
Boar’s Five Phases to Strategic Planning

Boar (2001) identified five phases to strategic planning: strategy statements; objectives and goals; strategic moves; change management planning; and commitment planning.

These five phases represented the “strategy” step for strategic planning and strategy formulation (Figure 2-7) and formed the basis of Boar (2001)’s premise that the “The future of Business”, represented as the starting position, is the focus and purpose of strategic planning.

Robson’s Life-Cycle Tool

The life-cycle tool (Robson 1997) sought to relate the competitive position of the organisation to the maturity of its offerings, covering four stages: introduction; growth; maturity; and decline. The introduction phase represented new activities and a stage for experimentation and gradual acceptance. The growth stage predicted a rapid growth of the organisation or product sales while the maturity stage showed a plateau to high activity with no further increase in growth or sales rates. The final
stage showed the decline of the product and ultimate displacement. The model predicted a generic S-curve for most industries and businesses, similar to the Technological Substitution and Diffusion S-Curve (Boar 1997), which can be related to the Gartner’s Hype Cycles (Linden and Fenn 2003).

**Scenario Planning**

Another technique suggested by Robson (1997) is scenario planning, which, instead of seeking to forecast a probable future, provides a series of possible futures and their impacts on the organisation. Concrete steps and guidelines can be found in the research providing a useful toolkit for the construction of scenario planning. Guidelines include a maximum of six to eight people for a scenario (Mercer 1995), and recommended maximum of two scenarios with ten steps in each scenario (Schoemaker 1995).

**SWOT**

A Strengths, Weakens, Opportunities and Threats (SWOT) matrix, sometimes referred to as a TOWS analysis, uses a grid of internal and external factors to suggest strategies for maximising strengths and opportunities and minimising threats and weaknesses (Dyson 2004). Mapping risks, issues or events into one of these quadrants can assist organisations to determine strategies in preparation for events for addressing risks and issues.

A SWOT analysis provides for a quick assessment of an organisation’s position with a separate SWOT analysis for its competitors, customers and suppliers (Robson 1997, Weihrich 1982) as shown in Figure 2-8.
Derivatives of the quadrant are widely used in strategic management and IT consulting fields and are often referred to as “magic quadrants” (David, David, and David 2017, Gartner 2011, 2018, Helms and Nixon 2010, Smulders 2011) providing a valuable visual tool to investigate combinations. Weihrich’s (1982) seven-step guide, shown in Table 2-3, provided for a SWOT analysis for actions and contingency planning.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Prepare an Enterprise Profile covering the business type, geographical area and competitive opportunities and management culture</td>
</tr>
<tr>
<td>Step 2</td>
<td>Evaluation of economic, social, political and demographic products and technology</td>
</tr>
<tr>
<td>Step 3</td>
<td>Preparation of forecasts</td>
</tr>
<tr>
<td>Step 4</td>
<td>Preparation of strength and weaknesses</td>
</tr>
<tr>
<td>Step 5</td>
<td>Development of alternate solutions</td>
</tr>
<tr>
<td>Step 6</td>
<td>Make strategic choices</td>
</tr>
<tr>
<td>Step 7</td>
<td>Preparation of contingency planning</td>
</tr>
</tbody>
</table>

Table 2-3 Seven Step SWOT analysis tool (Weihrich 1982)

Ansoff’s Matrix

Ansoff’s Matrix provided a framework to enable strategies for future growth (Ansoff 1975, 1980) adding to and maturing the Strategic Management toolset and providing a way of determining response strategies against environment and configuration Ansoff (1975). An example of an Ansoff Matrix is shown in Figure 2-9. Here external and internal forces and responses are clearly differentiated.

<table>
<thead>
<tr>
<th>DOMAIN OF RESPONSE</th>
<th>RESPONSE STRATEGIES</th>
<th>Flexibility</th>
<th>Awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct Response</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>External action (strategic planning &amp; implementation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Awareness (contingency planning)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Flexibility</strong></td>
<td></td>
<td>Environmental awareness</td>
</tr>
<tr>
<td></td>
<td>External flexibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal flexibility</td>
<td></td>
<td>Self-awareness</td>
</tr>
<tr>
<td></td>
<td><strong>Awareness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship to Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Configuration</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2-9 Example of an Ansoff Matrix for Alternative Response Strategies (Ansoff 1975)

A number of other tools also exist which are based on financial perspective such as mapping organisational investments to performance (Bulchand-Gidumal and Melián-González 2011, Ghosh, Amaya, and Skibniewski 2012, Malik and Goyal 2003).
Project Management

There is solid evidence that project and program management as well as their allied structures of project and program management office improves performance of an organisation, (Barclay and Osei-Bryson 2010, Cao and Hoffman 2011, Demirkesen and Ozorhon 2017, Klingebiel 2014, Letavec 2006, Tadeu de Oliveira Lacerda, Ensslin, and Rolim Ensslin 2011, Thomas and Mullaly 2007). In large organisations, portfolio management which has been defined as the simultaneous management of a large number of projects, has been increasingly used to effectively manage large endeavours (Meskendahl 2010). As the basic principles for the project, program, or portfolio management office are similar, for this study, “PMO” will refer to all three types of structures. However, it is the utilisation of project management discipline and the PMO structures as a mechanism for strategic alignment, that are of particular interest to this study.

Project Management has been shown to be an effective method for implementing discrete initiatives in an organisation, not only delivering these on time and on budget and accordance to requirements, but equally importantly to create business value (Aubry et al. 2007). Increasingly, strategic project management is being used to support business strategy and sustainability (Patanakul 2012) with projects and programs considered as value-creating processes rather than just delivering products (Martinsuo and Killen 2014). The contribution to strategic alignment at the project management level focuses on the alignment of knowledge management and business value, such as how to leverage the organisations knowledge to initiate projects with the best business value (Reich et al. 2008).

Aubry et al. (2007) contends that the PMO is integral to linking projects, structures and strategy in an organisation. By taking into account strategic orientation factors, such as risk taking, project portfolio structuring, portfolio success and business success, Meskendahl (2010) proposed a more comprehensive framework for portfolio management. This covered the full cycle from strategy formulation through to implementation and business success.

Killen (2012) contends that, although traditionally project and portfolio management have been viewed as operational processes, the theory of these can benefit from research into strategic management; providing mature frameworks and methodologies which can be adopted by project and portfolio management practice.
In practice, portfolio management is often used to enforce strategic direction through project prioritisation and even project termination (Unger et al. 2012) or through pre-screening of projects and through stage-gates or milestone assessment, trigger continued funding (Ahn 2010, Cooper 2008). Another advantage of portfolio management for strategic alignment is the effective application of IT governance mechanisms to projects. This has been shown to be strongly and positively linked to strategic alignment (Orozco, Tarhini, and Tarhini 2015, Wu et al. 2015). Martinsuo and Killen (2014) additionally indicated that non-commercial factors could also be valuable for creating strategic value through portfolio management, such as communication and negotiation between stakeholders.

It can therefore be concluded that project management methodologies and practice, including portfolio management and PMOs, can be considered effective mechanisms for strategic alignment between IT and business direction.

### 2.6 BENEFITS AND CHALLENGES OF STRATEGIC ALIGNMENT

#### 2.6.1 Impact of Alignment or Non-Alignment

There is a widespread recognition that the inability to realise benefit from IT investments is due to lack of alignment between business and IT strategies (Aversano et al. 2013, Chan et al. 1997, Chan and Reich 2007, Henderson and Venkatraman 1993, Kwanroengjai et al. 2014). A positive link has been shown between alignment and the perceived business value within value chains in organisations (Tallon 2007b). Additionally there is evidence that alignment of business capability with business strategy results in positive business performance and outcomes (Raymond and Bergeron 2008).

As briefly discussed in Section 2.1.3, increased alignment leads to better organisational performance (Byrd et al. 2006) while decreased alignment can lead to lower performance (Chan 2000, Chan 2002). This main assertion, that high alignment leads to better organisational success, supports Cragg et al. (2002) who found that a group of small firms with high IT alignment achieved better organisational performance than firms with low IT alignment. Additionally one benefit of Business-IT alignment is that managers have greater awareness of the use
of IS, thus better enabling an organisation to reach its goals and objectives (Hirschheim and Sabherwal 2001). As Chan and Reich (2007, p. 299) note:

“From a business perspective, planning was characterized as a top-down and a bottom-up process where departmental (e.g., IT) plans were created in support of corporate strategies. From an IT perspective, decisions on hardware and software had such long-term implications that tying them to current and future plans of the organizational unit was a practical necessity”.

A strategy-based framework has also been shown to contribute to business performance (Rivard et al. 2006). These researchers investigated the complementary contributory factors of both a strategy framework and a resource framework to improved business performance, where a resource framework includes technological resources management for business performance. Morrison et al. (2012) also proposed a strategic alignment framework; however their research focussed on alignment between business processes and strategies and made no reference to areas that would underpin business process effectiveness such as IT systems, processes or infrastructure.

Bergeron et al. (2004) showed that organisations that performed well acted strategically in spending time and money in analysing large amounts of data to understand market tendencies. This included predicting future trends, being proactive for new markets and products/services, and ensuring that their IT was aligned to provide the business information required to make key strategic decisions. However, they conceded that their study was limited to small businesses which were not technologically sophisticated or complex but were more amenable to developing and testing valid operational models of strategic alignment.

Loukis et al. (2006) investigated the effect of two external environment factors: the “generalized” competition the organisation faces (i.e. Porter’s Five Forces); and the “strategy” the organisation follows for responding to pressures of its external environment on the business value generated by IT investment. They concluded that higher level of bargaining power of suppliers resulted in higher IT business value and that organisations following a strategy of frequent introduction of new innovative products and services enjoyed higher IT business value.
IT business alignment has been found to be a key driver of both IT value and business process quality (Wagner and Weitzel 2008). In this longitudinal study, it was shown that business value increased from a simultaneous change in IS and improvement in business practices.

Tallon and Kraemer (2002) found a positive and significant relationship between the strategic alignment and IT payoffs, regardless of the strategy or IT goals. However they found that there was a point beyond which there were reduced IT payoffs with increased alignment. Calling this the “alignment paradox” they suggested issues of environmental uncertainty, industry clock-speed, and the need for organisational flexibility may be causes of the paradox.

In their attempts towards strategic alignment, some organisations experience increased non-alignment, as described by Hirschheim and Sabherwal (2001) mainly caused by difficulty in synchronising alignment. These are defined as excessive transformation, paradoxical decisions and uncertain turnarounds.

- **Excessive transformation** is described as when business and IT strategies would be moving at different speed, thus being a potential cause of misalignment. Underestimating problems and issues associated with business change projects was also considered as playing a role in excessive transformation.

- **Paradoxical decisions** were found to occur when an organisation’s business direction changed towards one direction and IS strategies changed towards another, causing misalignment. Organisational inertia was also described as a possible source of misalignment either through the slowness of addressing change or due to a sequential attention to goals, thus producing misalignment. Split responsibilities and differing understanding of business and IT strategies between a business’ executives and operational staff were also found to be a likely cause of paradoxical decisions at the different levels of an organisation, and thus a significant cause of misalignment.

- **Uncertain turnarounds** describes the situation when organisations reverse a change and return to an earlier position. Factors such as organisational inertia, and an underestimation of problems appear to play a role. Interestingly a sequential attention to achieving goals appears to impact this difficulty in
synchronising alignment resulting in over-correction and hence returning to an earlier position.

### 2.6.2 Counter Arguments for Alignment

There are serious counter arguments for alignment between business direction and IT strategies. Chan and Reich (2007) listed four factors: alignment research is mechanistic and fails to capture real life; alignment is not possible if the business strategy is unknown or in process of being created; alignment is not desirable as an end in itself since the business must always change; and IT should often challenge the business, not follow it.

The major criticism from these arguments is that if there is too tight an alignment business cannot adjust to new environments, echoing Tallon and Kraemer (2002).

The other argument is that an organisation may miss technological advances or be unable to deal with technology innovation (Lucas Jr and Goh 2009). In their study of an organisation’s failure to adapt to “disruptive” technology, Lucas Jr and Goh (2009) proposed a business strategy to align to innovative technology represented in their model as shown in Figure 2-10. This model illustrates how organisational factors such as rigidity reduce capacity to respond effectively to disruptive technology while dynamic capabilities increases capacity to change.

![Figure 2-10 Framework for disruptive change (from Lucas Jr and Goh (2009))](image)

There may, therefore, be occasions or situations in which it may be better not to have alignment.
2.7 CRITIQUE AND ISSUES ARISING FROM ALIGNMENT LITERATURE

The literature review highlights a number of areas that warrant further investigation to deepen understanding of the mechanisms of strategic alignment and the various factors that influence alignment, including the strategies, initiatives, tools and processes utilised by organisations.

2.7.1 Critique the Alignment Literature

**Definition of Alignment**

Strategic alignment is identified as the alignment between an organisation’s business direction and its information systems and processes, particularly the integration of the business strategies and its information systems (Avison et al. 2004, Bergeron et al. 2004, Henderson and Venkatraman 1993). A major driver for strategic alignment is the significant evidence that there is a strong link between alignment and successful organisational performance (Aversano et al. 2013, Gerow et al. 2014, Kwanroengjai et al. 2014, Sabherwal and Chan 2001, Wagner 2014). Given this relationship, interesting questions revolve around the elements or components of this relationship which can contribute to alignment and how is this alignment measured and improved. Identifying the mechanics of this relationship is of use to organisations looking to setup these processes for alignment.

**Dimensions of Alignment**

Strategic alignment is shown to be multi-dimensional and includes a number of organisational processes and characteristics such as strategy formulation and planning, organisational culture and structure (Chan and Reich 2007). However what does this mean to a single organisation endeavouring to improve its alignment and, more importantly how are these dimensions measured in organisations within the context of real-world business and IT initiatives?

It is the practical measurement of alignment dimensions in complex business situations which can sometimes get lost when looking at the alignment theories as a whole.
Approaches to Alignment, Frameworks and Models to Alignment

Some models for alignment, such as proposed by Sledgianowski and Luftman (2005), are linear and go from one phase neatly to another. This is useful in that the objectives and an order of actions are established and their linkages can be viewed and potentially tested. The steps identified in the model proposed by Sledgianowski and Luftman (2005) support the importance of analysing and understanding the current state which underpins the success of determining the future potential of an organisation; to know where to go tomorrow, we have to know where we are today.

Discrete or static alignment refers to a unidirectional linear process starting with a set of goals and covering specific steps towards alignment (Boar 2001, McAdam and Brown 2001, Robson 1997, Samanta 2007, Sledgianowski and Luftman 2005). This is termed “one-off” in this study to reflect the single goal orientation of the approach and the on-going and potentially non-linear processes to achieve the goal. Although this type of static or one-off approach to alignment (Boar 2001, Chan et al. 1997, Sledgianowski and Luftman 2005, Winter and Fischer 2007, Winter and Schelp 2008) can be successful in providing initial alignment, it may have limited success in providing ongoing alignment between the business and IT strategic directions, since continuous effort may be needed (Broadbent and Weill 1993).

On the other hand, Henderson and Venkatraman (1993) allowed for a classic model for continuous interaction between external and internal factors, organisational and IS processes, business and IT strategies and specifically stated that strategic fit is dynamic rather than a static process. This interaction enables for a more flexible application of theoretical constructs to organisational strategic and operational processes and lends itself to the investigation of continuous processes within organisations in greater detail. Continuous strategic alignment is attractive as it intuitively promises to prevent the growing disconnect that can occur in organisations between IT and business directions following the initial strategic and planning activities. Many of these continuous processes utilise similar techniques and approaches to the static and initial processes described in the previous models, but these may have been adapted either consciously or serendipitously, supporting a dynamic view of alignment (Galliers 2006, Gartner 2006, 2018, Karpovsky and Galliers 2015, Wilson et al. 2013).
In contrast to Sledgianowski and Luftman (2005) linear approach, Samanta’s (2007) model provided for a modular approach to alignment allowing for coordination between the business and IT arms of the organisation to synchronise and adjust the goals and allocated resources for successful alignment. Samanta’s (2007) model seems to provide a more intuitively acceptable approach to change. Tied to the maturity of an organisation it offers a simple way of categorising an organisation as “mature” or not, although the relationship of specific actions to a maturity level such as innovation with “ripe” organisations may be too rigid. According to Samanta’s model (2007), organisations should tailor their strategic alignment approaches depending on their level of maturity.

**Organisational Categorisation**

Looking at Miles and Snow’s (1978) view of organisational categorisation may provide further understanding of alignment models, based on the discussion and investigation of organisational type and behaviour. Accordingly to Miles and Snow’s model, Defender organisations would be expected to have different goals and differing strategies to Prospector, Analyser or Reactor organisations. A positive link between strategic activities and organisational performance was noted by Croteau and Bergeron (2001) for Prospector and Analyser types of organisations while Defender type strategies did not improve performance. Alignment was found to influence overall business success in Prospectors and Analysers but not Defenders (Sabherwal and Chan 2001). Miles and Snow’s model is shown to be useful for categorisation of organisations and predicting expected behaviours of organisations in certain situations.

A further approach to investigate organisational type and behaviour is to examine how organisations put governance and executive management factors in place, particularly as increased alignment appears to be evident when IT governance practices are mature (De Haes and Van Grembergen 2009). It appears that maturity of IT governance practices may well be closely tied to the maturity of an organisation and organisational structure as well.

Concomitant with the organisational type model (Miles et al. 1978) and Porter’s Five Forces (Porter 1980, 2001), is that both external and internal forces influence organisations and hence may affect their response to alignment. For example, Defender organisations may be more likely to strategise to strengthen their market
position rather the Prospector approach to look for new markets or create new products. Investigating the various influences on an organisation, both external and internal, and looking at the alignment strategies initiated, would give insight as to whether these influences affect an organisation’s strategic planning and alignment outcomes. Although investigation of the impact of these forces on an organisation is warranted, in some cases, direct observation of forces in play may not be possible due to matters of confidentiality or lack of visibility of executive management decisions. However, from the decisions an organisation makes and an observation of the business and IS directions an organisation may take, one can deduce potential forces at play.

Another dimension is IS competency within an organisation, such as knowledge management, collaboration, project management (Reich et al. 2008, Tarafdar and Gordon 2007, Wu 2015). This dimension, particularly project management which is widely used in all areas of the business community, is a direct mechanism of change and hence can be investigated with ease compared to less visible and less measurable components such as collaboration. Another dimension is governance (Luftman 2000, Tarafdar and Gordon 2007) which can be readily investigated and its impact readily assessed. These dimensions can be useful in identifying and understanding the impact of strategic alignment initiatives with an organisation. Although there are other models of alignment (Reich and Benbasat 1996, Venkatraman 1989), the previously described dimensions align with the constructs used by SAMM (Luftman 2004a, 2015, Luftman and Kempaiah 2007) and is adopted by this study.

Alignment Strategies and Processes, Mechanisms and Tools
Samanta’s model (2007) additionally differentiates between strategic and operational processes in alignment.

Although it is generally agreed that organisational alignment between business goals and IT systems and processes leads to better business performance (Byrd et al. 2006, Chan 2000, Chan 2002, Cragg et al. 2002), it is of interest to examine how alignment affects operational performance. It appears logical to assume that an organisation’s operational processes assist or hinder an organisation in achieving its business goals, hence investigation of how alignment of business direction and IT processes may affect operational processes may provide insight on what resources an organisation will commit to the alignment process and how effective these may be. Additionally
there is a further need to consider the steps taken to align IT and business strategy by investigating more closely how IT impacts the operational processes of an organisation (by supporting individual processes rather than an entire strategy (Tallon 2007b)). That is to say what systems and processes can be put into place to affect alignment and if organisational and operational performance can be seen as an indicator of increased alignment between IT strategy and business direction. Conversely what are the impacts of strategic alignment on organisation performance and perceived business value of IT?

This leads us to the investigation and potential evaluation of mechanisms of alignment engaged in by organisations, an organisation’s capabilities and competencies and the tools and processes in use. As defined by Tarafdar and Gordon (2007), an organisation’s competency is its ability to deploy and combine resources to create a capacity to achieve a required objective. This leads directly to the requirement to investigate an organisation’s capabilities and competencies as this may impact directly on how well these mechanisms can be implemented and evaluated. Even though an organisation has determined a mechanism for alignment, it may be unable to utilise that mechanism if it does not have the competencies or capabilities within its sphere that pertain to that mechanism. Tarafdar and Gordon (2007) indicated that IS competencies such as knowledge management, collaboration, project management, and IT governance are important as mechanisms of alignment. These competencies in an organisation involve a wide range of differing and complementary skills by personnel as well as requiring supporting systems. For example knowledge management requires a systematic way of documenting and applying organisational policies, decisions and learnings whereas project management is a mechanism for execution of organisational decisions and initiatives towards fulfilling its goals.

The questions for investigation raised by the literature revolve around how effectively these goals can be formulated, how to implement initiatives and activities to ensure successful achievement of these objectives and how to engage support from within the organisation to ensure engagement with implementation. To address these, organisations have used a number of tools, as discussed in Section 2.5. These include: Balanced Scorecard; Cassidy’s Tools; Earl’s T-Portfolio; Gartner’s Hype-Cycle; SWOT; Robson’s Life-Cycle Tool; and Project Management (Cassidy 2006,
Looking briefly at these tools it can be seen that Robson’s (1997) techniques present strongly for the determination of strategic direction, choice and implementation of the chosen strategy. Robson’s tools are both externally and internally focussed by investigating the possible impact of environmental factors, the organisation’s resources and the culture and dynamics of the organisation. They also acknowledge the dynamic and changing nature of the organisation’s business focus and strategies resulting from the impact of external factors. Cassidy’s (1998) techniques and tools are strong on alignment of IT to the business and provide a valuable approach for aligning the IT department of the organisation with the business strategy and direction, once it has been determined. Cortada’s (1998) emphasis on the alignment of IT to the corporate goals may be relevant in differentiating operational and strategic planning and suggested ways for linking IT and business plans to lead to continuous alignment.

The strategic model proposed by Earl (2003) has similarities to the model proposed by Ward and Peppard (2002) which differentiated between strategic and visionary initiatives and between current and future perspectives, although not the same extent. As such Ward and Peppard (2002) may be more useful than Earl’s model as it combines degree of success with strategic type. Although Earl’s quadrant model (Earl 2003) as shown in Figure 2-5 or indeed other magic quadrant tools (Gartner 2011) provide a valuable snapshot of the technology in use, they fail to take into account the ever-changing nature of technology over time which is potentially better represented by Gartner’s Hype Cycle (Gartner 2017) as shown in Figure 2-6. This lack of support for change was also raised by Galliers (2006, p. 3): “Earl’s (1983) model, for example, is relatively static and does not account adequately for the changing information requirements of organisations, in line with a changing business strategy”. This indicates significant deficiencies with these tools, suggesting that mechanisms that accommodate change are required, supporting use of project management and other continuous alignment processes. Other tools such as Balanced Scorecard and SWOT are acknowledged by the literature to be in wide use by organisations and would therefore be expected to be providing strategic management assistance in organisations.
Cassidy’s technological trends (1998, 2006) distil the general changes in the IT environment that have occurred within the last twenty to thirty years indicating shorter timescales and smaller more modular applications. However these trends may not be as simplistic as presented. For example, there are some industries, such as banking and insurance, that may lean towards retaining large legacy systems and supporting them in-house, as they represent huge investment in cost and intellectual property (Bisbal, Lawless, Wu, and Grimson 1999). Organisations often retain these systems for back-office functionality while incorporating newer technologies and systems for front-end or “feeder” applications (Canfora, Fasolino, Frattolillo, and Tramontana 2008, Crotty and Horrocks 2017).

Maintaining alignment has proved difficult for many organisations as shown by decisions made by organisations often taking them out of alignment between their business and IT strategies (Hirschheim and Sabherwal 2001). Henderson and Venkatraman (1993)’s technology transformation investigated IS infrastructure and architecture and processes and was focussed around IT supporting business processes. The focus is solely on the IT processes that support, streamline or compromise the required business processes. Although valid, there is little mention of IT or IS processes that support the alignment mechanism itself. It is the IT processes which may warrant investigation to determine what helps or hinders an organisation to retain alignment, particularly in the light of previous research that indicated the difficulties in maintaining alignment (Hirschheim and Sabherwal 2001).

Increasingly project management methodology and discipline are being utilised as strategic management tools (Patanakul 2012). The major value of the project management discipline in strategic management is considered to be in the prioritisation and selection of projects whose objectives and outcomes align to the organisation’s strategic direction. This is best managed through the project management structures of the PMO and overall through a project management framework (Killen 2012, Klingebiel 2014, Martinsuo and Killen 2014).

Finally after looking at all the alignment arguments, there is some evidence that excessive alignment may be counterproductive and that alignment is often an area of difficulty for many large organisations, with a number of instances of IT blindly following business (Avison et al. 2004, Bergeron et al. 2004, Broadbent and Weill 1993, Byrd et al. 2006, Chan 2002, Chan and Reich 2007, Wagner and Weitzel 2008,
Yayla and Hu 2009, 2012). Although there are valid arguments when considering technological advances and overall business direction, these arguments may not apply in the case of systems and processes.

### 2.7.2 Summary of the Literature and Issues Warranting Investigation

The questions raised from the critique of the literature indicate a number of issues and offer potential lines of investigation for this study.

Specifically, the broader issue of the effectiveness of static versus dynamic alignment processes can be investigated. Hence can a “one-off” alignment approach be successful in establishing and bringing about strategic alignment *(Issue 1)*?

Conversely how can an organisation engage in continuous alignment processes *(Issue 2)*?

This leads to the investigation of some of the strategies used by mature organisations in their attempt to align their IS strategic direction to the business *(Issue 3)*.

However, are organisations intrinsically one category or another or do they exhibit varying degrees of behaviours? This effectively asks whether an organisation aligned with Miles and Snow’s (Miles et al. 1978) organisational types exhibited alignment strategies consistent with the model’s expectations *(Issue 4)*.

Although detailed investigation of organisational governance practices is a vast area of investigation and beyond the scope of this study, the governance of IT or IS processes from the perspective of alignment and the effectiveness in leveraging IT for alignment warrant investigation *(Issue 5)*.

Internal and external forces can influence an organisation in a number of ways. Two perspectives of this influence warrant investigation: the internal and external influences on an organisation and their perceived impact on alignment *(Issue 6)*; the internal and external forces on an organisation and their impact on the strategic planning of the organisation *(Issue 7)*.

An investigation of how alignment of business direction and IT processes may affect operational processes may provide insight on what resources an organisation will commit to the alignment process and how effective these may be *(Issue 8)*.
It can also be asked what systems and processes can be put into place to affect alignment (Issue 9) and whether organisational and operational performance can be seen as an indicator of increased alignment between IT strategy and business direction (Issue 10). Conversely what are the impacts of strategic alignment on organisation performance and perceived business value of IT (Issue 11)?

In particular, the investigation of the impact of IS competencies such as knowledge management, collaboration, project management, and IT governance as a mechanism of alignment (Issue 12), is warranted.

The lack of iteration in Robson’s model (Robson 1997) combined with the static nature of Earl’s model (Earl 2003) all point to the need to investigate the tools and processes evident and in use by an organisation as part of alignment strategic planning and implementation (Issue 13).

It is also warranted to look at the initiatives and activities an organisation may implement to elicit support for its alignment goals and processes within the organisation itself (Issue 14). For example, what types of strategic planning processes are employed by organisations to drive business successes in opening up new markets or opportunities (Issue 15)?

Finally the opposite position of non-alignment and its impact on an organisation was discussed in the literature hence raising an issue to investigate potential areas regarding an organisation’s systems and processes which might benefit from non-alignment (Issue 16).

Issues that have arisen from the literature review identified within the summary are clarified and listed in the order raised in Table 2-4.
Although there many valid questions and issues that are raised by the literature, the focus of this study is limited to the strategic planning of organisations and processes and systems in place towards alignment between their business and technology direction.

Some of the questions an organisation may ask of itself and develop strategies to implement include: what markets to open up; how to provide the service product that the customer wants; how to better understand customers and encourage them to buy more of its products; how to conduct the business more efficiently and effectively; how to improve the business processes to reduce redundancy, reduce costs and reduce turnaround time. These are all valid questions to determine the direction and the strategic approach with which an organisation wishes to engage. The questions concerning the direction to take, although important, are beyond the scope of this study.
Although the differences between organisations are important to understanding the relationship between organisational structure and processes, a more thorough investigation of these differences and their implications are outside the scope of the present study.

This study will focus on investigating alignment between business direction and information systems and processes and exploring organisational approaches and activities such as governance, processes, strategic planning, organisational type and behaviour and organisational competencies and capabilities that may impact strategic alignment.

2.8 CONCLUSION

Alignment has been defined as the extent that the information systems and processes within an organisation support and extend an organisation’s strategic business direction. As such two alignment approaches were identified: One-Off Alignment and Continuous Alignment. It was noted that the motivation for Continuous Alignment was in some cases driven by the Business and in other cases driven by established Information Systems and Processes.

Sixteen alignment issues were raised from reviewing current literature for further investigation in this study. How these major issues are to be investigated is more fully explored in the next chapter as the research design is discussed and related to the issues raised.
Chapter 3. Research Design

3.1 INTRODUCTION

All bodies of research require a design framework or methodology within which investigation of research questions and issues can be conducted. This chapter discusses the research approaches and techniques defined for this study. General qualitative and quantitative approaches are reviewed and an approach consistent with the objective of current research is selected. The context of the current study as a series of opportunistic case studies within the qualitative approach is explained and a research methodology appropriate to this context is reviewed and adapted. The research questions are defined and issues, from those raised in the literature review, are selected for investigation. The structure of the case study methodology is determined including: the role of the researcher; the selection of case studies and determination of issues for investigation; identification of the instruments used; determination of the method for data analysis; and the determination of the basis for drawing specific and overall conclusions. The chapter concludes with a summary of alignment approaches, organisations and case studies selected for investigation.

3.2 RESEARCH APPROACH

Selecting a research approach is dependent on the subject matter, the types of questions and issues being investigated and the logistics available for study. For example, where determining the probability of an event happening is required, it may be more appropriate to employ positivist, quantitative approaches identifying the hypothesis being tested, the total number of data sampled and the criteria for measurement. This way the probability of the events can be extrapolated from the results, bearing in mind assumptions and caveats made. On the other hand, if in-depth understanding of a specific situation is required, it is appropriate to research interpretive qualitative approaches to increase understanding of the context, the factors at play and the participants involved. The investigation may then identify elements that could be extrapolated to other similar situations depending on the contingency factors identified.
Interpretivism is increasingly being used in the study in information systems and management research (Baird and Thomas 1985, Botes and Smit 2015, Chowdhury 2014, Goldkuhl 2012, Haddadi, Hosseini, Johansen, and Olsson 2017, Hunter 2004, Klein and Myers 1999, Schwartz-Shea and Yanow 2013, Walsham 1995) as “it has the potential to produce deep insights into information systems phenomena including management information systems” (Klein and Myers 1999, p.67). Another way to describe the relationship between positivism and interpretivism with respect to qualitative and quantitative methodologies can be viewed is that positivism / interpretivism is the paradigm of viewing and understanding reality whilst qualitative and quantitative methodologies refer to the method of data collection (Thanh and Thanh 2015).

For the framework of this study, an interpretivist qualitative approach has been selected as it was deemed best suited to the in-depth study of specific Information Systems (IS) phenomena within organisations, from the perspective of participants. Nevertheless, in some instances, quantitative data will also be collected, although data will be interpreted qualitatively rather than to rigorous empirical methods.

3.2.1 **Qualitative Methodologies**

The qualitative approach infers meaning developing from the interaction of the observer with the world and hence interpreting and deriving understanding (Merriam 2002). The qualitative approach recognises that there may be multiple constructs of reality and that these can change over time.

Merriam (2002) identifies three characteristics of interpretive qualitative research:

- Researchers construct meaning about the world and their experiences. Questions such as “what is the setting?” or “what are the experiences of the participants?” are often explored focusing on depth of understanding;

- The research is the primary instrument of data collection and data analysis, allowing the researcher the freedom to explore understanding from non-verbal as well as verbal communication and also explore unanticipated responses. The researcher uses inductive reasoning to build concepts, hypotheses or theories;

- The research is “richly descriptive” and includes quotes from documents, field notes and participant interviews. “In summary, qualitative research attempts
to understand and make sense of phenomena from the participant’s perspective” (Merriam 2002, p.6).

Qualitative research has often been misaligned exclusively to the interpretivist approach, although qualitative research in itself can encompass both traditions: positivist as well as interpretivist (Goldkuhl 2012, Lin 1998, Myers 1997, Myers and Avison 2002). Lin (1998) describes the positivist approach within qualitative research as seeking to provide propositions that can be tested or identified in other cases, while the interpretive approach looks to combine data into systems which appear to be specific to a case.

Mixed methodologies combining both qualitative and quantitative approaches are also utilized (Idowu 2017).

One of the main methodologies informing the qualitative approach is the participative method.

### 3.2.1.1 Participative Method

Myers (1997) describes qualitative research methods, such as action research, case study research and ethnography, as being developed to study social and cultural phenomena. These have since been used in qualitative research to enable the understanding of phenomena from the participant’s perspective. Data sources for qualitative research include interviews, questionnaires, documents and texts as well as the researcher’s impressions and reactions. Kaplan and Maxwell (1994) explained that the contribution of the participant is vital to enabling the understanding of a phenomenon and that the phenomenon’s social and institutional context is largely lost when textual data are quantified. Walsham (1995, 2006) recognised the value of an “involved researcher” making a direct contribution to the field site over the “outside researcher” whose study is conducted mainly through formal interviews.

Interestingly, earlier Mumford (1983) suggested that a participative model for decision making in organisations required that all participants have the requisite skills. This raises the point that the research design may need to describe the role of the participant researcher, and the skills brought to the study.

### 3.2.2 Case Studies

Case study research comprises detailed investigation, over a period of time, of phenomena within their natural context, as opposed to laboratory research divorced
from its context (Hartley 2004). Eisenhardt (1989a) defines the case study as a research strategy which focuses on understanding the dynamics present within a single setting. Merriam (2002) categorised the case study as an intensive description and analysis of a phenomenon or social unit. It is a bounded system that encompasses specific examples and not a generalised study.

The case study is particularly suited to research questions requiring deep understanding of the organisational context or processes (Hartley 2004), and are often used for IS and management studies for this reason. For example, Collins and Porros (1994) used the examples from case studies of 50 successful organisations (such as 3M and Johnson and Johnson) to highlight their theories of what makes successful companies. Their case studies are well known in management and organisational literature (Cameron and Dutton 2003, Martin 2002, Schein 2010).

Historically case studies have been used to study the context and relevant factors of the material under study (Benbasat, Goldstein, and Mead 1987). By looking at a case study, albeit in hindsight, it can become clear what the factors in play were, to identify the types of strategies in place and their impact on the organisation in general. They are regarded as “well-suited to capturing the knowledge of practitioners and developing theories from it” (Benbasat et al. 1987, p. 370).

A case study methodology provides for the investigation of questions and issues in a real-life context, and particularly where the boundaries of the phenomenon being studied and its context may not be clearly evident (Myers 1997, Yin 2008, 2013).

Case studies can utilise either qualitative or quantitative approaches (Andrade 2009) and can combine qualitative data collection methods such as archives, interviews, questionnaires, and observations, with quantitative data such as numerical measurements, or a combination of both (Eisenhardt 1989a, b). Additionally case studies are a useful way to study constructs that are difficult to quantify, such as identity, image or perception (Eisenhardt 2016). Such interpretive studies recognise the interview as the most common way of gathering interpretive data (Walsham 2006), with media and press publications, internal documents, strategies, plans and evaluations all being of great use.

Andrade (2009) defines the role of the researcher in an interpretive case study as a “passionate participant” (Andrade 2009, p. 45). Therefore one of the strongest
advantages of an interpretive case study is providing an opportunity for deep insight from the researcher-as-participant’s point of view, making it “possible to present the researcher’s own constructions as well as those of all the participants” (Andrade 2009, p. 45).

There are some disadvantages to case study research. According to Shanks, Rouse, and Arnott (1993) case studies are limited in generalising to other situations and cannot be used for causal explanations. They also need to take into account contingency theories which refer to the importance of an organisation’s unique external and internal environmental factors (Baird and Thomas 1985). It is for this reason that contingency factors are important to the understanding of these studies. Contingency theories indicate that alignment of an organisation’s business direction and its information systems is more successful by considering the specific circumstances. Based on contingency thinking, causal explanations would be useful only within the situation, and of limited value for extrapolation to unconnected situations. However, the richness and naturalistic context of case study research provide an insight to phenomena that may not be otherwise obtained, and override the apparent disadvantage of generalisations to other situations.

Action research has also been used in information technology research, particularly within organisational research. However, due to its aim to bring about change and to increase the knowledge of the research problems, its specific iterative process in determining, implementing and modifying further actions based on outcomes, made it inappropriate in this study (Baskerville and Wood-Harper 1996, Cherry 1999, Ennals 2004, Yin 2013). The cases included in this study were not iterative in nature nor were they connected to allow for this approach, hence the case study approach was chosen over action research.

This research focuses on the case study approach and methodology, primarily due to the role of the researcher and the nature of engagements undertaken by the researcher in her professional capacity as described in the next section.
3.3 RESEARCH METHODOLOGY

3.3.1 The Role of the Researcher

The role of the researcher in this study was as a project management practitioner in both a large information technology organisation and a construction organisation, undertaking project management and business delivery assignments for clients. In each case the researcher was working as a member of the organisation and not external to the organisation. The researcher was responsible for charting the direction of the projects reported in the case studies and was accountable, either solely or as team lead, for the deliverables of the project. Hence the true role of the researcher was not only as part of the client team but, in the majority of the cases, directing the team, rather than that of a consultant who is external to both the organisation and the situation. Hence Baskerville’s (1999) five parameters of motivation, commitment, approach, recommendations, and organisational understanding all point to the researcher’s commitment to the organisation and the case studies, similar to those reflected by a member internal to the organisation.

Principles from previous interpretive case studies (Klein and Myers 1999, Walsham 2006) address the role of the researcher within a participative environment: contextualisation; interaction between researcher and subjects; and confidentiality.

The principle of contextualisation requires the organisational context of case studies to be explained for social and historical context (Klein and Myers 1999). This allows the environment and context around the case study to be taken into account when looking at the data or drawing conclusions.

In some studies, particularly positivist approaches, the researcher may be regarded as a “neutral observer” (Walsham 2006). The current study is at the opposite end of the spectrum with the role of the researcher as Project Manager or director events of the field site work. Thus in this study, the active participatory role of the researcher (her interaction with the subject of the study) needs to be taken into account with respect to direction and structure of the case study, observations recorded and conclusions drawn.

Following on from the embedded nature of the researcher, the importance of confidentiality in the case study cannot be overstated. Organisation names and participant names have been kept confidential for ethical reasons. However it is
recognised by the research community (Walsham 2006) that there is risk of breach of confidentiality if contextual information is described too deeply. For this reason, the detailed organisation descriptions will be withheld and summary organisational information published with this work.

The researcher’s perspective is presented not only as a “passionate participant” (Guba and Lincoln 1994, Lincoln et al. 2011, p. 110) instead of a detached observer but, more importantly, as a significant director of events, an industry practitioner, utilising current industry best practices within the context of strategic and alignment research in large organisations. Thus “the value of insider research is worth reaffirming” (Brannick and Coghlan 2007, p 59). It is acknowledged that in investigating the researcher’s insider perspective, one approach would for a literature review of practitioner books, such as CIO “how-to-books”. However, as this study is focused on academic theory, it was deemed more important for this study to examine the literature that is within the basis of academic theory and peer-reviewed research rather than explore and evaluate books and articles that may or may not be based on demonstrable research. As such, a review of this genre of literature was deemed out of scope for this study. Additionally as much as theory is needed to “ground” field observations and field observations are needed to continually refine theory (McGrath 2005), this study provides the opportunity for real world projects to inform theory and be informed by theory.

Based on the role of the researcher and opportunistic nature of the researcher’s engagements, the Eisenhardt (1989a) case study methodology was reviewed and adapted for this study.

### 3.3.2 Case Study Methodology Process Steps

Eisenhardt’s (1989a) case study methodology has been extensively used by a number of studies (Ketokivi and Choi 2014, Vissak 2010, Yin 2008, 2013, 2017) and is among the most frequently cited in the case study literature across several business disciplines (Ravenswood 2011, Sato 2016) thus indicating widespread acceptance in the field. In 2017 there were over 42,950 citations listed in Google Scholar for Eisenhardt (1989a).
Eisenhardt’s (1989a) methodology, as shown in Table 3-1, provides for “flexible and opportunistic data collection methods”, and supports the role of the researcher and the opportunistic nature of the case studies available for inclusion in this study. Each step of the Eisenhardt’s (1989a) case study methodology process was reviewed, adapted to provide a more granular view of the research methodology appropriate to the participative nature of this study. Figure 3-1 delineates the case study methodology to be applied based on Eisenhardt’s (1989a) work. It describes each step of Eisenhardt’s definition for case study investigation, documentation and theory building (Eisenhardt and Graebner 2007). This development, shown as sequential steps in Table 3-1, is described more fully in the context of the current research.

<table>
<thead>
<tr>
<th>Step</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Started</td>
<td>Definition of research question</td>
</tr>
<tr>
<td></td>
<td>Possibly a priori constructs</td>
</tr>
<tr>
<td>Selecting Cases</td>
<td>Neither theory nor hypotheses</td>
</tr>
<tr>
<td></td>
<td>Specified population</td>
</tr>
<tr>
<td></td>
<td>Theoretical, not random sampling</td>
</tr>
<tr>
<td>Crafting Instruments and Protocols</td>
<td>Multiple data collection methods</td>
</tr>
<tr>
<td></td>
<td>Qualitative and quantitative data combined</td>
</tr>
<tr>
<td></td>
<td>Multiple investigations</td>
</tr>
<tr>
<td>Entering the Field</td>
<td>Overlap data collection and analysis including field notes</td>
</tr>
<tr>
<td></td>
<td>Flexible and opportunistic data collection methods</td>
</tr>
<tr>
<td>Analyzing Data</td>
<td>Within-case analysis</td>
</tr>
<tr>
<td></td>
<td>Cross-case pattern search using divergent techniques</td>
</tr>
<tr>
<td>Shaping Hypotheses</td>
<td>Iterative tabulation of evidence for each construct</td>
</tr>
<tr>
<td></td>
<td>Replication, not sampling, logic across cases</td>
</tr>
<tr>
<td></td>
<td>Search evidence for ‘why’ behind relationships</td>
</tr>
<tr>
<td>Enfolding Literature</td>
<td>Comparison with conflicting literature</td>
</tr>
<tr>
<td></td>
<td>Comparison with similar literature</td>
</tr>
<tr>
<td>Reaching Closure</td>
<td>Theoretical saturation when possible</td>
</tr>
</tbody>
</table>

Table 3-1 Case Study Methodology (Eisenhardt 1989a)
Methodology Steps

Step 1 - Define Research Question and Identification of Issues
This step incorporates the literature review and the formulation of specific research questions. The research questions were identified as those most appropriate for investigation of strategic alignment for information systems projects in large organisations within a commercial context. From the research questions identified in Chapter 1 (See R1 and R2) and the review of the literature, issues were identified for further investigation within a case study context. These issues are described and listed in Section 2.7.

Step 2 - Select Case Study
This step identifies a case study to be investigated in detail. The selection of cases occurred as a result of upcoming professional assignments undertaken by the researcher on the basis of whether the case satisfied the major criteria for strategic alignment between business direction and IT systems and processes. The relevancy of issues to the potential case study was important. Some professional assignments were not included due to their not meeting these criteria or strategic alignment between business direction and IS.
3.3.3 Adaptation of Case Study Methodology Research Design for this Study

Review of the adaptation of Eisenhardt's (1989a) case study processes, as identified in Figure 3-1 and discussed in the previous section, provides for the grouping of these processes as shown in Figure 3-2. It is important to note that although these steps are documented chronologically and are generally implemented sequentially this may not always be the case. For example, it is quite feasible that whilst undertaking the case study, reference is also made to the literature and additional research issues are identified.
The steps can be categorised into three groups: Literature Review activities (colour coded green), Case Study Analysis activities (colour coded yellow) and Case Study Implementation (colour coded red). These categories can be viewed as three nested levels of investigation as shown in Figure 3-3 and described below.

**Research Methodology Levels**

**Level 1 – Research Questions and Identification of Issues**

The first level of investigation looks at the theoretical context of the research, defines the issues which arise and may be applicable and later references the results of the case study investigation back to its theoretical context.

An in-depth literature study was undertaken reviewing the relevant body of research and theoretical context for the study to be undertaken (see Chapter 2). This level also defines the methodology and processes underpinning the entire research proposal (i.e. what is being studied, the objectives and the identification of the research questions and issues for investigation in this body of research).

Following analysis of each case study and its implementation, there is a return to Level 1 to look at analysed data in the context of the research and theory and attempt to draw conclusions.
The examination of the outcomes of a case study within the context of the literature, (see Step 6 in Table 3-2), leads to the discussion and making conclusions. This in turn may lead to the examination of additional issues which could be studied in subsequent case studies or future research.

**Figure 3-3 Developing Case Study Methodology – 3 Interrelated Levels**

**Level 2 – Alignment Approach and Case Study Selection**

Level 2 looks at the selection of the case studies and instruments and at the specific analysis of collated data resulting from the detailed investigation of the case study. This necessitated pre-case analysis to identify the alignment approach and the determination of relevant issues for investigation. Potential case studies were briefly evaluated during pre-case analysis to identify whether there were any issues that were deemed relevant. If the case study had little relevance to the raised issues, it was not included in this current research. If a number of issues were deemed relevant, these were examined to identify and determine which issues were of most relevance to the case study.

Following the implementation of the case study, there is a return to Level 2 for data collation and analysis of the data collected during the case study implementation.
**Level 3 – Case Study Implementation**

The third level of investigation is concerned with the implementation of the case study itself, the processes and influences involved and the generated data. Level 3 is where the case study is undertaken; the instruments used and collected data are recorded. Detailed rich descriptions are made and recorded to further the research subject.

This view of the research design is crystallized in Table 3-2, with the levels not necessarily sequential but inter-related. Hence the Case Study methodology was revised to illustrate the interactive nature of the three levels. The development of this model is shown side by side in Table 3-2 with the final model for the steps within a case study shown in Figure 3-4.

<table>
<thead>
<tr>
<th>Research Methodology Level</th>
<th>Case Study Process Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 Research Design</td>
<td>1-Define Research Questions and Identify Issues</td>
</tr>
<tr>
<td></td>
<td>6-Refer to Theoretical Context</td>
</tr>
<tr>
<td></td>
<td>7-Make Conclusions</td>
</tr>
<tr>
<td>Level 2 Case Study Approach to Alignment</td>
<td>2-Select Approach, Case Study and Determine Relevant Issues</td>
</tr>
<tr>
<td></td>
<td>3-Determine Instruments</td>
</tr>
<tr>
<td></td>
<td>5-Data Analysis</td>
</tr>
<tr>
<td>Level 3 Implementation of the Case Study</td>
<td>4-Undertake Case Study</td>
</tr>
</tbody>
</table>

**Table 3-2 The Three Interrelated Levels of the Case Study Process Methodology**

Using this generic model, for a single case study and serially for multiple case studies, as shown in Figure 3-5, allows for the structuring of the research questions and issues which were raised for investigation.
Define Research Question
Select Case
Determine Instruments
Undertake Case Study
Analyse Data
Refer to Theoretical Context
Make Conclusions

1. Define Research Question & Identification of Issues
2. Select Case
3. Determine Instruments
4. Undertake Case Study
5. Analyse Data
6. Refer to Theoretical Context
7. Make Conclusions

Research Literature
Pre-Case Analysis
Implement Case Study
Post-Case Analysis
Reference Literature

Level 1
Level 2
Level 3
Level 2
Level 1

1. Define Research Question & Identification of Issues
2. Select Case
3. Determine Instruments
4. Undertake Case Study
5. Analyse Data
6. Refer to Theoretical Context
7. Make Conclusions

Pre-Case Analysis
Post-Case Analysis
Implement Case Study
Reference Literature

Figure 3-4 Development of the Case Study Methodology
3.4 PRE-CASE AND POST CASE DATA ANALYSIS

Some of the data analysis for this study was undertaken prior the case study investigations including: the working definition of the alignment; the working definition of the alignment approach; the determination of criteria for alignment assessment; and the determination of relevant issues to the cases. Data gathering focussed on investigation of selected issues. Post-case analysis allowed for the validation of the alignment approach, the assessment of alignment for each criterion and the overall alignment rating assessment for each case study.

3.4.1 Pre-Case Analysis: Case Study Inclusion

The participative case study approach adopted for this research recognises the theoretical knowledge and practice of the researcher. This means that the research was firmly placed in the context of strategic, organisation and alignment theoretical contexts and using program and project management best practice.

The case studies were conducted as part of the assignments undertaken as components of the professional work of the researcher and therefore were opportunistic in nature. The researcher was tasked to ensure the completion of the goals of each engagement.
Each engagement required pre-analysis as to the alignment approach which best described the nature of the engagement, as well as issues which could best be investigated within the engagement limitations. Based on this pre-analysis, an engagement was chosen for detailed investigation and study.

As these studies were part of the role undertaken by the researcher, the projects were neither geared nor amenable to quantitative data collection. Therefore, based on the Tashakkori and Teddlie (2003) premise that the research questions should drive the research approach, this study utilised an interpretivist view. Technically a mixed method approach (Ågerfalk 2013) was chosen; while a limited amount of quantitative approaches were used in these organisations for these bodies of work, the majority of analysis utilised an qualitative approach.

### 3.4.2 Pre-Case Analysis: Determine Instruments

To determine the most appropriate instruments for data collection and analysis, it is crucial to look at the content or “what” needs to be evaluated. Stockdale and Standing (2006) examined three factors within the interpretivist approach: content; context; and process (termed CCP) which shape the choice and selection of the instruments:

- The content factor focuses on “what” is to be evaluated. Content determines identification of criteria for measurement and evaluation and hence determines data to be included as well as exclusions.

- Context investigates the internal or organisational influences or external influences. Internal influences include organisational structures, culture, organisational strategies and goals, as well as stakeholders, while external influences include the competitive environment, industry sector, technological developments and market structures.

- The process factor looks at the “how” of evaluation.

The Stockdale and Standing (2006) model (see Figure 3-6) illustrates the internal and external influences and proposed that the integration of the three factors required the definition of “who” affects the evaluation and in what way.

A subset of Stockdale and Standing’s (2006) factors was selected as appropriate to this research. Selected from the external environment were Industry Sector and Technology and from within the internal environment, Corporate Culture and
Structure was selected. These factors, informed by the organisational type theories by Miles and Snow (1978), were selected as appropriate to this study.

From the overlapping areas of context, content and process the questions of what is being evaluated, why the evaluation is being done, how it is being undertaken and by whom, served to provide the broader contextual background for the study. This in turn shaped the instruments used for this study. The instruments most commonly used for qualitative research include field notes, participant interviews and documents (Kaplan and Maxwell 1994, Merriam 2002).

3.4.3 Pre-Case Analysis: Working Definition of Alignment

As discussed in Chapter 2, alignment has been defined as the extent that an organisation’s business direction supports and is supported by its business and information technology systems and processes; as the appropriate and timely application of IT, in harmony with business objective, strategies, and requirements (Elmorshidy 2013), therefore allowing integration of information systems with business strategies (Issa-Salwe, Ahmed, Aloufi, and Kabir 2010). According to Baets (1992),
one of the key factors for successful information systems planning and implementation is the close linkage of the information systems strategy with business strategy. It follows that IT infrastructure, systems and processes may also need to be in alignment with business strategy to enable support for business capability, ensuring that alignment of business capability with business strategy has positive performance outcomes Raymond and Bergeron (2008).

This will be more fully investigated by looking at how an organisation goes about ensuring this is the case, and what measures it puts into place at the strategic level as well as the operational and tactical levels.

3.4.4 Pre-Case Analysis: Working Definition of Alignment Approaches

When looking at the processes of alignment between business direction and information systems and processes within an organisation, the basis for alignment needs to be determined. It is reasonable to determine that there could be a number of states of alignment ranging on a continuum from fully aligned to partial alignment to non-aligned, and to define criteria that support those states. That is to say, alignment is not viewed as an aligned / not aligned event but rather activities or processes that an organisation experiences, allowing its business direction and information systems and processes to become more aligned or less aligned. Therefore, looking at the alignment processes which an organisation employs, it is feasible that these could be either one-off process at a specific point in time for an organisation or processes continuous throughout an organisation’s life cycle.

As indicated in the literature review (see Section 2.2), two alignment approaches can be described: One-Off Alignment and Continuous Alignment. The characteristics of each are as follows.

One-Off Alignment refers to a specific identifiable event that endeavours to create or put into place those systems and processes to support the overall or specific business directions. In this approach there is a concerted effort to produce alignment for the organisation in line with a given event or set of processes resulting in an expected outcome at a specific point of time.

In contrast, Continuous Alignment is defined as evidence of repeated systems or processes that serve to continually monitor the business direction and IT processes and
effect changes in the IT process environment that align to the business direction or vice versa.

In this approach there are processes and systems either in place or in the process of being put into place to ensure continuing alignment between business direction and information processes.

Henderson and Venkatraman (1993)’s Strategic Alignment Model suggests that there are two factors: business strategies and requirements; or IT systems and processes as the drivers for continuous alignment.

The first approach may be identified when an organisation is pursuing business applications and processes. The main driver therefore is the business direction the organisation is taking. The second approach may be identified when an organisation recognises that systems and processes are required to ensure alignment between business direction and the information systems.

Based on the distinctions made above, Continuous Alignment was split into two different approaches for deeper understanding and investigation: Continuous Alignment Driven by Business Direction; and Continuous Alignment Driven by IT Systems and Processes. The difference between the two continuous alignment approaches refer to the recognised motivations and drivers that are pushing for the alignment, such as the need or requirement for the business or the push from the technology systems or processes.

The resulting three approaches described are listed in Table 3-3.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach 1</td>
<td>One-Off Alignment</td>
<td>Where an initial or a single planned alignment event is put into place. Further alignment processes are as yet unplanned or unforeseen.</td>
</tr>
<tr>
<td>Approach 2</td>
<td>Continuous Alignment Driven by Business Direction</td>
<td>Where there are repeated processes put into place to ensure continuous alignment as a direct consequence of the business requests or direction.</td>
</tr>
<tr>
<td>Approach 3</td>
<td>Continuous Alignment Driven by IT Systems and Processes</td>
<td>Where there are IT processes put into place to ensure current or future alignment.</td>
</tr>
</tbody>
</table>

Table 3-3 Three Alignment Approaches

The determination of an alignment approach for a case study can be undertaken as part of the Level 2 pre-case analysis, characterized by the organisational profile and initial
conditions of the case. Based on the definition of alignment approach, the criteria for the selection of suitable case studies is then able to be determined.

3.4.5 Pre-Case Analysis: Allocation of Issues to Case Studies

Building on the opportunistic nature of case study inclusion into the study, the selection of issues for investigation depended on the type and nature of the engagement. The issue selection endeavoured to match the issue’s focus of investigation to the focus and purpose of the engagement work upon which the case study was based. This approach also allowed for additional literature review into relevant theory informing the specific case study.

3.4.6 Post-Case Analysis: Validation of Alignment Approach

Following the investigation of the case study, post-case analysis was used to validate the alignment approach for the case study. This was subjectively assessed based on the case study data collected and analysed.

The following evaluation criteria were devised to allow for additional insight into the alignment situations in each of the case studies. Henderson and Venkatraman (1993)’s Strategic Alignment Model (SAM) was useful to identify influences and relevant factors in play between business and IT strategies (strategic integration) and business and IT infrastructures (operational integration).

*Discrete Processes versus Ongoing Processes*

As previously discussed in Sections 2.2, much of the literature has been focussed on a single or discrete alignment event or process and these processes have been contrasted with continuous alignment processes, with the latter being the preferred state with some researchers (Boar 2001, Chan et al. 1997, Sledgianowski and Luftman 2005, Wilson et al. 2013, Winter and Fischer 2007, Winter and Schelp 2008). This criterion is defined for this study to assess whether the processes investigated in the case studies can be categorised as discrete or one-off or continuous alignment processes.

*Large Alignment Outcomes versus Small Alignment Outcomes*

This criterion, devised for this study, can assist in describing delivered or expected alignment outcomes. Large alignment outcomes refer to those impacting the organisation itself while small outcomes refer to outcomes impacting specific areas of
the organisation. Large outcomes generally describe significant resource investment such as in personnel, financial investment and/or time investment.

**Business Driven versus Systems and Process Driven**

As suggested by Henderson and Venkatraman (1993)’s SAM, this criterion focuses the evaluation on the types of alignment processes in place. Business driven alignment is deemed those initiated by the organisation’s governance team or business representatives, while systems or process driven alignment is generated from the existing operational processes or policies of the organisation. A summary table for the Alignment approach is shown in Table 3-4.

<table>
<thead>
<tr>
<th>Alignment Type</th>
<th>Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete processes versus ongoing processes</td>
<td>One-Off / Continuous</td>
</tr>
<tr>
<td>Large alignment outcomes versus small alignment outcomes</td>
<td>Large / Small</td>
</tr>
</tbody>
</table>

Table 3-4 Alignment Approach Evaluation Criteria

### 3.4.7 Post-Case Analysis: Alignment Assessment Criteria

A set of criteria is required to determine the degree of alignment for each case study. Within this study, each case looked at different specific aspects of an organisation. The extent of alignment was assessed solely by the researcher and not by a team, as the alignment assessment was not part of the client engagement. This was due to the nature of the researcher/client relationship based on commercial conditions and the scope of the case study engagement. However the researcher selected a few key tools and measures for strategic alignment assessment. Therefore, three criteria from the Strategic Alignment Maturity Model (SAMM) (Bergeron et al. 2004, Luftman 2004a, 2015, Luftman and Kempaiah 2007, Wu et al. 2015) were selected: Communications Maturity; Governance; and Skills Maturity. A fourth criterion looking at extent of support for business direction by IS processes was also added, taken from factors indicating alignment maturity (Bergeron et al. 2004, Buckby et al. 2005, Tarafdar and Gordon 2007).

While there are other measurement systems, these are from the perspective of the IT leaders ranking and roles (Karimi et al. 1996) or from the perspective of business direction planning (Segars and Grover 1998) or are more useful for surveys from
multiple CEO/CIOs (Chan et al. 1997, Venkatraman 1989). Thus their use was deemed not suitable for this study.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>High / Low Alignment Definitions</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td><strong>High:</strong> Organisational governance supports business direction and empowers the goals to occur. <strong>Low:</strong> Organisational governance may be fractured or not showing visible support for the goals.</td>
<td>SAMM Buckby et al. 2005 (Wu et al. 2015)</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td><strong>High:</strong> Communications from senior level executive shows support for the business direction. <strong>Low:</strong> Sparse communications or communications such that show little support for business direction.</td>
<td>SAMM</td>
</tr>
<tr>
<td>IS and/or Technical Competencies</td>
<td><strong>High:</strong> High degree of IS competency and skills maturity evidenced by technical expertise in the organisation and mature information systems and processes to support the business direction. <strong>Low:</strong> Low level of IS competency as evidenced by little technical expertise and immature or non-existence of information systems and processes to support direction.</td>
<td>SAMM</td>
</tr>
<tr>
<td>Information Systems and Processes (IS&amp;P) Support for Business Direction</td>
<td><strong>High:</strong> Information systems and processes are strongly linked to business strategy by ensuring systems and processes exist in place to support business direction. <strong>Low:</strong> Information systems and processes are not evident or not showing evidence of support for business direction.</td>
<td>(Bergeron et al. 2004) Buckby et al. 2005 (Tarafdar and Gordon 2007)</td>
</tr>
</tbody>
</table>

Table 3-5 Criteria for Alignment

The final criteria were thus: types of governance in place; the level and types of communication to senior management; and the extent of the organisational IS competencies, skills and tools maturity; and the extent that information systems and processes support business direction.

Table 3-5 describes aspects of criteria which are seen to support High alignment or suggest Low alignment between business direction and information systems and processes as well as the source of the criterion. A Medium rating can be recorded if the criteria are considered somewhat met but with not a sufficiently strong indication of High. These criteria will provide an indication of the extent of commitment to alignment and the state of alignment processes in place across a number of aspects; however the overall extent of alignment needs to be considered. As the criteria are
subjective indications based on interpretive data collections, the High, Medium, and Low ratings will be indications only and will not be subject to quantitative data analysis.

3.4.8 Post-Case Analysis: Overall Alignment Assessment
A five point rating system was devised for this study to assess extent of alignment maturity for each case study as shown in Table 3-6 based, in part, on a combination of Luftman’s two sets of definitions: Without Process; Beginning Process; Establishing Process; Improved Process; and Optimal Process (Luftman 2003a) and: Initial/Ad Hoc Process; Committed Process; Established Focused Process; Improved/Managed Process; and Optimized Process. (Luftman 2004a). An overall Alignment Assessment will be based on the multiple criteria ratings identified in the issue investigation. It is acknowledged that the assessment can only be based on the investigations undertaken and hence the outcomes recorded.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Acknowledgement</td>
<td>This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.</td>
</tr>
<tr>
<td>2 – Beginning Process</td>
<td>Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.</td>
</tr>
<tr>
<td>3 – Establishing Process</td>
<td>Where there is a commitment to address non-alignment and the processes are underway but uncompleted.</td>
</tr>
<tr>
<td>4 – Improved Process</td>
<td>Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.</td>
</tr>
<tr>
<td>5 – Optimal Process</td>
<td>Where alignment outcomes are regarded as optimal and there is complete alignment.</td>
</tr>
</tbody>
</table>

Table 3-6 Alignment Maturity Assessment Rating

3.5 APPLICATION OF CASE STUDY METHODOLOGY TO THE RESEARCH

3.5.1 Level 1 – Define Research Questions and Identify Issues
The areas of study investigated in the literature review informed the theoretical contexts of this study and determined the issues that could be investigated. The research questions are formulated around the current research literature, and result in a number of issues which could potentially be investigated, as listed in Table 2-4.
Although the literature review generated a number of issues for investigation, in acknowledgment of the opportunistic nature of the case studies selected for investigation, only a subset is addressed in this study. The limited length of time for the engagement or limited access to organisational information supported a scope reduction to focus on a smaller number of issues and to provide a more in-depth investigation, allowing effective use of the resources available to the researcher. Issues are therefore selected depending on the focus of the organisation, the role of the researcher and the nature and purpose of the engagement being undertaken. Determination of most relevant issues for investigation for a specific case study would therefore be undertaken in the pre-case analysis for each case study.

### 3.5.2 Level 2 – Identify Alignment Approaches

Three different alignment approaches were identified as described in pre-case analysis steps Sections 3.4.3 and 3.4.4 and summarised in Table 3-3. As the selection of case studies was opportunistic, the pre-case analysis for alignment approach allocation was done in conjunction with the case study selection, also at Level 2.

### 3.5.3 Level 2 – Select Case Studies

The selection of case studies was based on a number of criteria:

- The determination of the relevance of issues raised within the literature review to the engagement. If issues had little relevancy to a potential case study, the case study would not be included for investigation in the current research. Due to the role of researcher within the profession, there were many engagements undertaken during the research time period. However, a number of engagements were discounted for inclusion.

- The determination of which of the raised issues would be of most relevance to the case study to be selected for investigation. Although there were a number of issues that could be investigated in case studies selected for this study, some issues were deemed as much more relevant to a particular case study and ‘jumped out’ for investigation. The number of issues was restricted to ensure efficient and most effective use of time and resources in the case study investigation, with the top three or four most relevant issues selected.

- The information systems and processes that were available for evaluation and review to allow ready assessment.
• The strategic business and IT objectives of the case study outcomes were readily available for review and investigation.

• The team structure included the Project Manager and team members. Team members comprised representatives from the business areas and IT areas of the organisations. In some case studies, the business sponsor or the delegated representative was part of the team.

• The leadership and team structure of the case study made it possible for the researcher to be directly involved in determining or influencing the outcomes for that case study. For example, in some case studies the researcher acted as Project Manager or Team Lead and in others as an active participant and as Lead Business Analyst. These latter roles were not as conducive to influencing outcomes.

• There was deemed sufficient duration to allow for the investigations of the chosen issues. Some case studies were investigated in depth with durations over months and even years. Other case studies were of shorter duration from three to a few months.

In addition, each potential case study was examined and categorised for an alignment approach prior data collection or evaluation, based on the overall nature of the engagement which the researcher was tasked to accomplish. Many professional engagements undertaken were not included in this study as they were regarded as not satisfying the criteria for strategic alignment.

3.5.4 Level 2 – Determine Instruments

In general, the instruments that are commonly used in case studies can include interviews, project documentation and organisational documentation (Schein 1984). Table 3-7 summarises the types of instruments used in this study.

A specialised instruments table is listed for each case study as part of the in-depth analysis, with a clear description of the instruments used provided in the respective case study chapter. Some of these instruments were utilised as part of the engagement while other instruments were used solely for the evaluation of the case study. The reliability and validity of the findings depends on the clarity and detailed description of the instruments used (Benbasat et al. 1987).
For this study, interview questions specific to each case study were developed. The same questions were asked of each participant within the same case study and responses were audio recorded and transcribed. Field notes and documents in this study included project documentation, project deliverables and reports. The opportunistic nature of the research necessitated the selection of instruments, techniques and tools based on what was available to the researcher and provided for by the organisational standards and policies in place.
3.5.5 Level 3 – Implement the Case Study

Six case studies were studied in four large organisations. These six case studies reflect the opportunistic nature of the case study selection in the variety of organisations, purpose of the consulting work underlying the case study investigation and the focus of the direction of the investigation based on the issues selected for best fit to the cases
study. Six cases were selected as this provided at least 3 cases in each of the overall categories of ‘One-Off Alignment” versus “Continuous Alignment” approaches.

While the names of these organisations have been changed to protect their identity, the chosen alias is related to their core business to allow for a more convenient understanding of the organisational context. The case study within each alignment approach focuses on investigating the approach as it was applied in the described organisation and situation. Each case study investigated issues determined as relevant to the case study and the insight gained from these investigations are discussed. The role of the researcher was project-based and operational-based depending on the case study. The engagement being investigated by the case study was in some cases a project with start and end dates and in other cases creating new ongoing operational structures and processes. These have been identified in each the case study profiles in the following sections.

3.5.5.1 Case Study 1 – Establishing a New Alliance

Organisation 1 – UTILITY

This was a large Government-owned utility organisation. UTILITY, as the name implies, is the owner of vast utility assets and provides parts of the Australian region with services associated with these assets. Based on their annual report, at the time of the study, UTILITY had over 2,400 employees, serviced over 1 million customers, with an infrastructure and assets of over AUD $10.9 billion. The focus of utility organisations tends towards increasing efficiency and operational effectiveness to be able to satisfy the primary drivers for uninterrupted service (PricewaterhouseCoopers 2008). UTILITY was in the process of forming an alliance relationship with a utilities construction organisation, AUSIX.

The researcher was engaged as Project Manager within UTILITY, to establish the operational basis for the new alliance relationship and operationalise the business so that the alliance could commence commercial activities. The operational processes of the alliance were to be setup, the business relationships between the alliance partners to be formalised and implemented and the business processes to enable the alliance to conduct its commercial activities defined and implemented.

As Case Study 1 looked at setting up a new alliance by a large utilities organisation, this was recognised as a single event to establish an alignment approach to the
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

organisation’s business direction and was therefore assigned as Alignment Approach 1, One-Off Alignment. The profile for Case Study 1 is shown in Table 3-8.

<table>
<thead>
<tr>
<th>Alignment Approach No.</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment Approach Description</td>
<td>One-Off Alignment</td>
</tr>
<tr>
<td>Case Study</td>
<td>1 - Establishing a New Alliance</td>
</tr>
<tr>
<td>Case Study Description</td>
<td>Create and implement operational systems and processes for a new alliance</td>
</tr>
<tr>
<td>Organisational Name</td>
<td>UTILITY</td>
</tr>
<tr>
<td>Other Organisations Involved</td>
<td>AUSIX, UTILITY ALLIANCE</td>
</tr>
<tr>
<td>Case Study Outcome</td>
<td>Creation of an alliance and the successful delivery of service for utility customers</td>
</tr>
<tr>
<td>Role of Researcher</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Team Structure</td>
<td>3 core team members; 30 wider team members</td>
</tr>
<tr>
<td>Organisation Profile</td>
<td>Large government-owned utility organisation</td>
</tr>
</tbody>
</table>

Table 3-8 Case Study 1 Profile: Establishing a New Alliance

3.5.5.2 Case Study 2 – New Operational Processes for an Existing Alliance

Organisation 2 – CONSTRUCT ALLIANCE

CONSTRUCT ALLIANCE was an alliance organisation involved in the civil construction of assets for a second major utilities organisation, UTILITYtwo in the Australian region. The alliance comprised UTILITYtwo in partnership with two other organisations, MANCON and DESIGNCO, which were in a joint venture relationship with each other. The alliance organisation had a five year life span and employed over 70 staff. Additionally it had business relationships with a number of contractor firms which conducted construction. The alliance inherited many of the processes and systems from the participant partners. Each of these partners was a large organisation with 3,000, 7,000 and 13,000 employees respectively.

The researcher was engaged in an operational capacity as Program and Resource Manager and member of the Alliance Management Team to assist with the re-structure and implementation of new operational systems and processes for an existing alliance. The alliance was experiencing issues of high staff churn, inefficient or non-existent processes, reduced staff morale and reduced alliance performance and profitability. As such the alignment approach was deemed one-off as the majority of the required processes to effectively conduct the business were not in place and those that were already in place were not effective and needed review and re-implementation.
In contrast with the previous case, Case Study 2 is from the perspective of the alliance organisation and investigated some of its relationships with its parent organisations. This was also recognised as a single event to further develop and mature an alliance as an alignment approach to the organisation’s business direction and was therefore assigned as Alignment Approach 1, One-Off Alignment. The profile for Case Study 2 is shown in Table 3-9.

<table>
<thead>
<tr>
<th>Alignment Approach No.</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment Approach Description</td>
<td>One-Off Alignment</td>
</tr>
<tr>
<td>Case Study</td>
<td>2 - New Operational Processes for an Existing Alliance</td>
</tr>
<tr>
<td>Case Study Description</td>
<td>Re-structure and implement new operational systems and processes for an existing alliance</td>
</tr>
<tr>
<td>Organisational Name</td>
<td>CONSTRUCT ALLIANCE</td>
</tr>
<tr>
<td>Other Organisations Involved</td>
<td>UTILITYtwo, MANCON, DESIGNCO</td>
</tr>
<tr>
<td>Case Study Outcome</td>
<td>Functioning and effective alliance organisation</td>
</tr>
<tr>
<td>Role of Researcher</td>
<td>Program and Resource Manager (Operational Role)</td>
</tr>
<tr>
<td>Team Structure</td>
<td>6 team members</td>
</tr>
<tr>
<td>Organisation Profile</td>
<td>Alliance organisation</td>
</tr>
</tbody>
</table>

Table 3-9 Case Study 2 Profile: New Operational Processes for an Existing Alliance

3.5.5.3 Case Study 3 – Designing New Enterprise Architecture

Organisation 3 – INSURE

Three case studies were conducted within INSURE due to the different alignment approaches employed. INSURE is a large general insurance organisation with more than 600 staff and approximately 20 regional offices. Its focus for technology was not leading edge but rather conservative. The organisation was also under strict regulatory requirements. Case Study 3 investigated the design of a new Enterprise Architecture (EA) as an agent of alignment of IT systems and processes to business strategic direction.

The researcher was engaged as Lead Business Analyst for the definition phase of the business processes and information requirements to form the basis for the new enterprise goals and activities.

Since Case Study 3 investigated the establishment of the EA initiative as an agent of alignment of IT systems and processes to business strategic direction, this was recognised as a single alignment event and therefore categorised as Approach 1, One-Off Alignment. The profile for Case Study 3 is shown in Table 3-10.
## 3.5.5.4 Case Study 4 – Establishing Alignment Assessment Process

**Organisation 3 – INSURE**

Case Study 4, investigated within the INSURE organisation, was specifically looking at the establishment of new operational processes, an assessment process, to determine the fit of proposed business systems to the strategic IT and business direction of the organisation. This focussed nature and the specified purpose of the engagement was categorised as a Continuous Alignment Approach. The engagement and the assessment process itself was instigated as a response to the business need for quick turnaround times for assessment of IT systems proposed by business groups and teams. The business found the current response times of three to six months from the traditional project prioritisation processes to be unacceptable and had lobbied for quicker response times as well as more meaningful responses from IT as to whether the requested new technologies could be incorporated into the business processes. As such the Assessment Process was clearly in response to business driven needs and requests and therefore Approach 2, Continuous Alignment Approach Driven by Business Direction was regarded as an appropriate approach categorisation. The alignment approach chosen reflected the motivation of the process coming from the pressing business need for quicker turnaround times and more effective way to address proposed technology change even though the process itself was instigated and owned by the IT area. The profile for Case Study 4 is shown in Table 3-11.

<table>
<thead>
<tr>
<th>Alignment Approach No.</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alignment Approach Description</strong></td>
<td>One-Off Alignment</td>
</tr>
<tr>
<td><strong>Case Study</strong></td>
<td>3 - Designing New Enterprise Architecture</td>
</tr>
<tr>
<td><strong>Case Study Description</strong></td>
<td>Designing new enterprise architecture for business data, systems and processes</td>
</tr>
<tr>
<td><strong>Organisational Name</strong></td>
<td>INSURE</td>
</tr>
<tr>
<td><strong>Other Organisations Involved</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Case Study Outcome</strong></td>
<td>Analysis of requirements for enterprise architecture</td>
</tr>
<tr>
<td><strong>Role of Researcher</strong></td>
<td>Lead Business Analyst</td>
</tr>
<tr>
<td><strong>Team Structure</strong></td>
<td>3 team members</td>
</tr>
<tr>
<td><strong>Organisation Profile</strong></td>
<td>Large general insurer</td>
</tr>
</tbody>
</table>

Table 3-10 Case Study 3 Profile: Enterprise Architecture as Agent of Change
### 3.5.5.5 Case Study 5 – Establishing a Business Projects Office

**Organisation 3 – INSURE**

Case Study 5 investigated the establishment of a Business Projects Office as a mechanism of alignment within the INSURE organisation. This case study was instigated by the business to align itself with established IT systems and processes. The IT systems and processes of project management and project processes were regarded by senior management as critical to the success of their operational processes. So much so that the IT project management principles and project processes were required to be set up for the business group. The researcher was engaged by the IT section as Project Manager to set up a new operational structure, a Business Projects Office, similar to an IT project management office (PMO), to ensure the success of the business projects.

Case Study 5 was instigated by the business to align itself with established IT systems and processes, and was categorised into Approach 3, Continuous Alignment Driven by IT Systems and Processes. This approach was determined by the business owner to align their business process to the project management process. Hence the motivation was the benefits derived from IT systems and processes.

The profile for Case Study 5 is shown in Table 3-12.
3.5.5.6 Case Study 6 – Establishing a Project Management Framework

*Organisation 4 – PRIMARY*

This organisation was a co-operative for primary industry members. The organisation had more than 800 staff, over 150 regional service centres and over $1 billion in assets. It was a technology aware organisation.

The researcher was engaged as Project Manager to define, design, develop and implement a project management framework to ensure that the selection of projects aligned with the business direction and the timely and successful execution of selected projects. This case study was instigated by the business to align with approved organisational IT systems and processes and was categorised as Approach 3 Continuous Alignment Driven by IT Systems and Processes. This alignment approach was determined as the organisation recognised the benefits of the project management framework and discipline and hence the motivation was alignment to IT systems and processes. The case study investigated the establishment of a new operational structure, the Project Management Framework for the organisation.

The profile for Case Study 6 is shown in Table 3-13.
### 3.5.5.7 Summary of Alignment Approaches and Case Studies

A summary of the six case studies and their allocation to an alignment approach is shown in Table 3-14.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – One-Off Alignment</td>
<td>1 – Establishing a New Alliance</td>
</tr>
<tr>
<td></td>
<td>2 – New Operational Processes for an Existing Alliance</td>
</tr>
<tr>
<td></td>
<td>3 – Designing New Enterprise Architecture</td>
</tr>
<tr>
<td>2 – Continuous Alignment Driven by Business Direction</td>
<td>4 – Establishing an Alignment Assessment Process</td>
</tr>
<tr>
<td>3 – Continuous Alignment Driven by IT Systems and Processes</td>
<td>5 – Establishing a Business Projects Office</td>
</tr>
<tr>
<td></td>
<td>6 – Establishing a Project Management Framework</td>
</tr>
</tbody>
</table>

Table 3-14 Summary of Alignment Approaches and Case Study Allocation

### 3.5.6 Level 2 – Analyse Data

This section comprises the analysis and discussion of the case studies based on the instruments described in Section 3.5.4. The data collated are analysed from interviews with participants, and documents generated by the organisation in the course of normal working. Organisational data were collated and reviewed to provide information and insight on the issues being investigated. For each issue investigated for the case study,
as much information was collated as possible: transcribed responses from interviewees; project documentation; organisational documentation; the researcher’s work diary and journal entries; meeting minutes and actions; and formal reports. These formed the basis of the analysis and a rating was assigned by the researcher based on these multiple sources. The different elements from each issue were listed for Low, Medium or High ratings and the basis of the alignment assessment was then made.

Each case study was assessed for alignment approach validation, alignment criteria and overall alignment assessment as described in Sections 3.4.6, 3.4.7, 3.4.8 respectively.

3.5.7 Level 1 – Refer to Theoretical Context
This section discusses the case study issues within the context of the literature review and other relevant research. The trends and insights observed from the case study data are referred back to the theoretical context of the literature review. The reference back to the literature allows for the discussion of any of the previously noted issues or new issues emerging from the case study (noted as emergent issues in the appropriate case study). Additional research and further discussion regarding the case study allowed deeper insights to be made post hoc.

3.5.8 Level 1 – Make Conclusions
The case studies within the alignment approach were discussed and conclusions regarding the individual cases, the issues investigated and a comparison between cases within the alignment approach was undertaken. The degree of alignment within each approach was determined from the analysis of each case study along the dimensions and criteria of alignment defined for the study in Sections 2.1.2 and 3.4.7 respectively.

3.6 SCOPING ISSUES
On review of the selected case studies and the approaches, it became apparent that it would not be practical to investigate some of the issues raised by the literature review and listed in Table 2-4 due to the role of the researcher or the nature of the engagements. In particular Issues number 9, 10 and 11 investigate the impact of alignment of on organisational performance. This requires the evaluation of organisational performance both prior to and after the alignment engagements. However, the role of researcher and the nature of the alignment engagements precluded access to organisational performance information. In all case studies and the context of
organisational information available, evaluation or assessment of organisational performance was not within the scope of the engagements undertaken nor available to the researcher in the role of Project Manager or Business Analyst.

Issue 15 focusses on the strategic planning processes to open up new market opportunities. None of the case studies selected were focussed on opening new markets or the strategic processes involved in these. Hence Issue 15 was not expected to be looked at by any case study. As such these four issues were deemed as outside the scope of this study, reducing the number of available issues for allocation to the six case studies to twelve.

### 3.7 SUMMARY OF ALIGNMENT APPROACHES, ORGANISATIONS AND CASE STUDIES

The case study profiles above have been summarised in Table 3-15 showing the alignment approach used, the organisation profile and duration of the case study as well as organisational profile summary.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Case Study</th>
<th>Months</th>
<th>Role of Researcher</th>
<th>Organisation Name &amp; Associated Organisations</th>
<th>Size</th>
<th>Relationship</th>
<th>Branches or Regional Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approach 1</strong></td>
<td>Case Study 1 Establishing a New Alliance</td>
<td>16</td>
<td>Project Manager</td>
<td>UTILITY &amp; AUSIX UTILITY ALLIANCE</td>
<td>2,400</td>
<td>Alliance</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Case Study 2 New Operational Processes for Existing Alliance</td>
<td>19</td>
<td>Program and Resource Manager</td>
<td>CONSTRUCT ALLIANCE &amp; UTILITYtwo MANCON DESIGNCO</td>
<td>70+</td>
<td>Alliance</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Case Study 3 Designing New Enterprise Architecture</td>
<td>3</td>
<td>Lead Business Analyst</td>
<td>INSURE</td>
<td>600</td>
<td>N/A</td>
<td>20</td>
</tr>
<tr>
<td><strong>Approach 2</strong></td>
<td>Case Study 4 Establishing Alignment Assessment Process</td>
<td>7</td>
<td>Project Manager / Business Analyst</td>
<td>INSURE</td>
<td>600</td>
<td>N/A</td>
<td>20</td>
</tr>
<tr>
<td><strong>Approach 3</strong></td>
<td>Case Study 5 Establishing a Business Projects Office</td>
<td>3</td>
<td>Project Manager</td>
<td>INSURE</td>
<td>600</td>
<td>N/A</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Case Study 6 Establishing a Project Management Framework</td>
<td>5</td>
<td>Project Manager</td>
<td>PRIMARY</td>
<td>800</td>
<td>N/A</td>
<td>150</td>
</tr>
</tbody>
</table>

Table 3-15 Summary of Alignment Approach and Case Studies
3.8 CONCLUSION

Research design approaches were reviewed and an interpretive qualitative approach using case studies was selected. A case study methodology was adapted and the instruments selected. Six case studies across the selected alignment approaches for One-Off Alignment and the two types of Continuous Alignment approaches were chosen from the professional engagements the researcher was assigned. The mechanism by which issues raised by the literature were allocated across the case studies is discussed.

The next chapters look at the alignment approaches and the selected case studies within each approach and identify issues from the literature that apply to the case studies where these issues are discussed in detail.
Chapter 4. Alignment Approach 1
One-Off Alignment

4.1 INTRODUCTION

Based on the alignment approaches defined in Chapter 2, this chapter investigates three case studies within Alignment Approach 1 for One-Off Alignment between business direction and IT systems and processes. Table 4-1 restates the definitions for this approach.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach 1</td>
<td>One-Off Alignment</td>
<td>Where an initial or a single planned alignment event is put into place. Further alignment processes are as yet unplanned or unforeseen.</td>
</tr>
</tbody>
</table>

Table 4-1 Alignment Approach 1

The role of the researcher as an embedded lead or participant in assigned engagements, enabled the evaluation and selection of assignments as part of the current study. The three case studies selected within this alignment approach were opportunistically assigned to the researcher and deemed suitable for inclusion in the study.

The case studies selected were expected by the organisation leadership to deliver large enterprise or organisation-wide change to systems, processes and operations. The three case studies were Establishing a New Alliance, New Operational Processes for an Existing Alliance, and Designing New Enterprise Architecture. Pseudonyms for organisations and personnel names and initials have been used to maintain anonymity. Accurate information regarding the industry sector, the purpose and processes of the organisations is provided, although identifying specifics are withheld.

The first two case studies lie within the context of organisational alliances while the third case study is within a single organisation.

The industry sector for each case study is described in detail followed by the research design. Each case study is described by looking at its purpose, its structure, an overview of its profile and the data sources collated. The detailed description of the case study is based around the issues selected for investigation from those raised in the literature review. The case study concludes with a brief discussion of these issues while a comparison between three case studies with respect to the literature is dealt
with at the end of the chapter identifying commonalities and possible conclusions and making recommendations.

4.2 CASE STUDY 1 – ESTABLISHING A NEW ALLIANCE

4.2.1 About the Case Study

4.2.1.1 Purpose of Case Study

The purpose of this case study was to investigate the impact of a new business direction taken by a large utilities organisation in setting up strategic alignment with its IT systems and processes.

The role of the researcher in this engagement was the Project Manager tasked with creating the operational structure, establishing the operational processes and implementing an alliance between a large utilities organisation with a large utilities construction organisation and then overseeing the commencement of alliance operations. The purpose of the alliance was to fulfil the strategic direction of the utilities organisation.

The case study based on the assignment investigated the establishment processes underpinning strategic alignment and hence assessment of the success of the alignment outcome. Areas such as organisation culture and behaviour and governance structures associated with the alignment process were also investigated.

4.2.1.2 Industry Sector - Utilities

The utility sector typically covers industries such as telecommunications, electricity, gas, water and waste management, providing essential services to the community. As such the financial drivers of profit and return to shareholders, which are so dominant in the private sector, may not be directly relevant. For example, the primary drivers for the public utility sectors are first and foremost delivery of uninterrupted and high quality service to the community (Biggar 2011, Utilities Commission 2011). Factors such as cost and efficiency are important but subservient to the primary drivers. There are also additional particular concerns for this sector including sustainability issues, regulatory compliance and even securing sufficient supply.

Traditionally utilities organisations have undertaken a works program using an internal labour force. As the works program increased, the internal work force was supplemented by a contract labour force relied on to take up an increasingly larger
share. The drivers for increased capacity, increased efficiency and decreased costs have contributed to the trend of utility organisations moving towards alternative business models, including privatisation (Cooper and Corcoran 2016, Deloitte 2005, Pricewaterhouse Coopers 2016). Australia’s power utility organisations include a mixture of government owned and operated and partially privatised models (Energy Networks Association 2017).

Despite a controlled and limited shift towards privatisation throughout the Australian utilities sector, the gas and telecommunications utilities have been fully privatised and water and power are still largely government owned and operated, although they are being restructured to allow some privatisation. For example, in one Australian power utility there was limited privatisation of generation and retail activities. These were split off from the network operations and structured to run as separate corporate entities: transmission and distribution; generation and retail entities, in order to incentivise development of private generation providers in the future. This has had limited financial success as generation and retail capabilities were recombined in 2013. These new privatised entities however still operate with a number of strict government and regulatory controls to ensure adequate supply and service. There have also been instances of partial privatisation of Australian power utility organisations (Energy Networks Association 2017, Nepal and Foster 2015, Roarty 1998) and water utilities. Some utilities, although fully government owned and operated, are structured more along corporate lines and report to a board. For example, privatisation within the gas utilities and power sectors in Australia has provided for multiple generation sources for residential and industrial usage (Commonwealth of Australia 2011). Such privatisation, however, may be more focused on ownership and investment structures and may have little impact on the primary drivers of these organisations as these entities are still required to comply with strict government and regulatory controls to ensure uninterrupted service levels (Utilities Commission 2011).

Organisations have also explored other ways of doing business, such as the creation of supply chain partnerships and business alliances and joint ventures to service the utility organisations. Investigation into how the organisations in these new multi-organisational business models interact and relate to each other is warranted. Utility organisations have also needed to look into increasing efficiency and operational effectiveness to be able to satisfy the primary drivers for uninterrupted service.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

(PricewaterhouseCoopers 2008). To study these inter-relationships, organisational behaviour factors such as type, structure, culture and business processes particular to utility organisations can be investigated.

Along with privatisation, utility organisations need to look at the interdependence of their operations as well as process reengineering. Utility business operations are dependent on a number of areas such as demand management, outsourcing, technology and business process engineering (AEG 2010, 2017). In this study, partnering and alliances are viewed as a specialised form of outsourcing, as indicated in Tiwana and Keil (2007) and Mudambi and Tallman (2010).

The Alliance business model, increasingly used in the utilities sector, allows for organisations with complementary capability and needs to partner, establishing long-term working relationships. The longevity and stability of the working relationships allows all parties to benefit and offers substantial cost savings in exchange for guaranteed work allocation. The alliance model often means new ways of sharing in the profits of jointly engaged work.

The trend towards alliances and joint ventures has been increasing (Gomes, Barnes, and Mahmood 2016, Kumar 2003, Twist 2004), with these business models particularly popular in government utility organisations such as water, roads, power and energy. This follows the international trend towards alliances with other organisations in delivering the infrastructure growth and maintenance (Elmuti and Kathawala 2001, Gomes et al. 2016, Street and Cameron 2007, Twist 2004) [Undisclosed Reference 1, Undisclosed Reference 2, Undisclosed Reference 3, Undisclosed Reference 4].

**Areas for Potential Investigation**

The brief investigation above into the drivers for organisation and new business models in utilities sector organisations together with the earlier literature review of organisational structure in Chapter 2, have provided a number of areas which warrant discussion.

This case study sheds light on the main processes that large organisations utilise for strategic alignment and whether an organisation’s type and structure affect the way they approach strategic alignment.
4.2.2 Design Research and Select Issues

This case study was assigned to the One-Off Alignment Approach, with the main topic of investigation being the Establishment of a New Alliance covering the set up of the operational processes required to run the alliance. Refer to Section 3.5.3 regarding the opportunistic selection of case studies and Section 3.5.5.1 describing the purpose of the engagement and the organisation in which the case study was situated. The main perspective is that of working within the parent organisation rather than that of the alliance.

Although a number of issues could be associated with the case study, only a few were directly relevant and of these several were identified as being embedded in the engagement itself and hence ideal for investigation.

As one of the first actions of the researcher was to establish an effective governance structure and formal communications channels with executive management of the organisation, it was determined that Issue 5 was of immediate relevance and priority. Following that the expected alignment strategies for organisational type, structure and characteristics as described in Issue 4 could be seen as relevant. Finally in establishing an alliance, the tools and processes required for the alliance were also being established and hence Issue 13 was selected.

Table 4-2 summarises the reasons for issue selection for investigation for the case study highlighting the selected issues for this case study.

Based on the Generic Model for Single Case Study Design (see Figure 3-5), Figure 4-1, shows the customised design for the case study where each of the levels of the methodology provide the structure for the case study investigation.
<table>
<thead>
<tr>
<th>No</th>
<th>Issue to be investigated</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>Of relevance to Case Study 1, however other issues are of greater relevance due to the nature of the engagement and the activities being undertaken.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>Continuous alignment not relevant to Case Study 1 as it has been categorised as Approach 1 One-Off Alignment.</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>The chosen strategy for alignment for case study 1 was determined by executive management and not the focus of the engagement hence information could not be easily collated.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.</td>
<td>Case Study 1 was ideally set up to investigate an organisation’s type with expected alignment strategies hence this issue was deemed of direct relevance.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>The engagement underpinning this case study was establishing governance and formal communications channels with executive management hence this issue was deemed of direct relevance.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>The engagement underpinning Case Study 1 did not look at external or internal influences on the organisation.</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>The engagement underpinning Case Study 1 did not look at external or internal influences on the organisation.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>The focus of the engagement underpinning Case Study 1 was to establish the operational processes hence there is little scope to investigate the impact of alignment of the processes.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>The engagement underpinning Case Study 1 was not looking at the IS competencies.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>The engagement underpinning Case Study 1 was establishing tools and processes hence this issue was deemed of direct relevance.</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>The engagement underpinning Case Study 1 was not investigating support processes for alignment processes.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>The engagement underpinning Case Study was not investigating non-alignment.</td>
</tr>
</tbody>
</table>

Table 4-2 Issues Selected for Investigation for Case Study 1

The following sections report on the study closely following the Level and Step notation of the methodology to assist the cross-referencing between methodology, data collection and discussion.
4.2.3 Determine Instruments

4.2.3.1 Data Sources

Although a generic data source list was defined in Table 3-7, the specific sources for data collation and analysis for the Case Study 1 are indicated in Table 4-3.

The data collated from multiple sources included: transcription of an 1.5 hour interview with the Program Manager; all project documentation; weekly team meeting minutes across 16 months duration of the engagement; field notes and meeting notes for stakeholder meetings during the engagement; financial and performance reporting from AUSIX and UTILITY ALLIANCE; and annual reports and other reports from the UTILITY public website. These multiple sources comprised over 200 pages of data and were used to inform the data analysis undertaken.
### 4.2.4 Undertake Case Study

#### 4.2.4.1 Case Study Organisations

**UTILITY**

UTILITY’s mission is to provide for the safe, reliable and service to homes, offices and industry, whilst maintaining and developing the government owned assets [Undisclosed Reference 5]. During the mid-2000s, the organisation underwent business reorganisation to create efficiencies and to encourage private operators into the sector.

The organisation had determined that their current business processes precluded them from successfully achieving the legal requirement and current business for delivering the service required. Hence they initiated the creation of an alliance with other organisations to achieve this. UTILITY recognised that their current business structures, business processes and consequently their IS&P were inadequate to deliver this work effectively. In other words, they recognised the non-alignment of their

---

**Table 4-3 Case Study 1 Data Sources**

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview</td>
<td>Interview with Program Manager</td>
<td>Interview questions provided in APPENDIX B. Interview was recorded and transcribed and quoted as required</td>
</tr>
<tr>
<td>Field Notes</td>
<td>Work Diary, Meeting Notes and Minutes</td>
<td>Recorded by the Researcher</td>
</tr>
<tr>
<td><strong>Project Documents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Statement</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Project Schedule</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Current Processes</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>End-Game Business Model</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Project Management Framework</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Team Weekly Meeting Minutes</td>
<td>Recorded by the Researcher as Project Manager and distributed to UTILITY, AUSIX and UTILITY ALLIANCE</td>
<td></td>
</tr>
<tr>
<td>Project briefings to sponsors</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Project Status Reports</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Alliance Operating Model</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>Alliance processes for start-up</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td>List of scheduled works by Alliance partner</td>
<td>Provided by the Alliance partner</td>
<td></td>
</tr>
<tr>
<td>Team structure document</td>
<td>Created by Researcher as Project Manager</td>
<td></td>
</tr>
<tr>
<td><strong>Public Documents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documents retrieved from Alliance partner’s public website</td>
<td>Accessed by Researcher</td>
<td></td>
</tr>
<tr>
<td>UTILITY’s annual report</td>
<td>Accessed by Researcher</td>
<td></td>
</tr>
</tbody>
</table>
current business systems and processes and the supporting IS&P and created a new business structure and corresponding IS&P to deliver their business goals.

**AUSIX**

AUSIX commenced a relationship with UTILITY for the purpose of taking over all the construction of assets for UTILITY in a specified area of the business. This required a permanent organisational representation on the project team set up by UTILITY to manage the transition of work from UTILITY to AUSIX.

**UTILITY ALLIANCE**

Two organisations were involved in a new business relationship. UTILITY was commencing a new business relationship with a utilities construction organisation, AUSIX, specialising in the construction of assets required by UTILITY. The relationship between UTILITY organisation as the owner of the utility assets and services and AUSIX as the service provider to construct the assets was termed the UTILITY ALLIANCE. Henceforth UTILITY ALLIANCE will be used to describe the alliance organisation which was established during the case study. The parent organisation will be termed UTILITY.

**4.2.4.2 Scope of Engagement**

A project was commenced by UTILITY to establish a new business opportunity for an alliance relationship between UTILITY and a utilities construction company, AUSIX, called UTILITY ALLIANCE. While the commercial and contractual arrangements were being put into place by another team, the project team was charged with establishing the work and operational aspects of the alliance. The researcher was engaged by UTILITY as Project Manager and reported to the Program Enablement Manager. This engagement was used as the platform of the investigation.

A project comprising project manager, senior business analyst, business analyst, and representatives from UTILITY and AUSIX was established to deliver the engagement as represented in Figure 4-2. The researcher was appointed as the Project Manager for the engagement.

The purpose of the project was to operationalize the alliance including commencing transitioning work from UTILITY work crews to UTILITY ALLIANCE work crews. The transition of work required extensive re-engineering of UTILITY processes to enable UTILITY ALLIANCE personnel to be trained and accredited to access
UTILITY’s assets as well as changing the access processes and systems to enable non-UTILITY personnel, (i.e. UTILITY ALLIANCE personnel) to have legitimate access to control and operational systems and processes to allow them to execute the work.

New processes were required and existing processes needed to undergo significant change to accommodate commercial relationship with AUSIX, as UTILITY was also organisationally new to partnership and alliances in this area.

![Project Team Structure](image)

**Figure 4-2 UTILITY ALLIANCE Establishment Project Team Structure**

The focus of the project was to create an operational structure of a new alliance, establish its processes and operationalise the delivery of the work required by the alliance. The project was closed and the project team disbanded with the formal handover of operational activities to the UTILITY ALLIANCE management team after 18 months from the commencement of the engagement.

**4.2.4.3 Scope of Case Study**

This case study investigated the journey of UTILITY’s new business direction for a new start-up alliance relationship and the presumed lack of alignment between the
systems and process to support this new business direction. The case study was based on the personal experiences of the researcher as Project Manager, recorded in the form of field notes, project documentation and public documents from the alliance organisations. Table 4-4 summarises the case study profile.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Approach 1 - One-Off Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>Case Study 1 - Establishing a New Alliance</td>
</tr>
<tr>
<td>Major Organisation</td>
<td>UTILITY (owner of the utility assets and partner in Alliance)</td>
</tr>
<tr>
<td>Associated Organisation(s)</td>
<td>AUSIX (service provider and partner in Alliance) UTILITY ALLIANCE (Alliance organisation established)</td>
</tr>
<tr>
<td>Role of the Researcher</td>
<td>Project Manager</td>
</tr>
<tr>
<td></td>
<td>The researcher was engaged by UTILITY to project manage the establishment of alliance operations.</td>
</tr>
<tr>
<td>Engagement used as Case Study</td>
<td>Establishing and operationalising a new alliance between UTILITY and AUSIX.</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Field Notes and Journals Interview Project Documentation Organisational Documentation</td>
</tr>
</tbody>
</table>

Table 4-4 Case Study 1 Overview

4.2.5 Analyse Data

The data collated and collected, as stated in the Table 4-3, was analysed and discussed against the selected issues (See Table 4-2).

4.2.5.1 Governance

**ISSUE 5 – Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.**

In this case study this issue is used to assess the state of alignment in the organisation, the governance processes in place and their impact on alignment. However in assessing the Governance criterion, other related factors were observed and assessed as appropriate.

There were a number of advantages with the UTILITY ALLIANCE in terms of alignment. These could be classified as strengths of the alliance and positives in supporting the business direction:

- **Pre-Alliance operations.** High among these was the twelve months of operational experience delivering on the program of work allocated to the separate parties of the alliance. The pre-alliance operations prior contract signing allowed all alliance parties to review the business and profit models
proposed and to develop metrics for these. This indicated that there was some level of governance involved, particularly for contractual matters, indicating support for a Medium level of alignment along the Governance criterion.

- **Extra resources welcomed.** Another factor working in favour of the alliance was the reliance of UTILITY on external labour resources to deliver the massive program of work that was required. Therefore there was strong motivation from parts of UTILITY for the UTILITY ALLIANCE to be functional. UTILITY was looking to augment these resources through the alliance structure. This indicated a recognition by executive management of the low level of existing IS and other technical expertise and hence the measures that they instigated to address this gap. This gives support to a Medium rating for the Governance criterion.

On the other hand there were a number of major obstacles facing this alliance in terms of support for the business direction:

- **Lack of adequate investment for internal processes.** There was a fundamental lack of recognition that establishing and bedding down the alliance processes required both financial and resource investment. UTILITY’s executive, having less of an understanding of the operational processes, tended to underestimate the need to invest in resources or operational processes to either establish or maintain ongoing support for alliance activities. There was a general underestimation from both executive and operational sectors of the need for internal resources to establish and manage the processes and relationships with regards to alliancing. For example, processing invoices from the UTILITY ALLIANCE required new systems, business processes and structures to be set up and additional people to work these processes. Whereas prior to UTILITY ALLIANCE, work had been allocated to a number of diverse sections, after UTILITY ALLIANCE, work allocation was consolidated into a central activity. Hence invoice receipting needed to also be consolidated. All these required new processes and training as well as a new mind set among the affected sections, and indicates a lack of IS systems in implementing the alliance processes to support the business goals for UTILITY. Therefore a Low rating was assigned for IS&P Support for Business Direction.
- **Lack of universal acceptance for the alliance approach.** There was a disconnect between the senior management engagement down the path of alliancing and the middle management (and in some cases operational staff) acceptance of the alliance approach. On some occasions these people were obstructive and created problems in the process. The model that these people were operating on was one of client and contract staff and hence there was difficulty in accepting a partnering relationship. This was evident in the amount of control by UTILITY over AUSIX work crews instead of allowing UTILITY ALLIANCE to manage the work and the relationship. This highlights lack of Governance support and rates Low for the Governance criterion. This observation also highlights that communications from the senior executive was lacking, resulting in a gap between the executive direction and the organisational acceptance for the alliance. This was taken as a Low rating for the Communications at the Senior Level criterion.

- **Lack of support from other UTILITY business units.** Another weakness relates to the lack of ready support from other areas of the UTILITY organisation to UTILITY ALLIANCE. This included a number of areas such as procurement, HR and IT areas and regional areas. Some of these problems stemmed from the requirement for UTILITY ALLIANCE personnel to access and be included in these internal processes and the lack of UTILITY systems and processes to allow the required access. For example, to access many of the IT and infrastructure assets systems, UTILITY ALLIANCE personnel names and credentials needed to be entered into the HR systems. However as many UTILITY ALLIANCE personnel were from AUSIX and were hence not employees of UTILITY, they were not eligible for inclusion in the organisation’s systems. It took many weeks of negotiations and discussions between different stakeholders as well as escalation to the UTILITY executive by the Project Steering Committee for this to be actioned. This also indicated a low level of communications from the senior level to facilitate these new processes. As one of the clearest examples of IS not in alignment with the strategic direction of the organisation, this showed that there was little support from IS systems and processes for business direction indicating a Low rating for
the IS&P Support for Business Direction criterion and a Low rating for the Communications at Senior Level criterion.

- **Work Stream cannot be forecast.** Another weakness is that, since the sole work stream was customer-funded, there is no way to accurately forecast work levels for the future. The best that can happen is to forecast based on previous years’ activities. The inherent downfall has been that unprecedented demand from boom growth in the state had left UTILITY short on resources to support the increased work load. These support services included increase in UTILITY’s resource needs for: inventory procurement; customer services personnel; audit processes; invoice processing; work allocation and scheduling personnel; and training. This provides additional evidence for a Low rating for the criterion of IS&P Support for Business Direction.

- **Lack of UTILITY capacity.** UTILITY had not really embraced the requirement that they needed to grow their own capacity to support increased growth regardless of whether the work was undertaken in-house, outsourced to contractors or undertaken in conjunction with alliance partners. This was evidenced by the major freeze in head count that was in place soon after UTILITY’s establishment. UTILITY’s resource capacity for design, procurement, training and process management was the major bottleneck to the delivery of the work program. This showed that organisational governance was fractured in business direction supporting a rating Low for the Governance criterion and a Low rating for the IS Competencies & Skills Maturity criterion.

- **Lack of Resourcing.** The alliance partner AUSIX, had difficulty in resourcing the required construction teams due to a variety of reasons including shortage of resources in the industry, and long lead times for acceptance of AUSIX resources through UTILITY’s systems. Due to lack of sufficient construction supervisors, the number of projects assigned to each AUSIX supervisor was very high. This resulted in an increased number of incidents and contributed to staff dissatisfaction and turnover. Lack of resourcing investment may imply fractured or low organisational governance support for the business direction and thus is indicative of a Low rating for the Governance criterion. A lack or resourcing from AUSIX impacts UTILITY resulting in skills and capacity
shortage overall, hence a Low rating for the IS Competencies & Skills Maturity criterion was also indicated.

Conclusion

Summarising the observations made in investigating Issue 5, it was noted that three criteria were assessed: Governance; IS&P Support for Business Direction; and Communications at the Senior Level. While the Governance criteria did register Medium ratings for two observations, the remaining three observations were assessed as Low indicating an overall Low rating for the Governance Criterion (see Table 4-5).

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>Pre-alliance operations.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Extra resources welcomed.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Lack of universal acceptance for the alliance approach.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Lack of UTILITY capacity.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Lack of resourcing.</td>
<td>Low</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction.</td>
<td>Lack of adequate investment for internal processes.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Lack of support from other UTILITY business units.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Work stream cannot be forecast.</td>
<td>Low</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td>Lack of support from other UTILITY business units.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Lack of universal acceptance for the alliance approach.</td>
<td>Low</td>
</tr>
<tr>
<td>IS Competencies &amp; Skills Maturity</td>
<td>Lack of UTILITY capacity.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Lack of Resourcing.</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 4-5 Summary of Issue 5 Criteria Ratings

UTILITY organisation had good motivation in setting up UTILITY ALLIANCE. However these aims were invariably not shared by the operational levels of UTILITY and led to predominantly Low ratings for all the alignment criteria. The limited effectiveness of governance and executive management may have reduced the effective performance of UTILITY ALLIANCE.

4.2.5.2 Tools and Processes

ISSUE 13 – Investigate the tools and processes evident and in use by organisations.

A number of tools and processes were needed to be established in the process of the UTILITY ALLIANCE set up. These included a number of management and reporting mechanisms to provide information back to the parent organisation UTILITY.
A hybrid of Ward and Peppard (2002)’s Business Competency and Boar (2001)’s Strategy Formulation was chosen for use by the Project Steering Committee for the justification to setup UTILITY ALLIANCE. This justification was then used to engage a project manager to establish UTILITY ALLIANCE.

A Current-State business model was drawn up by the Project Manager (and current researcher) showing the way the business operated at that current time. The Current-State analysis is supported by Ward and Peppard (2002)’s model in attempting to firmly position the organisation’s current business processes in reality and increase the understanding of its current capability and competency. This was then followed by a Future-State business model developed by the Project Manager and validated by the Project Steering Committee. The Future-State business model supported Boar (2001)’s five phase model of envisaging the future business and position, defining the objectives and strategy moves resulting in the goals, commitment plan and change management plan. This was applied by the Project Manager as part of the project to establish UTILITY ALLIANCE: understanding the current state; determining current competency and capability; defining future business position and business models; determining the end goals and the action plans to effect the change.

Processes similar to Weihrich (1982)’s SWOT analysis tool were used, particularly Step 2 for evaluation of products and technology, Step 4 for strengths and weakness, Step 5 for development of alternative options and Step 6 for strategic choices as shown in Chapter 2 (see Section 2.5.2). These steps mirrored closely the actions taken by the Project Manager in the initial stages of the project.

Conclusion

Some tools and processes were observed to be used more than others within the organisation’s procedures, such as Boar’s (2001) five phase model and Weihrich (1982) SWOT analysis tool, indicating tried and tested tools were more likely to be engaged. This indicated a Medium rating for the IS Competencies & Skills Maturity criterion.

4.2.5.3 Organisational Type and Behaviour

An organisation’s type and behaviour may impact the strategic alignment approaches it undertakes.
ISSUE 4 – Investigate whether an organisation with characteristics aligned with Miles and Snow’s (1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.

UTILITY’s approach in setting up the UTILITY ALLIANCE can be seen as exhibiting Defender characteristics as defined by Miles et al. (1978). The Defender-like characteristics are clearly exhibited by UTILITY’s situation as a result of government legislation for UTILITY’s asset ownership. This supported Miles and Snow (1978) in their “Entrepreneurial” description where the Defender organisation seals off a segment of the total market and aggressively prevents competitors. Government regulations in preventing entry of competitors into UTILITY’s market, acts as a strong defence against threats from competitors. UTILITY’s actions also support Miles and Snow (1978)’s categorisation of “Engineering” firms in Defender mode, acting to make strong investment in resources for efficiency and improvement. UTILITY had developed considerable engineering expertise and organisational structures to establish, maintain and expand the vast network of assets to support the delivery of services and products to their customer base.

UTILITY had three divisions to organise and manage assets, work scheduling and implementation and field maintenance. These were termed by UTILITY as Asset Management, Works Delivery and Field Services respectively and formed their works engine in providing essential corporate services and supporting functions, as shown in Figure 4-3.
Table 4-6 Work Engine and Supporting Service Areas

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets Management</td>
<td>Determined the work necessary to optimise the performance of the asset infrastructure including improvement strategies, infrastructure expansion and maintenance.</td>
</tr>
<tr>
<td>Works Delivery</td>
<td>Arranged the resources and contracts required including land acquisition, project and contract management, asset design and engineering, procurement of materials and equipment, customer support and environmental compliance.</td>
</tr>
<tr>
<td>Field Services</td>
<td>Carried out the extensive work program including asset construction, and maintenance services, operational support and training and safety and compliance.</td>
</tr>
<tr>
<td>System Management</td>
<td>Operated the assets network via a centralised control to provide services and products to meet demand, to ensure correct configuration of the network and manage continuing provision of services.</td>
</tr>
<tr>
<td>Finance</td>
<td>Provided the financial, commercial and information services required including corporate accounting, business analysis, risk management, treasury and information technology.</td>
</tr>
<tr>
<td>Strategy and Corporate Affairs</td>
<td>Responsible for internal and external communications such as with including staff, government, media and stakeholder liaison, and community partnerships. It was also responsible for audit and risk assurance.</td>
</tr>
<tr>
<td>Human Resources</td>
<td>Responsible for recruitment and retention of people with appropriate skill and capabilities including development and training, payroll and health services.</td>
</tr>
<tr>
<td>Business Transformation</td>
<td>Coordinated and supported change initiatives to develop greater capability and capacity in the organisation as well as looking at innovative ways of business operation [Undisclosed Reference 6].</td>
</tr>
</tbody>
</table>

Table 4-6 provides a detailed description of each of the works engine and supporting services areas summarised from organisational process documentation.

In effect, UTILITY ALLIANCE was a duplication of the Works Engine for the business awarded to UTILITY ALLIANCE: Assets Management; Field Services; and Works Delivery. UTILITY ALLIANCE had to determine the assets impacted and procure materials and equipment required to undertake the work assigned, schedule resources and carry out its own work and provide maintenance services and operational support.

This indicates a high level of process definition supporting how UTILITY is implementing its business direction, and is evidence for a High rating for IS&P Support for Business Direction by UTILITY itself as well as a High rating for governance and communications from the part of UTILITY towards UTILITY Alliance. Hence High ratings were assessed for Governance and Communications at the Senior Level criteria.
Conclusion

A High rating for IS&P Support for Business Direction criteria can be seen as evidence for a strong business strategy in place and that senior management has a solid operational framework supporting the Defender model for investment into internal processes. It also indicates that UTILITY had a strong strategic view of how to approach new business by hiving off part of its work to an alliance and this was indicated by the High ratings for the Governance and Communications at the Senior Level criteria.

4.2.5.4 Alignment Assessment

Assessment of alignment was undertaken across three areas: re-examination of the alignment approach; alignment criteria; and overall alignment assessment for the case study.

Validation of Alignment Approach

The alignment approach was re-examined based on the criteria listed previously in Table 3-7 and summarised in Table 4-7. The purpose of the re-examination was to confirm the alignment approach to which the Case Study was categorised.

The parent organisation, UTILITY, had acknowledged that the best way to deliver on its overall business goals would be to establish an alliance organisation with AUSIX called UTILITY ALLIANCE. The establishment process itself was one-off, set up as a large project with specified commencement and scheduled end dates, defined expected outcomes, assigned resources. The resulting processes were hence defined as discrete.

It was expected that the initial processes being put into place and established were to deliver large alignment outcomes as the processes focussed on the in the establishment of an entirely new organisation, with multiple new processes and requiring new lines of communication, governance and management expected between UTILITY and UTILITY ALLIANCE.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

Alignment Approach | Assessed | Comments
--- | --- | ---
Discrete processes versus ongoing processes | Discrete | UTILITY established discrete processes to create new alliance organisation, UTILITY ALLIANCE.
Large alignment outcomes versus small alignment outcomes | Large alignment outcomes expected | Establishment of an alliance organisation was defined as a large outcome.
Business driven versus systems and process driven | Business driven | UTILITY, as the parent organisation, had set up the alliance as a business driven initiative to ensure delivery of business direction and goals.

**Table 4-7 Alignment Approach for Case Study 1**

**Alignment Assessment via Criteria**

The issues were assessed along four criteria for Governance, Communications at Senior Level, IS Competencies and Skills Maturity, and IS&P Support for Business Direction, defined previously in Table 3-5 and according to the dimensions and type defined in Section 3.5.4. The criteria provide evidence for an Alignment Maturity Rating in the context of the case study, defining Alignment Maturity along a five-point scale as defined in as Table 3-6.

A consolidated table for all criteria assessments, listed Table 4-8, is discussed in the context of Alignment Maturity.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Issue</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>5</td>
<td>Pre-alliance operations.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Extra resources welcomed.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of universal acceptance for the alliance approach.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of UTILITY capacity.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of resourcing.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour.</td>
<td>High</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td>5</td>
<td>Lack of support from other UTILITY business units.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of universal acceptance for the alliance approach.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour.</td>
<td>High</td>
</tr>
<tr>
<td>IS Competencies &amp; Skills Maturity</td>
<td>5</td>
<td>Lack of UTILITY capacity.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of resourcing.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>Tools and processes.</td>
<td>Medium</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction.</td>
<td>5</td>
<td>Lack of adequate investment for internal processes.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of support from other UTILITY business units.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Work stream cannot be forecast.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour.</td>
<td>High</td>
</tr>
</tbody>
</table>

**Table 4-8 Criteria Ratings from Issue Investigation for Case Study 1**
Governance
As indicated by Issue 5, there was recognition by executive management of the gaps in the aspects for governance and the measures to be taken to address these gaps such as: recognition of a need for an alliance and measures for setting it up; and recognition of resourcing lack and measures taken to address this. However as shown by Issue 4, there was also a High rating based on a business strategy being developed and implemented consistent with Defender behaviours. There was, however, significant evidence of Low rating with respect to: the lack of universal acceptance for the alliance approach; lack of the organisation not being able to increase its capacity to support the alliance activities; and the lack of resourcing by the alliance partner to fully undertake alliance work. Overall, although there was acknowledgement of the lack of alignment as evidenced by the commencement of the alliance strategy, the Low ratings of other criteria appear to indicate support for a low level of alignment maturity processes indicative of Level 2 – Beginning Process.

Communications at Senior Level
Although a High rating for this criterion was shown under organisational type and behaviour as evidenced by the establishment and operation of the alliance itself, the lack of other business unit support indicated evidence of lack of sufficient and/or successful communication from the executive management to facilitate the new alliance establishment and operation. Together with the Low level of acceptance of the alliance initiative across relevant areas of the business, discussed above, overall indicates support for the early stages of alignment maturity processes also indicative of Level 2 – Beginning Process.

IS Competencies and Skills Maturity
UTILITY was utilising some industry tools, indicating some level of competencies however there was a serious lack of skills capability and hence maturity within the organisation. Although there was recognition by UTILITY of the lack of organisational competency and skills capacity to fulfil its strategic goals, UTILITY ALLIANCE was not fully successful to addressing the resourcing needs. There was recognition that this lack was also influenced by the external economic environment, highlighted by an acute skills shortage; nevertheless the lack of resourcing resulted in insufficient competency and skills for UTILITY ALLIANCE and indicated predominantly Low ratings for this criterion. As there was one Medium rating
indicated by the Issue 13 in the tools and processes used, this gives support to the existence of some immature processes. A Level 2 – Beginning Process is indicated.

**IS&P Support for Business Direction**

As can be seen from Issues 5 and 13 above although there was evidence of IS&P to Support for Business Direction within the UTILITY organisation itself as shown by its detailed Work Engine and Services Support Services operational model (see Figure 4-3), this support did not translate across to successfully setting this up for UTILITY ALLIANCE. There was lack of support from other areas of UTILITY to support the establishment and running of the alliance and also lack of work resources to support the increased work requirements. Overall there was a low level of alignment support, indicating a Level 2 – Beginning Process.

**Overall Alignment Assessment**

This case study had predominantly Low ratings, a few Medium ratings and only three High ratings for the alignment criteria investigated as shown in Table 4-8. Overall this case study indicated that there were immature levels of Alignment Maturity across the criteria giving rise to a number of Level 2 ratings for the case study.

Although there was evidence of governance, as shown in some instances of Medium or even one High rating in the Governance criterion, it appeared that this was not strong enough to allow goal fulfillment to occur as evidenced by many instances of Low ratings in the other criteria. The organisational governance did not provide sufficient support to ensure the goals were achieved.

Based on this, an overall conclusion of low level of alignment between business direction and information systems and processes is evidenced by this case study.

Using the overall alignment maturity rating, derived from the criteria assessments, a Level 2 – Beginning Process is indicated: alignment processes were acknowledged but in the early stages of operation and requiring improvement (see Table 4-9).
<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Acknowledgement</td>
<td>This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.</td>
</tr>
<tr>
<td>2 – Beginning Process</td>
<td>Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.</td>
</tr>
<tr>
<td>3 – Establishing Process</td>
<td>Where there is a commitment to address non-alignment and the processes are underway but uncompleted.</td>
</tr>
<tr>
<td>4 – Improved Process</td>
<td>Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.</td>
</tr>
<tr>
<td>5 – Optimal Process</td>
<td>Where alignment outcomes are regarded as optimal and there is complete alignment.</td>
</tr>
</tbody>
</table>

Table 4-9 Alignment Maturity Assessment Rating

4.2.6 Refer to Theoretical Context

As defined in the application of this study’s research design to the case study, Level 1 Referring to Theoretical Context provides for revisiting the literature with insights from investigated issues as well as new issues which may emerge from the current case study or warrant investigation in future studies. Any Emergent Issues raised (see Section 3.5.7), are discussed as post-case analysis arising from investigation of the case study.

4.2.6.1 Alliances and Partnerships

Collaborative relationships between organisations are increasingly observed in the growth industries. According to Hughes and Weiss (2007) corporate alliances in the United States were increasing at the rate of approximately 25% per annum, while alliances accounted for one third of revenues and values for companies. However, despite their popularity, the majority of alliances fail (Hughes and Weiss 2007) with the authors proposing five ways to alliance success: focus on how the partners work together; developing metrics pegged to working towards goals; leverage off differences to create value; encourage collaborate behaviour; manage internal stakeholders.

Management learning, particularly in the area of partner collaboration was found to be a key factor in the success of alliances and partnerships by Thorne and Gill (2005).

Earlier research suggests that many failures in alliances are due to insufficient emphasis on organisational psychology, team building and team dynamics (Hanson 2001). Wahyuni, Ghauri, and Karsten (2007) confirmed this view by finding that the continuity of an alliance relationship relied heavily on the management of the
operational phase by the alliance partners. They found that the partners had difficulty in handling their interdependence and did not manage the dynamics of their changing relationship over the life of the alliance. This would indicate the need for effective change management (Galliers 2006, Hornstein 2015).

It may well be that business alliances mirror the same problems and issues that organisation mergers and acquisitions face. Investigation into the similarity of these issues and whether these are ongoing through the life of the alliance would be warranted. Of particular interest for investigation would be vertical mergers, where the organisations operate in the different stages of the production cycle. These are the most common alliances in many industry sectors; for example, an engineering design company is often in alliance with construction companies in construction, utilities and natural resources and energy sectors. The fundamental purpose for an alliance relationship is the sharing of benefits and risks for the alliance initiatives.

A common model for sharing benefits is the pain-share / gain-share model (Leighton Holdings 2012). In this model the alliance organisations agree to share the profits and share the risks of initiatives they enter into, based on agreed performance measures.

One proponent of this model proposes that “alliance managers choose governance mechanisms aimed at minimizing opportunism and/or maximizing gains from trade.”(Hansen, Hoskisson, and Barney 2008, p.206). This paradox, the authors propose, can be resolved by emphasis on trustworthiness by partner organisations combined with relationship management (Hansen et al. 2008). An earlier adaptation of this model espouses no-blame/no-claim where all issues need to be worked together (Gomez 2006). The importance of governance to business success in the context of strategic alignment, has been previously discussed (see Section 2.1.2), however it would be warranted to look into further detail within the context of this case study.

The alliance model can also be linked to Miles and Snow’s (1978) work, where Prospector organisations are looking to extend their products and services in new ways by forming partnerships or collaborative relationships. Miles and Snow’s (1978) model was further extended to recognise ‘collaborative communities’ in order to accommodate the recognised requirement of twenty-first century organisations to self-organise and collaborate (Miles, Snow, Fjeldstad, Miles, and Lettl 2010).
There are differing participant roles. Not all alliance partners have equal operational or financial responsibility or benefits and there may be several players in any commercial alliance:

- The owner participant within the alliance retains ownership of the deliverable output of the alliance, for example, in the form of assets or receipt of service or increase of capability.

- The non-owner participants provide the product or service. They do not retain ownership of assets and typically receive direct monetary benefit for the provision of the product or service.

There is a need to investigate the impact of the different types of business models on organisations. An issue is therefore raised to investigate the impact of business models such as value chain or alliance models used by organisations (Emergent Issue 1).

Another issue is raised to look at the impact of the governance of alliance organisations on alignment strategies (Emergent Issue 2).

These two emergent issues are discussed briefly below.

**4.2.6.2 Business Models**

**EMERGENT ISSUE 1 – Investigate the impact of the business models such as value chain or alliance models used by organisations.**

UTILITY’s business model fully supports the Defender “Administrative” characteristics for creating strong controlling mechanisms and processes to manage the delivery of products and services. Financial control was also very much a factor with the Chief Financial Officer (CFO) reporting directly to the CEO.

However Analyser characteristics of stability as well as responsiveness to change can be said to be exhibited by the UTILITY’s foray into alliances and relationships. Rather than merely relying on Defender tactics for market control and share, UTILITY also exhibited Analyser behaviour in seeking efficiency and new ways of doing business in changing markets. The setting up of alliances and partnerships with service providers, such as the alliance with AUSIX, may result from increasing external pressures from Governmental direction for reduced costs and increased efficiencies. This external pressure may have had the same effect as if a competitor was attempting to enter the market: that is, reduction of costs and increased efficiencies. In other words,
UTILITY’s Analyser response was as if the Defender behaviour from legislative protection was not there.

Setting up these alliances however may have impacted internal organisational structures and business processes. UTILITY commenced preparations for an alliance relationship with a major construction and design organisation for the purpose of delivering on its very substantial program of work in May. Pre-alliance activities and operations commenced eight months later. The official alliance contracts were signed the following April based on the experience of the pre-Alliance operations [Undisclosed Reference 7] with a view to a five year alliance life.

The alliance scope of work was focused solely on infrastructure work at the request of and payment by external customers and not part of the capital works program of UTILITY.

The new UTILITY ALLIANCE business processes required close integration with a number of UTILITY internal business processes such as the customer call centre, materials procurement and delivery and some specific materials manufacturing.

These processes were identified by the establishment of a Current-State business model and detailed Future-State business models. Thirty-three processes were defined in establishing the new UTILITY ALLIANCE. These processes took over twelve months to fully establish and operationalise by the project team, demonstrating the complexity of the processes themselves and the breadth of stakeholder management required. The full-time project personnel, as shown in Figure 4-2, were also supplemented by numerous stakeholder representatives allocated on a part-time basis from all sections of the business including works management, assets managements, materials and procurement, customer services, finance and engineering and design.

Many of the business processes required for operating as an alliance did not exist and needed to be developed, established and matured. Developing business processes also necessitated buy-in from stakeholders internal to UTILITY as well as liaising with the alliance partner in engaging with the new processes being established.

Table 4-10 briefly lists the activities that were undertaken to ensure allocation of work to the UTILITY ALLIANCE and delivery of asset construction services to UTILITY and illustrates the complexity and difficulty of the project work undertaken by the team.
Following the initiation and implementation of the operational activities for the UTILITY ALLIANCE, a second alliance was established with another utilities construction company [Undisclosed Reference 8] and further alliances were planned for the future. The second and further alliances do not form part of this study however they indicate that this alliance was deemed successful to warrant further alliance relationships.

There was evidence of IS&P Support for Business Direction from the list of activities completed, however further investigation is required to identify whether there is strong support for this criterion.

UTILITY set up the alliance organisation, UTILITY ALLIANCE, to enable new business ventures which required resourcing and expertise not readily available to the parent organisation. This behaviour is consistent with a Defender organisation however the setup of alliance relationships indicates characteristics consistent with Prospector behaviour such as looking for new markets or new and more efficient ways of doing business (Miles and Snow 1978).

<table>
<thead>
<tr>
<th><strong>Project Work and Activities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project team establishment</td>
</tr>
<tr>
<td>Stakeholder identification and stakeholder management</td>
</tr>
<tr>
<td>Steering committee establishment</td>
</tr>
<tr>
<td>Project planning and documentation</td>
</tr>
<tr>
<td>Project resourcing</td>
</tr>
<tr>
<td>Project reporting and communications</td>
</tr>
<tr>
<td>Establishment of operational processes:</td>
</tr>
<tr>
<td>Work allocation</td>
</tr>
<tr>
<td>Job scheduling and planning</td>
</tr>
<tr>
<td>Work package creation</td>
</tr>
<tr>
<td>Establishment of agreed levels of service from the joint venture partners</td>
</tr>
<tr>
<td>Establishment of agreed levels of service from the owner participant</td>
</tr>
<tr>
<td>Establishment of invoice tracking process and documents including “single desk”</td>
</tr>
<tr>
<td>Establishment of centralised work allocation including “single desk”</td>
</tr>
<tr>
<td>Establishment of contractual agreements for pre-alliance operations to deliver distribution work</td>
</tr>
<tr>
<td>Establishment of staffing positions, position descriptions and management structures</td>
</tr>
<tr>
<td>Establishment of the Alliance Management Team</td>
</tr>
<tr>
<td>Establishment and mapping of Alliance processes</td>
</tr>
<tr>
<td>Opening up access to UTILITY protected systems to the non-owner participants of the Alliance</td>
</tr>
</tbody>
</table>

**Table 4-10 Project Work and Activities**
In summary, UTILITY ALLIANCE provided a good model for utilising a partner organisation to undertake additional work for UTILITY. New business and IS&P processes were created and established to accommodate UTILITY ALLIANCE.

4.2.6.3 Governance and Stakeholder Management

**EMERGENT ISSUE 2 – Investigate the impact of the governance of alliance organisations on alignment strategies.**

This emergent issue specifically looks at the impact of governance and leadership within the alliance on alignment of systems and processes to business direction allowing for a deeper investigation on the impact of governance on alignment. The governance structure determines the governance and management relationships between the alliance partners and within the alliance itself. The UTILITY organisation executive retained full executive powers over the UTILITY ALLIANCE although delegating review and approvals of major deliverables to the Alliance Leadership Team. The Alliance Manager and the Management Team oversaw the day-to-day running of the UTILITY ALLIANCE. The governance and management structure is shown in Figure 4-4.

![UTILITY ALLIANCE Governance and Management Structure](image)

**Figure 4-4 UTILITY ALLIANCE Governance and Management Structure**

The UTILITY ALLIANCE Leadership Team had representation from both alliance partners. The positions occupied by the management structure, and in fact, the alliance teams, were filled by employees or contractors of one of the UTILITY ALLIANCE participants: UTILITY or AUSIX.
Stakeholder management was regarded as a key governance process and activity. The role for managing stakeholders was filled by a representative of UTILITY. The role of the stakeholder relationship manager in this alliance was to mediate and negotiate the contractual requirements between UTILITY organisation stakeholders and the UTILITY ALLIANCE. There are both internal and external stakeholders who required visibility and input to the alliance deliverables and decisions.

These required different methods of management and, because of the nature of the stakeholder, communications to them required UTILITY senior management approval such as in the case of government regulatory bodies.

Business process models were drawn up by the Project Team for the processes and stakeholders required for the delivery of UTILITY ALLIANCE services including interfaces to external stakeholders such internal and external customers as shown in Table 4-11 and Table 4-12 respectively.

<table>
<thead>
<tr>
<th>Internal Stakeholder</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Engineering</td>
<td>These stakeholders are integral to the alliance delivery of work as the design for the distribution work is undertaken by UTILITY design engineers. This group needed close feedback from UTILITY ALLIANCE schedulers as to when the projects can be commenced as this group provides a given date to the external customer as to when work can be commenced and completed.</td>
</tr>
<tr>
<td>Procurement</td>
<td>This stakeholder is responsible for the procurement of all materials and the storage and distribution to all projects both internal and externally done.</td>
</tr>
<tr>
<td>Training</td>
<td>UTILITY required all technicians that access the asset systems to have undergone in-house training and accreditation. As there were an increasing number of both internal and external resources requiring training from the alliance and its sub-contractors, this stakeholder requires information and feedback regarding the Alliance and support to all Alliance training requirements.</td>
</tr>
<tr>
<td>Customer Services</td>
<td>This stakeholder manages the call centre and all contact and relationship with customers and the general public. All jobs for the customer funded work stream required an estimated duration, cost and start dates to be provided to the customer. The vast majority of work undertaken by the Alliance required interruption to the provided services. Information to the general public affected was essential. For these reasons, this stakeholder needed to be an integral part of the process.</td>
</tr>
<tr>
<td>Field Services</td>
<td>This was the internal labour force of UTILITY. This stakeholder retained the audit and compliance processes as well as reserving specialised areas of customer funded work stream.</td>
</tr>
</tbody>
</table>

Table 4-11 UTILITY Internal Stakeholders
### External Stakeholders

<table>
<thead>
<tr>
<th>External Stakeholders</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>These are the requestors and payers of the service required.</td>
</tr>
<tr>
<td>General Public</td>
<td>The general public is always impacted by the projects undertaken such as traffic management, environmental concerns. Even neighbours or the customers may be impacted either by interruptions to service or reduced access to the neighbourhood.</td>
</tr>
<tr>
<td>Government Departments</td>
<td>A number of government requirements need to be adhered for environmental matters, consumer protection, heritage sites and others.</td>
</tr>
<tr>
<td>Regulatory Bodies</td>
<td>The bodies regulate the cost and service levels for the provision of power to the general community.</td>
</tr>
<tr>
<td>Community groups</td>
<td>These include environmental activists, neighbourhood improvement groups.</td>
</tr>
<tr>
<td>Sub-contractors</td>
<td>Subcontractors may be used to augment the labour force of the Joint Venture partners or to provide specialist services.</td>
</tr>
</tbody>
</table>

**Table 4-12 UTILITY External Stakeholders**

The internal stakeholder categories impact almost the entire organisation. The extent and level of engagement with external stakeholders varied depending on the type of operational work involved. This indicated high level of definition for internal work processes and high level of definition of relationships with external parties. This is consistent with Defender behaviours of investment and definition in work processes.

The clear structure of the alliance and the known stakeholder groups supported the existence of some level of Governance alignment and Communications at the Senior Level. The existence of the alliance initiative in the process of establishment supports that there was acknowledgement of the need for alignment processes and in the early stages of establishment. Investigation of whether the establishment alliance was successful in delivering the benefits would provide further information as to whether the alliance was successful as an alignment mechanism however at the time of the case study it was too early to determine.

### 4.2.7 Make Conclusions for Case Study 1

Three issues were selected from the issues raised in the literature review for investigation in this case study. The assigned alignment approach and selected issues for Case Study 1 are listed in Table 4-13.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>Alignment Approach:</th>
<th>1 – One-Off Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study:</td>
<td>1 – Establishing a New Alliance</td>
</tr>
<tr>
<td>Organisation:</td>
<td>UTILITY</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issue No. &amp; Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow's (Miles et al. 1978) organisational types, exhibit expected governance and alignment strategies consistent with the model's expectations.</td>
</tr>
</tbody>
</table>

Table 4-13 Issues Investigated for Case Study 1

Two emergent issues were raised from revisiting literature as a result of this case study investigation. These are listed in Table 4-14.

<table>
<thead>
<tr>
<th>Emergent Issue No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate the impact of the business models such as value chain or alliance models used by organisations.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate the impact of the governance of alliance organisations on alignment strategies.</td>
</tr>
</tbody>
</table>

Table 4-14 Emergent Issues Raised in Case Study 1

Coordination and brokering agreements between the stakeholder categories was one of the major tasks of the project team, and proved very difficult. There was a major disconnect between the senior executive and the operational workers in the utilisation of UTILITY ALLIANCE work crews. The resistance to alliance involvement by some stakeholders was also shown by some quarters of the executive, which hindered the executive championship and support required for such a major initiative for the organisation. It can be concluded that, while the governance structures for the alliance were in place, there were serious flaws and limited value to the organisation.

UTILITY’s approach in setting up the UTILITY ALLIANCE can be seen as both Defender and Analyser characteristics defined by Miles et al. (1978) and discussed in Issue 4 and Emergent Issue 1. The Defender-like characteristics are clearly exhibited by UTILITY’s situation as a result of government legislation for the utilities’ asset ownership. This supported Miles and Snow (1978) in their “Entrepreneurial” description. UTILITY’s actions also support Miles and Snow (1978)’s categorisation of “Engineering” firms in Defender mode. UTILITY had developed considerable engineering expertise and organisational structures to establish, maintain and expand the vast network of assets to support the delivery of services and products to their customer base.
The setting up of alliances and partnerships with service providers, such as the alliance with AUSIX, may result from increasing external pressures from Governmental direction for reduced costs and increased efficiencies. This external pressure may have had the same effect as if a competitor was attempting to enter the market: that is, reduction of costs and increased efficiencies. In other words, UTILITY’s Analyser response was as if the Defender behaviour from legislative protection was not there. Setting up these alliances however may have impacted internal organisational structures and business processes, and is more fully investigated in the next issue.

It can be seen from this case study that the project team successfully established the alliance organisation, UTILITY ALLIANCE, from setup to operational functionality indicating a use of one-off alignment strategy to initiate a new business. Although there was non-alignment of processes between the alliance and the parent organisation due to start-up nature of the alliance organisation, the processes and systems were gradually and steadily put into place. These systems included financial systems, reporting systems and work scheduling systems.

The Defender characteristics of the parent organisation were the driving force in the rationale for establishing an alliance. The goals for the alliance organisation were to deliver the asset construction and maintenance activities.

It can be said that the successful delivery of these processes was instrumental in establishment and delivery of the alliance relationship and operations. The question could then be asked how the absence of the supporting IT systems and processes would impact the performance of the alliance organisation.

### 4.3 CASE STUDY 2 – NEW OPERATIONAL PROCESSES FOR AN EXISTING ALLIANCE

#### 4.3.1 About the Case Study

**4.3.1.1 Purpose of Case Study**

This case study looked at how business processes drive the establishment of IT systems to support and enhance the information required by the business. The major focus of the investigation was the impact of business drivers towards establishment of new operational IT systems and processes within a new established alliance, CONSTRUCT ALLIANCE. This alliance was between a large Australian utilities organisation...
(UTILITYtwo) and a joint venture comprising a construction projects organisation, MANCON and engineering design company DESIGNCO. Areas such as organisation culture and behaviour and governance structures were also investigated. Although this study makes reference to the Alliance parent organisations, UTILITYtwo, MANCON and DESIGNCO, it is focussed on investigation of the issues with respect to CONSTRUCT ALLIANCE.

4.3.1.2 Industry Sector – Utilities
The organisation investigated within this case study was part of the utilities sector. Refer to Section 4.2.1.2 for discussion regarding this sector.

4.3.2 Design Research and Select Issues
This case study was assigned to the One-Off Alignment Approach, with the main topic of investigation being New Operational Processes for an Existing Alliance. Refer to Section 3.5.3 regarding the opportunistic selection of case studies and Section 3.5.5.1 describing the purpose of the engagement and the organisation in which the case study was situated. The main perspective of this case study is that of working within the alliance organisation, rather than that of the parent organisations.

As discussed in the context of Case Study 1, many of the issues raised in the literature review could be appropriate for the current case study however only a few were directly relevant and of these only three were identified as being embedded by the engagement itself and hence ideal for investigation within the case study.

The role of the researcher was the Project Manager for the engagement underpinning the case study. This necessitated direct and continual involvement with the governance and executive management processes. As such it was determined that Issue 5 was of immediate relevance and priority. Following that the expected alignment strategies for organisational type, structure and characteristics as described in Issue 4 would be of relevance. Finally in maturing the alliance, many of the operational processes of the alliance were being reviewed and re-engineering and hence Issue 8 was determined as relevant. Table 4-15 summarises the reasons for issue selection for investigation for the case study highlighting the selected issues for this case study.

Based on the Generic Model for Single Case Study Design (see Figure 3-5), Figure 4-5, shows the customised design for the case study where each of the levels of the methodology provide the structure for the case study investigation.
<table>
<thead>
<tr>
<th>No</th>
<th>Issue to be investigated</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>Of relevance to Case Study 2, however other issues are of greater relevance due to the nature of the engagement and the activities being undertaken.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>Continuous alignment not relevant to Case Study 2 as it has been categorised as Approach 1 One-Off Alignment.</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>The chosen strategy for alignment for Case Study 2 was determined by executive management and not the focus of the engagement hence information could not be easily collated.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model's expectations.</td>
<td>Case Study 2 was ideally set up to investigate an organisation’s type with expected alignment strategies hence this issue was deemed of direct relevance.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>The role of the researcher was that of Project Manager and hence deeply involved with the governance and executive management of the engagement underpinning this case study. Hence it was determined that this case study was ideally situated to investigate this issue.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>The engagement underpinning Case Study 2 did not look at external or internal influences on the parent or alliance organisations.</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation</td>
<td>The engagement underpinning Case Study 2 did not look at external or internal influences on the parent or alliance organisation.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>The focus of the engagement underpinning Case Study 2 was to review and mature operational processes hence this issue was determined as direct and immediate relevance to this case study.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>The engagement underpinning Case Study 2 was not looking at the IS competencies.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>Of relevance to Case Study 2, however other issues are of greater relevance due to the nature of the engagement and the activities being undertaken.</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>The engagement underpinning Case Study 2 was not investigating support for the alignment processes.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>The engagement underpinning Case Study 2 was not investigating non-alignment.</td>
</tr>
</tbody>
</table>

Table 4-15 Issues Selected for Investigation for Case Study 2
The following sections report on the study closely following the Level and Step notation of the methodology to assist the cross-referencing between methodology, data collection and discussion.

4.3.3 Determine Instruments

4.3.3.1 Data Sources

Although a generic data source list was defined in Table 3-7, the specific sources for data collation and analysis for Case Study 2 are indicated in Table 4-16.

The data collated from multiple sources included: a 50 page reflective journal for the engagement; all project documentation; weekly team meeting minutes across 19 months duration of the engagement; field notes and meeting notes for stakeholder meetings during the engagement; monthly performance reporting for CONSTRUCT ALLIANCE’s parent companies, UTILITYtwo, MANCON and DESIGNCO; and reports from parent companies’ public websites. These multiple sources comprised over 300 pages of data and were used to inform the data analysis undertaken.
### Data Type

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflective Journal</td>
<td>Reflective journal regarding the organisational culture and characteristics.</td>
<td>The reflective journal was taken during the early period of consolidation of the alliance.</td>
</tr>
<tr>
<td>Field Notes</td>
<td>Work Diary and Meeting Notes and Minutes</td>
<td>Recorded by the Researcher</td>
</tr>
<tr>
<td>Project Documents</td>
<td>CONSTRUCT ALLIANCE organisation structure</td>
<td>Prepared by the Researcher</td>
</tr>
<tr>
<td></td>
<td>Program monthly reports</td>
<td>Compiled by the PMO</td>
</tr>
<tr>
<td></td>
<td>Project phase gate process</td>
<td>Prepared by the Researcher</td>
</tr>
<tr>
<td></td>
<td>Alliance Management meeting minutes</td>
<td>Formal minuted meetings by Researcher as PM</td>
</tr>
<tr>
<td></td>
<td>Fortnightly service delivery meeting minutes</td>
<td>Formal minuted meetings</td>
</tr>
<tr>
<td></td>
<td>Alliance operating model</td>
<td>Prepared by the Researcher</td>
</tr>
<tr>
<td>Public Documents</td>
<td>Documents retrieved from Alliance partner’s website</td>
<td></td>
</tr>
</tbody>
</table>

#### Table 4-16 Case Study 2 Data Sources

### 4.3.4 Undertake the Case Study

#### 4.3.4.1 Case Study Organisations

**CONSTRUCT ALLIANCE**

CONSTRUCT ALLIANCE comprised an alliance between a utilities organisation (UTILITYtwo) and a joint venture between two other organisations: the managing contractor organisation which provided project management for construction of the assets (MANCON) and an engineering design and consulting company (DESIGNCO) which provided the design and environmental consultancy for the projects.

The mission of CONSTRUCT ALLIANCE was to design and construct new or replacement infrastructure assets on behalf of the utilities organisation and to hand over to UTILITYtwo’s maintenance and support teams.

In this study, MANCON and DESIGNCO are referred to as joint venture partners and UTILITYtwo as the parent company within the CONSTRUCT Alliance. Figure 4-6 shows the relationship between the organisations.
The Case Study was conducted under the jurisdiction of CONSTRUCT ALLIANCE.

**UTILITYtwo**
UTILITYtwo’s mission statement called for the organisation to provide sustainable utilities services to make the state a great place to live and invest in. UTILITYtwo provided its services to thousands of households, businesses and communities spread over 2.5 million square kilometres. It also provided commercial level services for industry and rural communities [Undisclosed Reference 10].

**MANCON**
MANCON was a utilities civil construction organisation and was awarded the role to manage CONSTRUCT ALLIANCE as well as provide project management for the asset construction projects. Other services provided by MANCON included:

- Occupational Health and Safety services including Safety Site Officers
- Contract Management including management of subcontractor construction organisations
- Communications for CONSTRUCT ALLIANCE
- Document Management including repository of all engineering design and contractual documentation.

**DESIGNCO**
DESIGNCO was a large engineering design consultancy. It provided the mechanical, electrical and civil engineering design services for CONSTRUCT ALLIANCE,
including engineers, risk and issue management services, environmental officers and quality management services in addition to a variety of support services.

### 4.3.4.2 Scope of Engagement

UTILITYtwo, a large Australian utilities organisation had established an alliance relationship with two of its services providers, MANCON and DESIGNCO.

**Figure 4-7 CONSTRUCT ALLIANCE Timeline and Milestones**

The researcher commenced employment for MANCON in an operational role as Program and Resource Manager for CONSTRUCT ALLIANCE and had the responsibility to lead a team for cost estimation, scheduling, management reporting, project management standards, and resource allocation to deliver a program of design and construction projects for UTILITYtwo. The researcher was also a member of the Alliance Management Team responsible for the management of over 70 people within the alliance structure.

Figure 4-7 shows significant milestones in CONSTRUCT ALLIANCE’s timeline. At the time of engagement of the researcher, CONSTRUCT ALLIANCE was 22 months into a five year contract (Milestones 4 and 5) during which it had experienced staff turnover, low morale and difficulty in project delivery.

The scope of the engagement was to stabilise program delivery by developing and maturing the project controls and program management office (PMO) including scheduling services, cost estimation services, management reporting, business improvement and resource management.
Although some of these existed at the time of the engagement of the researcher, the immaturity and lack of governance was threatening the delivery of the program of work.

### 4.3.4.3 Scope of Case Study

Case Study 2 profile is shown in Table 4-17.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Approach 1 – One-Off Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>Case Study 2 - New Operational Processes for an Existing Alliance</td>
</tr>
<tr>
<td>Major Organisation</td>
<td>CONSTRUCT ALLIANCE</td>
</tr>
<tr>
<td>Associated Organisations</td>
<td>UTILITYtwo</td>
</tr>
<tr>
<td></td>
<td>MANCON</td>
</tr>
<tr>
<td></td>
<td>DESIGNCO</td>
</tr>
<tr>
<td>Role of the Researcher</td>
<td>Program and Resource Manager</td>
</tr>
<tr>
<td></td>
<td>The researcher was engaged as an employee of one of the participant organisations in an operational role. The researcher was also a member of the Alliance Management Team and had responsibility of providing program cost estimation, scheduling, program and processes management, program resourcing and reporting.</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Field Notes and Journals</td>
</tr>
<tr>
<td></td>
<td>Project Documentation</td>
</tr>
<tr>
<td></td>
<td>Organisational Documentation</td>
</tr>
</tbody>
</table>

This case study investigated the challenges of CONSTRUCT ALLIANCE in delivering the program of work with respect to the limited alignment between the systems and IT processes and the business direction for UTILITYtwo.

### 4.3.5 Analyse Data

The data collated and collated, as stated in Table 4-16, was analysed and discussed against the selected issues identified in Table 4-15.

#### 4.3.5.1 Governance

**ISSUE 5 – Look at governance and executive management factors and their effectiveness in leveraging IT for alignment.**

This issue was used to look at the governance processes in place and their impact on alignment and hence assess the status of strategic alignment within the alliance.

There were a number of advantages for this alliance:

- **Positive Relationship with UTILITYtwo.** The major strength of CONSTRUCT ALLIANCE was the high regard which UTILITYtwo and their internal stakeholders had for CONSTRUCT ALLIANCE. This indicated strong
governance level of alignment from the parent company itself. However this is separate from the governance level exhibited by CONSTRUCT ALLIANCE itself which is required to be assessed separately.

- **Track Record.** The track record of successful delivery of CONSTRUCT ALLIANCE projects has increased the confidence of UTILITYtwo and led to an increase in funding from $250m to $319m for the program, as stated in its Annual Report [Undisclosed Reference 14]. This increased confidence, stated publicly, increased the profile of CONSTRUCT ALLIANCE within the market and hence its ability to deliver the increased program. This translates to a Medium level for both Communications at Senior Level and Governance criteria.

- **Investment by Joint Venture Partners into Alliance Structures.** CONSTRUCT ALLIANCE exhibited maturity of alliance structures such as capability in document control, Health, Safety, Environment and Quality (HSEQ) officers, program office, estimators and schedulers and contract and procurement staff. The number of support personnel in these areas provided the required capability and support to service projects of the size and value allocated by UTILITYtwo. This indicates a Medium level for the IS&P Support for Business Direction criterion.

- **Support from Joint Venture Partners.** The joint venture partners took an active interest in the joint venture and required visibility of the performance of CONSTRUCT ALLIANCE. Regular formal monthly financial and status reporting was also provided from CONSTRUCT ALLIANCE to the joint venture partner organisations. Additionally both partners were supportive of their respective employees. MANCON was supportive for their staff appointments and specific training requirements. DESIGNCO held regular sessions for their own staff back at their own head office and both organisations had representation on both CONSTRUCT ALLIANCE Leadership and Management Teams. This indicated a High level of Governance from the parent organisations.

- **Work Allocation can be Forecast.** CONSTRUCT ALLIANCE had successfully negotiated a forecasted work allocation for the next financial year.
This allowed the leveraging of program benefits of time and cost reductions indicating a Medium level for the IS&P Support for Business Direction criterion.

On the other hand there were also a number of areas that had less positive impact within CONSTRUCT ALLIANCE:

- **Staff morale and Turnover.** There was a large turnover of staff during the second year of the alliance, (see Figure 4-7, Milestone 2) and in particular during the three months just prior to the commencement of the case study (Figure 4-7, Milestone 4). This comprised the appointment of the Alliance Manager and three new senior managers including the researcher who was appointed to establish and develop processes and increase stability. A number of project managers had also left within the first two years of the commencement of the CONSTRUCT ALLIANCE. A restructing of project manager positions was undertaken, which involved the appointment of new project managers, re-allocations of projects, creation of new positions for Program and Resource Manager, Contract Manager, and Delivery Manager (see Figure 4-7, Milestones 3). Following the restructure, a few longer term staff indicated that there had been some improvement in staff morale. This could be seen as symptomatic of a low level of communications by senior level to CONSTRUCT ALLIANCE and inconsistent support from the parent companies to their respective employees stationed at the alliance regarding the business direction and support for the alliance. This would indicate a fractured or Low level of alignment in the Governance criterion.

- **Maturing of Relationship with UTILITYtwo Middle Management and Officers.** There was a disconnect between UTILITYtwo senior management and officers. For example, the UTILITYtwo representative who had accountability over CONSTRUCT ALLIANCE, had the expectation that the alliance project managers would act like UTILITYtwo project managers and manage UTILITYtwo internal stakeholders such as program managers and regional representatives. This view was not shared by these stakeholders and caused misunderstandings and frustration by both parties. This was a clear indication of Low ratings for the Governance and for the Communications at Senior Level criteria within CONSTRUCT ALLIANCE.
**Cultural Clash within the Joint Venture.** There appeared to be a cultural clash between employees from the joint venture partners. MANCON was a managing contractor delivering infrastructure construction in a number of industry sectors, including utilities. DESIGNCO was an engineering consulting company providing resources to many other projects. Employees were from one of the three alliance organisations as CONSTRUCT ALLIANCE could not hire in its own right. This led to overt and subtle differences in practices between the CONSTRUCT ALLIANCE personnel as well as retained allegiances to their parent companies overriding the sense of “belonging” to the CONSTRUCT ALLIANCE organisation. For example, MANCON employees were expected to work 38 hours per week while DESIGNCO employees had a 40 hour work week. This caused complexity in project scheduling as well as social expectations within CONSTRUCT ALLIANCE. There is some evidence that the problems and challenges faced by CONSTRUCT ALLIANCE were similar to those faced by merging organisations (Haleblian, Devers, McNamara, Carpenter, and Davison 2009, Papazoglou 2008) such as cultural clash, operational behaviour differences and cascading changes internal and external to the organisations. For example, employees accessed the intranet of their parent companies and not that of the other alliance organisation. In this way the parent company intranets appeared to be the dominant source of information and “home” instead of CONSTRUCT ALLIANCE source data. DESIGNCO employees still retained their consultant attitude and identified primarily with their parent company rather than CONSTRUCT ALLIANCE. In another example DESIGNCO employees reported to their DESIGNCO managers and were resistant in recognising CONSTRUCT ALLIANCE management. A third example highlights the different manner of cost coverage of each of the joint venture partners. Although DESIGNCO and MANCON were charging UTILITYtwo for services and resources, the different numbers from each organisation did not provide for equitable financial coverage. This indicated a Low ratings for the Governance and the Communications at Senior Level criteria within CONSTRUCT ALLIANCE.

**Lack of UTILITYtwo Capacity.** A lack of adequate resourcing in UTILITYtwo had held up some projects. These included delays in submissions
to government departments for environmental approvals, land purchases for construction and other activities. These delays then impacted on the ongoing delivery of the program. This supports a Low level of IS Competencies and Skills Maturity.

- **Lack of Alliance Resourcing.** A lack of specific skills in CONSTRUCT ALLIANCE had meant a delay downstream in implementation. For example, CONSTRUCT ALLIANCE had insufficient electrical design engineers and hence project designs were delayed. This in turn meant delaying the construction of the projects and ultimately their completion. This supports a Low level of IS Competencies and Skills Maturity.

**Conclusion**

This case study indicated predominantly Low ratings with some Medium ratings and one High for the four alignment criteria. The High rating was from the joint venture partners indicating that there was governance processes from these parent organisations Overall it was evident that although there were governance processes in place, they did not appear adequate to ensure leveraging the IT processes and systems for alignment to the strategic goals of the CONSTRUCT ALLIANCE.

4.3.5.2 **Alignment and Operational Processes**

**ISSUE 8 - Investigate how alignment of business direction and IT processes may affect operational processes.**

Two types of alignment activities were undertaken by CONSTRUCUT ALLIANCE to improve the performance of the alliance and align the alliance to the original purpose of delivering benefits: operational performance alignment and strategic performance alignment.

**Operational Performance Alignment**

A number of alignment measures were taken in an attempt to align CONSTRUCT ALLIANCE to UTILITYtwo’s original strategic direction to reduce costs and improve construction efficiencies. These included initiatives such as allocation of a program of work rather than individual projects, project bundling and program performance reporting.
Allocation of Program of Work

There were numerous benefits to all parties for the program allocation as a whole to
CONSTRUCT ALLIANCE rather than project to project allocation to various
subcontractors. These benefits included:

- The ability to utilise What-If schedules to identify cost effective strategies
- Determination of budgets as a whole allowing flexibility between projects
- Leveraging resourcing and program dependencies between projects to ensure
  most efficient delivery
- Leveraging procurement requirements to provide cost reductions
- Project bundling similar or geographically close project to deliver efficiencies
  of cost and time
- Improving program performance.

Project Bundling

Project bundling, which was just commencing at the time of the case study, referred to
CONSTRUCT ALLIANCE projects offering two or more projects to a single sub-
contractor to leverage from their location proximity or project similarities. This
provided the opportunity for cost and construction efficiencies across the bundled
projects such as cost reduction for mobilisation and demobilisation costs, materials
procurement, storage and handling costs and reduced rates from other third party sub-
contractors.

Bundling of projects was accepted by UTILITYtwo as providing opportunity for cost
savings for setup and dismantlement processes and was viewed as a mechanism for
aligning to UTILITYtwo’s strategic direction to decrease costs through the alliance.

Program Performance Reporting

The program performance reporting process was required to systematically monitor and
report on the progress and performance of projects based on Key Performance
Indicators (KPI) identified in the alliance agreements. The details of the KPIs and the
determination of the KPI metrics were defined in the early stages of the alliance
operation although not fully tested or rationalised. KPI measures included: health of
relationship and value for money; timeline; compliance to processes; customer
satisfaction and stakeholder management; profit margin. Monthly KPI statistics were published in the monthly reports to management [Undisclosed Reference 15].

Several major problems were highlighted by the reporting systems including: the difficulty of determining the costs for projects and defining the gain-sharing model; the determination of program overhead costs and distribution of these costs back to specific projects; the increasing resource and time overhead in managing UTILITYtwo stakeholders; and the impact to projects due to UTILITYtwo delays in decision making or activities. All these problems had a single common factor: the lack of alignment of systems and processes between UTILITYtwo and CONSTRUCT ALLIANCE.

Another example was the lack of alignment of processes between CONSTRUCT ALLIANCE and UTILITYtwo with respect to project allocation and project costing. Project costing was based on the acceptance of formal estimates raised at the end of the activation phase. However the fixed-price estimates necessitated rigorous risk management. The lack of alignment in risk management definition and mitigation highlighted lack of alignment of the operational practices between CONSTRUCT ALLIANCE and UTILITYtwo.

The lack of compatibility of these systems and processes meant that information was not available and recovery of program costs which could not be directly dispersable to projects was outside the contractual arrangements. These issues eventually forced the commercial arrangements to be reviewed and the alliance relationship to be realigned via the Strategic Performance Realignment initiative.

Both these examples provided strong indication of Low level for the IS&P Support for Business Direction criterion.

**Strategic Performance Realignment**

Three years into the life of CONSTRUCT ALLIANCE, a strategic realignment was undertaken by the three alliance partners. The original contract between CONSTRUCT ALLIANCE and UTILITYtwo was for a “managing contractor” arrangement based on the concepts of open book accounting and gain-sharing on the aggregated savings and overruns on individual project undertakings” [Undisclosed Reference 16]. During the three years since the commencement of the contract, the relationship had evolved closer to an alliance partnership relationship involving imposition of UTILITY’s financial reporting requirements onto CONSTRUCT ALLIANCE systems and processes.
UTILITYtwo proposed realignment back to the original intent of the managing contractor role in order to leverage the strengths of each of the two joint venture partners without burdening the alliance with operational constraints from UTILITYtwo.

There were a number of specific issues which initiated this realignment, all of which addressed concerns with the financial performance and viability to the alliance. These issues included reducing duplication of effort by CONSTRUCT ALLIANCE and UTILITYtwo, revision and restructuring of the contractual and commercial arrangements in place for project management from profit gain sharing to program management overhead remuneration, and reduction of onerous UTILITYtwo stakeholder management activities. These specific problems are regarded as evidence of a lack of alignment for the IS&P Support for Business Direction shown in the operational issues investigated and hence a Low rating was assigned this criterion.

Conclusion

The strategic realignment initiative signalled the commencement of major change in the relationship between the CONSTRUCT ALLIANCE and UTILITYtwo and resulted in a change in commercial arrangements and the restructuring of CONSTRUCT ALLIANCE.

The alliance relationship was not renewed and following the completion of the projects that were in flight, the alliance effectively ceased within twelve months following the realignment initiative.

The investigation of operational performance the consequent strategic performance realignment undertaken provided strong evidence of Low ratings for the IS&P Support for Business Direction criterion.

4.3.5.3 Organisational Type and Behaviour

Organisational type and characteristics may have influenced decisions for partnership initiatives and may have also influenced the types of activities within the partnership thus it was interest to investigate this issue with respect to the case study.
ISSUE 4 – Investigate whether an organisation with characteristics aligned with Miles and Snow’s (1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.

Revisiting the issue of organisational type and behaviour raised in the previous case study, it could be said that UTILITYtwo’s behaviour in setting up the CONSTRUCT ALLIANCE is Defender by creating new processes and organisational structures to protect and further respond to market demands. However, CONSTRUCT ALLIANCE itself is a different organisation and hence may have different behaviours. It is therefore important to differentiate between the two organisations and emphasise that this case study focussed on CONSTRUCT ALLIANCE characteristics and behaviours.

CONSTRUCT ALLIANCE, like most alliances, had a limited life of five years with the option for renewal, hence could be termed a start-up organisation. Its characteristics were akin to a Reactor profile. Reactor characteristics are defined by instability and inappropriate response to the environment and/or to change (Miles et al. 1978). At the commencement of the Case Study, the Alliance was already 18 months into the commercial relationship. By the end of the Case Study it had completed three years of operation, yet its financial viability was in question due to inability of CONSTRUCT ALLIANCE and UTILITYtwo to reach agreement on the performance and financial arrangements of the contract. There was a state of change throughout the life of CONSTRUCT ALLIANCE with three Alliance Managers in as many years, and a change in the contractual and operational relationship between CONSTRUCT ALLIANCE and UTILITYtwo by the end of the third year.

The establishment of an alliance can be seen a Medium level response of Governance by the parent company, UTILITYtwo, to define a business direction. The problems of retaining an Alliance Manager may speak to the lack of communications between the senior level management of the parent company to the alliance. In any case there were problems indicated with governance activities. Hence both Governance and Communications at Senior Level criteria were assessed at Low levels of alignment within the CONSTRUCT ALLIANCE.
Conclusion

Although the parent organisation, UTILITYtwo, exhibited Defender characteristics, the alliance organisation itself, CONSTRUCT ALLIANCE, exhibited Reactor characteristics consistent with the expected theory (Miles and Snow 1978).

4.3.5.4 Alignment Assessment

Assessment of alignment was undertaken across three areas: re-examination of the alignment approach; alignment criteria; and overall alignment assessment for the case study.

Validation of Alignment Approach

The alignment approach was re-examined. The alliance organisation, CONSTRUCT ALLIANCE, determined that it required a large effort to align the systems and processes which had been initially set up to deliver the required reporting. This required a large investment of resources. As a result, discrete processes were set up to establish required systems or re-align current processes to deliver the required outcomes. The alignment approach is summarised in Table 4-18.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Assessed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete processes versus ongoing processes</td>
<td>Discrete</td>
<td>Discrete processes were set up to establish required systems or re-align current processes to deliver the required outcomes.</td>
</tr>
<tr>
<td>Large alignment outcomes versus small alignment outcomes</td>
<td>Large alignment outcomes expected</td>
<td>Re-alignment of major CONSTRUCT processes was defined as large expected outcomes.</td>
</tr>
<tr>
<td>Business driven versus systems and process driven</td>
<td>Business driven</td>
<td>CONSTRUCT executive management determined realignment of systems and processes was required due to the inadequacy of the IT systems and processes that had been previously set up.</td>
</tr>
</tbody>
</table>

Table 4-18 Alignment Approach for Case Study 2

Alignment Assessment via Criteria

The issues were assessed along four criteria for Governance, Communications at Senior Level, IS Competencies and Skills Maturity and IS&P Support for Business Direction defined previously in Table 3-5 and according to the dimensions and type defined in Section 3.5.4. The criteria provide evidence for an Alignment Maturity Rating in the context of the case study, defining Alignment Maturity along a five-point scale as defined in as Table 3-6.
A consolidated table for all criteria assessments, listed in Table 4-19, is discussed in the context of Alignment Maturity.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Issue</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>5</td>
<td>Positive relationship with parent.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Support from joint venture partners.</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Staff morale and turnover.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Maturing of relationship with UTILITYtwo middle management and officers.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Cultural clash within the joint venture.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour (CONSTRUCT ALLIANCE).</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour (UTILITYtwo).</td>
<td>Medium</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td>5</td>
<td>Track record.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Cultural clash within the joint venture.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour (CONSTRUCT ALLIANCE).</td>
<td>Low</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction</td>
<td>5</td>
<td>Investment by joint venture partners.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Work allocation can be forecast.</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Operational performance alignment.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Strategic performance realignment.</td>
<td>Low</td>
</tr>
<tr>
<td>IS Competencies &amp; Skills Maturity</td>
<td>5</td>
<td>Lack of Alliance resourcing.</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Lack of UTILITYtwo capacity.</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 4-19 Criteria Ratings from Issue Investigation for Case Study 2

**Governance**

Although a high level of governance was noted from the joint venture partner companies, within CONSTRUCT ALLIANCE, Low ratings were observed in a number of situations. This indicates immaturity of processes for alignment and supports a Level 2 – Beginning Process rating for Alignment Maturity.

**Communications at Senior Level**

There was one instance of Medium and two instances of Low ratings for this criterion, evidence of immature alignment processes and supporting a Level 2 – Beginning Process rating for Alignment Maturity.

**IS Competencies and Skills Maturity**

A lack of competencies and skills in parent organisation and the alliance directly impacted the work of CONSTRUCT ALLIANCE. Work was delayed impacting operational performance. This was strong evidence of very low levels of alignment and supported a Level 1 – No Acknowledgement rating for Alignment Maturity as there were no successful processes in place.
**IS&P Support for Business Direction**

Although Issue 5 indicated two instances of Medium rating for this criterion, that is the investment of the joint partners into the alliance and forecasting the work allocation, there was some evidence of Low ratings for this criterion as indicated by Issue 8. These included the multiple factors looked at in the operational performance of the alliance and acknowledgement that the processes in place were not proving successful. These indicated a lack of support for the IS&P Support for Business Direction criterion and indicative of a Level 2 – Beginning Process rating.

**Overall Alignment Assessment**

This case study had mostly Low and Medium ratings indicating an overall low alignment maturity across the indicated criteria as shown in Table 4-19.

Although there was evidence of some governance from the parent and joint venture companies, this did not translate well into strong governance within CONSTRUCT ALLIANCE itself as evidenced by low staff morale, high staff turnover and unresolved cultural clashes. Communications at Senior Level had Medium and Low ratings indicating inconsistent communications. Coupled with lack of IS processes to support business direction and low level of required competencies and skills, this organisation was operating at a low level on the Alignment Maturity scale.

Using the overall alignment maturity measures, a 1 – No Acknowledgement could be applied. However as there was some level of acknowledgement of the lack of alignment as evidenced by the Low ratings for IS&P Support for Business Direction, identified for operational performance and the consequent strategic realignment attempt, a Level 2 – Beginning Process in Alignment Maturity Assessment was considered valid (see Table 4-20).
<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Acknowledgement</td>
<td>This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.</td>
</tr>
<tr>
<td>2 – Beginning Process</td>
<td>Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.</td>
</tr>
<tr>
<td>3 – Establishing Process</td>
<td>Where there is a commitment to address non-alignment and the processes are underway but uncompleted.</td>
</tr>
<tr>
<td>4 – Improved Process</td>
<td>Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.</td>
</tr>
<tr>
<td>5 – Optimal Process</td>
<td>Where alignment outcomes are regarded as optimal and there is complete alignment.</td>
</tr>
</tbody>
</table>

Table 4-20 Alignment Maturity Assessment Rating

4.3.6 Refer to Theoretical Context
As defined in the application of this study’s research design to the case study, Level 1 for Referring to Theoretical Context provides for revisiting the literature in the insights from investigated issues as well as new issues which may emerge from the current case study or warrant investigation in future studies. Any Emergent Issues raised (see Section 3.5.7), are discussed as post-case analysis arising from investigation of the case study.

4.3.6.1 Alliances and Collaborative Business Models
UTILITYtwo may have recognised the non-alignment of the alliance to its strategic goals and taken steps to conclude its partnership with DESIGNCO and MANCON. In this case study there was no opportunity to observe improvement of performance as a function of greater alignment however it was evident that there were problems with performance coinciding with lack of alignment.

Further investigation of the literature has identified how alliance and business models could fit into the alignment model and business strategy. A sixth force, defined as the power of complementary advantage, has since been identified to describe the advantage of strategic alliances by “creating value, a bigger pie” (Nalebuff and Brandenburger 1997, p.28). Complimentary advantage refers to two or more organisations agreeing to work together to successfully deliver joint goals, particularly where a lack in one organisation is addressed by the others and vice versa (Douma, Bilderbeek, Idenburg, and Looise 2000, Nalebuff and Brandenburger 1997). In particular strategic analysis
would benefit in having a better understanding of each organisation’s characteristics (Gomes-Casseres 2003) and overall fit within the alliance (Douma et al. 2000). It has been recognised that few organisations have the resources to successfully compete in current economic environments (Ireland, Hitt, and Vaidyanath 2002) and hence many look to alliances to fill this need. Additionally alliances between organisations necessarily invites investigation into the joint governance as indicated by Gomes-Casseres (2003) who states “An alliance is any governance structure to manage an incomplete contract between separate firms and in which each partner has limited control” (Gomes-Casseres 2003, p. 328). Hence the two emergent issues raised in Section 4.2.6 and listed in Table 4-14, could also be discussed with respect to this case study as both Case Studies 1 and 2 investigate alignment with alliance organisations.

**EMERGENT ISSUE 1 – Investigate the impact of the business models such as value chain or alliance models used by organisations.**

Looking at the establishment of this alliance in detail can give insight as to the motivation for UTILITYtwo to set up an alliance. UTILITYtwo acknowledged that the rapid growth of their capital works program created a shortage of people and resources to complete this work. They therefore established their “Partner Delivery Strategy” to deliver bundles of work as part of an alliance with a two other organisations: MANCON and DESIGNCO. A non-incorporated joint venture was established between MANCON and DESIGNCO (see Figure 4-7, Milestone 1). The joint venture entered into an alliance relationship with UTILITYtwo for the provision of design and construction infrastructure projects [Undisclosed References 9, 10]. The resulting organisation was called CONSTRUCT ALLIANCE [Undisclosed Reference 11]. CONSTRUCT ALLIANCE was the first major alliance initiative of UTILITYtwo’s Partner Delivery Strategy and delivered its first work for asset construction servicing rural Australia and was expected to have a five year term with option of renewal for four more years. The original program of work for $250m over five years was expanded to $319m within the first twelve months of operations [Undisclosed Reference 12].

As project deliverables such as cost estimates typically are in the millions of dollars in value, these needed management team and leadership team review: the management team reviewed and endorsed the deliverables which then are referred to the leadership
team for review and approval. These endorsement and approval processes were quite extensive and required significant turnaround time. To ensure adequate governance and oversight, UTILITYtwo had representatives in both CONSTRUCT ALLIANCE Leadership and Management Teams. DESIGNCO and MANCOM had representatives at the both the Leadership and Management Teams.

About one year after CONSTRUCT ALLIANCE’s commencement, the management team was restructured with additional responsibility and processes devolved down to the project managers (Figure 4-7, Milestone 3). The current researcher was appointed the Program and Resource Manager and employed by MANCON.

Figure 4-8 and Figure 4-9 illustrate the CONSTRUCT ALLIANCE governance and management structures respectively following the restructure.

The CONSTRUCT ALLIANCE Management Team can be expanded to show the direct reports of the Alliance Manager as shown in Figure 4-9.

The joint venture partner agreement provided for: representation of the two organisations within CONSTRUCT ALLIANCE [Undisclosed Reference 13]; flexibility of resourcing from joint venture partner organisations [Undisclosed
Reference 10]; and for the governance and management processes. Additionally the joint venture agreement outlined the IT systems and processes inherited by CONSTRUCT ALLIANCE from each of these organisations dictating the imposition of systems onto the alliance which were often not aligned to the business need of the alliance. These systems included: financial systems, engineering systems, reporting systems, health and safety systems, monthly performance reporting systems and document management systems.

**CONSTRUCT ALLIANCE Activities**

At the commencement of the case study, as previously shown in Figure 4-7, Milestone 5, CONSTRUCT ALLIANCE was already two years into the alliance agreement and had a good start commercially. CONSTRUCT ALLIANCE comprised approximately a 50/50 mix of MANCON and DESIGNCO personnel. The organisation numbered between 60 – 70 people at its peak indicating a large investment of resourcing and range of skills required.

Construction crews were selected from a pool of contractor organisations either on a preferred supplier or via a tender selection process. CONSTRUCT ALLIANCE projects were located anywhere in the state as allocated by UTILITYtwo. However at the time of the case study, projects were focussed in the mid to southern areas of the state as well as in the metropolitan area. There were over twenty projects which were active and a further twenty-five projects which were allocated but had not been scheduled for commencement.

Projects typically were between $5m and $30m in value and had a two to three year life-cycle from commencement covering allocation, procurement, design, construction and completion.

The establishment and running of CONSTRUCT ALLIANCE allowed UTILITYtwo to undertake a large program of works throughout vast rural areas which they would have not been able to undertake. An alliance business model provided the capability to UTILITYtwo to deliver on these projects through CONSTRUCT ALLIANCE. The complexity of the governance and management structures and the reliance on the joint venture partner systems and processes, which were not necessarily aligned to the specific needs of CONSTRUCT ALLIANCE, reduced the effectiveness of the delivery of the projects for which CONSTRUCT ALLIANCE had been established.
Conclusion

The drivers for UTILITYtwo, in setting up the alliance, were financial and strategic (e.g. to deliver projects cost-effectively, to schedule, and the ability to resource projects as required). The ability of CONSTRUCT ALLIANCE to resource up or down according to project needs is a capability which is not readily available to UTILITYtwo. This does support Defender characteristics for UTILITYtwo and Prospector or Reactor characteristics for CONSTRUCT ALLIANCE. It could be concluded that UTILITYtwo, a Defender organisation, set up another organisation, CONSTRUCT ALLIANCE, to provide it with capability that it did not have hence providing support for a One-Off Alignment strategy for business diversification.

Although there was a high degree of organisational structure in CONSTRUCT ALLIANCE, nevertheless the problems which the alliance was facing as seen in Issues 4, 5 and 8 previously discussed for this case study, suggest the structure did not translate to effective governance hence in looking at this emergent issue.

CONSTRUCT ALLIANCE was also provided with numerous IT/IS systems and processes by the parent company, UTILITYtwo and the two joint venture companies as well as attempting to modify and adapt these for its own purposes. It could be concluded that although the business model of an alliance was considered an effective solution, the way it was implemented and the complexity of the governance and the ineffectiveness of the IT systems and processes reduced the success of CONSTRUCT ALLIANCE.

4.3.6.2 Alliance Governance

EMERGENT ISSUE 2 – Investigate the impact of the governance of alliance organisations on alignment strategies.

A dedicated stakeholder manager had been provided for, acknowledging the importance of the stakeholders in the CONSTRUCT ALLIANCE. This role was a representative from UTILITYtwo and jointly appointed by the UTILITYtwo and the Alliance Manager.

The role of the Stakeholder Relationship Manager in this alliance was not only to mediate and negotiate the contractual requirements between UTILITYtwo and CONSTRUCT ALLIANCE but also to be actively engaged in the review and approval process of all deliverables such as estimates and asset handovers. This included:
• Clarification of project scope, client expectations and deliverables

• Foster close working relationship between the UTILITYtwo and the CONSTRUCT ALLIANCE

• Generating increased levels of mutual trust between the UTILITYtwo and the Joint Venture partner organisations leading to greater level of program of work.

CONSTRUCT ALLIANCE had both internal and external stakeholders who were actively involved in the deliverables and the decisions. Table 4-21 describes the major internal stakeholder categories. Major external stakeholders are listed in the Table 4-22.

<table>
<thead>
<tr>
<th>Internal Stakeholder</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Venture partners</td>
<td>Each of the Joint Venture partners had representation in the Leadership team and was expecting a return on their investment.</td>
</tr>
<tr>
<td>UTILITYtwo program managers and regional representatives</td>
<td>There were many program managers and regional representatives who were responsible for the program of works within UTILITYtwo from which CONSTRUCT ALLIANCE may have had a number of projects.</td>
</tr>
</tbody>
</table>
| Joint Venture partner support services | These included supporting services to CONSTRUCT ALLIANCE provided by each of the joint venture partner companies such as:  
  • Information technologies by DESIGNCO  
  • Telephones by MANCON  
  • MANCON HR for recruitment of MANCON employees (program managers, project managers and support staff)  
  • DESIGNCO HR for recruitment of DESIGNCO employees (design engineers and support staff)  
  • CAD systems by DESIGNCO  
  • Financial and accounting systems by MANCON. |

<table>
<thead>
<tr>
<th>External Stakeholders</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property owners</td>
<td>These were the owners of both rural or metropolitan properties with whom the Alliance may need to negotiate for access and purchase of property to construct infrastructure assets.</td>
</tr>
<tr>
<td>General Public</td>
<td>The general public was always impacted by the projects undertaken such as traffic management, environmental concerns.</td>
</tr>
<tr>
<td>Community groups</td>
<td>These included environmental activists, neighbourhood improvement groups.</td>
</tr>
<tr>
<td>Sub-contractors</td>
<td>Subcontractors were engaged to construct the projects.</td>
</tr>
</tbody>
</table>

Table 4-21 CONSTRUCT ALLIANCE Internal Stakeholders

Table 4-22 CONSTRUCT ALLIANCE External Stakeholders

It was observed that the Alliance Management and Leadership Teams met weekly and monthly respectively. The Alliance Management Team met weekly to oversee and manage operational matters. The Alliance Leadership Team’s focus was more strategic as well as contract management with a strong focus on the commercial relationship between the alliance parties. Processes to support governance included spread sheets.
and reports indicating the health of each of the subsidiary projects and activities, performance indicators for the organisations with respect to its key performance indicators (KPIs) set by the alliance partners, health and safety measures and reporting, and financial health of the alliance.

The main driver for the development of these systems, particularly those developed to report to the alliance owner, UTILITYtwo, was observed to be the Alliance Management Team as the information required by the Alliance Leadership Team, was not readily available indicating a Low rating for the IS&P Support for Business Direction. This low rating indicates the need for effective change management (Galliers 2006, Hornstein 2015) and governance (Asgarkhani et al. 2017) to ensure support for CONSTRUCT ALLIANCE within UTILITYtwo.

4.3.6.3 Management Control Systems

While undertaking this case study, it became apparent that a major driver was the extent of effectiveness of the management control systems (MCS).

Chenhall (2003) looked at the elements of management control systems, the meaning and measurement of contextual variables, and the issues concerning theory development. MCS were defined as systems for project costing and operational functioning. They are formal financial and quantifiable information required to assist managerial decision-making, including customer and competitor information, internal production processes, predictive information and decision support systems (Chenhall 2003).

Contingency-based research has focused on aspects of management control systems including financial perspectives, formality of communications and risk and reward systems. Additional areas include balanced scorecards and target costing.

The outcomes of MCS have been discussed at length over many years as reported in Chenhall (2003) showing some evidence that Defender organisations find MCS more appropriate than Reactor or Prospector organisations. This conclusion is reasonable given that more conservative, mature organisations which are predominantly Defender types, may rely on systems and processes. More recently the link between MCS and the organisation’s strategic outcomes has been investigated (Marginson 2002). These outcomes are impacted by management involvement in detecting new ideas and supporting these required resources with a supporting culture from top management.
being a key factor contributing to the successful influence of strategic outcomes (Dutton, Ashford, O’Neill, Hayes, and Wierba 1997).

An area which would warrant investigation in future research would include looking to the characteristics of the organisation with respect to control and decentralisation. While this area of investigation is out of scope for this research, it is warranted to investigate this as an emergent issue with regards to management control systems with respect to CONSTRUCT ALLIANCE and how it could align to strategic goals and information technology systems and processes. An issue is raised to investigate the type of management control systems in operation and their influence on strategic alignment (Emergent Issue 3). This emergent issue is added to the list of emergent issues raised in this study.

**EMERGENT ISSUE 3 – Investigate the type of management control systems in operation and their influence on strategic alignment.**

An in-depth analysis was undertaken for a number of systems, technologies and management control systems utilised by CONSTRUCT ALLIANCE. The management control processes that were investigated for this case study included the program management systems and alliance operational control systems.

**Program Management Systems**

CONSTRUCT ALLIANCE had established a number of processes and was currently reviewing and reengineering some of these. It had identified a number of areas of responsibilities including: Program Management; Project Life-Cycle Management; Program Planning and Scheduling; Risk Management; and Progress Reporting. The program management systems utilised are briefly described as follows and listed in Table 4-23.
<table>
<thead>
<tr>
<th>Program Management Systems</th>
<th>Description</th>
</tr>
</thead>
</table>
| Program Management               | A consolidated view of entire Program of Work was vital to the ongoing activities as well as successfully forecasting resourcing requirements to service the allocated work. The Program of Work view provided:  
  - Total value of the program  
  - Earned value for the projects  
  - Identification of opportunities for multiple projects bundling to drive cost and construction efficiencies and  
  - Program resourcing requirements across time and program. |
| Program Planning and Scheduling   | A team of three estimators were required to provide accurate cost estimates for each phase of the project lifecycle as depicted by the Gateway process providing for:  
  - Ensuring project planning and scheduling  
  - Controlling total cost of program  
  - Definition and control of critical path projects  
  - Determination and reporting of earned-value of projects and program  
  - Reporting from sub-contractor organisations on project progress  
  - Reporting to alliance partner organisations on project progress  
  - Use of Primavera tool, used by both UTILITYtwo and MANCO, provided for planning and scheduling projects and program allowing for milestone monitoring, critical paths, cost and resource management and earned value calculations  
  - CONSTRUCT ALLIANCE resource management. |
| Risk Management                  | Risk Management was used for project allocation and for project risk and contingency management:  
  - UTILITYtwo used formal risk management processes UTILITYtwo to rate strategic, tactical and operational risks of systems over the life time of the system for project allocation to CONSTRUCT ALLIANCE  
  - CONSTRUCT ALLIANCE, facilitated by DESIGNCO risk specialists, used project risk management to define contingency budget allocation for each project. |
| Program Life-Cycle Management    | The Gateway process provided for:  
  - Identification of the project life-cycle phases: start-up, definition, and implementation phases  
  - Engagement of each project  
  - Review of deliverables required in each phase  
  - Definition of the approvals process for deliverables  
  - Providing mechanism for progressing to the next phase  
  - Definition of payment milestone at phase-end. |
| Program Reporting                | A number of mechanisms were used including:  
  - Formal monthly status reporting  
  - Weekly CONSTRUCT ALLIANCE management team meetings  
  - Monthly CONSTRUCT ALLIANCE leadership team meetings  
  - Stakeholder engagement meetings and surveys. |

Table 4-23 Description of Program Management Systems

**Program Management**

CONSTRUCT ALLIANCE utilised the program and project management methodology for program and project processes from MANCON and provided a consolidated program view.
**Program Planning and Scheduling**

Planning for the program was crucial to the successful delivery of the program of work and required the following key skills: cost estimation; program and project scheduling; business improvement analysts; project management best practices.

**Risk Management**

Risk management was a major activity and impacted directly on the opportunities for profit for the program. Effective program risk management required identification of project risk and contingency management which affected project planning, project scope management, and project variation approvals. These were reflected in the key performance indicators (KPIs) for the program and affected the profitability of CONSTRUCT ALLIANCE.

**Project Life-Cycle Management**

From the beginning of the engagement it was apparent to the researcher as the Program and Resource Manager that these were deficient in the control of project commencement and progress for a number of reasons.

Project engagement was subject to project allocation by UTILITYtwo to CONSTRUCT ALLIANCE on a project by project basis. There was little visibility to the pipeline of work or the lead times for supplier and sub-contractor engagement.

Additionally, once the projects had commenced there was little transparency to UTILITYtwo as to the progress of the project with respect to the phase. To improve this visibility an approvals process was created and established in conjunction with UTILITYtwo and the joint venture partners and called the Gateway Approvals Process.

**Program Reporting**

A number of formal and informal reporting mechanisms were utilised for reporting. The significance of each of the program management control systems to CONSTRUCT ALLIANCE and their influence from the joint venture partners were also defined.

Overall the Program Management System provided detailed clarity and definition as to the work required to be undertaken and by whom. The difficulties that arose were the mismatch of systems and their underlying data structures not being able to provide consolidated views. This was due to the joint venture setup where some of the control systems and business processes were provided and dictated by one partner while the
other systems were provided by the other partners with the added complexity that they had to be compatible with the parent organisation systems. For example, DESIGNCO mandated a 40 hour week for its employees while MANCON required 38 hours per week. This created difficulties when determining daily estimates for project work by resources. Another example was the financial systems for all three organisations were different, creating compatibility issues for estimating and costing of project work. This had impact on all areas of the business including, scheduling of work, monetising risk management for projects, and consolidating reports for all three organisations.

**Gateway Approvals Process**

The most crucial of the major initiatives established by this project was the clarification and mapping of the Gateway Approvals Process for the approval of milestone deliverables such as the baseline costs, business case and tender costing. As such this process is described in more detail and its significance in the alignment process is discussed.

The Gateway Approvals Process was created, developed and delivered by the researcher as the Program and Resource Manager and was deemed the key alignment process to the strategic aims for the alliance. This process clarified the major deliverables, the responsible party and the approval phase of the project, allowing it to progress to the next phase, as shown in Figure 4-10. The alliance Leadership Team and Management Team were identified as “MT” and “LT” in the diagram for brevity.

The Program Office controlled submission of deliverables for the approval process and thus the turnaround time, the review and approvals protocols were identified and established.

The Gateway Approvals Process was the major mechanism to allow CONSTRUCT ALLIANCE Management Team and Leadership Team to control the engagement of project work into the alliance and hence its revenue, as payment for each project by UTILITYtwo was due at the end of each phase.
The Gateway Approvals Process was the key component to the integration of the process to a program view and resource forecasting and management. All current projects were in one of three specified phases: Start-Up; Definition; or Implementation. From this categorisation vital program information was able to be distilled including total cost of the program, any critical paths arising between dependent projects, and finally earned value. Earned value was a vital project management measure designed to identify the true cost of the project to date. The Gateway Approvals Process was created and established to identify projects within each phase and to allow alignment of CONSTRUCT ALLIANCE project status with UTILITYtwo’s financial and project management reporting systems. This instrument became the first step in attempting to align CONSTRUCT ALLIANCE’s processes and direction with UTILITYtwo, enabling two other key alignment processes to occur: project phase planning and reporting and resource management processes. Additionally the Gateway Approvals Process enabled UTILITYtwo to establish strict approval controls for each project as it completed each phase and was ready to progress to the next phase.

**Figure 4-10 Gateway Approvals Process: High-Level Deliverable and Approval Process**

<table>
<thead>
<tr>
<th>Gateway Approvals Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>START UP PHASE</strong></td>
</tr>
<tr>
<td>Start</td>
</tr>
<tr>
<td>Planning Processes</td>
</tr>
<tr>
<td>Estimation Processes</td>
</tr>
<tr>
<td>Pre-Design Processes</td>
</tr>
<tr>
<td>Baseline Cost Document</td>
</tr>
<tr>
<td>MT Endorsement</td>
</tr>
<tr>
<td>LT Approval</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Termination</td>
</tr>
<tr>
<td><strong>DEFINITION PHASE</strong></td>
</tr>
<tr>
<td>Definition</td>
</tr>
<tr>
<td>Design</td>
</tr>
<tr>
<td>Pre-Tender Estimate</td>
</tr>
<tr>
<td>Implementation</td>
</tr>
<tr>
<td>Business Case</td>
</tr>
<tr>
<td>Tender</td>
</tr>
<tr>
<td>Baseline Cost (ICT)</td>
</tr>
<tr>
<td>MT Endorsement</td>
</tr>
<tr>
<td>LT Approval</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Termination</td>
</tr>
<tr>
<td><strong>IMPLEMENTATION PHASE</strong></td>
</tr>
<tr>
<td>Implementation</td>
</tr>
<tr>
<td>Construction Processes</td>
</tr>
<tr>
<td>Variations Processes</td>
</tr>
<tr>
<td>Completion Processes</td>
</tr>
<tr>
<td>End</td>
</tr>
</tbody>
</table>

The Gateway Approvals Process was the key component to the integration of the process to a program view and resource forecasting and management. All current projects were in one of three specified phases: Start-Up; Definition; or Implementation. From this categorisation vital program information was able to be distilled including total cost of the program, any critical paths arising between dependent projects, and finally earned value. Earned value was a vital project management measure designed to identify the true cost of the project to date. The Gateway Approvals Process was created and established to identify projects within each phase and to allow alignment of CONSTRUCT ALLIANCE project status with UTILITYtwo’s financial and project management reporting systems. This instrument became the first step in attempting to align CONSTRUCT ALLIANCE’s processes and direction with UTILITYtwo, enabling two other key alignment processes to occur: project phase planning and reporting and resource management processes. Additionally the Gateway Approvals Process enabled UTILITYtwo to establish strict approval controls for each project as it completed each phase and was ready to progress to the next phase.
Finally, resource utilisations were determined for each phase of the projects and resource levelling between projects was attempted. These major process are summarised in Figure 4-11. As can be seen these processes include the major phases of a project: start; definition; and implementation. Each phase fed into the planning and scheduling processes which under-went resource allocation and levelling (Figure 4-11). This overall process ensured that the projects being undertaken within CONSTRUCT ALLIANCE had adequate controls and were progressing according to schedule and budget. These processes were the major mechanism to align the strategic direction taken by UTILITYtwo with the outcomes from the new business operational model provided by CONSTRUCT ALLIANCE.

The importance of these systems was that they were used to control the allocation of projects to CONSTRUCT ALLIANCE from UTILITYtwo, their progress and reporting and hence revenue into the alliance as the project progressed through the life-cycle to completion. These systems could be viewed as vital to the control of the flow of work through the alliance and evidence of at least a Medium level of IS&P Support for Business Direction.

**Alignment Mechanism of the Gateway Approvals Process**

If these processes were the mechanism, the next area of investigation was deemed to be how aligned were the IT and systems processes to this mechanisms and hence to the strategic direction of UTILITY?

The relationship between the scheduling systems and processes set-up and the Gateway Approvals Process can easily be shown to affect project status reporting and project work and resource management. Project activities could be scheduled for each phase as defined by the Gateway Approvals Process and in turn project resources were assigned to the activities defined as shown in Figure 4-11.

A number of issues were noted when investigating success of the established process. There was no integration or interfacing the systems between the two joint venture partner organisations, MANCOM and DESIGNCO and limited interfaces between CONSTRUCT ALLIANCE and UTILITYtwo systems and processes. CONSTRUCT ALLIANCE however did leverage some systems from their joint venture parents, such as design support systems and health, safety, environment and quality (HSEQ) systems from DESIGNCO and MANCOM respectively.
The systems used by the utility organisation were accessed directly by the joint venture partners as they required specialised skills not provided by CONSTRUCT ALLIANCE. Where access was required as part of the design or construction, CONSTRUCT ALLIANCE utilised other UTILITYtwo alliances to provide these specialised skills such as provision of SCADA (Supervisory Control and Data Acquisition) services. The lack of the compatible interfaces meant that a lot of manual data loading had to be undertaken and in some cases the interfaces were not compatible. For example, the work breakdown structure setup in the project schedules for resource allocation did not match the code structures within the financial systems of CONSTRUCT ALLIANCE which had been provided by UTILITYtwo. This fundamental incompatibility meant that integrated project actual costs could not be undertaken, limiting the value of earned value calculations.

It was apparent that the systems and processes within CONSTRUCT ALLIANCE were not aligned to easily support the strategic goals of UTILITYtwo. Thus although there was evidence of existing Information Systems and Processes, these were not effective or efficient in providing the requisite support needed for high performance of
CONSTRUCT ALLIANCE. As can be seen these indicated limited levels of business and IS integration.

**Alliance Operational Control Systems**

CONSTRUCT ALLIANCE did leverage off available operational control systems from the joint venture partners.

A number of operational controls were put into place, such as the Authorities Matrix and Financial Systems. The Authorities Matrix, for example, defined each role such as Contracts Manager, Project Managers and others, the accountabilities, responsibilities and financial delegation and ensured separation of duties were defined and addressed as per regulatory requirements.

CONSTRUCT ALLIANCE utilised MANCON financial systems such as the SAP financial systems and the SAP compliant project cost forecasting and control software. The information regarding actual costs incurred was collated and reported back to UTILITYtwo. There were deep-seated incompatibilities between the collation and use of these disparate sources of information by CONSTRUCT ALLIANCE. Firstly the financials coming from UTILITYtwo did not enable this information to be readily integrated into CONSTRUCT ALLIANCE project control systems. Thus information regarding actual costs incurred could not be applied to the project activities or sometimes to individual projects. To redress this, a project initiative was undertaken to integrate the work break down structure (WBS) of projects with the project costs incurred to enable correct applying of these costs to project activities and thus to enable accurate project cost reporting of earned-value calculations. This initiative, the WBS – Actuals Integration project, although thorough, had the full support of CONSTRUCT ALLIANCE, was resourced and had tangible deliverable benefits, was not fully supported by UTILITYtwo, which eventually did not allow the initiative to complete. Hence the benefits were not realised. As a consequence, the financial reporting systems could not be integrated with the project management control systems and the value for detail project financial tracking was limited. The incompatibilities of the financial systems of CONSTRUCT ALLIANCE and its parent companies and the lack of support for the integration project to address these incompatibilities was a strong indicator of Low levels for the Governance and IS&P Support for Business Direction criteria. Other related operational control systems used within CONSTRUCT

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ALLIANCE included engineering and spatial systems, document management systems and estimation systems but were not investigated with respect to alignment processes.

**Conclusion**

The management control systems used by CONSTRUCT ALLIANCE, although sophisticated, were not integrated with the UTILITYtwo systems and hence the potential for alignment to the business strategic direction of either organisation was limited. Although there were many systems and processes created within CONSTRUCT ALLIANCE, these were not aligned to the business strategy for which it had been established. Thus the presence of systems and processes does not necessarily mean alignment will occur. The systems and processes must be set up with alignment in mind and continually tested to ensure that they are fit for purpose.

**4.3.7 Make Conclusions for Case Study 2**

Three issues were selected for investigation for Case Study 2 on the basis that they were the most relevant to the opportunistic nature of the engagement underpinning the case study and the role of the researcher as part of the engagement. The assigned alignment approach and selected issues for Case Study 1 are listed in Table 4-24.

<table>
<thead>
<tr>
<th>Alignment Approach:</th>
<th>1 – One-Off Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study:</td>
<td>2 – New Operational Processes for an Existing Alliance</td>
</tr>
<tr>
<td>Organisation:</td>
<td>CONSTRUCT ALLIANCE</td>
</tr>
<tr>
<td>Issue No. &amp; Description</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibit expected governance and alignment strategies consistent with the model’s expectations.</td>
</tr>
</tbody>
</table>

Table 4-24 Issues Investigated in Case Study 2

Two emergent issues, which were raised in Case Study 1, were also investigated in this case study. A third emergent issue, Emergent Issue 3, was raised in this case study to investigate management control systems. Table 4-25 shows all emergent issues investigated in this case study.
The main drivers for developing systems and processes for closer alignment was the Alliance Management Team, that is the governance structure setup for the alliance in response to the Alliance Leadership Team driving the alliance for timely and relevant information.

This case study was a clear example of where the incompatibility of systems and the lack of alignment between IT systems and processes actually thwarted the business strategic goals for the organisation. UTILITYtwo had created CONSTRUCT ALLIANCE to provide a cost effective and efficient mechanism for the construction of its assets. Although there was a clear recognition of lack of support for IT systems and processes and significant effort was made to redress this as evidence by the WBS – Actuals Integration initiative, these were not enough to avoid the restructure and eventual cessation of the alliance. The question needs then be asked whether there were other underlying issues that may have contributed to the final outcome despite the low levels of alignment with the IT systems and process.

There appeared to be instances of Medium levels for the Governance and Communications at the Senior Level criteria, and Low level for IS&P Support for Business Direction supporting the Level 2 – Beginning Process in Alignment Maturity Assessment determined in Section 4.3.5.4.

### 4.4 CASE STUDY 3 – DESIGNING NEW ENTERPRISE ARCHITECTURE

#### 4.4.1 About the Case Study

##### 4.4.1.1 Purpose of Case Study

The purpose of the case study was to investigate the processes and context of a large alignment initiative, an Enterprise Architecture program, undertaken by the case study
organisation. Areas such as organisation behaviour, strategic planning processes and mechanisms of alignment were investigated.

### 4.4.1.2 Industry Sector - Insurance

Insurance organisations cover a variety of types of insurance where some or a significant portion of the products offered may in fact be re-badged insurance from other, larger insurance organisations. It is also important to note that all insurance organisations offering insurance products to the general market, often termed as the retail insurance market, will be underwritten by other larger financial organisations, termed re-insurance. The importance of the interconnectivity of the insurance market means that the sector is especially sensitive to large scale catastrophes not only at the national but also at the international level, often driving these organisations to improve their information systems and processes to achieve efficiencies and also provide great insights and strategic advantage.

The insurance sector is a large industry in Australia, representing over AUD$42 billion in gross written premiums (KPMG 2017) and showing strong growth in premiums as well as increased claims over the last decade (DLA Piper 2013, Insurance Council of Australia 2017). These two trends: strong growth and managing the impact of increasing claims, are acknowledged factors for increasing complexity in the industry (DLA Piper 2013, KPMG 2017) and are possible drivers for the improving efficiency and processes.

The insurance sector in Australia relevant for this case study refers to general domestic and health insurance.

### 4.4.2 Design Research and Select Issues

This case study was assigned to the One-Off Alignment Approach, with the main topic of investigation being Designing New Enterprise Architecture for the organisation. Refer to Section 3.5.3 regarding the opportunistic selection of case studies and Section 3.5.5.1 describing the purpose of the engagement and the organisation in which the case study was situated.

The approach to investigating this case study focused on a number of issues from a perspective of One-Off Alignment between IT systems and processes and business direction in the design for new enterprise architecture. As such a number of issues are of some relevance, however only a few were directly relevant and of these a smaller
number were identified as being undertaken by the engagement itself and hence ideal for investigation by the case study.

<table>
<thead>
<tr>
<th>No</th>
<th>Issue to be investigated</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>Of direct relevance to Case Study 3.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>Continuous alignment not relevant to Case Study 3 as it has been categorised as Approach 1 One-Off Alignment.</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>The chosen strategy was at the heart of undertaking the engagement underpinning the case study.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow's (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model's expectations.</td>
<td>Case Study 3 was ideally set up to investigate an organisation's type with expected alignment strategies hence this issue was deemed of direct relevance.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>Although this issue is of some relevance, however as the governance structure and mechanisms were not the focus of engagement, it was determined that this issue was of lower relevance than other issues.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>The engagement underpinning Case Study 3 was premised on both internal and external influences on the alignment processes.</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>The engagement underpinning Case Study 3 did not look at external or internal influences affecting the strategic planning of the organisation.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>Operational processes were not looked at for this case study hence it was determined that this issue was not relevant.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>The engagement underpinning Case Study 3 was not looking at the IS competencies.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>The engagement underpinning Case Study 3 was not looking at tools and processes.</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>The engagement underpinning Case Study 3 was not investigating support for the alignment processes.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>The engagement underpinning Case Study was not investigating non-alignment.</td>
</tr>
</tbody>
</table>

Table 4-26 Issues Selected for Investigation for Case Study 3

The main driver for the initiation of the engagement, as communicated to the researcher by organisation representatives, was to create a new enterprise architecture so that the organisation could support and expand new markets and new business products to an existing customer base. The previous architecture was regarded as fragmented and
unable to support this business direction. This was, in effect, an attempt to align the new architecture to the business goals. As such it was determined that Issue 1, how a One-Off Alignment initiative could assist in this alignment, and Issue 3, the strategies used in this alignment attempt, were of immediate relevance and priority. It was also determined that Issue 4, looking at the expected alignment strategies for organisational type, structure and characteristics would be relevant. Finally, in determining the design for the new architecture, it was considered that examining the internal and external influences on the organisation as described in Issue 6 was also relevant.

Table 4-26 summarises the reasons for issue selection for investigation for this case study, highlighting the selected issues for this case study.

Based on the Generic Model for Single Case Study Design (see Figure 3-5), Figure 4-12, shows the customised design for Case Study 3.

Alignment Approach 1 for One-Off Alignment investigated the analysis and initial design steps in the Enterprise Architecture of the organisation with the goal to align IT systems and processes with the business direction.

The following sections report on the study, closely following the Level and Step notation of the methodology to assist the cross-referencing between methodology, data collection and discussion.
4.4.3 Determine Instruments

4.4.3.1 Data Sources

Although a generic data source list was defined in Table 3-7, the specific sources for data collation and analysis for Case Study 3 are indicated in Table 4-27.

The data collated from multiple sources included: transcriptions of six 1.5 hour interviews; weekly team meeting minutes and field notes across three months duration of the engagement; project design documents and project management documentation. These multiple sources comprised over 50 pages of data and were used to inform the data analysis undertaken.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>Interviews were conducted with the following:</td>
<td>Interview questions provided in APPENDIX B. Interview was recorded and transcribed and quoted as required.</td>
</tr>
<tr>
<td></td>
<td>• CIO</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Enterprise Architect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business Analysis Practice Lead</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business Solution Delivery Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• IT Program Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ICT Manager</td>
<td></td>
</tr>
<tr>
<td>Field Notes</td>
<td>Work Diary and Meeting Notes and Minutes</td>
<td>Recorded by the Researcher.</td>
</tr>
<tr>
<td>Project Documents</td>
<td>EA Business Model</td>
<td>Created by the Researcher as Lead Business Analyst.</td>
</tr>
<tr>
<td></td>
<td>Project Statement</td>
<td>Created by the Researcher as Lead Business Analyst.</td>
</tr>
<tr>
<td></td>
<td>Project Deliverables Matrix</td>
<td>Created by the Researcher as Lead Business Analyst.</td>
</tr>
<tr>
<td></td>
<td>Team Structure Document</td>
<td>Created by the Researcher as Lead Business Analyst.</td>
</tr>
</tbody>
</table>

Table 4-27 Case Study 3 Data Sources

Six interviews were conducted with IT personnel who were closely involved with the Enterprise Architecture initiative. The case study participants were interviewed and their responses used as delivery feedback. The case study participants and their respective roles are listed in Table 4-28.
Title | Responsibility:
--- | ---
Chief Information Officer (CIO) (OG) | Overall high-level owner and stakeholder of IT infrastructure.
Business Analysis Practice Lead (BAPL) (FP) | Involved in original requirements gathering and continuing Practice Lead.
Business Solution Delivery Manager (BSD) (AS) | Stakeholder.
IT Program Manager (ITPgM) (JA) | Custodian of the Assessment Process.
Information and Communications Technology Manager (ICT) (MS) | Owner of IT Operations.

Table 4-28 Case Study Participants

4.4.4 Undertake the Case Study

4.4.4.1 Case Study Organisation

INSURE was a large Australian general and health insurer with more than 600 employees and 20 regional centres at the time of the study. The organisation had two major insurance business units: general insurance and health insurance. These business units operated independently of each other and had a number of major differences in products, approach and legislative requirements. The General Insurance business unit dealt with residential and commercial insurance and operated as a separate business from the Health Insurance business unit. The organisation had, in recent times, diversified by setting up financial services offerings. INSURE was looking into expanding into other insurance and financial services products. Figure 4-13 shows the business units in the organisation and their relationship.

Figure 4-13 INSURE Organisational Structure and External Stakeholders
Due to the pressures within the insurance industry to improve efficiencies and innovation, there was a need to restructure business operations and enable leveraging between business units, as well as to assess and utilise technology in more innovative ways. These two drivers were investigated in this case study where the organisation was looking to restructure the information infrastructure to enable the business units to share information and the business as a whole to consolidate and leverage its market advantages.

**4.4.4.2 Scope of Engagement**

The organisation, having two major insurance business units, had evolved separate and largely independent business operations. As can be seen in Figure 4-13, each business unit had its own customer management services and claims operations as well as other independent operational areas. In an earlier initiative, the organisation had created a shared Call Centre. However the information infrastructure, which featured separate customer and product databases, did not allow for sharing of information across the business units easily. As a result, the business goals for market share retention and growth were increasingly difficult to achieve.

An initiative to restructure the enterprise wide information architecture of the organisation was commenced. This included the re-design of data structures and a re-engineering of how these data structures would be accessed and consumed. This initiative, a large project in itself, was not a single event. It is however categorised as a single or one-off alignment initiative due to the static nature of its delivery. That is, alignment would be deemed to deliver following the successful implementation of the architecture without specific follow-on alignment processes beyond the delivery date.

The researcher was appointed as Lead Business Analyst for the engagement and led a team of three business analysts.

**4.4.4.3 Scope of Case Study**

The case study was a short investigation at the commencement of the Enterprise Architecture (EA) initiative to introduce an enterprise-wide Customer Relationship Management system (CRM) and a single view of the customer for the organisation. The EA program of work in itself included EA analysis and design, technology pilot and selection, and implementation and retro-fitting existing software systems to the new EA. Only EA analysis and design were within the scope of the case study, which
was to look briefly at the business context of the organisations that may have led to the
decisions for an Enterprise Architecture initiative, as well as investigate the processes
put in place as part of the initiative, and their expected impact on the alignment to
business direction.

The Enterprise Architecture project included several stages: single view of the
customer and customer relationship management system; redesign of the data
infrastructure; redesign of the business processes and business operation systems;
replacement of legacy systems where appropriate; and integration of new systems into
retained systems and processes.

Although the length of the engagement was four months, this case study only addresses
the high level perspective covering the commencement of the Enterprise Architecture
initiative: data and infrastructure redesign for a single view of the customer. The case
study was based on the personal experiences of the researcher as a Lead Business
Analyst for the program and relied on interviews, field notes, project documentation
and decisions for investigation. Table 4-29 summaries the case study profile.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Approach 1: One-Off Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>Case Study 3 - Corporate Business Strategy driven: Enterprise Architecture as Agent of Change</td>
</tr>
<tr>
<td>Major Organisation</td>
<td>INSURE</td>
</tr>
</tbody>
</table>
| Associated
Organisations | Not applicable               |
| Role of the
Researcher | Lead Business Analyst
Analysis of requirements for Enterprise Architecture initiative |
| Data Sources       | Interviews
Field Notes
Project Documentation |

Table 4-29 Case Study 3 Summary

4.4.5 Analyse Data

The data collected and collated, as stated in Table 4-27, was analysed against selected
issues arising from the literature review conducted in Chapter 2 (See Table 4-26).

4.4.5.1 Strategic Planning

**ISSUE 3 - Investigate some of the strategies used by businesses in their attempt to
align their IS strategic direction to the business.**

This case study looked at a major initiative of one organisation in attempting to align its
IT infrastructure to the business direction. INSURE’s two major business units had
separate and independent information repositories including a separate view of customer information.

The legacy solution architecture was centred on insurance policies rather than a customer-centric approach. INSURE had previously taken steps to create a single view of the customer within each of the business units and within the existing IT data and software infrastructure. However, this had created cumbersome ways of accessing the customer information and created problems with further innovation to business models, due to the inability of the IT systems and processes to properly support the proposed new initiatives such as a full single view of the customer. Recognising the value for leveraging a customer’s relationship with one business unit to encourage additional business relationships with the other insurance business unit, INSURE now looked to redesign the solution, and hence the data architecture, to be customer-centric for the entire organisation. The creation of this view required a large data cleaning exercise to reduce customer duplications as well as reintegration of new ways to access the consolidated data back to the legacy systems.

The new single view of the customer or “customer-centric view”, as well as the redesign of the solution and data architecture would enable new ways of engaging with the business, including internet access portals for customers, service providers and agents, enabling a 360° view of customers for sales, product development, marketing and customer service perspectives. Additionally, customised solutions such as business intelligence capability could be integrated to the new customer database, enabling information on customer demographics, purchase patterns, risk patterns, claims patterns and other business related behaviours.

The Enterprise Architecture (EA) initiative was a large one-off alignment event enabling INSURE to align its aging legacy IT infrastructure and systems to a more dynamic business direction.

IS competencies and skills of the EA initiative team was high. IT specialists had been brought in and included in the teams. The EA initiative team included enterprise and solution architects, a team of senior and junior business analysts, and a team of database and infrastructure specialists. Additionally the business analysts were provided additional training in the customer relationship management product being
deployed to skill them up in supporting the enterprise applications being introduced. A rating of High was indicated for the IS Competencies and Skills Maturity.

Another strategy used by INSURE for strategic planning was to ask questions as to what the business would be like in five years’ time. According to the IT Program Manager, INSURE researched case studies of similar organisations, within Australia and internationally, to identify goals and objectives, and then engaged a partner to manage the significant changes that would be needed. The Enterprise Architecture initiative fulfilled one of these objectives.

The change in perspective was from technology driven to more business driven as confirmed by the CIO (OG), the CTO (MS) and IT Program Manager (JA):

“The role that I did play in the architecture was really to move it more towards a business outcome rather than a technology outcome. When I started the architecture was very much about implementing new technologies such as the integration layer and new infrastructure … it wasn’t necessarily looking at implementing something that the business could utilise such as the member aspects of it until very late in the stage. So my role was reshaping it to what the business needs sooner” (OG#5).

“Providing the flexibility that’s needed to support [INSURE’S] diversification” (OG#6).

“The business expectations were [for IT] to support diversification” (MS#7).

“The business was pushing strongly along diversification” (JA#3).

These statements from the project members indicate a strong recognition of the importance of support of business direction from Information Systems and Processes and for Business / Information System Integration. A high alignment is the expected outcome of the EA initiative but as these were currently recognised as low, a Low rating for the IS&P Support for Business Direction criterion was assigned.

By extrapolation this meant that the other alignment criteria for Governance and Communications at Senior Level scored highly otherwise the recognition and the resultant EA initiative would not have been initiated. Hence a High rating was assigned to the Governance and Communications at Senior Level criteria.
Participants were directly asked as to their perceived reason for the organisation’s drive towards alignment. Insight was gained regarding the perceived rationale driving alignment, with a number of participants identifying similar reasons. These were categorised for Business and IT drivers and summarised in Table 4-30.

<table>
<thead>
<tr>
<th>Reason for Business Drivers</th>
<th>Number of Participants raising the reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversification of business products</td>
<td>6</td>
</tr>
<tr>
<td>Business driven CRM</td>
<td>3</td>
</tr>
<tr>
<td>Business growth and scalability</td>
<td>2</td>
</tr>
<tr>
<td><strong>Reason for IT Drivers</strong></td>
<td><strong>Number of Participants raising the reason</strong></td>
</tr>
<tr>
<td>Integration layer</td>
<td>2</td>
</tr>
<tr>
<td>Alignment to business</td>
<td>4</td>
</tr>
<tr>
<td>New technologies for better services and cost efficiency</td>
<td>2</td>
</tr>
<tr>
<td>Flexible systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4-30 Drivers for the Enterprise Architecture Initiatives

As can be seen, there was a strong view that diversification for business products and alignments to business direction were the major business and IT drivers respectively. All the participants indicated that diversification of business products was the major driver. These insights were discussed in the context of the issues raised by the literature review.

**Conclusion**

INSURE’s EA initiative was focussed on aligning its IT capability to its business direction. Without the restructuring of its data source to consolidate information on a customer, it could not easily analyse its customers to offer them products and services and hence would not be able to support the organisational business strategic goals. High ratings for Governance and Communications at Senior Level and a Low rating for IS&P Support for Business Direction resulted. A High rating was also indicated for the IS Competencies and Skills Maturity criterion

**4.4.5.2 Internal and External influences**

**ISSUE 6 - Investigate the internal and external influences on an organisation and their perceived impact on alignment.**

The organisation had determined that its fragmented customer database did not allow for consolidation of client information to enable cross-selling and contributed to duplication of effort and inefficiencies in the business. It was immediately apparent
that external and internal influences were a direct cause of the initiation of the engagement underpinning this case study.

Although external influences were not directly observed in the case study, they were however extrapolated from communication provided by organisational representatives. The CIO and other senior IT officers indicated, through the project briefing and sponsorship documents, and project start meeting, that the purpose in designing and ultimately implementing a new enterprise architecture was to ensure the IT systems and processes supported the chosen business direction, as the legacy systems were fragmented and did not support a real-time view of the customer’s products or points of engagement with the organisation. For example, information about a customer was duplicated and distributed throughout the various information and data stores around the organisation associated with different business units. The legacy systems were focussed around business units and products and hence they were not able to support business diversification as stated by the Delivery Manager (AS) and the Enterprise Architect (DO):

“We didn’t have systems to enable diversification. The systems were previously product focussed. [There was ] no ability to understand customer profile; The Enterprise Architecture project was required to enable diversification and to focus around a single customer” (AS#1).

“It was indicated that IT needs to follow the business direction and provide for the diversification of products enabling a deeper relationship with customer” (DO #4).

Internal influences were defined as influences derived from the organisation’s staff. These included: increased collaboration between the business and IT sections; business driving diversification needs and with the resulting pressure on IT systems to support business diversification. This was most clearly indicated by the high-profile business mission for a “360 degree view” or “customer-centric” view of customer contact and sales profile. The customer-centric view necessitated the separation of customer data from the product data, which to date had been closely linked, and therefore enabling the organisation to achieve the strategic direction of fully understanding the current engagement of the customer with INSURE. This would facilitate significant business advantage by allowing relevant INSURE sales and customer-service personnel more
time with the customer rather than expending time on the various disparate systems to try to understand the customer’s needs. These views were frequently communicated by the executive management to the organisation, so much so that the terms “client-centric view” and “360 degree view” were in many reports and communiques.

These views were widely held by the interview participants:

“a collaborative approach with the business with IT guiding but not driving” (MS#3);
“moving current systems to align where the business going” (OG#1);
“meet business expectations to support diversification” (MS#7);
“single customer view” (DO#8, AS#3);
“customer centric view” (OG#3);
“360 degree view” (FP#7);
“more time engaged with the customer rather than the system” (FP#9).

Conclusion

The EA initiative was clearly motivated by the significant internal requirements of the organisation to align its information architecture and capability to its business goals. The business goals themselves may have been influenced by external pressures such as increasing market share and meeting customer demands (Porter 1985). Hence it could be concluded that both external and internal influences on the organisation were acting on the organisation.

This issue indicated a High rating for the IS&P Support for Business Direction criteria.

4.4.5.3 One-Off Alignment

ISSUE 1 - Investigate how one-off alignment initiatives assist with alignment of IT and Business strategies.

The EA initiative for INSURE included a number of activities over a period of time. However, in line with the criteria previously mentioned, these would serve as an alignment measure at their completion and not a process that continuously assists alignment. The activities for initial stages of the EA initiative are listed in Table 4-31.
The EA initiative had a number of objectives, the major ones being: diversification; a flexible infrastructure; and a single view of the customer. The diversification objective was discussed under strategic planning. Flexible infrastructure and single view of the customer were commented on by EA initiative participants.

**Flexible IT Infrastructure**

The EA initiative was a five year plan to provide an IT environment to support the business driven goals for the organisation, providing the agility and cost effectiveness required to take advantage of new opportunities. As stated by the Enterprise Architect:

“The EA project is a 5-year plan. The most crucial outcome in five years’ time... is the business is given an IT environment, IT infrastructure that gives them flexibility to respond to their business change quickly at a cost that is sustainable and at the same time allow growth and scalability.” (DO#3).

A major objective of the EA initiative was to ensure flexibility for the IS environment:

“[We need to] build an environment that is flexible enough to make changes. At the moment it’s very costly to make changes.” (OG#8).

This indicated a high level of alignment for Governance and Communications at Senior Level criteria and recognition of the need for a High level of alignment for Business / IS integration. At the end of the EA initiative, it was expected that the Information Systems and Processes to support the business would be fully in effect, however the current level of the IS&P Support for Business Direction criterion was recognised as Low.
Single View of the Customer

The term “single view” of the customer was repeated by all of the interview participants and was clearly articulated by the Enterprise Architect:

“The single customer view really the architecture for example, the integration layer, is clever enough to access, transform and translate different data sources whether be structured or unstructured sources and present it to the user. With this EA layer it’s possible to fulfil what the business wants which is the 360º or one view of the customer.” (DO#8).

This concept was at the heart of the first initiative of the Enterprise Architecture project: single customer view and a Customer Relationship Management (CRM) solution. It became the focus of the new Enterprise Architecture project to enable the customer view at the centre with supporting systems and data sources to be easily accessible from the point of the customer. The unified view of the customer indicates recognition of the need for strong business to information systems integration.

Conclusion

The business drivers for the EA initiative were diversification, greater customer relationship and a greater responsiveness to customer service. The IT drivers were that it would enable IT to be more responsive to future business requirements and enable support of future diversification in a timelier and cost effective manner. There was High rating for Governance and High rating for Communications at Senior Level criteria and a Low level for IS&P Support for Business Direction criterion assigned.

4.4.5.4 Organisational Type and Behaviour

ISSUE 4 – Investigate whether an organisation with characteristics aligned with Miles and Snow’s (1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.

INSURE was a strong player in a single market area, insurance. Although they were open to develop into related areas, they were primarily looking to penetrate deeper in their current markets as an immediate need and looking for the Enterprise Architecture initiative to expand the organisation’s capabilities, particularly in the customer relationship management. This was confirmed by statement from the CIO: “so that we can continue to sell more products per household and build personal contacts.” (OG#8). This appears to support classic Defender characteristics. As insurance is a
highly regulated industry, there is also some support for an entrepreneurial Defender approach as the market is not generally open to any competitor.

However, the organisation can also be said to exhibit some Prospector characteristics within its own insurance sector, for example, to search out market opportunities and look to changing environmental and market trends. This is borne out by all six interviewees mentioning diversification. It is clear that diversification of products and services within the insurance sector were high on the organisation’s objectives.

INSURE had already commenced diversifying into travel insurance and also into allied areas such as financial management, but was also looking to diversity into further related markets and provide additional products and services. This organisational response could be taken as evidence for the entrepreneurial organisational approach supporting classic Prospector characteristics in seeking new markets.

The responses also indicated a strong recognition that the alignment of IT systems and processes to the business direction was required, as indicated by the CIO:

“The EA initiative is really moving our current systems to align to where [INSURE] as a business is going.” (OG#1); and more specifically,

“The business basis for the Enterprise Architecture is that [INSURE] as a business currently has its core business units … and it needs as a business to diversify. The EA initiatives are things that we [IT] need to do to support [INSURE] in diversifying.” (OG#2).

The organisation recognised the current Low level of alignment of its Information Systems and Processes and established the EA initiative to address these deficiencies. This strong recognition in the organisation of the alignment purpose of the engagement supports a High level of alignment for the Governance criterion and confirmed a current Low rating for the IS&P Support for Business Direction criterion.

**Conclusion**

INSURE supported a High rating for the Governance criterion with the CIO and EA recognition and support for these areas. IS&P Support for Business Direction was judged to be Low at the time of the EA initiative with expectations for a High outcome as a result of the initiative. There was also significant evidence for alignment strategies supporting Defender and Prospector characteristics.
4.4.5.5 Alignment Assessment

Assessment of alignment was undertaken across three areas: re-examination of the alignment approach; alignment criteria; and overall alignment assessment for the case study.

**Validation of Alignment Approach**

The alignment approach was re-examined and summarised in Table 4-32. It was concluded that the discrete, large alignment outcomes were expected and these were driven by the business to provide expected alignment to business direction and hence confirmed the One-Off Alignment Approach categorisation.

<table>
<thead>
<tr>
<th>Alignment Type</th>
<th>Assessed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situations of alignment or non-alignment</td>
<td>Alignment</td>
<td>It was recognised that the initial non-alignment of enterprise wide systems to business direction required addressing. The design and expected outcome of this initiative is alignment of enterprise-wide architecture to support business direction.</td>
</tr>
<tr>
<td>Discrete processes versus ongoing processes</td>
<td>Discrete</td>
<td>This case study exhibited discrete processes to establish enterprise application and information architecture to enable business goals and direction needed.</td>
</tr>
<tr>
<td>Large alignment outcomes versus small alignment outcomes</td>
<td>Large</td>
<td>The expected outcome would impact the entire organisation.</td>
</tr>
<tr>
<td>Business driven versus systems and process driven</td>
<td>Business driven</td>
<td>This initiative is deemed business driven as it was initiated by the governance team.</td>
</tr>
</tbody>
</table>

Table 4-32 Validtion of Alignment Approach for Case Study 3

**Alignment Assessment via Criteria**

The issues were assessed along four criteria for Governance, Communications at Senior Level, IS Competencies and Skills Maturity and IS&P Support for Business Direction defined previously in Table 3-5 and according to the dimensions and type defined in Section 3.5.4. The criteria provide evidence for an Alignment Maturity Rating in the context of the case study, defining Alignment Maturity along a five-point scale as defined in as Table 3-6.

A consolidated table for all criteria assessments, listed in Table 4-33, is discussed in the context of Alignment Maturity.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Issue</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>3</td>
<td>Strategic planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational type and behaviour</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>One-Off alignment</td>
<td>High</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td>3</td>
<td>Strategic planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>One-Off alignment</td>
<td>High</td>
</tr>
<tr>
<td>IS Competencies &amp; Skills Maturity</td>
<td>3</td>
<td>Strategic planning</td>
<td>High</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction</td>
<td>3</td>
<td>Strategic planning</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Internal and external influences</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>One-Off alignment</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Organisational type and behaviour</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 4-33 Criteria Ratings from Issue Investigation for Case Study 3

The four alignment criteria were assessed according to the dimensions and type defined in Section 3.5.4 and an Assessment Rating for the case study alignment was assigned.

**Governance**

Organisational governance was clearly observed from the executive management such as CEO, CIO and CFO, senior IT personnel and senior business representatives. There was an IT governance structure in place which had visibility by the senior management of the organisation. The overall plan and design had been approved by the organisation’s senior management and was being closely monitored. The initiative was strongly sponsored by the CIO. Three instances of High ratings were observed for the Governance criterion with respect to issues investigating Strategic Planning, Organisational Type and Behaviour and One-Off Alignment. It was clear that there was a high level of commitment to address the non-alignment observed in the organisation’s lack of customer-centric view of its customer information and processes were underway to resolve the lack of alignment. Hence a Level 3 – Establishing Process for Alignment Maturity Assessment Rating, in the context of this case study, was indicated.

**Communications at Senior Level**

Communications at the Senior Level was rated as High as there was documented evidence of communications from the senior executive such as CEO, CIO, and CFO as well as senior management of the EA initiative with a good level of understanding of the EA initiative across the organisation. There were regular brief progress reports to the organisation on the status of the EA initiative. These instances of High rating for this criterion supports a Level 3 – Establishing Process for Alignment Maturity Assessment Rating, in the context of this case study.
**IS Competencies and Skills Maturity**

IS competencies and skills of the team was rated as High as indicated by the skilling up the EA initiative for the full range of IT resources required supporting a Level 3 – Establishing Process for Alignment Maturity Assessment Rating, in the context of this case study.

**IS&P Support for Business Direction**

The current information systems were lacking in their support of the business direction. This had been the acknowledged trigger for the EA initiative as evidenced by High rating looking at the Internal and External Influences on an organisation. The information systems designed for the EA initiative and being progressively delivered were strongly and solely aligned to delivering the business outcomes required. As such a Low rating was recorded against this criterion at the given time as the initiative was incomplete. This supports a Level 3 – Establishing Process for Alignment Maturity Assessment Rating, in the context of this case study.

**Overall Alignment Assessment**

This case study had predominantly High ratings for all criteria except for the IS&P Support for Business Direction and this was being directly addressed by the EA initiative.

Using the overall alignment maturity assessment rating, derived from the criteria assessments, a Level 3 – Establishing Process, was consistently supported, indicating there was a commitment to address non-alignment and the processes were underway but uncompleted (see Table 4-34).

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Acknowledgement</td>
<td>This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.</td>
</tr>
<tr>
<td>2 – Beginning Process</td>
<td>Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.</td>
</tr>
<tr>
<td>3 – Establishing Process</td>
<td>Where there is a commitment to address non-alignment and the processes are underway but uncompleted.</td>
</tr>
<tr>
<td>4 – Improved Process</td>
<td>Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.</td>
</tr>
<tr>
<td>5 – Optimal Process</td>
<td>Where alignment outcomes are regarded as optimal and there is complete alignment.</td>
</tr>
</tbody>
</table>

Table 4-34 Alignment Rating Assigned
4.4.6 Refer to Theoretical Context
As defined in the application of this study’s research design to the case study, Level 1 for revisiting the literature with the insights from investigated issues as well as new issues which may emerge from the current case study or warrant investigation in future studies. Any Emergent Issues raised (see Section 3.5.7), are discussed as post-case analysis arising from investigation of the case study.

4.4.6.1 One-Off Alignment Approach
This case study investigated a One-Off Alignment Approach. The approach can be associated with a linear approach such as proposed by Sledgianowski and Luftman (2005) and shown in Figure 2-2. This approach includes setting of goals, understanding the business to IT linkages, analysis, definition of actions, determination of success factors and finally alignment. This linear methodology refers to the envisaging and design of the EA initiative, its implementation and finally its deployment into production. Hence it was identified as a One-Off Alignment Approach. This approach marries well to a waterfall development methodology which is linear and commonly used for projects with known requirements (Verma, Bansal, and Pandey 2014). As the EA initiative was in the design phase and a waterfall approach was being undertaken for this phase, it would be of interest to determine whether a spiral approach or iterative waterfall approach would be utilised for the implementation phase (Alshamrani and Bahattab 2015). Following deployment of the EA it would be of interest to see what alignment processes would be instituted to maintain alignment and whether these would be further examples of One-Off Alignment Approach as and when the need arose or a whether a systematic Continuous Alignment process could be devised specifically for the EA. As theses were issues which could not be actively investigated within this case study, no emergent issues were raised.

4.4.7 Make Conclusions for Case Study 3
Four issues were selected for investigation in this case study based on their relevance to the opportunistic nature of the engagement underpinning the case study and the role of the researcher.

The issues relevant to the case study are listed in Table 4-35.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

**Table 4-35 Issues Investigated in Case Study 3**

<table>
<thead>
<tr>
<th>Issue No. &amp; Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
</tr>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibit expected governance and alignment strategies consistent with the model’s expectations.</td>
</tr>
</tbody>
</table>

No emergent issues were raised in this case study nor were the emergent issues raised in Case Studies 1 or 2 of relevance to this case study.

The EA process was positively viewed by the project participants including senior management. The investment from INSURE into this large undertaking speaks of the success expected for the initiative on its implementation.

This case study has shown that there can be quite strong influences for alignment processes at work, particularly for such a significant one-off alignment attempt.

The case study indicated that there was strong support for the organisation to diversify its products and services, and align its IT systems and processes to support this diversification. INSURE recognised that the major way to do this was to place the customer firmly in the centre of its business model and perspective. It even adopted the phrase: “360º view” as focus of its Enterprise Architecture philosophy, meaning that all the customer’s relationship with INSURE would be accessible from a single view of the customer. There was strong consensus that the EA initiative was essential for diversification of business and represented significant IT restructuring, allowing for the conclusion that One-Off Alignment was a successful strategy for both business diversification and IT restructuring.

INSURE exhibited classic Defender characteristics as evidenced by being a strong player in a single market area, insurance. It was not looking to develop into other areas in the immediate term but more specifically to penetrate deeper in its current markets. This was confirmed by a statement from the CIO regarding the EA initiative that the
organisation was seeking to build its capabilities, particularly in the customer relationship management so as to leverage its products to its existing customer base:

“so that we can continue to sell more products per household and build personal contacts.” (OG#8).

However, the organisation can also be said to exhibit some Prospector characteristics within its own sector, for example, to search out market opportunities and look to changing environmental and market trends. This is borne out by all six interviewees mentioning diversification, with diversification of products and services within the insurance sector high on the organisation’s objectives. INSURE had already commenced diversifying within the insurance area into travel insurance and also into allied areas such as financial management, but was also looking to diversity into further related markets and provide additional products and services.

The interview responses also indicated a strong recognition that the alignment of IT systems and processes to the business direction was required to support its core business as well as support business diversification as needed, as indicated by the CIO:

“The EA initiative is really moving our current systems to align to where [INSURE] as a business is going.” (OG#1) and more specifically, “The business basis for the Enterprise Architecture is that [INSURE] as a business currently has its core business units ... and it needs as a business to diversify. The EA initiatives are things that we [IT] need to do to support [INSURE] in diversifying.” (OG#2).

The organisation recognised the current low level of alignment of its Information Systems and Processes and established the EA initiative to address these deficiencies. This strong recognition by the organisation of the alignment purpose of the engagement indicates a high level alignment of the Governance criteria.

INSURE exhibited both Defender characteristics and Prospector characteristics expected from a large established and mature organisation (Miles and Snow 1978). The EA initiative supported Defender behaviour to consolidate market dominance. Seeking to extend into new market areas was taken as evidence of Prospector leanings. The EA initiative represented a very large initiative in the organisation requiring significant investment of resources as well as commitment to changing business and IT systems. These spoke to a very strong Defender approach as well as some Prospector
characteristics. The EA initiative would be expected from an organisation with strong Defender and Prospector characteristics exhibiting maturity in strategic planning and on the way to developing sophisticated tools and mechanisms to align its IT systems and processes to its business direction. Further investigation is required to determine whether Analyser tendencies were exhibited.

### 4.5 DISCUSSION FOR ALIGNMENT APPROACH 1: ONE-OFF ALIGNMENT

This alignment approach focuses on One-Off Alignment processes. There were three case studies allocated to this alignment approach. A total of seven issues were determined as most relevant to Case Studies 1, 2, and 3 for investigation as listed in Table 4-36. Issue 4 was investigated in all three case studies while Issue 6 was relevant to Case Studies 1 and 2, specifically investigating alliance governance and executive management.

<table>
<thead>
<tr>
<th>No</th>
<th>Issues Investigated</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow's (Miles et al. 1978) organisational types, exhibit expected governance and alignment strategies consistent with the model's expectations.</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>1, 2</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4-36 Issues investigated for One-Off Alignment

Three emergent issues were raised during investigation of the One-Off Alignment Approach (See Table 4-37). Discussion of the similarities and differences between Case Studies 1 and 2 is useful due to the similar approach to One-Off Alignment chosen by the two organisations involved: that of alliance with external organisations to achieve an alignment to their respective business direction.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>Emergent Issue No</th>
<th>Description</th>
<th>Raised in Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate the impact of the business models such as value chain or alliance models used by organisations.</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Investigate the impact of the governance of alliance organisations on alignment strategies.</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Investigate the type of management control systems in operation and their influence on strategic alignment.</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4-37 Emergent Issues for One-Off Alignment

However, although Cases Studies 1 and 2 had these similarities, there are significant differences which add to the insight gained. The discussion of these two case studies leads to recommendations and conclusions based on the issues investigated and general observations which could be applied to this type of One-Off Approach.

In contrast to Case Studies 1 and 2, which looked at alliances with external organisations, Case Study 3 looked at an organisation which was focussed on restructuring its own internal information systems and processes to align to the business direction. Hence the major focus of discussion for Approach 1 is centred around a comparison between Case Studies 1 and 2 followed by a general contrast to the One-Off Approach observed in Case Study 3.

4.5.1 One-Off Alignment within an Alliance Context

Although both case studies were in an alliance environment, there are a number of interesting comparisons and contrasts which can be made between the two case studies.

While the first case study (UTILITY) was situated within a utilities organisation, the second case study (CONSTRUCT ALLIANCE) was situated within an alliance organisation formed between three organisations operating within the utilities sector.

In Case Study 1 the alliance relationship and strategic alignment investigation was from the perspective of the parent organisation, in contrast with Case Study 2, which looked at issues from a perspective within the alliance organisation itself.

Additionally Case Study 1 was a project with defined commencement and closure dates while Case Study 2 was an operational environment with responsibilities for processes and controls for the delivery of construction projects.

Despite these differences, there were sufficient similarities between Case Studies 1 and 2.
**Internal Disconnects**
There was a major conflicting attitude within the parent organisations regarding acceptance of alliances as a mechanism of delivery. Both alliances exhibited a similar disconnect between the senior management who contracted the alliance agreements and approach, and key middle-management and operational staff who were resistant to this approach and therefore uncooperative.

*Conclusion Approach 1-1*

It could be concluded that change management was not effectively implemented on an ongoing basis.

**Lack of Capacity of the Alliance Organisation**
In both alliances the parent organisations had underestimated the resourcing required to adequately service the increasing work allocations to the alliance along with the increasing work allocation to their work in general. The impact was the same: reduced ability to deliver on the program of work. Both alliances were suffering from a lack of capacity of skilled labour essential to deliver the program of work allocated.

*Conclusion Approach 1-2*

Adequate resourcing of the Alliance team enables the delivery of the program of work and return on investment to the parent organisations.

**Different motivations of the Parent Organisations**
The clash of culture and different agendas of the parent organisations caused a less than united joint venture organisation impacting on staff morale and on ability to deliver on projects.

*Conclusion Approach 1-3*

Better communication and a closer joint view of the initiative is required to enable compromise from each of the parent organisation cultures to create a more “joint” culture in the joint venture and reduce the conflicts.

**Successful Delivery of Projects versus Successful Alignment to Organisational Goals**
In Case Study 1, there was general acceptance from the owner-participant, AUSIX, of the success of delivery of the program, even though the systems and processes were not well organised. In Case Study 2, it was concluded that the delivery of projects was successful although the financial benefits to the joint venture partners were not realised.
The realisation of the goal of the alliance may be different to the delivery of the major activities of the alliance, such as projects. Although strategic direction was not changed to accommodate major activities, the strategic goals of UTILITYtwo were not achieved even though the major activities, such as the projects, were regarded as successfully delivered. This provides support for the premise that strategic goals are impacted and sometimes changed because of the organisation’s major activities (De Lancer Julnes 2006, McGregor and Sumner 2010, Rogers 2008).

**Conclusion Approach 1-4**

Successful product delivery is possible despite difficulties; however this is separate from success of the alliance. Monitoring and reviewing the organisational goals of all interested parties and associated systems and processes will facilitate delivering the goals. Otherwise the true goals for the business may be lost in the delivery of the products and the benefits to the organisations may not be realised.

**Business Processes Creation or Re-engineering**

There were significant gaps in business processes in the parent organisation as well as the alliance organisations creating significant change management requirements and stress and frustration for personnel. In both alliances, the parent organisations had well developed sophisticated and complex management control systems. However they appeared to expect the management systems inherited by the alliance organisations to be able to integrate, despite these systems coming from very different organisations operating under very different premises.

**Conclusion Approach 1-5**

An organisation may need to establish new processes and review and change existing processes, even those that may not be directly impacted.

**All Areas of the Organisation are Impacted**

Whether personnel were directly involved in alliance establishment or operational activities following setup, they were impacted. The impact to the organisation could be shallow changes to processes or deep organisational changes such as to business models (Papazoglou 2008).
Conclusion Approach 1-6

All areas of an organisation may be impacted when establishing an alliance or partnering relationships as new business models and processes are introduced and existing processes are changed.

Overall Conclusion

These two case studies were essentially a comment on how not to form and manage an alliance and have valuable lessons to any organisation venturing into this area. This was reflected in the low levels of alignment of the systems and processes to the business direction of the alliances and parent organisations.

Several other conclusions can also be drawn in comparing these two case studies. Both case studies were focussed on short-term goals as the alliances were for a specified duration. In both cases the parent organisations were wary of investing in long-term processes and systems. This meant that the systems and processes set up did not have the full support of the leadership teams involved, nor were they looked on as important, since they had the same limited life spans as the alliance organisations. This limited lifespan also impacted on the way the alliance personnel viewed their work and employment. There was little commitment from the parent organisation personnel or alliance personnel to the life and development of the alliances. This was clear in the turn-over of employment and in the lack of support from the parent organisation leadership teams. In short the alliances were almost doomed to failure due to lack of investment from the parent organisations and a lack of commitment from the alliance personnel.

When we look back at the Research Questions raised in Chapter 1 we can make some conclusions on the efforts these organisations were making in aligning their business and technology direction, the types of initiatives they were putting in place and the impact this was having on the organisations.

Although the organisations appeared to be making investment in systems there appeared to be little success. Another interpretation is that factors such as paradoxical decision making by the parent and alliance organisations, as described by Hirschheim and Sabherwal (2001), could have contributed to low levels of alignment. In Case Study 2, major system investment commenced almost halfway into the alliance duration, while there appeared little investment at all in Case Study 1. One would be
forgiven for questioning why there was reluctance in making this commitment and why it was made so late in the life of the alliance. Both organisations had the opportunity to use these forays into alliances to establish systems, standards and procedures to enable further alliances to proceed successfully.

It is interesting to note, that although other alliances were later put into place following CONSTRUCT ALLIANCE, UTILITYtwo was still experiencing difficulties in its alliance relationships. The experience with CONSTRUCT ALLIANCE should have been an ideal learning opportunity for UTILITYtwo in developing and maturing relationships with, and investment in, its alliance organisations, to set up standard systems and processes to enable better integration with its alliances. However it appears that the experience was not seen as a learning opportunity.

The initiatives being put in place focussed mainly on financial systems to enable better accountability of costs to the parent organisation. In Case Study 2, CONSTRUCT ALLIANCE and UTILITYtwo were in a contractual arrangement regarding penalties and incentives with respect to meeting the costs of projects. This required accurate forecasting and proper accountability of costs to be able to identify the profit or loss per project. However the systems in place to quantify the profit or loss of a project were not determined beforehand or by the parent companies.

Despite the financial and reporting systems put into place by CONSTRUCT ALLIANCE, these did not appear to fit well with the parent organisation’s systems - UTILITYtwo had financial and scheduling systems which were difficult to integrate with.

The differences between the parent organisation and the alliance cultures exacerbated the reduced resource availability.

The overall assessment for alliances in both Case Study 1 and Case Study 2 is that they were not ultimately successful and the alliance relationships were not continued. This is a disappointing result for the financial and resource commitment made, particularly when further investment and more coordinated approach may have ensured their success.
4.5.2 Comparisons to One-Off Alignment in a Non-Alliance Organisation

As in Case Studies 1 and 2, Case Study 3 also showed recognition by the organisation that alignment was required by the information systems and processes to support the business direction. The major method of delivery was to look internally at restructuring the organisation’s systems and processes. This is not to discount the change and restructure of some internal processes which inevitably were undertaken in Case Studies 1 and 2, however the major focus and scale of the initiative as described in Case Study 3 involved the organisation’s enterprise-wide information systems and processes. This difference in scale and focus provides an insight into the motivation of the organisation in commencing the initiative.

The organisation investigated in Case Study 3 exhibited characteristics that were consistent with Miles and Snow’s (Miles et al. 1978) organisational types.

In contrast to Case Studies 1 and 2, Case Study 3 looked solely at the beginning of an alignment initiative and hence no conclusions can be drawn regarding the success of this initiative. Interviewee comments certainly indicated the expectation of success and the initial phases of the project did show high levels of governance, executive management support and communication to the initiative team and the organisation. Although all three case studies showed the organisations’ recognition for strategic alignment, Case Study 3 indicated a high level of commitment for financial and resource support for the initiation phase and a commitment for continued resource and financial allocation into the operational phase. In direct contrast to Case Studies 1 and 2, Case Study 3 showed the commitment to financial and personnel investment that the organisation was willing to make for the Enterprise Architecture initiative.

Another interesting contrast is the nature of the On-Off Alignment Approach as pertains to the case studies. While in Case Studies 1 and 2, the basic processes were already known and were either borrowed or adapted from the parent organisations, such as work allocation models or financial systems. In Case Study 3, the business processes were being redefined and re-engineering into enterprise systems and data sources were being restructured. This difference of nature could be described as more operational in Case Studies 1 and 2 and more strategic in Case Study 3. This may have impacted the way the alignment processes were viewed and implemented.
Strong Support from C-suite
The senior leadership, such as the CIO and by extrapolation the other “C-suite” officers, was committed to a large investment initiative which gave a strong message to the organisation of their support for and interest in the success of the endeavour and for providing for the supporting activities, such as change management, to ensure the success of the initiative.

Conclusion Approach 1-8
Strong support from an organisation’s senior leadership enables sufficient resourcing for an initiative, hence greatly contributing to its potential for success.

One-Off Alignment as a strategy
From the interviews and the insights gained from the participants, it was concluded that the EA initiative was supported by the senior executive management and well resourced. The design of this initiative was systematically resourced and planned.

Conclusion
A One-Off Alignment Approach was a good approach for the redesign and restructuring the enterprise architecture of the organisation.

Summary
All three organisations investigated appeared to exhibit characteristics consistent with Miles and Snow’s (Miles et al. 1978) organisational types with respect to governance and alignment strategies and can thus be seen to support Miles and Snow (1978)’s organisation characteristics.

Additionally it appeared that both internal and external factors were of immediate relevance to the issues investigated, particularly in Case Study 3 where external forces on the business exerted internal pressures within the organisation to restructure the organisational enterprise information systems. It is also useful to review strategy formulation tools and processes.

This chapter has looked at three Case Studies with the context of three different organisations all attempting One-Off Alignment Approach. The obstacles encountered were in part due to the complexity of the type of One-Off Approach chosen, specifically, business alliance and partnerships with external organisations, which are complex and introduce other difficulties such as organisational culture and governance.
and pressures on financial investment. The third organisation had recognised the importance of financial and resource investment, and the EA initiative looked to have a promising start. However can these differences be explained by the fact that this approach was being investigated in different companies for differing needs? The next chapter goes some way to investigating this by revisiting the third organisation which used a Continuous Alignment Approach Driven by Business Direction.
Chapter 5. Alignment Approach 2  
Continuous Alignment Driven by Business Direction

5.1 INTRODUCTION

This chapter investigates the Continuous Alignment driven by Business Direction approach, defined in Section 3.4.4. Table 5-1 restates the definitions for this approach.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach 2</td>
<td>Continuous Alignment Driven by Business Direction</td>
<td>Where there are repeated processes put into place to ensure continuous alignment as a direct consequence of the business requests or direction.</td>
</tr>
</tbody>
</table>

The study selected was situated in the insurance industry. As such the industry sector is described in detail followed by the research design and description of each case study. As with the all case studies pseudonyms for organisations and personnel have been used to maintain anonymity.

The case study is described by looking at its purpose, its structure, an overview of its profile and the data sources collated. The detailed description of the case study is based around the issues previously selected for investigation. The case study concludes with a brief discussion of these issues and a discussion of the alignment approach at the end of the chapter.

The case study lies within the context of a single organisation, INSURE, and investigated continuous alignment processes.

5.2 CASE STUDY 4 – ESTABLISHING AN ASSESSMENT PROCESS

5.2.1 About the Case Study

5.2.1.1 Purpose of Case Study

The purpose of this case study was to investigate an example of business driven alignment processes. The Establishment of an Alignment Assessment Process was the delivered outcome of the engagement. The assessment process was established to assess new directions in Information Technology and Systems proposed by the
business. Issues covering topics such as strategic planning, contingency factors, IT tools and processes and mechanisms of alignment were investigated.

5.2.1.2 Industry Sector - Insurance
The organisation investigated within this case study was part of the Insurance sector. Refer to Section 4.4.1.2 for discussion regarding this sector.

5.2.2 Design Research and Select Issues
This case study was assigned to the Continuous Alignment Driven by Business Direction Approach, with the main topic of investigation being Establishing an Assessment Process for technology evaluation. Refer to Section 3.5.3 regarding the opportunistic selection of case studies and Section 3.5.5.1 describing the purpose of the engagement and the organisation in which the case study was situated.

Four issues were determined to be most relevant for investigation within this case study. As this case study is set within the context of continuous alignment, Issue 2, was of direct relevance. The engagement underpinning this case study, as informed by the project brief, was initiated as a result of influences within the organisation and with the goal to formalise and manage these influences. Hence, it was determined that Issue 6, regarding internal and external influences, was also of direct relevance to this case study.

Issue 14, looking at how to elicit support for alignment processes, was deemed of immediate relevance as it was part of the brief provided to the researcher in the role of Project Manager in the establishment of the process. The Project Manager also held the additional role as Assessment Process Manager which was the operational role being established. Following the completion of the project, the Assessment Process Manager role was handed over to the Business Analysis Practice Lead.

One of the major outcomes of the assessment process was to ensure systematic and documented evaluation of technologies to ensure alignment. As such, Issue 16, investigating the value of non-alignment was of immediate relevance to the case study.

Reasons for issues selected and those not selected for this case study are listed in Table 5-2.
<table>
<thead>
<tr>
<th>No</th>
<th>Issue to be investigated</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>Of relevance to Case Study 4, however other issues are of greater relevance due to the nature of the engagement and the activities being undertaken.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>Continuous alignment is directly relevant to Case Study 4.</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>The chosen strategy for alignment for Case Study 4 was determined by executive management and not the focus of the engagement hence information could not be easily collated.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.</td>
<td>This issue was applicable for this case study, however as Case Studies 3 and 4 are in the same organisation, refer to the discussion for INSURE organisation in Case Study 3.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>Governance and executive management issues were not part of the engagement underpinning this case study.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>The engagement underpinning Case Study 4 looked at external and internal influences so it was determined as directly relevant to the case study.</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>The engagement underpinning Case Study 4 did not look at external or internal influences on the organisation.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>The engagement underpinning Case Study 4 did not look at operational processes.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>The engagement underpinning Case Study 4 was not looking at the IS competencies.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>The engagement underpinning this case study was not looking at tools and processes.</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>The engagement underpinning Case Study 4 was investigating support for the alignment processes hence this issue was determined as directly relevant.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>The engagement underpinning Case Study 4 was also looking at technologies which may be non-aligned hence this issue was determined as directly relevant.</td>
</tr>
</tbody>
</table>

Table 5-2 Issues Selected for Investigation for Case Study 4

Based on the Generic Model for Single Case Study Design (see Figure 3-5), Figure 5-1, shows the customised design for the case study.
The alignment approach for this case study investigated processes designed to continuously align an organisation’s IT systems and processes with its business direction.

The following sections report on the study closely following the Level and Step notation of the methodology to assist the cross-referencing between methodology, data collection and discussion.

### 5.2.3 Determine Instruments

#### 5.2.3.1 Data Sources

A generic data source list was identified in Table 3-7, however specific sources for data collation and analysis for this case study are listed in Table 5-3.

The data collated from multiple sources included: transcriptions of seven 1.5 hour interviews; weekly team meeting minutes and field notes across seven months duration of the engagement; project design documents and project management documentation; and 42 assessments documents of between 2 to 5 pages each. These multiple sources comprised over 300 pages of data and were used to inform the data analysis undertaken.
### Data Type

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>Interviews were conducted with the following:</td>
<td>Interview questions provided in APPENDIX B.</td>
</tr>
<tr>
<td></td>
<td>• CIO</td>
<td>Interviews were recorded and transcribed and quoted as required.</td>
</tr>
<tr>
<td></td>
<td>• Business Solutions Delivery Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Enterprise Architect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Program Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Solutions Delivery Practice Lead</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business Analysis Practice Lead</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ICT Manager</td>
<td></td>
</tr>
<tr>
<td>Field Notes</td>
<td>Work Diary and Meeting Notes and Minutes</td>
<td>Recorded by the Researcher Project Manager.</td>
</tr>
<tr>
<td>Project Documents</td>
<td>Assessment Tracker</td>
<td>Created by Researcher as Assessment Process Manager.</td>
</tr>
<tr>
<td></td>
<td>Assessment Process and Workflow documents</td>
<td>Created by Researcher as Assessment Process Manager.</td>
</tr>
<tr>
<td></td>
<td>Workshop Notes</td>
<td>Created by Researcher as Assessment Process Manager.</td>
</tr>
<tr>
<td></td>
<td>Team Structure Document</td>
<td>Created by Researcher as Project Manager.</td>
</tr>
<tr>
<td>Project Deliverables</td>
<td>42 Assessment documents</td>
<td>Created by Researcher as Assessment Process Manager.</td>
</tr>
</tbody>
</table>

Seven interviews were conducted. The list of case study participants and interviewees is provided in Table 5-4.

The interview responses were reviewed and incorporated as part of detailed investigations into the issues selected for the case study. Extracts of responses from case study participants are quoted in the case studies.
### Table 5-4 Case Study Participants

<table>
<thead>
<tr>
<th>Title</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Process Project Manager</td>
<td>Responsible for design, establishment, documentation and implementation of the new Assessment Process. Current Researcher. Act as Assessment Process Manager then train and hand over to new Assessment Process Manager.</td>
</tr>
<tr>
<td>Assessment Process Manager / Analyst (AM)</td>
<td>Responsible for managing the assessment process including co-ordinating, tracking and undertaking Assessments; Maintains business stakeholder contact throughout assessment.</td>
</tr>
<tr>
<td>Lead Business Analyst (BA)</td>
<td>Responsible for assigning business analyst for assessments. Responsible for taking over the assessment process following establishment.</td>
</tr>
<tr>
<td>Business Analysts</td>
<td>Assigned per assessment.</td>
</tr>
<tr>
<td>IT Program Manager (IT PgM) (JA)</td>
<td>Receives initial business requests and initial stakeholder management. Responsible for prioritisation of Assessments. Immediate owner of the process.</td>
</tr>
<tr>
<td>BSD Manager (BSD) (AS)</td>
<td>Finalisation of estimates from the BSD group.</td>
</tr>
<tr>
<td>Information &amp; Communications Technology Manager (ICT) (ICT) (MS)</td>
<td>Responsible for the ICT for the organisation. Assignment of ICT resources and finalisation of estimates from the ICT group as required.</td>
</tr>
<tr>
<td>Business Analysis Practice Lead (FP)</td>
<td>Responsible for team of business analysts available to for IT and business projects and also assigned to specific Assessments.</td>
</tr>
<tr>
<td>Solutions Practice Leader</td>
<td>Estimates for assessment, assigning developers to provide estimates and assistance.</td>
</tr>
<tr>
<td>EA Program Manager</td>
<td>Evaluation of potential impact on the new EA initiative to the assessment.</td>
</tr>
<tr>
<td>Enterprise Architect (EA) (DO)</td>
<td>Responsible for the enterprise architecture of information systems and processes. Responsible for assigning solution architects for the assessments</td>
</tr>
<tr>
<td>Solution Architects</td>
<td>Evaluation of potential impact on general program of work from the assessment.</td>
</tr>
<tr>
<td>Work Planning Coordinator (WPC) (VV)</td>
<td>Responsible for assigning and prioritisation of resources to assessment.</td>
</tr>
<tr>
<td>Chief Information Officer (CIO) (OG)</td>
<td>Responsible for the information technology infrastructure and systems and processes. Overall high-level owner of assessment process.</td>
</tr>
<tr>
<td>Business representative(s)</td>
<td>One or more business representatives, usually those involved in the initial assessment request.</td>
</tr>
<tr>
<td>BPO Manager (BPOM) (VW)</td>
<td>Business Projects Office Manager. See Case Study 5.</td>
</tr>
</tbody>
</table>

5.2.4 Undertake the Case Study

5.2.4.1 Case Study Organisation

This organisation for this case study was INSURE, the same organisation as that for Case Study 3. For a full description of this organisation refer to Section 4.4.4.1.

5.2.4.2 Scope of Engagement

A project was initiated to create and establish a process to quickly assess feasibility, cost, and potential timeframe of an IT solution and/or system proposed by INSURE’s
operational and business areas. Additionally these proposed systems were assessed for potential fit to the strategic IT direction and the overall business direction of the organisation. The Assessment Process was a collaboration process involving representatives of the business units proposing new technologies or systems and representatives of IT and the organisation’s executive management. The assessments were then presented back to the business, which could, if they wished to proceed, promote the assessment findings to the IT Steering Committee (ITSC), INSURE’s IT governance group, for formal approval and prioritisation as a project.

The researcher’s role was of project managing the establishment of an operational process, the Assessment Process, and as an Assessment Process Analyst following implementation, for pilot and improvement of the process. This included: creating, establishing and documenting the process; collaborating with relevant business groups; and managing a successful assessment process; and handover to the lead business analyst to continue with future assessments. A total of 42 assessments were conducted over a period of seven months.

5.2.4.3 Scope of Case Study
This case study focused on the organisation’s initiatives to review proposed new technologies and assess whether these would enhance or detract from its business goals. The case study investigated the initial outcomes of the Assessment Process including the context of its setup. Table 5-5 summarises the case study profile.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Approach 3 – Continuous Alignment Driven by Business Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>Case Study 4 – Assessment of New Directions in Information Technology and Systems</td>
</tr>
<tr>
<td>Major Organisation</td>
<td>INSURE</td>
</tr>
<tr>
<td>Associated Organisations</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Role of the Researcher</td>
<td>Project Manager / Assessment Process Manager</td>
</tr>
<tr>
<td></td>
<td>Creation, establishment and operation of new operational process: Assessment Process</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Field Notes</td>
</tr>
<tr>
<td></td>
<td>Interviews</td>
</tr>
<tr>
<td></td>
<td>Project Documentation</td>
</tr>
<tr>
<td></td>
<td>Assessment outcomes</td>
</tr>
</tbody>
</table>

Table 5-5 Case Study 4 Overview
5.2.5 Analyse Data

The data collected and collated, as stated in Table 5-3, was analysed against selected issues arising from the literature review conducted in Chapter 2 (See Table 5-2).

5.2.5.1 Strategic Planning

*ISSUE 14 – Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.*

The IT department’s response and steps to elicit support for alignment was in the form of creating and establishing an Assessment Process.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity Description</td>
<td>Clarification of:</td>
</tr>
<tr>
<td></td>
<td>• Business opportunity, processes, legislative changes</td>
</tr>
<tr>
<td></td>
<td>• Business objectives</td>
</tr>
<tr>
<td></td>
<td>• Prioritisation</td>
</tr>
<tr>
<td></td>
<td>• Deliverables required</td>
</tr>
<tr>
<td></td>
<td>• Potential for phase delivery</td>
</tr>
<tr>
<td></td>
<td>• High-level features</td>
</tr>
<tr>
<td></td>
<td>• Critical success factors of time, cost, quality</td>
</tr>
<tr>
<td></td>
<td>• Size</td>
</tr>
<tr>
<td></td>
<td>• Options available, their advantages and the initial quotes.</td>
</tr>
<tr>
<td>Opportunity Background</td>
<td>What are the:</td>
</tr>
<tr>
<td></td>
<td>• Current processes and perceived shortcomings</td>
</tr>
<tr>
<td></td>
<td>• Potential impact on other current process</td>
</tr>
<tr>
<td>Scope</td>
<td>What are the boundaries of the opportunity?</td>
</tr>
<tr>
<td></td>
<td>What is outside the scope of the opportunity?</td>
</tr>
<tr>
<td></td>
<td>What are the constraints, assumptions or associated dependences?</td>
</tr>
<tr>
<td>Business Case</td>
<td>What are the business benefits?</td>
</tr>
<tr>
<td></td>
<td>Degree of fit to the business strategy drivers.</td>
</tr>
<tr>
<td></td>
<td>What is the expected Return on Investment at Years 1, 2, and 5?</td>
</tr>
<tr>
<td></td>
<td>Where is the breakeven point?</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Identification of:</td>
</tr>
<tr>
<td></td>
<td>• Project sponsor</td>
</tr>
<tr>
<td></td>
<td>• Key stakeholders</td>
</tr>
<tr>
<td></td>
<td>• Team members</td>
</tr>
<tr>
<td></td>
<td>• External suppliers or service providers</td>
</tr>
<tr>
<td></td>
<td>• Expectations of the requestor.</td>
</tr>
<tr>
<td>Alignment</td>
<td>Strategic Fit with INSURE’s long term business and IT goals</td>
</tr>
<tr>
<td></td>
<td>Enterprise Architecture Fit with INSURE’s long term business and IT goals</td>
</tr>
</tbody>
</table>

Table 5-6 Detailed clarification of the opportunity being assessed
This alignment approach and case study was characterised by engagement at the grassroots level. Following a request for assessment to the IT Program Manager, who prioritised the request, the Process Analyst commenced the process for clarification of information. The first workshop was a joint workshop between the business and IT representatives.

Clarification of the business opportunity and objectives, the types of deliverables needed and the prioritisation of the opportunity were discussed in detail. Additional clarification was sought to identify critical success factors including timeframe or cost. The joint identification of these parameters served to ensure the understanding of all parties involved, of the nature, the criticality and the constraints of the business requirements.

Table 5-6 shows the detailed information clarification for each opportunity being assessed. The degree of fit to business and IT strategic initiatives is to be noted. Clarification of timeframe and cost criticality at an early stage of the process also served to ensure the alignment of understanding of the size of the potential opportunity and enabled any misunderstandings to be cleared quickly.

**Conclusion**

It was evident that a wide representation of business and IT stakeholders were included in discussing the business opportunities and objectives enabling clarification of steps to be taken in support of the business strategy. Additionally the single joint workshop was expanded to two joint workshops, in effect doubling the formal collaborative process. This indicates a strong level of Communications at the Senior Level and would support a High rating for this assessment criterion.

Investigation into this issue also highlighted that the Assessment Process provided for linking and explicit alignment with business drivers and IT strategic direction as shown in the discussion of the opportunity (see Table 5-6). The Assessment Process is seen to be providing the mechanism for supporting business direction and goals. This provides strong support for the fourth alignment criterion, IS&P Support for Business Direction and hence a High rating was indicated.
5.2.5.2 Continuous Alignment Processes

ISSUE 2 – Investigate how an organisation can engage continuous alignment processes.

This issue enabled the researcher to investigate whether the processes were in place that could assist in continuous alignment. The assessment process used in the case study was a customised process designed to quickly assess the merits of a given technology and software through workshops with interested stakeholders. These included business owners, the IT service department, the solution delivery manager and practice leads, the enterprise architects as well as others.

The process was created and documented by the researcher. Over a period of seven months it was piloted and adapted to reduce turnaround timeframes and increase maximum visibility of the technology assessment within the organisation.

A high-level representation of the Assessment Process is shown in Figure 5-2. The alignment mechanism is the process itself. The business needs presented to the organisation had to be assessed and weighed against the IT strategic direction of the organisation. The decision was made by an informal group with IT and business governance representation. The business can then take the assessment for formal review and approval by the ITSC. The alignment was not between business needs and IT policies but rather between the technology assessed and the current IT strategic direction as evidenced by current large initiatives such as Enterprise Architecture program or other technology initiatives in place. For example, the IT strategic direction was towards ensuring information and systems became part of INSURE’s suite of systems or resided in organisational approved data sources. Thus any proposed technology which was isolated was not favourably looked upon.

The Assessment Process involved many different personnel from the IT sections as seen from Figure 5-2, indicating both the investment of the organisation in the processes and the breadth of skills and experience utilised.

Many of these stakeholders were interviewed and their comments provided insight into the process. Table 5-7 details the steps involved in the Assessment Process and the deliverables. It is important to note that the process owners and participants were open to change and improvement of the process.
Initially the assessment process entailed the Assessment Process Analyst to engage with the business and hold a workshop with the IT representatives. However later in the Assessment Process, this was changed to hold a preliminary joint workshop with both business and IT representatives. There was recognition that collaboration between the business and IT representatives had increased giving rise to improved outcomes for the process as confirmed by the CTO:

"It has become more inclusive of the people involved in the process" (MS#11).

The benefit of this improvement was that by being involved in the IT questions and discussions, the business had a greater understanding of the complexity of proposed ventures and the potential impacts other IT systems. This greatly increased their understanding of any costs or timeframes that IT would later present. The people involved in cost estimation, as well as business representatives who have an in-depth understanding of the business requirements, participate in a joint requirements workshop. The IT department then provide cost estimation. Although the amendment to the process by having a joint workshop increased the turnaround time for the Assessment process, this was regarded by the Delivery Manager as an acceptable impact due to the derived benefit to all participants:

"[the Assessment process is] not as short as used to be with two workshops but still timely" (AS#11).
Benefits of the joint workshop allowed the business representatives to become more aware of the process, any dependencies and contingencies as well as have greater understanding of the IT department perspective and helped the business solidify what they were actually wanting, as indicated by the Business Analysis Practice Lead and CIO respectively:

“[We] involve the business stakeholders in the first assessment workshop so that we can eliminate any assumptions early up.” (FP#11);

“[the business can gain greater] understanding where it can fit into our total program of work from capacity and planning point of view and capability point of view” (OG#6)

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Request from the Business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The business requests an assessment from the Program Manager. This request can be received</td>
</tr>
<tr>
<td></td>
<td>through several channels due to the lack of a defined assessment logging procedure. The</td>
</tr>
<tr>
<td></td>
<td>request usually includes a summary of requirements from internal investigations by the business. Prioritised assessments are addressed by the Assessment Process Coordinator.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Initiation and Analysis of Business Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Assessment Coordinator assigns a BA and commences assessment requests according to priority. An initial requirements document was produced from available information and initial interviews with business or IT personnel focusing on extracting the high level requirements only with some idea of solution scale and possibilities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Assessment Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A brief document summarising the business problem and requirements at a high level. Also an input document into an approved project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Assessment Workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clarification of requirements and potential solution options within a forum comprising both business stakeholders and ITS representatives.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Assessment Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimates undertaken by personnel agreed in workshop. These personnel will differ from assessment to assessment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Estimation and solutions workshop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This workshop restricted to ITS assessment group to finalise estimates and solution options.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Assessment Findings Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Presentation document for end-to-end assessment of the business problem and provides solution options with accompanying estimates.</td>
</tr>
</tbody>
</table>

Table 5-7 Assessment Process Steps and Deliverables
The Assessment Process itself indicates a high level of alignment across all of the criteria:

- There was a high level of governance and support from senior management for the process and hence a High level was assigned for the Governance criterion.
- There were frequent and regular communications and information feedback between senior management and the business owners. This indicated a High level for the Communications at Senior Level criterion.
- The establishment of the Assessment Process by the IT department and the collaboration of both the business and IT representatives as part of the process was evidence of a High level for the IS&P Support for Business Direction criterion.
- There were sufficient resources and of required competencies made available by the organisation to support the Assessment Process indicating a High level for the IS Competencies and Skills Maturity criterion.

The participants were asked to list the perceived benefits from the Assessment Process. These were categorised and listed in Table 5-8.

<table>
<thead>
<tr>
<th>Benefits from the Assessment Process</th>
<th>No of Participants Listing Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>More consistency of process and estimation</td>
<td>4</td>
</tr>
<tr>
<td>Quicker response</td>
<td>7</td>
</tr>
<tr>
<td>Increased alignment to business / IT directions</td>
<td>3</td>
</tr>
<tr>
<td>Better planning</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 5-8 Benefits for the Assessment Process

General statistics for the Assessment Process were recorded in Table 5-9.

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Assessments</td>
<td>42</td>
</tr>
<tr>
<td>Number of Assessments cancelled</td>
<td>9</td>
</tr>
<tr>
<td>Longest Assessment duration</td>
<td>12 weeks</td>
</tr>
<tr>
<td>Shortest Assessment duration</td>
<td>1 week</td>
</tr>
<tr>
<td>Average Assessment duration</td>
<td>5 weeks</td>
</tr>
</tbody>
</table>

Table 5-9 Assessment Statistics

Over 42 assessments were undertaken in a seven month period. A number of these were investigated to identify what determined success and what was not so useful. One assessment influenced the IT strategy to incorporate the new technology. Additionally
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

over the lifespan of this process, changes made to improve the process and its outcomes were investigated resulting in increasing efficiency and reduced assessment duration.

Conclusion

The Assessment Process was deemed by the business and the ITSC as highly successful. It was improved upon over time and expected to remain as part of the organisation’s culture alignment mechanisms. The Assessment Process was regarded as similar to Córdoba (2009)’s approach: analysis of stakeholder understandings prior to planning; continuous identification of stakeholders concerns; and critical reflection for improvement of IS planning.

Most participants acknowledged that the process improved planning activities for both the business and IT. This implied that there was an increased sense of ownership and collaborative decision making by the business representatives, and increased IT representatives’ knowledge and awareness of the technology needs of the business by IT representatives.

Investigation of this issue touched on all four criteria, all four of which were rated High.

5.2.5.3 Internal and External Influences

ISSUE 6 – Investigate the internal and external influences on an organisation and their perceived impact on alignment.

The traditional method of engaging business initiatives with the IT areas was through formally requested work which initiated formal projects. There were several challenges with this approach, which were addressed by the Assessment Process.

Pressures to Create Assessment Process

The challenge to IT was that the previous response to business for initiatives took too long. When requests were made of IT, these were prioritised and scheduled as projects, creating long delays and high-costs as projects were only commenced with detailed estimates being returned. The impression was that IT were slow to respond, the processes were lengthy and not agile enough. Both the EA and CTO confirmed this:

“Current methodology …. takes too long and always the users or business have to wait a long to get any answers and so to compensate for this weakness the assessment process was started.” (DO#2);
“we [IT] were seen to be slow, costly and time-consuming” (MS#2).

The assessment process ensured a quick and high-level response with an average duration recorded as five weeks as shown in Table 5-9. The longest durations were mainly due to increased scope during the process. These durations were an improvement over previous response times as reported anecdotally by the participants.

**Grass Roots Alignment Mechanism**

The assessment process enabled a grass roots alignment mechanism with the IT strategic direction including taking into account new initiatives underway, such as the Enterprise Architecture initiative investigated in Case Study 3. For example, the Solution Architect checked to see whether the proposed technologies would impact the current or future planned technological infrastructure or with the major IT directions currently underway such as the EA initiative. This provided visibility to the business as to whether their requested opportunity would be consistent with the overall strategic direction of the organisation and in some cases whether the new initiatives rendered the potential opportunity redundant. Conversely, the Assessment process provided necessary information back to the business for planning purposes, as indicated by the EA and the Program Manager respectively:

“[if] the initiative would have any architectural impact or misalignment”  
(DO#4);

“[the] business have been able to use the assessment process as input to their planning process” (JA#6).

**Role of Assessment Process**

The impact of the Assessment Process was positive and significant to both IT and the business areas. It allowed for forward planning for both areas, enabled agility for the IT response to the business, provided necessary information and feedback for IT governance mechanisms as well as a long-term view of business needs and requirements. The positive impact on the business was clearly recognised by the Program Manager (JA), the Delivery Manager (AS) and the CTO (MS):

“[the Assessment Process was a] planning tool; …planned and consistent in a repeatable way of investigating potential projects” (JA#1);

“enabler to scope to help business understand what it is they want to do”  
(AS#5);
allowed IT “to be more responsive to the business” (MS#2);
“gives me something on the table so I see if I can run with it” (MS#2);
“... gives IT steering committee information to see if it warrants further investment” (MS#5);
“confirms that understanding of requirements” (MS#6);
“Assessment process is making inroads in [IT as] trusted advisor” (AS#6);
“[providing] opportunity for the business to raise with us the things they are thinking of doing; so it’s giving us [IT] a longer view of the pipeline. They are comfortable to raise things as know wont kick of a huge big project.” (OG#5)
“a quicker response to requirements and they should be able to quickly make an informed decision whether an IT or perceived solution should be pursued” (DO#6).

Positive and Negative Impacts to ITS and to the Business

Although the entire interview group saw the assessment process as positive, there were some risks which, if not mitigated, could develop negative impacts or highlighted other areas where improvement could be made. This was particularly noticed by an unexpected outcome of the success of the Assessment Process in that there was a marked increase of Assessment requested. This was directly acknowledged by at least two of the participants, the EA (DO) and the Work Planning Coordinator (VV):

“The risk is if the user takes the assessment process as being the solution ... then yes it will be negative because they will hold ITS and say this lets do that” (DO#10);

“We need to improve estimating. People involved have different skills levels” (VV#10);

“Sometimes we have too many assessments” (VV#12).

The assessment process was very positively rated by both business and the IT areas and was considered to have positively contributed to the relationship between the business and IT. It contributed to IT’s reputation and image due to the increased timeliness of IT responses, the increased information and understanding engendered by the Assessment Process itself and the increased interaction with the business areas. The Assessment Process was recognised as having improved of the relationship between the
business and IT as an outcome and to continue that improvement into the future. This was recognised by the Work Planning Coordinator (VV), the Business Analyst Practice Lead (FP), the Delivery Manager (AS) and the most importantly the CIO (OG):

“I think it was quite a surprise to the business that we could do such an exercise for example, the turnaround was quicker, we could do as much and a give high level of benefit; a positive image of ITS to the business.” (VV#8);

“Personally I like it [the assessment process] as you get to meet the business and many people which helps see whole breadth of different things happening out there” (FP#11);

“Over time ...[the assessment process will] build trust that we [IT] can advise and guide them” (AS#6);

“I think it’s a really good service. The business really like it. They are happy to get something at the end that they take away and use to progress their cause” (FP#14);

“Being aware of the possible costs of work that they initiate and/or impacts to the bigger pieces of work occurring into the strategic directions. This is the key benefit.” (OG#6);

“[The process] “helps the business solidify what they are actually wanting and can assist them form more close to what they need” (OG#6).

Positive outcomes also included improved expectation management for length and cost of potential initiatives, improved understanding of the difference between Assessments and a future potential project, greater understanding of the components and hence costs for a potential projects. There were also some potential negative outcomes including a reluctance of the IT representatives in providing ballpark costs rather than at detailed project based costing. Additionally it was felt that more rigorous scoping exercises were need to be undertaken rather than relying of the Assessment itself. This was stated by the Business Analyst Practice Lead (FP) whose team of business analysts and the Program Manager (JA) were often at the forefront of trying to manage expectations:

“We were managing expectations. Making sure that [the business stakeholders] know that this is an assessment not project” (FP#7).
However IT representatives felt that some assessments may be better scoped by the business first:

“There are some assessments depending on the nature of it, the findings might just be [that] we recommend you do scoping [exercise]” (FP#7).

The IT representatives were also reluctant to provide costings as they felt it committed them to a broad estimate which was not fully based on the full cost analysis they normally undertook:

“...trouble getting people to give estimates without the depth of information normally done; ...reluctance from our own people [IT].” (JA#10).

Other areas of potential negative impacts were the potential impacts for the IT governance and oversight for potential projects. Whereas previously some minor IT projects and initiatives may have been low-profile and assessed and implemented through existing budgetary constraints, the Assessment Process had the potential to raise the awareness of these projects to higher IT visibility such as CTO and CIO levels. The increased visibility had the potential to hinder the implementation of these projects. The Program Manager’s observations highlighted this potential impact:

“There are some people may perceive negative things in the sense that this as assessment process [raised] visibility of requests that [previously have] been coming through relatively low levels within the organisation and getting acted upon. As part of the assessment process, [these] were raised to a level of seniority and some things got blocked. Overall this is a business benefit but for some people could see this [as] a bureaucratic block.” (JA#7).

This may indicate that there were still areas of improvement required for the Assessment Process to gain acceptance by the business.

The Assessment Process exhibited many high level alignment characteristics according to the alignment criteria. Very strong on its list was the criteria for Governance and IS&P Support for Business Direction which were both rated High. The Communications at the Senior Level criterion was rated as Medium. A high rating would require regular formal as well as informal communications from senior management to other parts of the business as well as continuing education. As communications were not regular and more informal this lowered the rating.
There were some negative impacts of the Assessment Process, although they were not rated as very important. This involved the risk that the Assessment Process feedback could be taken as the full project impact statement and that the rough order of magnitude estimated costs (plus or minus 50%) would be taken as the formal costing estimate. This risk was attempted to be mitigated by careful wording in the assessment document and explanations given back to business representatives.

There is also the limitation of Assessment size. Some initiatives do not lend themselves the Assessment Process for example, the large EA initiative that was currently underway and reported in Case Study 3. Large potential initiatives need the discipline and methodology to assess the business needs, financial and market impacts and returns on investment. All these may be outside the scope and the capability of the short-term driven Assessment Process. This was supported by the Enterprise Architect (DO):

“Some projects are too large there are limitations to the process due to project size for example, Eclipse document management system, as it cannot be implemented in isolation. Some projects need proper studies as assessment process will be meaningless.” (DO#12)

**Conclusion**

Overall there was a strong positive outcome for both the business and IT areas as well as to the organisation as a whole, resulting from the Assessment Process. There was evidence of strong internal influences on the organisation to initiate and implement the Assessment Process, with strong positive impacts and weak negative impacts occurring following implementation. There were also recognised potential risks and accepted limitations with the Assessment Process. External influences were not observed as the Assessment Process was an internal process. Overall three criteria were rated for this issue: Governance rated High, IS&P Support for Business Direction rated High and Communications at Senior Level rated Medium.

**5.2.5.4 Non-Alignment**

**ISSUE 16 – Look at which areas might benefit from non-alignment.**

Non-Alignment of initiatives to the organisation’s business or IT goals can be beneficial in certain circumstances. If a business opportunity does not align to the current IT standard operating environment then it could indicate that the environment is
not meeting the business requirements. As such the non-alignment may well present a tension that is resolved by either the opportunity being negatively assessed or the environment flagged for change. The Assessments undertaken through the Assessment Process provided the stimulus to the business to address the non-alignment. That is, the assessment of new technologies influenced both the business and ITS to be able to review their goals and adjust them in response to the Assessment as indicated by the Program Manager and CIO:

“Business use the assessments as input to their planning process” (JA#6);

“IT understand and plan ITS pipeline... Understand what projects are dependent and overlap. Better view of whole program of work.” (OG#8).

The initiation and establishment of the Assessment process could be said to be a direct response to non-alignment as the process was envisaged by the CIO department heads as an outcome from the first workshop held to identify problems. This was evidenced by the Assessment Process itself as one of the first actions being put into the place to assess the business need or problem and the potential new technologies or requested changes to IT and business systems as evidenced by the Program Manager:

“The CIO and department managers [were] involved. The first workshop identified what the problems were.” (JA#3);

“Understanding how this can fit into work from capacity and planning.” (OG#6).

This was particularly effective for the Delivery Manager, Program Manager, CIO, CTO and the Enterprise Architect as major stakeholders of the Assessment Process.

In this case study, the non-alignment of IT processes to the business immediate requirements was propelling the business to look into new solutions and approaches, to fulfil this need, encouraging the business to look at innovative technologies and new ways of addressing the business problems. These often developed into proposals to the ITSC for new IT solutions. The establishment of the Assessment Process was in direct response to the increasing number of proposals. This was borne out by the number of Assessments undertaken in the months following the establishment of the Assessment Process.
It is interesting to note that not all proposed IT systems, deemed non-compliant with the IT strategy, were dismissed out of hand. One assessment documented that although a newly proposed infrastructure technology was not in the IT strategy, it represented an enhancement for the strategy. This was recognised by the IT infrastructure representative onto the assessment workshop and hence the IT strategy was amended to account for the new infrastructure.

Conclusion

It can be said that the discordance between business need and IT process forced the ITSC to develop a process to ensure alignment or, in some circumstances, influence the IT strategy to accommodate new technologies. However a positive outcome from this tension can only occur if there is strong Governance and Communications at the Senior Level to ensure that remediation takes place. For this reason these two criteria were assessed as High even though initially there was no alignment prior to the case study.

5.2.5.5 Alignment Assessment

Assessment of alignment was undertaken across three areas: re-examination of the alignment approach; alignment criteria; and overall alignment assessment for the case study.

Validation of Alignment Approach

The alignment approach was re-examined and summarised in Table 5-10.

It was concluded that the continuous, small alignment outcomes driven by the business delivered alignment of proposed technologies or IS applications to business direction.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Assessed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situations of alignment or non-alignment</td>
<td>Alignment</td>
<td>It was recognised that there was a need for a process to ensure proposed new technology or proposed enhancements to existing applications were aligned to business direction and IT strategies and policies.</td>
</tr>
<tr>
<td>Discrete processes versus ongoing processes</td>
<td>Continuous</td>
<td>This case study exhibited continuous process to assess technology suggested by the Business against the IT strategy and policies and know business direction.</td>
</tr>
<tr>
<td>Large alignment outcomes versus small alignment outcomes</td>
<td>Small</td>
<td>The expected outcomes impacted the business area rather than the organisation at large.</td>
</tr>
<tr>
<td>Business driven versus systems and process driven</td>
<td>Business driven</td>
<td>This initiative is deemed business driven as it was initiated by the governance team.</td>
</tr>
</tbody>
</table>

Table 5-10 Alignment Approach for Case Study 4
Alignment Assessment via Criteria

The issues were assessed along four criteria for Governance, Communications at Senior Level, IS Competencies and Skills Maturity and IS&P Support for Business Direction defined previously in Table 3-5 and according to the dimensions and type defined in Section 3.5.4. The criteria provide evidence for an Alignment Maturity Rating in the context of the case study, defining Alignment Maturity along a five-point scale as defined in as Table 3-6.

A consolidated table for all criteria assessments, listed in Table 5-11, is discussed in the context of Alignment Maturity.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Issue</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>2</td>
<td>Continuous alignment processes</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Internal and external influences</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>Non-alignment</td>
<td>High</td>
</tr>
<tr>
<td>Communication at Senior Level</td>
<td>14</td>
<td>Strategic planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Continuous alignment processes</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Internal and external influences</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>Non-alignment</td>
<td>High</td>
</tr>
<tr>
<td>IS Competencies &amp; Skills Maturity</td>
<td>2</td>
<td>Continuous alignment processes</td>
<td>High</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction</td>
<td>14</td>
<td>Strategic planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Continuous alignment processes</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Internal and external influences</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 5-11 Criteria Ratings from Issue Investigation for Case Study 4

Governance

Governance processes were in place and functional with IT approval for Assessments established and documented by the Project Manager (current researcher). Additionally, the stakeholder relationship between the business and IT improved. With the commencement of the Assessment Process, the initial reaction from IT was that the business was not required to be present in the workshop, with the Assessment Process Manager collating the information and acting as the representative of the business perspective. With the change in the Assessment Process to include the business representatives into the joint workshops, the relationship between various business areas and IT improved as evidenced by the BPO Manager’s viewpoint on the Assessment Process following an assessment request:

“I think the involvement we have with ITS now is very good...I don’t think ITS are reserved to have us in [Assessment Process workshop] there, they almost welcome us in there. They know why we are there and what our job is”

(VW#5b).
There were three instances for assessment of this criterion, all of which rated High giving strong support for a mature process rating for the Alignment Maturity Assessment such as Level 5-Optimal Process.

Communications at Senior Level
Communication from senior management regarding the Assessment Process was formally received through the regular project progress meetings. There was both formal and informal communication from the project to business representatives and IT team members and stakeholders. As discussed in detail in Issue 2 earlier, this was evidenced through three mechanisms: formal meetings held by the Assessment Process Manager with the business and IT stakeholders throughout the process; the two formal workshops held as part of the process; and the formal assessment report delivered to the business representatives. A lowered rating of Medium was found as part of the issue investigation into Internal and External influences (Issue 6) which indicated a lowered frequency of formal reporting in the early stages of the process. This indicated a developing process. Hence a high Alignment Maturity rating of Level 4 Improved Process or Level 5-Optimal Process is supported.

IS Competencies and Skills Maturity
There were a number of highly skilled individuals involved in the Assessment Process, ensuring the delivery of high quality assessments. This included IT technical specialists specific to the particular assessments being undertaken. One result of the joint workshops between the business and IT representatives in undertaking the assessments was that the business representatives had a greater understanding of the technical issues and perspectives. This indicated that the technical IT resources had the skills and competencies convey this information in a way that engendered understanding and collaboration. This criterion was rated High as part of Issue 2, Continuous Alignment Processes investigation and supports a Level 4 Improved Process or Level 5-Optimal Process.

IS&P Support for Business Direction
This case study established a process to assess new technologies for their alignment to the strategic direction of the organisation. It delivered 42 assessments over a seven month period. In general the Assessment Process was regarded as a success by both the business and IT stakeholders. Additionally the original single workshop restricted to IT personnel was expanded towards the later months of the engagement to two
workshops to include business representatives, showing clearly that there was reflection and moderation of the alignment process. The Assessment Process, by improving the interaction between IT and the business, enabled the IT representatives to have greater understanding of the business direction and needs thus assisting in the preliminary understanding and knowledge of IT personnel of business needs as stated by the Business Analyst Practice Lead:

“I like it as you get to meet the business and many people which helps see whole breadth of different things happening out there.” (FP#11).

In some ways the assessment process may also have been a victim of its own success as the number of requested assessments outstripped the IT resources available to carry them out. This was recognised by IT management and managing stakeholder expectations had commenced.

A number of improvements were due to the Assessment Process including: the improvement of turn-around time; the improvement in managing business expectation for proposed initiatives; the increased capability of knowledge sharing and transfer and documentation as evidenced by the statement from the Business Analysis Practice Lead (FP): “improvement in managing the elapsed time and expectations” (FP#10).

The Assessment Process was recognised by the CIO as needing to be integrated more formally with other business processes in the organisation such as the business opportunity management process, organisational knowledge management and documentation as per IT best practice:

“We need to build a knowledge base. We are still relying on individuals for knowledge… [we need to] build the information and input into the process.” (OG#12).

The Assessment process was widely recognised by the IT and the business as a successful project as evidenced by the Program Manager:

“The Assessment Process is a really good thing. It’s here to stay. It’s stood the test of time. It’s been well received by the business.” (JA#14);

“It’s evolved to a good process that works for both ITS and the business.” (OG#14);

“I think it’s really good. The business really like it.” (FP#11).
Overall there were three instances of this criterion rated High giving strong support for a Level 5-Optimal Process for Alignment Maturity Assessment.

**Overall Alignment Assessment**
This case study had all but one of the eleven instances across all four criteria assessments rated as High (the exception was a Medium rating for Communications at the Senior Level). This was seen as evidence for strong level of delivering alignment within the context of this case study.

Using the overall alignment maturity rating, derived from the criteria assessments, a Level 5 – Optimal Process is indicated: Where alignment outcomes are regarded as optimal and there is complete alignment (see Table 5-12). Although this is rated as optimal, this rating does not imply an end of the alignment process as the Continuous Alignment processes necessitate a continual review and adjustment of alignment between business direction and IT systems and processes.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Acknowledgement</td>
<td>This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.</td>
</tr>
<tr>
<td>2 – Beginning Process</td>
<td>Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.</td>
</tr>
<tr>
<td>3 – Establishing Process</td>
<td>Where there is a commitment to address non-alignment and the processes are underway but uncompleted.</td>
</tr>
<tr>
<td>4 – Improved Process</td>
<td>Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.</td>
</tr>
<tr>
<td>5 – Optimal Process</td>
<td><strong>Where alignment outcomes are regarded as optimal and there is complete alignment.</strong></td>
</tr>
</tbody>
</table>

Table 5-12 Alignment Rating Assigned

### 5.2.6 Refer to Theoretical Context
As defined in the application of this study’s research design to the case study, Level 1 provides for revisiting the literature in the insights from investigated issues as well as new issues which may emerge from the current case study or warrant investigation in future studies. Any Emergent Issues raised (see Section 3.5.7), are discussed as post-case analysis arising from investigation of the case study.
5.2.6.1 Impact of New Technologies

As this case study looked specifically at new technologies and new IT applications, it may be useful to look at this area in more detail. Comparisons with modern organisations which were successful or failures when new technologies appeared can be investigated. Some clear examples show how impact of new consumer technologies has created new industries, decimated established players and created a whole host of new giants in the technology fields. The following cases can be seen clearly show these impacts:

- As previously discussed, Kodak Eastman, formerly a dominant player in the photography market. Despite Kodak Eastman being an early innovator of digital technology itself in 1986, through its inability to formulate the emerging digital technology into its product and sales strategies, the company lost its massive market (Lucas Jr and Goh 2009).

- Other more recent example of technologies including the iPhone and other smart phones which have had a disruptive effect. Entrenched manufacturers, such as Nokia, have experienced downturn in sales of their handsets, with a corresponding increase of Apple iPhone handsets (Oryl 2009, Zeman 2011). The iPad/tablet phenomenon has also created new class of products, and hence new demand for tablet devices and attracted new players in the market such as Samsung, Sony and Google for handheld devices such as phones and tablets. Established organisations are also partnering with new players, such as the Apple and IBM partnership, in moves to gain ground in these new industries (Colt 2014).

- It is known that Apple and in particular the major player of Apple, Steve Jobs, had specific goals and objectives, not only to create innovative products but to create a new market of consumers and indeed a new marketing model for the music industry (Meadows 2011). Apple has done this with marked success with no less than three products in more recent times, iPod, iPhone and iPad. Apple, previously a computer company is now a major player in the music and media delivery industries (Cunningham, Silver, and McDonnell 2010).
An earlier example of new delivery mechanisms and customer service models is clearly shown by Amazon’s online book store (Seybold 1999) which has spawned delivery of electronic books (Meadows 2011).

The obvious lesson for all organisations is that strategic planning for new products or services is essential for continued success of an organisation and indeed its survival. Put bluntly, accurate evaluation of innovation is required for survival (Karagiannopoulos et al. 2005). It is apparent that INSURE was looking at the assessment process as a way of determining whether the assessed technologies could be useful and aligned to the organisation’s business directions. This adaptability lends support to the model by Lucas Jr and Goh (2009), as shown in Figure 2-10, indicating that increased adaptability and reduced rigidity increase an organisation’s ability to deal with change.

5.2.6.2 Assessing Visionary and Competitiveness

The Assessment Process did not use formal tools in assessing the visionary or competitiveness of the proposed technologies, relying instead on the understanding of the technology and its “fit” to the technological direction the organisation was taking. It could have used a number of tools such as Earl’s (2003) quadrant model assessing visionary, competitiveness, experimental or basic capability to shaping the business or support for the business as previously shown in Figure 2-5. However one draw-back of Earl’s (2003) model is the inability of the model to account for impact of time on the technology.

Following on from this, an emergent issue could be raised to investigate whether a modified Earl’s T-Portfolio model, could be used to assist risk-based decision making for selection of IT applications or systems in alignment to business direction. This Emergent Issue 4 is briefly discussed within the context of this case study as follows.

**EMERGENT ISSUE 4 – Investigate whether a modified Earl’s T-Portfolio model, could be used to assist risk based decision making for selection of IT applications or systems in alignment to business direction.**

Earl’s T-Portfolio model could be modified by a series of snapshots for a technology to be charted in its lifecycle through the quadrants where experimental or visionary
technologies could become competitive and eventually basic technologies that are taken for granted.

The impact of time on technology can be better represented using the Gartner Hype Cycle (Fenn and Hung 2011, Gartner 2006, 2017, Linden and Fenn 2003) as previously shown in Figure 2-6, and may have been utilised by the IT assessment team. The Enterprise Architect (EA) looked at the proposed solution in the assessment from an IT architecture perspective to assess whether the proposed technology would impact alignment as stated by the EA: “that initiative would have architectural impact or misalignment” (DO#4). A proposed system would be assessed to see if it fits in with the architectural standards and standard operating environment for INSURE.

Although the assessments did not rate the potential of proposed systems according to the T-Portfolio model, the criteria for experimental, visionary, IT alignment and basic were considered. Additionally the time element of an adapted T-Portfolio model could have been used to plot the life-cycle of the proposed technology over time giving a picture of the relative categorisation of the system over time. An amended model, T-Portfolio model, would warrant further research in the future.

5.2.7 Make Conclusions for Case Study 4

Four issues were selected for investigation by this case study, based on their relevance to the opportunistic nature of the engagement underpinning the case study and the role of the researcher.

The issues relevant to the case study are listed in Table 5-13.

<table>
<thead>
<tr>
<th>Issue No. &amp; Description</th>
<th>3 – Continuous Alignment Driven by Business Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td></td>
</tr>
<tr>
<td>Investigate how an organisation can engage in continuous alignment processes.</td>
<td></td>
</tr>
<tr>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td></td>
</tr>
<tr>
<td>Investigate areas which might benefit from non-alignment.</td>
<td></td>
</tr>
</tbody>
</table>

Table 5-13 Issues investigated in Case Study 4

One emergent issue, Emergent Issue 4, was raised in this case study to investigate a specific tool, a modified Earl’s T-Portfolio model. The previous three emergent issues were not relevant to this case study and hence not investigated.
It can be seen that INSURE used the Assessment Process to align emerging IT and IS solutions to it already defined policies and directions. This evaluation jointly by business and IT representatives can be viewed as a positive and constructive way to evaluate an organisation’s IT and business choices using workshop discussions to derive consensus for each of the assessments to allow adjustments or accommodation by the organisation for new technologies. As can be seen by the stakeholder responses to the Assessment Process this has enabled business success for assisting with increasing market share, developing deeper product or service penetration in the market.

The success of the alignment processes ensured that this remained as part of the operational processes of INSURE not only in the implementation described in this case study but also the further establishment of two additional project offices in the organisation, thus having a significant and lasting impact on the operations of the organisation itself.

This case study was conducted within INSURE, the same organisation as in Case Study 3. It looked at the business driven continuous alignment between business strategic goals and IT strategic policies, systems and processes. The business areas were the drivers for assessing proposed new software systems and technologies. The IT areas assessed proposed solutions and provided information regarding potential costs, resourcing and timeframes. More importantly, IT also assessed the potential systems alignment to the organisation’s overall business and IT strategic direction.

Although the impetus for the solutions came from the business, the IT area assessed the viability of the proposed solutions; hence business was relying on the IT area to provide guidance and considered information as to the compatibility of these systems with known IT strategic goals.

As noted, the assessment process itself was viewed very positively by both the IT and business communities. There was evidence of secondary benefits such as increased
understanding from the business as to the IT issues concerned with regards to costs and resourcing and security constraints. IT personnel also benefited from increased collaboration with business personnel. It was noted that improvement of the assessment processes was due to the inclusion of business personnel in the early workshops thus providing IT opportunity to clarify questions directly from the business personnel early in the process. This forum also contributed to the transparency of the IT and business issues to both areas.

It was interesting to note that although there were mainly positive benefits, some IT personnel reported potential negative outcomes including: taking assessment outcomes such as potential costs or timeframes as project delivery outcomes; unrealistic expectations from the business as to commencement and delivery dates rather than as an initial assessment. The need for improvement of IT estimation skills was also highlighted by the Assessment Process.

The continuation of the Assessment Process was however so highly regarded by the business that the number of requested assessment increased and required to be prioritised and scheduled.

5.3 DISCUSSION FOR THE ALIGNMENT APPROACH 2: CONTINUOUS ALIGNMENT DRIVEN BY BUSINESS DIRECTION

This alignment approach focuses on processes designed for Continuous Alignment which are driven by business direction rather than a One-Off Alignment approach investigated in the previous case studies. There was only one case study allocated to this alignment approach hence the conclusions for this alignment approach are based on only one case study.

Four issues were selected as relevant to the case study and one emergent issue was raised for this case study and hence to this alignment approach. These are shown again for convenience as listed in Table 5-15 and Table 5-16.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>No</th>
<th>Issues Investigated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their</td>
</tr>
<tr>
<td></td>
<td>perceived impact on alignment.</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support</td>
</tr>
<tr>
<td></td>
<td>for alignment processes within the organisation.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
</tr>
</tbody>
</table>

Table 5-15 Issues Investigated for Continuous Alignment Driven by Business Direction

<table>
<thead>
<tr>
<th>Emergent Issue No</th>
<th>Description</th>
<th>Raised in Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Investigate whether a modified Earl’s T-Portfolio model, could be used to assist risk based decision making for selection of IT applications or systems in alignment to business direction.</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 5-16 Emergent Issues Investigated for Continuous Alignment Driven by Business Direction

**Communication and Collaboration**

The increased collaboration between the business and IT areas during the Assessment Process provided an unexpected benefit for increased understanding for business personnel of IT processes, costs and constraints and increased understanding of business needs and timeframes for IT personnel.

**Conclusion Approach 2-1**

Increased collaboration and communication between business and IT communities contributes to increased understanding of costs and benefits.

**Organisational Learning**

INSURE was continually assessing its own strategies and processes. A follow-up visit twelve months after the establishment of the Assessment Process showed that INSURE had reviewed and improved the process based on feedback from both business and IT stakeholders. Sometimes it takes time for change to be accepted. This was highlighted when the Researcher as the Project Manager / Assessment Process Manager had suggested that business stakeholders be invited to the initial workshops. This suggestion, although not initially accepted, was observed to be implemented by the follow-up visit twelve months down the track, such that business representatives were included earlier on in the process.

**Conclusion Approach 2-2**

Change may take time for all parties to accept despite strategy reviews and process amendments.
Summary

The discussion for Continuous Approach Driven by Business Direction is based on a single case study, hence a summary for this approach has limited value except as in comparison with other alignment approaches. In general the successful factors for this case study were strong communication from the both the business and IT areas as well as a strong commitment to a collaborative approach. In time the process was improved upon and proved popular with both business and IT representatives showing willingness for learning and adapting to change reflected as organisational learning and change management and evidence of increasing capacity to deal with change.
Chapter 6. Alignment Approach 3
Continuous Alignment Driven by IT Systems and Processes

6.1 INTRODUCTION

This chapter looks at the Continuous Alignment Driven by IT Systems and Processes approach as defined in Chapter 3 and summarised in Table 6-1.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Title</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach 3</td>
<td>Continuous Alignment Driven by IT Systems and Processes</td>
<td>Where there are IT processes put into place to ensure current or future alignment.</td>
</tr>
</tbody>
</table>

Table 6-1 Approach 3 – Continuous Alignment Driven by IT Systems and Processes

Two case studies investigate the similar approach taken by two separate organisations for continuous alignment driven by IT systems and processes.

The first organisation, INSURE, is a large Australian insurance company and was the context for the two previous case studies in Chapters 4 and 5. The second organisation in this chapter, PRIMARY, is a large company involved in the primary industry sector that represented primary producers in national and international markets.

As in previous chapters, pseudonyms for have been used to maintain the anonymity of the organisations and the personnel involved.

Case Studies 5 and 6, in this chapter, investigate project management methodologies as a mechanism for continuous alignment. Both case studies were based in organisations which determined that project management methodologies and frameworks were major mechanisms for alignment to their strategic goals. The focus of the case studies was the organisational influences in instigating the initiatives or projects, project management processes and tools and their impact to the organisation.

The detailed description of the case studies are based around the issues previously identified for investigation and selection for the case studies.
6.2 CASE STUDY 5 – ESTABLISHING A BUSINESS PROJECTS OFFICE

6.2.1 About the Case Study

6.2.1.1 Purpose of Case Study

The purpose of this case study was to investigate the processes instigated by the Information Systems department to align information technology initiatives with the organisation’s strategic direction using project management practices for a business projects office similar to a projects management office. Areas such as strategic planning, governance processes, IT tools and processes and mechanisms of alignment were investigated.

6.2.1.2 Industry Sector - Insurance

The organisation investigated within this case study was part of the Insurance sector. Refer to Section 4.4.1.2 for discussion regarding this sector.

6.2.2 Design Research and Select Issues

This case study was assigned to the Continuous Alignment Driven by IT Systems and Processes with the main topic of investigation being establishing a Business Projects Office (BPO). Refer to Section 3.5.3 regarding the opportunistic selection of case studies and Section 3.5.5.1 describing the purpose of the engagement and the organisation in which the case study was situated. This alignment approach investigated project management methodologies and practice as a mechanism and driver for continuous alignment.

Four issues were determined to be most relevant for investigation within this case study. The establishment of the BPO involved the setup of governance and management structures; hence Issue 5 was of direct relevance. Issue 7 was also regarded as most relevant as this case study could directly investigate internal forces within the organisation as part of setting up the BPO.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>No</th>
<th>Issue to be investigated</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>One-Off Alignment is not relevant to this case study.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>Although this case study is about continuous alignment, the establishment of a BPO was determined prior to the engagement and was thus of less relevance for investigation within Case Study 5.</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>The chosen strategy for alignment for Case Study 5 was determined by executive management and not the focus of the engagement hence information could not be easily collated.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.</td>
<td>Although this issue is of relevance to this case study, this issue was investigated in Case Study 3 as it was the same organisation.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>The role of the researcher, as Project Manager and Business Analyst, was to establish a BPO including its governance structure and management structures hence this issue was of direct relevance.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>The engagement underpinning Case Study 5 did not look at external or internal influences on the organisation or its alignment.</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>The engagement underpinning Case Study 5 was establishing the strategic alignment process for the business unit. As part of this, internal forces were being investigated. Hence this issue was of direct relevance.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>The focus of the engagement underpinning Case Study 5 was to review and mature operational processes (i.e. the BPO) hence this issue was determined as direct and immediate relevance to this case study.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>The engagement underpinning the case study was tasked to evaluate the IS competencies hence this issue was determined as direct and immediate relevance to this case study.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>Although this issue is of relevance with regards to tools and processes in general, the other issues had greater direct relevance and allowed greater direct observation. Hence this issue was not addressed in this case study.</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>The engagement underpinning Case Study 5 was not investigating support for the alignment processes.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>The engagement underpinning Case Study 5 was not investigating non-alignment.</td>
</tr>
</tbody>
</table>

Table 6-2 Issues Selected for Investigation for Case Study 5

Another goal of the BPO was to improve the operational processes of the organisation; hence Issue 8 was of direct relevance for investigation. A further goal was the determination of the competencies and training up of personnel to function within the context of the BPO. Thus Issue 12 was determined to be of direct relevance to the case study. Table 6-2 lists issues raised from the literature review relevant to this study highlighting the issues selected for Case Study 5.
Based on the Generic Model for Single Case Study Design, (see Figure 3-5), Figure 6-1, shows the customised design for the case study.

![Figure 6-1 Customised Research Design for Case Study 5 Issues](image)

The following sections report on the results of the study closely following the Level and Step notation of the methodology to assist the cross-referencing between methodology, data collection and discussion.

### 6.2.3 Determine Instruments

#### 6.2.3.1 Data Sources

While a list of generic data sources was defined in Table 3-7 the specific data sources used in this case study are indicated in Table 6-3. The Business Projects Office (BPO) establishment deliverables and methodology and the researcher’s notes were used as primary sources for investigation.

The data collated from multiple sources included: transcriptions of a 1.5 hour interview with the BPO Manager; weekly team meeting minutes and field notes across three months duration of the engagement; project management documentation; and BPO methodology, training and operational documentation. These multiple sources
comprised over 200 pages of data and were used to inform the data analysis undertaken.

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview</td>
<td>Follow up interview with BPO Manager</td>
<td>Interview questions provided in APPENDIX B. Interview was recorded and transcribed and quoted as required</td>
</tr>
<tr>
<td>Field Notes</td>
<td>Work Diary and Meeting Notes and Minutes</td>
<td>Recorded by the Researcher.</td>
</tr>
<tr>
<td>Project Documents</td>
<td>Project Statement: Statement of scope, budget and milestones defining the project including project risks, assumptions and dependencies.</td>
<td>Created by Researcher as Project Manager.</td>
</tr>
<tr>
<td></td>
<td>Project Schedule: Scheduling tasks and resources to deliver the BPO</td>
<td>Created by Researcher as Project Manager.</td>
</tr>
<tr>
<td></td>
<td>BPO Methodology: Including processes, training, handbooks and templates.</td>
<td>Deliverable of the engagement project to establish BPO by the Researcher as the Project Manager.</td>
</tr>
<tr>
<td></td>
<td>BPO Templates delivered: BPO Project Plan Template BPO Agenda Template BPO Consolidated PSR Template BPP Functional Requirements Template BPO General Document Template BPO Minutes Template BPO Project Log Template BPO Issues Log Template BPO Scope Change Log Template BPO PSR Template BPO Resource Plan Template BPO Project Deliverables List Template.</td>
<td>List of Templates created and delivered by Researcher as part of the BPO Establishment Project.</td>
</tr>
</tbody>
</table>

Table 6-3 Case Study 5 Data Sources

The list of case study participants and interviewees is provided in Table 6-4.

<table>
<thead>
<tr>
<th>Title</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager (PM)</td>
<td>Current Researcher Responsible for design, establishment and implementation of BPO Trial and run BPO Train and handover to BPO Manager</td>
</tr>
<tr>
<td>General Manager (GM)</td>
<td>Business Sponsor</td>
</tr>
<tr>
<td>BPO Manager (BPOM) (VW)</td>
<td>Overall high-level owner and stakeholder of IT infrastructure</td>
</tr>
<tr>
<td>BPO Coordinator (BPOC)</td>
<td>Assist the BPO Manager with BPO Administration</td>
</tr>
<tr>
<td>Business Analysis Practice Lead (FP)</td>
<td>Liaison between BPO and IT</td>
</tr>
</tbody>
</table>

Table 6-4 Case Study Participants
The interview responses were reviewed and incorporated as part of detailed investigations into the issues selected for the case study.

6.2.4 Undertake Case Study

6.2.4.1 Case Study Organisation
This organisation for this case study was again INSURE and the same organisation as that for Case Studies 3 and 4. For a full description of this organisation refer to Section 4.4.4.1.

6.2.4.2 Scope of Engagement
A project was commenced within the organisation to establish project management discipline and methodology for a range of business projects with the aim of prioritising proposed projects and ensuring alignment to the strategic direction of the business unit. An additional benefit in improving project efficiency was also expected. To deliver these expectations, the organisation’s business unit management decided to establish a BPO, similar to a Project Management Office (PMO). Although the establishment of the BPO was initiated by the business unit management, the driver was to establish the discipline and rigour of project management methodologies provided by the IS&P. Hence this was viewed as an alignment initiative driven by IS&P. The researcher was engaged as Project Manager, reporting to the General Manager of the business unit, with the brief to set up and establish a project management methodology, establish the governance structure and terms of reference and to train up insurance personnel to manage and operate the new established BPO. The project team comprised the newly appointed BPO Manager, BPO Coordinator and newly appointed Business Project Managers.

6.2.4.3 Scope of Case Study
This case study investigated the establishment of a new operational structure, the BPO. The case study also investigated the influences in establishing the BPO, the methodologies and tools put into place and the expected impact of the BPO on operations. The case study was based on the personal experiences of the researcher as Project Manager in the form of field notes and project documentation and deliverables as well as feedback from participants in the form of interviews. The scope of the case study excluded the theoretical investigation of the fit of project discipline for strategic
alignment but rather the influences and impact of their use on the organisation. Table 6-3 summaries the case study profile.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Approach 3 - Continuous Alignment Driven by IT Systems and Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>Case Study 5 - Project Management as Mechanisms of Alignment – Establishment of Business Projects Office</td>
</tr>
<tr>
<td>Major Organisation</td>
<td>INSURE</td>
</tr>
<tr>
<td>Associated Organisation(s)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
| Role of the Researcher | Project Manager  
The researcher was commissioned as Project Manager to create and establish the Business Projects Office and all associated methodology and processes. |
| Engagement used as Case Study | Creation of methodology, standards, processes for Business Projects Office and establishment and training of BPO personnel |
| Data Sources | Field Notes  
Interview  
Project Documentation  
Business Operations Processes |

Table 6-5 Case Study 5 Overview

6.2.5 Analyse Data

The data collected and collated, as stated in Table 6-3, was analysed against selected issues (See Table 6-2).

6.2.5.1 Internal and External Forces

**ISSUE 7 – Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.**

The establishment of the Business Projects Office (BPO) was primarily a strategic approach to apply project management methodologies and discipline to operational activities.

There were a number of internal influences that assisted in the creation of the BPO. Firstly one of the Insurance arms had a number of improvements and innovations that they wanted to initiate. Additionally they wanted these to have the benefit of project management discipline. The attraction of the project management discipline was the systematic manner with which the innovations would be treated: realistic and monitored schedules; tracking and control of costs; pre-approved and documented specifications and plans for the projects; and regular reporting to management and leadership teams.
The initial idea came from the Operations Manager who was looking for project management discipline to improve the effectiveness and performance of the business projects being conducted. This idea was further developed at a planning day held by INSURE some six months prior the commencement of the project. As a result, the current researcher was engaged to determine an approach for establishing the BPO and to implement it.

**Conclusion**

The main drivers for the BPO establishment and implementation were internal to the organisation and were largely due to the drive to increased operational efficiency and performance. High ratings were assigned for the Governance and Communications at the Senior Level criteria.

**6.2.5.2 Governance**

**ISSUE 5 – Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.**

The BPO Methodology represented the governance and reporting channels for the project as shown in Figure 6-2. At the time of establishment there were two part-time Project Managers associated with the BPO. This had developed to three full-time Project Managers after six months of implementation and further recruitment was being planned.

Figure 6-2 also shows the relationship of the BPO to the business unit management, the Operations Manager, and the mechanisms used by the BPO Manager and Project Managers for formal reporting on the progress of the projects and initiatives. These mechanisms are aligned with industry standards for project management reporting and governance (PMI 2008, 2013, 2017).

The executive support for the BPO by the Operations General Manager was undeniably crucial to the success of the BPO implementation, providing evidence that there was a High level of alignment for the Governance criterion. The information reporting lines and management accountability to the Operations General Manager was also highly visible to the BPO, the BPO Project Managers and associated operational staff, thus confirming the importance that executive management placed on the BPO implementation and operations confirming the High rating for the Governance criterion.
Conclusion

Strong governance and management support and sponsorship of the BPO played a crucial part in the success of the BPO and consequently on the success of projects being implemented through the BPO. This ensured the alignment of the BPO systems and processes to support business objectives. A High rating was assigned to the Governance criterion.

6.2.5.3 Project Management

ISSUE 12 – Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.

Establishing a Business Project Office

The Business Project Office Methodology defined the principles and approach that were being established for the governance of the BPO. It defined the responsibilities of both the BPO and Operations Group under which it operated. The BPO Methodology also defined the specific deliverables and mechanisms that were put in place to monitor progress of projects.
The BPO Methodology was a formal deliverable of the overall BPO Establishment Project and was subject to the formal acceptance process described in its own methodology.

The BPO project delivered project management discipline to the area as well as delivering improvement of skills and tools to relevant personnel.

An example was the business improvement processes which were designed and established for the BPO by the researcher, as shown in Figure 6-3. Each sub-process was numbered and documented. Each numbered process was supported by process documentation, templates and training notes.

![Figure 6-3 Business Improvement Processes](image)

These processes showed the depth of BPO business improvement processes developed and implemented. Each of the top level processes, numbered 1 to 9, is related to alignment of the proposed project to the strategic goals of the organisation. Two processes in particular: No 5 Business Case and No 9 Benefits Realisations, directly tie in with alignment and tracking to the strategic goals.

The Business Case process allowed the organisation to measure the proposed initiative against the strategic goals and afforded the opportunity to proceed or stop the initiative. The Benefits Realisations process provides for the measurement and tracking of the initiative’s benefits following implementation against the organisations goals. This indicated a High rating for IS&P Support for Business Direction: the need for project
management methodology and discipline was acknowledged, steps were undertaken to establish and implement a BPO to support the business direction.

**Training**

A training methodology and training documentation were also created and rolled out for training and coaching the project managers, analysts and other project team members. Training and coaching approaches were developed as part of the BPO establishment and rolled out, as shown in Figure 6-4, which shows the overlapping of training and coaching from the establishment and implementation phases.

![Figure 6-4 BPO Training and Coaching Processes](image)

Training and coaching were deemed to be vital for the successful establishment of the BPO as the new roles for BPO Manager, BPO Coordinator and BPO Project Managers were all filled from the operational streams of INSURE with little formal project management training or experience.

“We had half-day day workshops on project management and also on business process review and then there was one-on-one coaching also for the individuals. For the BPO Coordinator there was one-on-one handover coaching also for myself and also for the other project managers as well”

(VW#4).

The lack of experience among the internal applicants also impacted the pace at which the BPO was rolled out with the difference between the current capability of the staff who would become potential BPO Project Managers. Significant training and coaching was needed and recognised by the BPO Manager and steps were put into place to bridge the gap, as evidenced by her statement:

“The hardest thing for me was to get people into the role. It was too big a leap from someone from a processing knowledge to jump up to project manager ...
we had to put them in as developmental to lower the bar to get people in and then I would groom them up while they were in the role” (VW#5).

It became evident that training and mentoring was essential and ongoing part of the BPO. So although the initial establishment of the BPO can be said to be driven by the business need for improved performance and efficiency, the training approach was clearly driven by the process requirement as there was a lack of project management competency existing in the relevant area of the organisation. This competency was therefore increased by the training approach and methodology to improving both project management and business improvement skills. Based on this, a Low rating was assigned to the IS Competencies and Skills Maturity criterion. There was a lack of suitable project management resources identified and although there was commitment to redress this through training resources, the process it was in the early stages and was still maturing, hence warranting a Low rating.

**Improvements and Follow Up**

INSURE had an already established IS Business Analysis Practice which provided for IS standards and templates for the organisation. Within the IS Business Analyst Practice was a number of professional Business Analysts who provided expertise and assistance in complex business improvement and re-engineering initiatives. The researcher as Project Manager for the BPO Establishment Project, facilitated an agreement with INSURE’s Business Analysis Practice to provide business analysis expertise for the business operations as well.

Initially the establishment of the BPO was looked at with caution by INSURE’s Business Analysis Practice, but described by the BPO Manager as being accepted over time.

“There was an underlying fear that we [BPO] were trying to be BAs [business analysts]. But that wasn’t the idea behind the BPO at all. If anything it was to complement them. It wasn’t to take over their roles” (VW#5a).

Follow up undertaken one year after the establishment of the BPO indicated that regular meetings were being conducted between the BPO Manager and the Business Analyst Practice Lead to monitor and track progress of projects in flight, thus indicating that there was increased collaboration between the ITS and the operational arms of the business for new projects. As described by the BPO Manager:
“I’ve actually been meeting with the BA Manager at the moment. We go out and have coffee every 6 to 8 weeks and catch up on where our projects are… It’s been working really, really well” (VW#5a).

This alignment was regarded as a direct result of the BPO Establishment project.

It was clear that this case study delivered a number of IS competencies and tools to the organisation and leveraged communication between two areas of the business. A High rating was therefore indicated for Communications at Senior Level and a Low rating was confirmed for IS Competencies and Skills Maturity criteria.

**Conclusion**

The lack of project management competency was recognised by the business. Although the initial impetus for gaining project management competency and proficiency was driven by the business, there was recognition of the need for these competencies in order to benefit from the IT process and systems in place such as project management systems. The BPO was regarded as a highly successful alignment mechanism by business executive management as well as IT executive management. High ratings were indicated for the IS&P Support for Business Direction and Communications at Senior Level criteria. A Low rating was indicated for the IS Competencies and Skills Maturity criterion.

**6.2.5.4 Alignment and Operational Processes**

**ISSUE 8 – Investigate how alignment of business direction and IT processes may affect operational processes.**

As previously discussed, the BPO initiative was instigated by the Operations General Manager envisaging that the implementation of the BPO would shape the operational and project delivery of the department. The BPO, when implemented, began to prioritise the projects in place. Prioritisation was according to the strategic direction and goals of the department allowing the Operational General Manager greater visibility and hence greater control of projects to be invested in and undertaken. The operational processes for the department were redefined as projects. For example, annual operational processes for the review of pricing and fees was made into an annual project with clear objectives, start and end dates, prioritised for resourcing and monitored and controlled as a project.
Additionally, the project management methodology exerted performance demands on the project teams and, by extension, departmental operational staff, as the project had milestones and delivery schedules to meet, again allowing greater visibility to the Operational General Manager and hence greater control over delivery throughput.

All this ensured that the BPO shaped and influenced the operational processes, aligning to the business direction of the organisation and subject to greater influence and control by the senior management.

The success of the BPO was clear in the way the organisation implemented the initiative from its inception as an idea from the department lead, Operations General Manager, to its development, and engagement of a project manager to further develop and implement the BPO, to its continuing support from the business and the ITS personnel.

The final success indicator for the BPO was evident in the follow up interview undertaken one year later, which indicated that the methodology, templates and the BPO model itself was replicated in two other high profile areas, culminating in an executive projects office at the executive management level. This indicated a High rating for the IS&P Support for Business Direction criterion.

There was clear evidence of closer collaboration of the two alignment processes: BPO and Assessment Process as noted by the BPO Manager (one year following establishment of the BPO and six months after establishment of the Assessment process discussed in Case Study 4). Reflecting on the Assessment Process, the BPO Manager indicated the initial caution with which the Business Analyst Practice Lead and ITS in general viewed the establishment of the BPO, as the BPO was a new construct in the organisation and the relationship between the BPO and the Assessment Process was unknown and still in the early stages. The BPO Manager was previously quoted regarding the Assessment Process (see Section 5.2.5.5):

“I think the involvement we have with ITS now is very good...I don’t think ITS are reserved to have us in [Assessment Process workshop] there, they almost welcome us in there. They know why we are there and what our job is”

(VW#5b).

This also indicated a High rating for the Communications at Senior Level criterion.

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Conclusion

There were positive impacts from the BPO process, the mechanism of alignment, on operational processes. Suitable operational processes were made into projects, thus enabling the prioritisation to align to business goals, as well as the project management methodology utilised to increase the efficiency and effectiveness of the operational process. The setup of further BPO at the executive level and the closer collaboration between the BPO and the Assessment Process indicated positive impact on operational processes. This gave rise for High ratings for two criteria: Communications at Senior Level and IS&P Support for Business Direction.

6.2.5.5 Alignment Assessment

Assessment of alignment was undertaken across three areas: re-examination of the alignment approach; alignment criteria; and overall alignment assessment for the case study.

Validation of Alignment Approach

The alignment approach was re-examined and summarised in Table 6-6.

It was concluded that the continuous, small alignment outcomes driven by the IT Systems and Processes delivered alignment of proposed initiatives and projects to business direction.

<table>
<thead>
<tr>
<th>Alignment Type</th>
<th>Assessed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situations of alignment or non-alignment</td>
<td>Alignment</td>
<td>It was recognised that there was a need for a process to ensure proposed projects and initiatives were aligned to business direction.</td>
</tr>
<tr>
<td>Discrete processes versus ongoing processes</td>
<td>Continuous</td>
<td>This case study exhibited continuous process to assess technology suggested by the Business against the IT strategy and policies and know business direction.</td>
</tr>
<tr>
<td>Large alignment outcomes versus small alignment outcomes</td>
<td>Small</td>
<td>The expected outcomes impacted the business area rather than the organisation at large.</td>
</tr>
<tr>
<td>Business Driven versus Systems and Process Driven</td>
<td>Systems Driven</td>
<td>This initiative is deemed systems driven as it was initiated to comply with systems and processes.</td>
</tr>
</tbody>
</table>

Table 6-6 Alignment Types for Case Study 5

Alignment Assessment via Criteria

The issues were assessed along four criteria for Governance, Communications at Senior Level, IS Competencies and Skills Maturity and IS&P Support for Business Direction defined previously in Table 3-5 and according to the dimensions and type defined in Section 3.5.4. The criteria provide evidence for an Alignment Maturity Rating in the
context of the case study, defining Alignment Maturity along a five-point scale as defined in as Table 3-6.

A consolidated table for all criteria assessments, listed in Table 6-7, is discussed in the context of Alignment Maturity.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Issue</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>7</td>
<td>Internal and external forces Governance</td>
<td>High</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td>7</td>
<td>Internal and external forces Governance</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Project management</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Alignment and operational processes</td>
<td>High</td>
</tr>
<tr>
<td>IS Competencies and Skills Maturity</td>
<td>12</td>
<td>Project management</td>
<td>Low</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction</td>
<td>12</td>
<td>Project management</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Alignment and operational processes</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 6-7 Criteria Ratings from Issue Investigation for Case Study 5

**Governance**

Governance was strongly evidenced in this case study by the establishment and delivery of the BPO itself as described fully in Issues 5 and 7. It was very clear that the successful delivery of the case study engagement, that is the BPO, enabled greater visibility and governance over operational processes, allowing it to become more aligned to business direction. The two instances of High rating for this criterion supported a Level 4-Improved Process rating for the Alignment Maturity Assessment

**Communications at Senior Level**

Communication at the senior level was rated High in three instances as there were regular weekly project progress reporting and meetings between the Project Manager and the Operations General Manager. The Operations General Manager provided regular updates to the departmental heads and department staff. The project team also provided regular progress reporting and instigated a change management program for assignment of selected operational staff as part of the newly established BPO. Additionally the establishment of an Executive Projects Office and the collaboration between the BPO and the Business Analyst Practice also indicated High ratings. This provided strong evidence for a Level 4-Improved Process rating for the Alignment Maturity Assessment.

**IS Competencies and Skills Maturity**

This criterion was rated as Low as addressing the lack of project management discipline and skills was one major goals of the initiative. The final outcome of the
BPO training for new project managers had commenced but as described in Issue 12, the BPO Manager experienced difficulty in firstly getting operational staff to change to project management. Training was provided but changes in performance in behaviour were slow and required time. Hence at the end of this engagement this outcome had not been fulfilled. This could be said to be at Level 2 – Beginning Process however due to the recognised commitment of the organisation to redress this, a Level 3 – Establishing Process for Alignment Maturity Assessment rating was thought to be warranted.

**IS&P Support for Business Direction**
The IS&P Support for Business Direction is rated as High, as shown in Issue 8 the implementation of the BPO had a profound impact on the operational processes and behaviours of the department. It was clear that the prioritisation of projects and the BPO processes were fully aligned to supporting business direction and goals indicating a Level 4 – Improved Process for the Alignment Maturity Assessment.

**Overall Alignment Assessment**
This case study had three high ratings and one low rating across the alignment criteria. There was evidence of a high level of alignment for three criteria: Governance; Communications at Senior Level; and IS&P Support for Business Direction were also assessed as High as a result of the creation of an additional BPO in another one business unit.

It is clear that this case study indicated high levels of alignment on the eight instances of the Governance, Communications at Senior Level and IS&P Support for Business Direction criteria. However, the outcomes for the BPO project management skills showed that this process required more time to develop and mature to deliver the benefits expected even though the alignment processes were in place, improvements were underway and outcomes could start to be seen.

Using the overall alignment rating ranking measures to rate alignment this supports a rating of Level 4 indicating that the alignment processes were regarded as in place and in the process of improvement (see Table 6-8).
Rating | Description
--- | ---
1 – No Acknowledgement | This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.
2 – Beginning Process | Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.
3 – Establishing Process | Where there is a commitment to address non-alignment and the processes are underway but uncompleted.
4 – Improved Process | Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.
5 – Optimal Process | Where alignment outcomes are regarded as optimal and there is complete alignment.

Table 6-8 Alignment Rating Assigned

A follow-up one year’s time later showed that the outcomes were regarded so positively by the organisation that, as reported by the Business Office Manager, additional BPOs were implemented in other parts of the business. This indicated that eventually the alignment could be expected to achieve a higher level.

6.2.6 Refer to Theoretical Context

As defined in the application of this study’s research design to the case study, Level 1 provides for revisiting the literature in the insights from investigated issues as well as new issues which may emerge from the current case study or warrant investigation in future studies. Any Emergent Issues raised (see Section 3.5.7), are discussed as post-case analysis arising from investigation of the case study.

6.2.6.1 Project Management

The professional definition of project management is that projects are temporary endeavours with specific start and end dates to produce a unique product, service or result (PMI 2008, 2013, 2015). Much of the literature on project management presumes that projects are all fundamentally similar or can be dealt with in a similar manner (PMI Standards Committee 1996, Shenhar and Dvir 1996, Söderlund 2004) however it is worth questioning this “sameness”.

Söderlund (2004) explained that there appear to be two major perspectives in project management research. Firstly the engineering and applied mathematics perspective primarily focussed on planning and methods of project management and secondly, the social science approach which recognises organisational theory and behaviour and its effects on project management. There is a belief and drive to find the universal factors
underpinning the theory of project management which can be applied to every project (Söderlund 2004) and even to other disciplines such as product development (Thieme, Song, and Shin 2003). These universal factors include the processes, artefacts and the discipline of project management as embodied in a project or program management office (PMO) (Aubry et al. 2007, Letavec 2006).

Contrasting with this universal approach, contingency theory research on project management methodologies proposes that projects show variation and that styles of management are less than universally applicable (Shenhar and Dvir 1996, Söderlund 2004). That is to say the questions could be asked whether there were any specific circumstances which applied to this organisation that made this approach successful.

Söderlund (2004) proposed that both universal and specific or contingent theoretical approaches are required. This implies that the generic view of project management is required presumably to determine broad principles and methodologies while the contingent view of project management would arguably allow for variations and differences to be identified to enable cultural, social and institutional traits to be catered for (Söderlund 2004). This may be the situation with INSURE’s organisational type and cultural characteristics, previously investigated in Case Studies 3 and 4, that have influenced it to pursue project management as an alignment mechanism. Certainly its Defender characteristics support the pursuit of investment in process establishment and development.

6.2.7 Make Conclusions for Case Study 5

Four issues were selected for investigation by this case study from the issues raised in the literature review, based on their relevance to the opportunistic nature of the engagement underpinning the case study and the role of the researcher.

The issues relevant to the case study are listed in Table 6-6. No emergent issues were raised in this case study.

The success of the alignment endeavour ensured that this remained as part of the operational processes of INSURE, not only in the implementation described by the case study but the establishment of two additional project offices thus having a profound and lasting impact on the operations of the organisation itself.
This BPO implementation and operation was deemed successful. The BPO methodology, standards and processes were successfully implemented and personnel were trained by the current researcher, as Project Manager, to perform the roles resident in the BPO: BPO Manager, BPO Coordinator and BPO Project Managers.

Additional to the project management processes, training for business improvement was provided to BPO Project Managers and the other operational personnel to increase the awareness and skills of people in the area.

Much of the success could be attributed to the support of the operational leads in the organisation: the Operations Manager as well as the CIO and the BA Practice lead.

A significant indicator for the success of the program was the establishment of two further project offices leveraging off the establishment of this BPO within twelve months.

There was clear evidence of closer collaboration of alignment processes one year following establishment of the BPO and six months after establishment of the Assessment Process as discussed in Case Study 4.

### 6.3 CASE STUDY 6 – ESTABLISHING A PROJECT MANAGEMENT FRAMEWORK

#### 6.3.1 About the Case Study

#### 6.3.1.1 Purpose of Case Study

The purpose of this case study was to investigate the processes instigated to align initiatives to the business strategic direction using information systems and processes.
such as a project management framework. Areas such as organisational type and behaviour, strategic planning, contingency factors, IT tools and processes were investigated.

6.3.1.2 Industry Sector – Agriculture Products
Australian major crop products are a subset of total agricultural industry and include the production of wheat, coarse grains, oilseeds, sugar and cotton, fruit and vegetable crops. The overall gross value of the crop products is estimated at over US$31 billion and represents over 262,000 Australians working in the industry sector (ABARE 2017), thus indicating a significant industry to Australia.

6.3.2 Design Research and Select Issues
This case study was assigned to the Continuous Alignment Driven by IT Systems and Processes with the main topic of investigation being the establishment of a Project Management Framework (PMF). Refer to Section 3.5.3 regarding the opportunistic selection of case studies and Section 3.5.5.1 describing the purpose of the engagement and the organisation in which the case study was situated. The researcher was appointed as the Project Manager tasked with establishing the PMF.

Three issues were determined to be most relevant for investigation within this case study. As this case study was within the context of a different organisation from the previous case studies, it was determined that Issue 4 with regards to investigating an organisation’s characteristics and expect alignment practices, would be of direct relevance.

The sponsor of the engagement underpinning the case study, indicated to the researcher that gaining the support of the stakeholders throughout the organisation was crucial to the success of the PMF. From this it was determined that Issue 14 was of direct relevance. Issue 12 was also of direct relevance to this case study as it was looking at the impact of project management competencies.

Table 6-10 lists issues raised from the literature review relevant to this study highlighting the issues selected for Case Study 6.
<table>
<thead>
<tr>
<th>No</th>
<th>Issue to be investigated</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>One-Off Alignment is not relevant to this case study.</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>Although this case study is about continuous alignment, the establishment of the PMF was determined prior to the engagement and was thus of less relevance for investigation within Case Study 6.</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>The chosen strategy for alignment for Case Study 6 was determined by executive management and not the focus of the engagement hence information could not be easily collated.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.</td>
<td>Case Study 6 was an ideal case to investigate the organisation’s type with expected alignment strategies hence this issue was deemed of direct relevance.</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>Although the role of the researcher, as Project Manager was to establish a PMF including its governance structure, the researcher would not be present during operational performance of governance, hence data for this issue would not be able to be collated. Establishment of IT Governance was deemed to be covered in Issue 12.</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>The engagement underpinning Case Study 6 did not look at external or internal influences on the organisation or its alignment.</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>The engagement underpinning Case Study 6 did not look at external or internal forces on the organisation strategic planning.</td>
</tr>
<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>The engagement underpinning Case Study 6 did not look at operational performance.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>The engagement underpinning Case Study was tasked to evaluate the IS competencies and setting up of the project management discipline and IT Governance, hence this issue was determined as direct and immediate relevance.</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>Although this issue is of relevance with regards to tools and processes in general, the other issue had greater direct relevance and allowed greater direct observation. Hence this issue was not addressed in this case study,</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>The establishment of the PMF indicated eliciting support from other areas of the organisation, hence this issue was deemed of relevance.</td>
</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>The engagement underpinning Case Study 6 was not investigating non-alignment.</td>
</tr>
</tbody>
</table>

Table 6-10 Issues Selected for Investigation for Case Study 6
Figure 6-5 Customised Research Design for Case Study 6

This case study continued the investigation of the alignment approach for continual alignment processes with IT systems and processes and focussed on project management discipline and practice as a mechanism and driver for alignment. These continual processes however were instigated by management using IT project management discipline and practice as the driver to align the proposed business projects and initiatives to the strategic direction of the organisation.

The following sections report on the study closely following the Level and Step notation of the methodology to assist the cross-referencing between methodology, data collection and discussion.

### 6.3.3 Determine Instruments

#### 6.3.3.1 Data Sources

The generic data source list is defined in Table 3-7 however the specific sources for data collation and analysis for Case Study 6 are indicated in Table 6-11.

The data collated from multiple sources included: transcriptions of three 1.5 hour interviews; weekly team meeting minutes and field notes across five months duration of the engagement; project management documentation; and PMF methodology documentation. These multiple sources comprised over 100 pages of data and were used to inform the data analysis undertaken.
### Data Type

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>Interviews were conducted with the following:</td>
<td>Interview questions provided in APPENDIX B.</td>
</tr>
<tr>
<td></td>
<td>• Operations Infrastructure Manager</td>
<td>Interviews were recorded and transcribed and quoted as required.</td>
</tr>
<tr>
<td></td>
<td>• Business Excellence Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Business Excellence Project Leader.</td>
<td></td>
</tr>
<tr>
<td>Field Notes</td>
<td>Work Diary and Meeting Notes and Minutes</td>
<td>Recorded by the Researcher.</td>
</tr>
<tr>
<td>Project Documents</td>
<td>PRIMARY Organisation Structure</td>
<td>Prepared by the Researcher.</td>
</tr>
<tr>
<td></td>
<td>Phase Gate Process</td>
<td>Prepared by the Researcher.</td>
</tr>
<tr>
<td></td>
<td>Presentations to Steering Committee</td>
<td>Prepared by the Researcher.</td>
</tr>
</tbody>
</table>

**Table 6-11 Case Study 6 Data Sources**

A list of interviewed participants and their role is provided in Table 6-12.

<table>
<thead>
<tr>
<th>Title</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager (PM)</td>
<td>Current researcher</td>
</tr>
<tr>
<td></td>
<td>Responsible for design, documentation and implementation of initiative</td>
</tr>
<tr>
<td></td>
<td>Train representative in PMF standards</td>
</tr>
<tr>
<td>Operations Infrastructure Manager (OpsM) (NG)</td>
<td>Sponsor for the project and original project initiator</td>
</tr>
<tr>
<td>Business Excellence Manager (BEM) (MN)</td>
<td>Responsible for outcome of the initiative</td>
</tr>
<tr>
<td>Business Excellence Officer (BEO) (LS)</td>
<td>Team member and assisting in the delivery of the outcome</td>
</tr>
</tbody>
</table>

**Table 6-12 Case Study Participants**

The case study participants were interviewed and their responses used as delivery feedback.

### 6.3.4 Undertake Case Study

#### 6.3.4.1 Case Study Organisation

PRIMARY was an organisation initially founded and run as a co-operative with agricultural primary producers as shareholders. It was responsible for the storage, transport and marketing of the produce. PRIMARY had over 800 staff in more than 10 offices and over 150 regional service centres. Its facilities ranged from simple storage units to sophisticated transport and port facilities with asset devolvement and improvement resulting in projects ranging from $50,000 to $20 million. Hence the
organisation was forced to be technology aware and increasingly sophisticated in its operations and management processes [Undisclosed Reference 17].

6.3.4.2 Scope of Engagement

PRIMARY conducted a year-long Business Process Review for the purpose of aligning the organisation with its strategic business goals. The review was conducted after a few large projects undertaken by PRIMARY yielded poor or negative returns. The review resulted in a number of initiatives, one of which was the establishment of an overarching Project Management methodology. The poor performing projects had been commenced with very little cost-benefit analyses being undertaken beforehand and very little critical monitoring during the life of the project. It was felt by the organisation that a project management methodology would provide sufficient controls to prevent poor performing initiatives from either starting or continuing.

PRIMARY was looking to build and deploy a Project Management Framework (PMF) under a Project Management Office (PMO) reporting to its General Manager for Strategy and Business Development, with the objective of improving strategic and efficient deployment of business initiatives and transformation of PRIMARY’s project and business culture. It had the full support of the PRIMARY Executive and Board of Directors and utilised the engagement of departmental representatives as advocates and experts of the PMF and appointed the Business Excellence Manager as its PMO Manager.

The Project Management Framework project was charged to establish a centre of excellence for the control and management of projects including: defining project categorisation lifecycle and reporting processes to minimise risks and cost exposure; establishing methodologies, templates and standards; and establishing a central repository and access for the project management tools. Additionally the establishment of a PMO and appointment of a PMO Manager was expected to assist in the decision-making capability of the executive, governance over projects and facilitate the change of culture of the organisation towards project management disciplines. The researcher was appointed as the Project Manager reporting to the PMO Manager and headed a team comprising representatives of business units as significant stakeholders assisting in the establishment of the PMF and the change management of throughout the organisation. The project was tasked with the establishment and documentation of the PMF, process documentation, a new intranet for organisational access for the PMF,
workshops and training materials for project managers and users of the PMF. The case study investigated the establishment of this new operational structure, the PMF.

### 6.3.4.3 Scope of Case Study

This case study investigated the influences and processes involved in Establishing a Project Management Framework as a mechanism for alignment to the strategic goals of the organisation. A project was commenced by the organisation with a view to improving the alignment of projects and initiatives to PRIMARY’s strategic direction, utilising a Project Management Framework (PMF). The PMF project itself followed the standard initiation, design, build and implementation and closeout phases. The data collection for this case study commenced with the appointment of the Project Manager at the design stage and continued into the build and implementation stages. The scope of the case study excluded theoretical investigation of the fit of project management discipline for strategic alignment but rather focussed on the influences and impact of their use on the organisation’s alignment strategies. A case study profile is show in Table 6-13.

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>Approach 4 - Continuous Alignment Driven by IT Systems and Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>Case Study 6 - Establishment of Project Management Framework</td>
</tr>
<tr>
<td>Major Organisation</td>
<td>PRIMARY</td>
</tr>
<tr>
<td>Associated Organisations</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Role of the Researchers</td>
<td>Project Manager / Business Analyst</td>
</tr>
<tr>
<td></td>
<td>The researcher was engaged by PRIMARY to project manage the design, development and implementation of a project management framework for the organisation to ensure selection of projects aligned with business direction and timely and successful implementation of selected projects.</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Field Notes</td>
</tr>
<tr>
<td></td>
<td>Interviews</td>
</tr>
<tr>
<td></td>
<td>Project Documentation</td>
</tr>
</tbody>
</table>

Table 6-13 Case Study 6 Overview

### 6.3.5 Analyse Data

The data collected and collated, as stated in Table 6-11, was analysed against selected issues arising from the literature review conducted in Chapter 2 (See Table 6-10).
6.3.5.1 Strategic Planning

**ISSUE 11 – Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.**

The aims of this engagement were the establishment and development of a business focussed project management office (PMO) and project management processes, methodologies and tools to enable tighter control of high cost and high risk projects.

PRIMARY introduced a categorisation method to prioritise and provide appropriate controls to proposed initiatives. For example, PRIMARY identified projects greater than AUD$40 million as requiring approvals from the Executive Board and rigorous project management control and reporting, ensuring that initiatives and projects closely aligned to the organisation’s strategic goals would be approved and closely and strictly controlled and monitored.

A phased methodology framework was developed and implemented that was heavily based on the Project Management Institute (PMI) guidelines recognised as industry best practice (PMI 2008, 2013, 2017). The resulting methodology was termed the Project Management Framework (PMF). In addition to this framework, a “go / no-go” phase-gate was instituted at the end of each phase. The PMF was customised to accommodate the organisation’s business model, as shown in Figure 6-6. The phase gates ensured that the executive leadership team had complete visibility and control of the progress of each project, particularly large projects, through executive sponsorship and executive representation on the Project Steering Committees responsible for project governance.
The rollout of the PMF across all the projects meant a change management and training delivery approach across all project managers and affected stakeholders, indicating High ratings for both Governance and IS Competencies and Skills Maturity criteria.

The project categorisations complied with the strategic categorisations provided by senior management indicating a strong support of IS processes for the business directions, thus resulting a High rating for IS&P Support for Business Direction criterion. This extrapolated to a High rating for the Communications at the Senior Level criterion as a high level of support of IS processes for business directions necessitates maturity of communications.

Conclusion

There was a very strong motivation for the PMF to succeed as there had been a history of some very significant project failures. Project audits had recommended that processes be instituted to avoid a recurrence. Additionally, there was support from project managers and team members for more consistent and systematic approaches and, following a lot of preparatory work, support from executives for the PMF initiative.
There had been a previous attempt to establish a project management framework policy and process but this had failed due to lack of executive and management support. It was widely recognised that executive support was vital for this attempt to succeed and the project sponsors included executive and board representation.

All four alignment criteria were rated High: Governance; Communications at Senior Level; IS Competencies & Skills Maturity; and IS&P Support for Business Direction.

6.3.5.2 Project Management

**ISSUE 12 – Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.**

As defined in strategic planning research, organisations need to adopt best business practice and use IT as enablers to assist in the increasing complex strategic planning and implementation processes (Earl 2003). PRIMARY recognised the value of its project management methodologies, which were successfully employed by its IT department and enshrined in IT systems and processes and decided to adapt and apply this discipline across other business areas.

Prior to the establishment of the PMF and the training approach, there was a low level of project management skills and competency, as acknowledged by representatives from PRIMARY. It was expected that the roll out of the PMF accompanied by the training rollout would enhance and increase the project management competency of project managers and influence the stakeholders to accommodate project management principles. As the PMF would also include the establishment of a Project Management Centre of Excellence, this would contribute to the project management maturity within the organisation itself.

The more immediate impact was the expected improvement to project performance for successful project delivery. There were four main project areas expected to benefit from the PMF: project lifecycle; phase deliverables; project management controls; and reporting. These are detailed in Table 6-14. Each of these areas benefited from the establishment of the PMF through increased standardisation, establishment of process methodologies, improved visibility to PRIMARY’s executive as well as the project stakeholders, and improved project monitoring and controls.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Lifecycle</td>
<td>Project Lifecycle phases comprised of definition, planning, execution and close out phases and were adopted from the Project Management Institute (PMI) (PMI 2013).</td>
</tr>
<tr>
<td>Deliverables</td>
<td>Project deliverables required for each phase were identified and recorded. The major deliverables included business case, performance reporting, risk management and project variation management.</td>
</tr>
<tr>
<td>Project management controls</td>
<td>Project management controls for review and approvals processes particularly the “go/no-go” phase gates.</td>
</tr>
<tr>
<td>Reporting</td>
<td>Performance and status reporting including executive lead teams and steering committees.</td>
</tr>
</tbody>
</table>

Table 6-14 Benefits from the PMF

The methodology used to establish the PMF, its methodologies and controls was of a recursive and adaptive model as in Action Research. That is to say as each phase was implemented it was piloted on the establishment of the PMF project itself, reflected on and adapted as required.

For example, in the creation of a template which was required for the PMF, five steps were used as shown in Table 6-15: creation; review; pilot; review and modification; rollout.

<table>
<thead>
<tr>
<th>STEP</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Creation of the particular template required for the PMF Implementation project.</td>
</tr>
<tr>
<td>Step 2</td>
<td>The newly created template was reviewed by the PMF Team and other stakeholders.</td>
</tr>
<tr>
<td>Step 3</td>
<td>The newly created template was used by the PMF Implementation team as pilot.</td>
</tr>
<tr>
<td>Step 4</td>
<td>The pilot template was reviewed and modified by the PMF Team as required.</td>
</tr>
<tr>
<td>Step 5</td>
<td>The newly modified template was rolled out as part of the PMF methodology and tools.</td>
</tr>
</tbody>
</table>

Table 6-15 Five Steps for Creating a New PMF Deliverable

These steps were in effect those that would be followed in the creation of any project deliverable in the future. That is to say, the creation of the PMF templates was one of the deliverables of the PMF Establishment Project and the steps for its creation were the process deliverable. Hence the delivery of the PMF deliverables effectively piloted the PMF processes for future project delivery.

These processes occurred for each the following: Project Status Reports; Project Stages and Lifecycle; Project Categorisation; Project Governance; Project Register; Portfolio reporting. A detailed example is described for one of the areas: the Project Status Reports (PSRs).
Early on in the build stage of the project, PSRs were required. An example was provided by one of the team members. This was reviewed by the team prior to usage in a workshop and an early draft template was produced for the project managers. The project managers used the draft template to produce the PSR report. This was distributed to the Project Owner and the Governance Board which provided feedback regarding the structure and the content of the reports. There were four monthly project status reports in total for the five month project thus four iterations were undertaken to finalise the project status reports.

The outputs and outcomes for the main processes of establishment of the PMF are detailed in Table 6-16.

These processes were expected to become part of the organisation’s culture and processes with the strong expectation that, rather than being imposed from Executive Management or the Governance Boards, the PMF would become part of the organisational way of doing business. This was evidenced by the Business Excellence Officer’s statement:

“the way I’d like to see it [the PMF] mature is that it becomes part of the way we do business rather than as structure that sits above it” (LS# 7).
### Establish the project processes
Create a project lifecycle from initiation through to close out and operational handover. Establish the interfaces between the project life-cycle processes and other previously established organisational processes.

### Establish a project management methodology and tools
Create tools and templates, policies and procedures. Create a repository of methodology and process and templates. Create a Project Register with summary of project status and information.

### Establish a Portal
Provide group wide access to the methodology. Provide single repository of all methodology and components. Provide 24/7 access to the methodology.

### Establish a Project Management Office
Establish the PMO as the project management Centre of Excellence. Ownership of PMF, Portal and PMO. Development and maintenance of the methodology.

### Integration
Integration of new methodology with selected existing methodologies such as SAP used for project costing for engineering projects and PRINCE 2 for project management methodology for IT projects.

### Decommissioning
Decommissioning selected existing methodologies, tools and templates being replaced by the PMF.

### Implementation
Implement the new methodology across the group.

### Training
Develop project management capability in the group. Develop and provide training in the methodology. Develop and provide guidelines for project management training.

### Reporting
Provide consolidated information of all projects being undertaken by the group at any one time. Provide ability for the executive to find out about the status of projects as a whole. Provide mechanism for monitoring status and progress of individual projects.

### Group Representatives
Provide representatives from all parts of the organisation to be part of the development and implementation team. Form a Reference Group for development and maintenance of the PMF into the future.

<table>
<thead>
<tr>
<th>Process</th>
<th>Outputs and Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish the project processes</td>
<td>Create a project lifecycle from initiation through to close out and operational handover. Establish the interfaces between the project life-cycle processes and other previously established organisational processes.</td>
</tr>
<tr>
<td>Establish a project management methodology and tools</td>
<td>Create tools and templates, policies and procedures. Create a repository of methodology and process and templates. Create a Project Register with summary of project status and information.</td>
</tr>
<tr>
<td>Establish a Portal</td>
<td>Provide group wide access to the methodology. Provide single repository of all methodology and components. Provide 24/7 access to the methodology.</td>
</tr>
<tr>
<td>Establish a Project Management Office</td>
<td>Establish the PMO as the project management Centre of Excellence. Ownership of PMF, Portal and PMO. Development and maintenance of the methodology.</td>
</tr>
<tr>
<td>Integration</td>
<td>Integration of new methodology with selected existing methodologies such as SAP used for project costing for engineering projects and PRINCE 2 for project management methodology for IT projects.</td>
</tr>
<tr>
<td>Decommissioning</td>
<td>Decommissioning selected existing methodologies, tools and templates being replaced by the PMF.</td>
</tr>
<tr>
<td>Implementation</td>
<td>Implement the new methodology across the group.</td>
</tr>
<tr>
<td>Training</td>
<td>Develop project management capability in the group. Develop and provide training in the methodology. Develop and provide guidelines for project management training.</td>
</tr>
<tr>
<td>Reporting</td>
<td>Provide consolidated information of all projects being undertaken by the group at any one time. Provide ability for the executive to find out about the status of projects as a whole. Provide mechanism for monitoring status and progress of individual projects.</td>
</tr>
<tr>
<td>Group Representatives</td>
<td>Provide representatives from all parts of the organisation to be part of the development and implementation team. Form a Reference Group for development and maintenance of the PMF into the future.</td>
</tr>
</tbody>
</table>

Additionally it was expected that the PMF will become the part of the business culture by even shaping communication by ensuring the categorisations for project sizing, project phase and project priority would become part of the organisational practice as evidenced by the statement of the Business Excellence Officer:

“…in that the when staff and managers talk about the way their work is going, they talk about in the project management framework terms... So people will understand if you say if you are at stage 1 or whatever, they know exactly what that means and they able to be comfortable with the language. It becomes a part of the regular meetings that you have so that its very visible in how we are managing projects... we will get a real culture of accountability” (LS#7).
These communication approaches were part of the change management processes being undertaken in parallel to the case study engagement by another team.

The PMF was expected to become fully embedded into and accepted by the organisational culture. To ensure this change was accepted and implemented, change management processes were also undertaken by the Business Sponsor covering PRIMARY’s executive management and across PRIMARY’s project managers. The concept of the PMF changing the culture of the organisation was reiterated by the Business Excellence Manager:

“When it [the PMF] is fully embedded... it will be almost like ‘what’s the big deal’ it will be like ‘of course it should be this way’. It won’t cutting-edge or leading-edge it will be just that’s the way you do business. The only reason it’s not like this now is because people have not actually sat down and navigated the path. Everyone has been doing it differently and running round in circles but it is pretty basic. It will be like business as usual but a lot quicker and simpler” (MN#6).

The three key components of the PMF identified were the Project Register, Project Categorisation and the Project Variation process. The Project Register was regarded as of vital importance as it provided a visible and accurate tool on the progress and status of the project, which was new to the organisation. These represented new concepts and processes, which had not been implemented previously in the organisation as stated by the Operations Infrastructure Manager:

“We’ve never had that before in the company” (NG#5).

This was supported by having change management processes coordinating with the project and focused solely on transitioning the PMF into the organisation.

All of these features confirm that the PMF was expected to have far reaching positive impact on the business, particularly with respect to the alignment to strategic goals and process and controls and that it was expected to become part of the business-as-usual processes and be fully integrated into the organisations processes and even culture.

This provided evidence for Medium rating for IS&P Support for Business Direction criterion as it was newly established and in the early stages. As the PMF introduced project management discipline, methodology and project governance to the
organisation, this was taken as indication for a Medium rating for IS Competencies and Skills Maturity criterion.

**Conclusion**

Alignment assessment was strong and rated High for two criteria: Governance and Communications at a Senior Level. A Medium rating was indicated for the increase of IS Competencies and Skills Maturity due to the establishment of the PMF. There is also evidence to support that a cultural change resulting from the engagement was in process, hence it was concluded that project management framework and practice was a successful mechanism for alignment and a Medium rating was assigned for IS&P Support for Business Direction criterion.

**6.3.5.3 Organisation Type and Behaviour**

*Issue 4 – Investigate whether an organisation with characteristics aligned with Miles and Snow’s (1978) organisational types, exhibits expected governance and alignment strategies consistent with the model’s expectations.*

PRIMARY was a large organisation whose purpose was to purchase produce from primary producers and market it nationally and internationally. It represented the interests of the primary producers in marketing their products and endeavoured to maximise marketing opportunities as well as create new markets. As previously discussed in Chapter 2 and additional issues raised while looking at INSURE in Chapter 4, Miles and Snow’s model (1978) for organisational type and behaviour is worth discussing in relation to PRIMARY.

Strong similarities to both Defender and Prospector characteristics could be seen. PRIMARY had successfully diversified its business activities by extending into low level manufacturing of its primary produce both in Australia and overseas and was continually looking to expand business related to its product, thus exhibiting Prospector characteristics (Miles and Snow 1978). The project’s purpose in establishing a Project Management Framework (PMF), to ensure closer alignment of initiatives to the organisation’s strategic goals, indicated strong leanings to development of sophisticated business processes and indicated a strong level of alignment for organisational governance. This provided evidence for a High rating for the Governance criterion. As one of the key characteristics of Defender organisations is the sophisticated
development and usage of processes and systems (Miles and Snow 1978), the PMF initiative was deemed a good example of Defender characteristics.

**Conclusion**

The organisation’s initiative to align IT processes and systems to its business strategic goals confirmed that PRIMARY exhibited both Defender and Prospector characteristics and indicated High rating for the Governance criterion.

**6.3.5.4 Alignment Assessment**

Assessment of alignment was undertaken across three areas: re-examination of the alignment approach; alignment criteria; and overall alignment assessment for the case study.

**Validation of Alignment Approach**

The alignment approach was re-examined and summarised in Table 6-17.

<table>
<thead>
<tr>
<th>Alignment Type</th>
<th>Assessed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situations of alignment or non-alignment</td>
<td>Alignment</td>
<td>It was recognised that there was a need for a process to ensure proposed projects and initiatives were aligned to business direction.</td>
</tr>
<tr>
<td>Discrete processes versus ongoing processes</td>
<td>Continuous</td>
<td>This case study exhibited continuous process to assess technology suggested by the Business against the IT strategy and policies and know business direction.</td>
</tr>
<tr>
<td>Large alignment outcomes versus small alignment outcomes</td>
<td>Large</td>
<td>The outcomes impacted the organisation at large.</td>
</tr>
<tr>
<td>Business Driven versus Systems and Process Driven</td>
<td>Systems Driven</td>
<td>This initiative is deemed systems driven as it was initiated to comply with systems and processes.</td>
</tr>
</tbody>
</table>

Table 6-17 Alignment Types for Case Study 6

It was concluded that the continuous, large alignment outcomes driven by the IT Systems and Processes delivered alignment of proposed initiatives and projects to business direction.

**Alignment Assessment via Criteria**

The issues were assessed along four criteria for Governance, Communications at Senior Level, IS Competencies and Skills Maturity and IS&P Support for Business Direction defined previously in Table 3-5 and according to the dimensions and type defined in Section 3.5.4. The criteria provide evidence for an Alignment Maturity Rating in the context of the case study, defining Alignment Maturity along a five-point scale as defined in as Table 3-6.
A consolidated table for all criteria assessments, listed in Table 6-18, is discussed in the context of Alignment Maturity.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Issue</th>
<th>Observation</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>11</td>
<td>Strategic Planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Organisational Type and Behaviour</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Project Management</td>
<td>High</td>
</tr>
<tr>
<td>Communications at Senior Level</td>
<td>11</td>
<td>Strategic Planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Project Management</td>
<td>High</td>
</tr>
<tr>
<td>IS Competencies and Skills Maturity</td>
<td>11</td>
<td>Strategic Planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Project Management</td>
<td>Medium</td>
</tr>
<tr>
<td>IS&amp;P Support for Business Direction</td>
<td>11</td>
<td>Strategic Planning</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Project Management</td>
<td>Medium</td>
</tr>
</tbody>
</table>

Table 6-18 Criteria Ratings from Issue Investigation for Case Study 6

**Governance**

There were a number of levels within the governance structures in place, as shown when Issue 11 was investigated in Section 6.3.5.1. Executive and business representatives on project governance boards together with the Phase-Gate Approval Process, established as part of the case study engagement, indicate strong evidence for governance processes supporting a Level 4 – Improving Process for Alignment Maturity Assessment.

**Communications at Senior Level**

Communications at the senior level covered the delivery of the PMF. This was evident in the monthly reports prepared and delivered to the Project Steering Committee as indicated in Table 6-14 as well as the communications as part of the change management activities being undertaken. The PMF itself provides for communications at different levels in the processes it was building as shown by the phase-gates in the PMF (Figure 6-6), PMF monthly status reporting (Table 6-14) and stakeholder review processes (Table 6-15). The reporting process developed as part of the PMF (Table 6-16) indicated three outcomes: providing consolidated information; providing project status reporting; and providing a project monitoring mechanism. These three outcomes enable visibility of projects and their status to PRIMARY’s executive, business stakeholders and the project teams.

All these processes, together with the two instances of High ratings for this criterion, support a Level 4 – Improving Process for Alignment Maturity Assessment.
**IS Competencies and Skills Maturity**
Although there was no direct assessment of the skill levels for project management however there was anecdotal evidence from representatives of PRIMARY that the project management skill levels were low and were expected to be improved by the implementation of the PMF rollout (Section 6.3.5.1). Together with the outcome of engagement in establishing the PMF and improving the methodology and skills levels for project management, this supports a Level 3 – Establishing Process rating for Alignment Maturity Assessment.

**IS&P Support for Business Direction**
The rating for this criterion is expected to be low as the major driver for the PMF implementation was the lack of mechanism to ensure that appropriate projects were being undertaken as well as lack of a mechanism for monitoring projects. The implementation of the PMF was expected to resolve this area of low alignment hence a Level 3 – Establishing Process rating for Alignment Maturity Assessment is indicated.

**Overall Alignment Assessment:**
Case Study 6 had a higher level of alignment along two criteria, Governance and Communications at Senior Level, while the remaining two criteria, IS Competencies & Skills Maturity and IS&P Support for Business Direction were recognised as a yielding a low level of alignment. There was the expectation that the PMF would deliver improve alignment as the PMF matured. This expectation was being progressively fulfilled as indicated by the positive responses from the project participants.

The rating of alignment indicated that the initial outcomes of the case study at the time, establishment of the alignment process, that is the PMF, had been completed and the maturation and improvement phase was commencing.

Using the overall alignment rating ranking measures to rate alignment this supports a rating of Level 4 indicating that the alignment processes were regarded as in place and in the early stages of operation and potential improvement (see Table 6-19). As two of the criteria could be argued to be at Level 3 this could be interpreted as very early stages of Level 4.
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – No Acknowledgement</td>
<td>This records non-alignment or the lowest level of alignment due to non-acknowledgement of the alignment issue or problem and where there are no processes in place.</td>
</tr>
<tr>
<td>2 – Beginning Process</td>
<td>Where non-alignment is acknowledged and the organisation is taking steps to address this and/or the organisation is commencing the process.</td>
</tr>
<tr>
<td>3 – Establishing Process</td>
<td>Where there is a commitment to address non-alignment and the processes are underway but uncompleted.</td>
</tr>
<tr>
<td>4 – Improved Process</td>
<td>Where there are alignment processes in place and outcomes can be assessed and/or the organisation is improving the process.</td>
</tr>
<tr>
<td>5 – Optimal Process</td>
<td>Where alignment outcomes are regarded as optimal and there is complete alignment.</td>
</tr>
</tbody>
</table>

Table 6-19 Alignment Rating Assigned

6.3.6 Refer to Theoretical Context

As defined in the application of this study’s research design to the case study, Level 1 provides for revisiting the literature in the insights from investigated issues as well as new issues which may emerge from the current case study or warrant investigation in future studies. Any Emergent Issues raised (see Section 3.5.7), are discussed as post-case analysis arising from investigation of the case study.

6.3.6.1 Contingency Factors

A question could be raised as to the generalisation of the alignment approach or whether these are contingent on the organisation itself and/or conditions around it.

Markus and Robey (1988) investigated factors that impact on technical complexity in organisations, postulating three major causal factors: causal agency; logical structure; or level of analysis. Briefly, causal agency was defined as whether the external factors were the cause of change or whether the changes were from internal driven motivation. Logical structure referred to the perceived relationship of the causes to the outcomes while level of analysis referred to the entities that were involved (i.e. individuals, groups or organisations). They concluded that these factors were highly contingent, explaining apparently conflicting findings. More importantly they concluded that ongoing research needed to clearly define the postulated causal factors being investigated to provide better understanding of contingent causal factors.

Based on the reviewed research in this area, it is warranted to raise an emergent issue to investigate changes in the organisation’s processes as a function of contingency factors.
that are due to causal agents or internal driven motivation. The Emergent Issue 5 is discussed within the context of this case study.

**EMERGENT ISSUE 5 – Investigate whether changes observed in an organisation’s business and/or information systems processes could be attributed to contingency causal factors such as a causal agent within the project or are they more attributable to internal driven motivation such as culture or policies.**

PRIMARY commenced a Business Process Review (BPR), which provided eight initiatives, one of which was a Business Case for a PMF. The BPR was initiated because of previously failed large projects. The major driver for the BPR was to ensure a closer alignment of projects and initiatives to the organisation’s strategic direction. Project categorisation and go/no-go capability was crucial to the organisation to ensure the contribution of projects to strategic fit (Aubry et al. 2007, Unger et al. 2012).

The PMF Implementation Project utilised industry standard project management methodology to establish the PMF and the PMO (PMI 2013, 2017) but was customised to suit the organisation. It adapted and used the PMF project itself as a pilot for the PMF framework and as a pilot for some the delivered processes and project methodology (e.g. the templates and tools relevant to the project itself were developed and tested by using the PMF establishment project as a pilot for itself). Comments from the team were fed back into the tool or template and this was then incorporated into the delivered artefact.

Two parallel activities occurred: firstly project management activities to control and monitor the consulting project itself (case study methodology); and secondly PMF build deliverables which produced the outcomes for the project (delivered methodology).

The PMF, when rolled out, was expected to change the behaviour of the organisation in two ways: firstly to ensure that only those projects deemed aligned with PRIMARY’s strategic goals were approved for initiation; and secondly all projects approved and inflight were strictly controlled and monitored according to the project management best practice principles, ensuring project success and benefits realisation. These twin purposes of the PMF would go a long way to ensure that PRIMARY’s initiatives and activities would be much closer aligned to its strategic goals.
PRIMARY recognised these advantages and fully recognised the alignment capability of the PMF to improve integration of the projects directly back to the business direction of the organisation of the PMF, as identified by the key business sponsor of the PMF:

“We are going to have a lot more alignment with our corporate goals and objectives.” and “With the project register, any project we have will be linked back to a primary objective of the organisation so that link is there and this is further enhanced by key projects (Categories As and Bs) will be shown on the business score card” (NG#8a).

The PMF would enable the alignment of projects with business direction through the prioritisation of an organisation’s initiatives, allocation of funding and resources linking back directly to the strategy of the organisation with the expectation of significant benefits. This was explicitly recognised and planned for:

“One of the key ones [benefits] is the ability to prioritise the work we do. I think in a lot parts of the organisation there are lots of great ideas...In the past there hasn’t always been a way to consider and analyse those opportunities on its own merits and then compare [to determine] ... how are we going to allocate funds and resources to the different options that are there. So I think that will be a huge benefit in that allows us to make sure we are focussing on the right things. The way the PMF will be implemented is making sure the things we are choosing are linked to where we are going in terms of our overall strategy as an organisation” (LS#4).

Not only would the PMF assist in alignment of projects to strategic direction prior initiation but will also allow for periodic alignment, and strategic control to occur embedded within the framework as approval gateways as stated by PRIMARY’s PMF Sponsor:

“Having the linkage there will obviously help the business and its direction having that alignment [in both] undertaking that project [and in] the execution of a project. So if a project is aligned to the objectives [if]...mid-way through for whatever reasons the project may start to take a different direction, hopefully with the tools and processes and the knowledge people have, if that starts to happen, then it will be identified early, reassessed and approved to go
down that path or actually killed off. ...Within the PMF we have a number of kill points” (NG#8a).

The PMF was expected to assist alignment to business direction, agility in responsiveness to change, improved responsiveness to business direction and in the management of change:

“That’s quite clear in the way the projects are executed because most projects within PRIMARY outside of pure construction projects are related to change basically whether a system change or process change ... particularly IT ones. [Most systems] are all driven about being more flexible and dealing with an ever changing environment ... It’s a defined objective of this organisation is to be flexible. So PMF enables people to achieve the objectives of their projects and when you’ve got these objectives which are change-based whether its providing the foundations for the business such as customer relationship management systems or driving the assessment of new business opportunities regardless it is all related to it” (MN#8a).

Another perspective was that the PMF, in setting up the processes, would enable the organisation to respond to change due to improved agility and flexibility:

“because change can happen so quickly in industry, ... we’ll have the ability to better assess what the opportunities are and start going down a path so that we are ready to pursue that path aggressively when the opportunity comes up” (LS#8a).

This issue highlights that Governance and Communications at a Senior Level are important factors in alignment. Both criteria were assessed as High.

Thus it appears that the PMF is shaping and encouraging organisation changes of behaviour to align with the organisational strategic direction. It could be stated that these changes were due to the PRIMARY’s internal motivation to ensure projects and initiatives aligned with its strategic direction and budgeted costs rather than contingent causal agents. There was strong organisational motivation to ensure projects or initiatives were prioritised according to PRIMARY’s goals and that these were being kept aligned to their agreed deliverables, budgeted costs and schedule. The PMF was also seen as the mechanism to allow PRIMARY to become more flexible to respond to
changing environmental factors and significantly play an active part in keeping projects aligned with the business direction.

6.3.7 Make Conclusions for Case Study 6

The issues selected for investigation for Case Study 6 are listed in Table 6-20.

One emergent issue, Emergent Issue 5, was raised in this case study to investigate contingency causal factors.

<table>
<thead>
<tr>
<th>Alignment Approach:</th>
<th>4 – Continuous Alignment Driven by IT Systems and Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study:</td>
<td>6 – Establishing a Project Management Framework</td>
</tr>
<tr>
<td>Organisation:</td>
<td>PRIMARY</td>
</tr>
<tr>
<td>Issue No. &amp; Description</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow’s (Miles et al. 1978) organisational types, exhibit expected governance and alignment strategies consistent with the model’s expectations.</td>
</tr>
</tbody>
</table>

Table 6-20 Issues Investigated for Case Study 6

The previous four emergent issues were not investigated in this case study. Emergent Issue 5 is shown in Table 6-21.

<table>
<thead>
<tr>
<th>Emergent Issue No</th>
<th>Description</th>
<th>Raised in Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Investigate whether changes observed in an organisation’s business and/or information systems processes could be attributed to contingency causal factors such as a causal agent within the project or are they more attributable to internal driven motivation such as culture or policies.</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 6-21 Emergent Issues Raised in Case Study 6.

The PMF was driven by the business in recognition of IT project management processes and their positive impact on projects. The failure of previous business projects had been the main driver for the implementation of the PMF and was widely recognised as a major mechanism for alignment to the business strategic objectives.

The implementation of the Project Management Framework was regarded as very successful by the client and was deemed as crucial in their continued alignment between IT systems and business direction. The PMF was seen as assisting in the identification of projects closely linked to specified business goals and objectives as well as monitoring and controlling projects to ensure that business benefits were met.
PRIMARY’s purpose was to purchase produce from primary producers and market it nationally and internationally. It endeavoured to maximise marketing opportunities as well as creating new markets. Strong similarities to both Defender and Prospector characteristics could be seen. PRIMARY had successfully diversified its business activities by extending into low level manufacturing of its primary produce both in Australia and overseas and was continually looking to expand business related to its product thus exhibiting Prospector characteristics (Miles and Snow 1978). As one of the key characteristics of Defender organisations is the sophisticated development and usage of processes and systems (Miles and Snow 1978), the PMF initiative was deemed a good example of Defender characteristics. The organisation’s initiative to align IT processes and systems to its business strategic goals confirmed that PRIMARY exhibited both Defender and Prospector characteristics.

6.4 DISCUSSION FOR ALIGNMENT APPROACH 3: CONTINUOUS ALIGNMENT Driven by IT Systems and Processes

This alignment approach focuses on processes designed for Continuous Alignment which are driven by IT systems and processes rather than a One-Off Alignment approach or driven by business pressures as investigated in the previous case studies. There were two case studies allocated to this alignment approach.

Five issues were investigated, as listed in Table 6-22.

<table>
<thead>
<tr>
<th>No</th>
<th>Issues Investigated</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow's (Miles et al. 1978) organisational types, exhibit expected governance and alignment strategies consistent with the model's expectations.</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>5 6</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 6-22 Issues Investigated for Continuous Alignment Driven by IT Systems and Processes
One emergent issue was raised during investigation of the Continuous Alignment Driven by IT Systems and Processes Approach (See Table 6-23). The previous emergent issues were not relevant to this case study.

<table>
<thead>
<tr>
<th>Emergent Issue No</th>
<th>Description</th>
<th>Raised in Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Investigate whether changes observed in an organisation’s business and or information systems processes could be attributed to contingency causal factors such as a causal agent within the project or are they more attributable to internal driven motivation such as culture or policies.</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 6-23 Emergent Issues for Continuous Alignment Driven by IT Systems and Processes

Both case studies looked at the introduction and use of project management discipline to drive alignment of IT systems and processes to strategic direction. In both cases the project management discipline was deemed as fundamental and crucial to the identification of projects which aligned to business goals as well as providing the mechanism of continuous alignment, both internal to the project by ensuring business benefits were achieved, as well as across projects over time.

It was interesting that two different large organisations determined that project management methodologies were a major mechanism to align systems and processes to business strategic direction. Other common characteristics were also noted including cross-department involvement and establishment of project management related business processes. The two case studies however did differ in a number of important aspects, including scope of implementation across the organisation and industry sector.

In both the case studies, the organisations scored high to medium in most areas of alignment dimensions indicating a good level of alignment between the IT systems and processes and business directions following the outcomes of the engagements. Low ratings on the two criteria, Competency and Skills and IS&P Support, were recognised as rationale for initiating the case study engagements with an expected high outcome for the completed implementation.

**Implementation scope**

The way project management was implemented in the organisation as an alignment mechanism differed markedly between the two case studies. In Case Study 5, the BPO was applied to a section of the organisation and, on its roll out and acceptance, two other BPO structures were implemented. In Case Study 6, however, the PMF was
rolled out for the whole organisation with the explicit endorsement of the Executive Team and as recognition of the success of project management discipline within the IT systems and processes. It should be noted that INSURE’s BPO was implemented at the senior management level for the department and also had support from IT department. Only after the success of the BPO did INSURE’s executive exhibit endorsement through the additional establishment of an executive level BPO. As both case studies were highly successful in their outcomes, it may be concluded that both approaches can be useful, depending on the circumstances. However the commonality between the two cases was that there was considerable high profile stakeholder engagement. In Case Study 5, the General Manager of INSURE’s business unit was a major driver and the business owner for the BPO, while the PMF implementation PRIMARY’s executive team itself endorsed the changes which would have sent a powerful message to the organisation. In Case Study 6, there were representatives from many areas of the organisation and a deliberate message sent out from the department heads as to the importance of the initiative to the organisation’s success. There was a systematic program of having Department Heads to champion the PMF within their own departments.

**Conclusion Approach 3-1**

Implementation can be localised as well as across the organisation. Implementation locally as in Case Study 5 allowed it be customised and focussed to the needs of the business unit while in Case Study 6 the focus of the PMF were enterprise wide. In both case studies, however, senior management and stakeholder support was also seen as crucial for successful implementation.

**Industry Sector**

It is also interesting to note that the two organisations came from very different industries: INSURE was from the financial sector while PRIMARY was from the primary industry sector.

**Conclusion Approach 3-2**

It is possible that using project management as a mechanism for alignment can be generalised to a number of organisations across different industries.
Cross-Departmental Endorsement
In both case studies there was a degree of cross-departmental endorsement. In Case
Study 5, the IT department as well as the CIO endorsed the implementation of the BPO.
In Case Study 6, a reference group was set up early in the project life-cycle comprising
departmental representatives to engage the involvement and buy-in of the different
departments but to also act as champions of the PMF within their own areas.

Conclusion Approach 3-3
Representatives from affected areas should be engaged to ensure buy-in and
involvement.

Executive Support
One of the most important findings was the confirmation that executive support is
essential for project success. Both case studies were successful largely due to
executive sponsorship and support. This was supported anecdotally by the current
project sponsor of PRIMARY’S PMF project that their previous initiative had not
succeeded due to the lack of executive support.

Conclusion Approach 3-4
It is essential and crucial to project success to have executive sponsorship and
ongoing support. Senior management and high level stakeholder endorsement
for the implementation is essential for the success of the alignment mechanism.

Project Management Methodologies and Processes
Both cases created and implemented project management methodologies and processes.
In Case Study 5, the project management discipline was established via a BPO and
created methodologies and processes. Similarly in Case Study 6, the PMF consisted of
the PMO, methodologies and processes as well as a project life-cycle. These
methodologies and processes in both cases moulded existing business processes and
created new ones. More importantly they were designed to change the culture of the
organisation. In Case Study 5, the aim of the BPO was to engender a culture and
mechanism of business improvement within INSURE’s business unit while in Case
Study 6, the aim of the PMF was to become part of PRIMARY’s corporate culture for
strategic alignment, as stated by PRIMARY’S Business Excellence Manager:

“[The PMF] will be like business as usual but a lot quicker and simpler”
(MN#6).
Conclusion Approach 3-5

Project Management Methodologies and Framework can have a significant impact on the organisational culture and be an agent of change as part of continuous alignment processes. This may occur in not only changing the processes but also the organisation language and focus of work.

Generalisation versus Contingency Theory

The success of project management framework and methodologies in the form of the BPO and PMF across two different organisations in two very different industries and implemented at different levels within the two organisations is a good indicator that this may be able to be generalised across organisations and industries rather than contingent only to the circumstances within these case studies. As project management is used across many different industries and organisations, it suggests that this may be good alignment mechanism for an organisation.

Conclusion Approach 3-6

Setting up a project management framework and/or project management office for an organisation or even part of an organisation can be a good alignment mechanism for the business direction of an organisation.

Overall Conclusion

These two case studies were both successful largely due to executive sponsorship and support, particularly in Case Study 6 since it was re-tried for the PMF establishment. The major message from these two case studies was that project management can be used as an alignment mechanism and that executive sponsorship and stakeholder buy-in are essential for project success.

There is support that Project Management could be generalised to other organisations and industries.

The issues investigated by Case Studies 5 and 6 related to several theoretical positions for strategic planning and implementation, and highlight that internal factors largely influenced the establishment of the case study engagements such as a desire to improve business efficiency in Case Study 5 and improve project performance in Case Study 6. These internal influences also applied to the tools and processes employed by the two case studies, further supporting this perspective.
Chapter 7. Discussion

Alignment of an organisation’s technology systems and processes with its business goals and direction is a major contributor to business success. Strategic Alignment was defined as the extent that the information systems and processes within an organisation supported and extended an organisation’s strategic business direction.

Two alignment approaches have been identified from the literature: one-off alignment and continuous alignment. It was also determined that continuous alignment could either be driven by the business or alternatively as an outcome of required IS processes hence three alignment approaches were defined for this study. Major issues that could be investigated were identified from the alignment literature. Alignment measures and criteria were developed and a case study methodology adapted from the research literature to describe and analyse the case studies. Six case studies across four large organisations were used to investigate selected issues.

The case study chapters, (See Chapters 4, 5 and 6), discussed results in the light of issues raised within each case study and based around the appropriate alignment approaches. In contrast, this chapter takes an overall view of the findings, discussing relevant issues investigated across the alignment approaches as well as comparing the alignment approaches so as to gain further insight. Implications for other organisations are discussed and the methodology developed is also reviewed and discussed.

7.1 COMPARISON OF ALIGNMENT APPROACHES

Three alignment approaches were defined for this study: One-Off Alignment; Continuous Alignment Driven by Business Direction; and Continuous Alignment Driven by IT Systems and Processes. The latter two, although both representing continuous alignment, were differentiated by the drivers that initiated the alignment initiatives.

Three case studies (Case Studies 1, 2, and 3) were investigated as part of the One-Off Alignment Approach. This approach looked at alliance and non-alliance organisations. Within the alliance context of Case Studies 1 and 2, there was significant investment for the initiatives, however it was concluded that the investment did not go far enough to ensure sufficient IT Systems support for successful alliance delivery. This contrasted greatly with Case Study 3 which indicated significant investment into an
enterprise-wide restructuring of information architecture for the organisation. Several conclusions from this first alignment approach were drawn, focussing on the need for personnel and financial investment as well as strong leadership support for these initiatives to be successful. It could be also be inferred that the relative lack of leadership between Case Studies 1 and 2 compared with Case Study 3 could be attributed to the fact that the first two case studies represented several organisations in alliance while the third case study was within a single organisation. There is an implication that it would be much easier to have consensus of approach and investment from a single organisation rather than that from multiple organisations in an alliance with multiple leadership teams to manage.

**Comparison between Continuous Alignment Approaches**

The distinction between the two continuous approaches (based on the motivation for the initiatives, that is business driven versus IT systems driven (Henderson and Venkatraman 1993)), was made early in the methodology design (See Section 3.4.4). However, both approaches are decidedly based on a process of repeatable alignment steps which provide the mechanism of alignment. When looked at in this way, that is combining the two continuous alignment approaches, it can be concluded that strong collaboration and communications lead to increased sense of ownership and greater understanding between different areas of the organisation. Perhaps the continuous alignment approach afforded more opportunities for collaboration and communication over a longer duration.

Both Case Studies 5 and 6 which looked at the establishment of the Business Projects Office (BPO) and Project Management Framework (PMF) respectively represented a formalised and systematic approach to align projects and initiatives to a pre-determined categorisation or prioritisation. This shows that there can be strategic alignment at grass roots level if a mechanism is in place.

Case Study 4 looked at the Assessment Process focussing on an initiative instigated by the business arm of the organisation. As with Case Studies 5 and 6, communications and collaboration were high, organisational learning scored high, scope was managed and delivered successfully, and executive support was high.

**Comparison between One-Off Alignment and Continuous Alignment Approaches**

Case Studies 3 and 4 provided an opportunity to review two markedly different alignment approaches in the same organisation, INSURE.
INSURE, as investigated in Case Study 3 under the Enterprise Architecture (EA) initiative, was defined as an organisation exhibiting strong Defender characteristics and leanings towards Prospector. Case Study 4 described the establishment of a new process for continuous alignment, thus further confirming Defender characteristics for large investment in systems and processes.

It is also particularly interesting to compare the two different alignment approaches of One-Off Alignment and Continuous Alignment within the context of a strong Defender organisation.

In contrast to the Assessment Process which covered numerous potential initiatives, the EA initiative covered one large project to design and restructure the organisation’s information and information processes. Where the Assessment Process looked at comparing new technologies with the organisation’s current direction and policy, the EA initiative was looking to restructure the organisation’s information landscape to enable the organisation to chart new directions. The EA initiative, from Case Study 3, contrasted with the Assessment Process in Case Study 4, with respect to a number of parameters: size of projects; expected timeframes; resources on the projects; and delivery outcomes as detailed in Table 7-1.

<table>
<thead>
<tr>
<th>EA Initiative within One-Off Alignment</th>
<th>Assessment Process within Continuous Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commencement of large design project of 18 months. Followed by expected implementation project with estimated duration over 3 plus years.</td>
<td>Process duration 3 to 4 weeks.</td>
</tr>
<tr>
<td>Large investment of resources, technology and cost</td>
<td>Small investment of resources. Can be tailored to size of Assessment.</td>
</tr>
<tr>
<td>Delivery outcomes expected in 2 to 3 years</td>
<td>Delivery outcomes apparent in 3 to 4 weeks</td>
</tr>
<tr>
<td>Formal structured project, IT focussed and driven</td>
<td>Informal structure, easily modified and improved, business driven, IT focussed.</td>
</tr>
<tr>
<td>IT driven collaboration with business including requirements gathering, business process.</td>
<td>Business driven collaboration with IT including request for assessment.</td>
</tr>
</tbody>
</table>

Table 7-1 Comparing Case Studies 3 and 4

Clearly INSURE recognised that both approaches were required simultaneously for related areas of the business, and exhibited strategic maturity in recognising both needs and influences and responding to each. This supports the premise that when large scale change for technology infrastructure, enterprise system or application architecture is needed, the one-off approach is most likely required due to the large investments and
large scale changes that will be taking place. When smaller changes or incremental changes are required, the continuous approach can be undertaken.

Looking at the alignment criteria, both case studies scored high on most alignment dimensions criteria indicating the advanced level of alignment expected from the successful outcomes of the case study engagements. Low ratings, on the IS Competencies and Skills Maturity and IS&P Support for Business Direction criteria, were recognised as rationale for initiating the case study engagements, with an expected high outcome for the completed implementation.

The most striking thing about these two case studies is that the same organisation, INSURE, used two vastly different alignment strategies depending on the condition and the required outcome. This is an indication of the maturity of the organisation which recognises that different strategies may be required contingent on the different problems encountered.

The most important message here is that there are multiple ways to align IT systems and processes to business goals. Organisations can choose from a variety of strategies depending on the outcome required. Both One-Off and Continuous Alignment strategies can co-exist in the same organisation because they are responding to different strategic measures.

Despite this organisation’s recognised characteristic as conservative and slow to change, it responded to the massive change required by the EA. The alliance organisations investigated in Case Studies 1 and 2 showed a less nimble approach. A similarly nimble response was seen in the fourth organisation observed, PRIMARY. This nimbleness was across alignment approaches and hence it could be concluded that this is a factor of the organisation itself and not the alignment approach utilised. This is discussed more fully in Section 7.2.

Comparing the One-Off Alignment Approach with the Continuous Alignment Approaches, it can also be seen that the two approaches are at opposite ends of the spectrum. The primary forces influencing One-Off Alignment were external in origin such as the market pressures for increased product and service diversification, the requirement for increased customer knowledge and responsiveness to customer demand. On the other hand the primary drivers for Continuous Alignment were mainly internal influences. INSURE’s internal business representatives requested assessment
of potential systems and technologies. Thus both internal and external factors influenced the respective alignment mechanisms investigated within these two case studies across the two alignment approaches. This is supported by Case Study 5, which also found that there were internal forces influencing the engagement rather than external forces, confirming the view that with, these three situations, external forces were apparent in One-Off Alignment while internal forces were stronger in Continuous Alignment.

One-Off Alignment and Continuous Alignment Approaches within the Same Organisation

An interesting feature of INSURE is the concurrent use of three different alignment approaches in three different business areas (Gabriel-Seow and Armarego 2015) which were all shown to be effective mechanisms for alignment. This concurrency indicates a strong recognition of the importance of alignment to the organisation and the recognition that there may be a number of valid approaches to achieving that, within the same organisation. The multiple approach strategy also strongly supports Defender characteristics, that is a mature organisation willing to invest in its systems and processes, as well as Prospector characteristics looking for new business opportunities. The successful use of all three alignment approaches in the same organisation supports complimentary initiatives for alignment, suggesting that alignment strategies may be contextual, indicating that different approaches may be required in different circumstances which can be used simultaneously within the same organisation.

Although this is a pleasing result, the success of all three approaches may also need other alignment factors to be in place. Perhaps the most important of the criteria for alignment is high governance. It can be suggested that a high governance score in the One-Off Alignment Approach, as shown in the EA project, was a contributing factor in its success, despite low ratings for other alignment criteria. Perhaps it can be suggested that a strong governance factor in an organisation is necessary for the success of initiatives, irrespective of the alignment approach implemented. Nevertheless, some alignment approaches are better than others, depending on context. Specifically, it may be that other alignment criteria, such as a high level of communications and collaboration and organisational support for the alignment initiatives, are also strong indicators of potential for success.
7.2 COMPARISON OF ISSUES ACROSS ALIGNMENT APPROACHES

Some issues were investigated across the various case studies and the different alignment approaches. Discussion of these issues across organisations or case studies provides additional insight to both the issues and to the context of the issues. A full list of issues arising from the literature review and from revisiting the theoretical context of each case study is listed in Appendix A.

Organisation’s Characteristics and Behaviour as Function of Organisation Type

The characteristics of four organisations with respect to Miles and Snow’s typology (Miles and Snow 1978, Miles et al. 2010) were examined across four case studies and all three alignment approaches.

Within the One-Off Alignment approach, it was noted that two of organisations investigated in Case Studies 1 and 2, exhibited the expected behaviours. It was interesting to note that these characteristics were strongly exhibited and closely aligned to the model. Large established organisations which were in themselves expected to be Defender organisations were venturing into partnerships and alliances and hence exhibited classic Prospector characteristics in their quest for development and growth.

The third organisation, investigated in Case Study 3 within the One-Off Alignment Approach, showed alignment initiative originating with the organisation, thus exhibiting its strong Prospector tendencies. This tendency was similarly shown Case Studies 5 and 6 within the Continuous Alignment Approach Driven by IT Systems and Processes. The case studies showed that all four organisations exhibited Defender and Prospector characteristics as consistent with organisational type theory (Miles and Snow 1978, Miles et al. 2010). As one organisation utilised all three alignment approaches within the same time frame, it could be concluded that alignment approach may not necessarily be a factor of organisational type in these six case studies but rather a function of what the organisation was aiming to achieve with each engagement. As such it is not useful within this context to discuss alignment approach as a function of organisational type.

Governance and Executive Management

Governance and executive management factors were investigated with respect to their effectiveness in leveraging IT for alignment across both the One-Off Alignment
Alignment of Business Strategies and Information Systems and Processes in Large Organisations

Approach and Continuous Alignment Driven by Business Direction. It was observed that in the case studies within the One-Off Alignment Approach (Case Studies 1 & 2), there was limited governance and executive management exhibited and hence limited success in influencing or leveraging alignment of IT systems and processes to business goals. However in an organisation which was utilising an alignment approach and engaging Project Management as a mechanism, (Case Study 5), governance and executive management processes were observed to exert a strong influence in the alignment initiatives.

Case Study 3 also showed a high level of Governance. The support for the initiative from the executive management was clearly evident by the financial and resource investment made the high profile of the initiative in the communications from the executive management, the expected outcomes from the initiative and the capability of the organisations following its delivery. This was evidenced from the “client-centric view” and “360° view” which was termed in their many communiques to the organisation and had consequently become a common place expression within the EA initiative team and other areas of the business.

**Internal and External Influences on an Organisation**

The internal and external influences of an organisation, and its perceived impact on alignment, was investigated within Case Studies 3 and 4 and across two different Alignment Approaches 1 and 2: One-Off and Continuous Alignment Driven by Business Direction. In Case Study 3 both external and internal influences were noted as the main impetus to initiate the Enterprise Architecture (EA) initiative. In Case Study 4, strong internal influences were observed. As the Assessment Process was an internal process, external influences were not observed, however it could be suggested that, the technologies which were assessed were themselves exerting external influences. It appears that, although both external and internal influences impacted the organisation in both alignment approaches, stronger external forces were observed with One-Off Alignment while stronger internal forces were associated with Continuous Alignment.

**Impact of Strategic Alignment Operational Processes**

The impact of strategic alignment on influencing operational processes was investigated in Case Studies 2 and 5 across One-Off Alignment and Continuous Alignment Approaches. In the former, it was concluded that although the alliance
between the parent and other organisations was an attempt to improve business outcomes and delivery to the parent organisations, the operational processes of the alliance organisation were not able to provide the benefit need to the organisation so the alliance was not renewed. It could be concluded that the lack of alignment between the organisational goals and the IT systems and processes of the alliance organisations had a negative impact on operational processes.

In contrast, Case Study 5 showed strong evidence of positive impact on operational processes. By making suitable operational processes into projects, the strengths of the project management methodology, such as prioritisation, milestone reviews and monitoring, as well as closer collaboration between two alignment mechanisms, the Assessment Process (Case Study 4) and the BPO (Case Study 5), had positive impact.

Case Study 2 utilised a One-Off Alignment Approach, while the Case Study 5 utilised a Continuous Alignment Approach. This raises the question of whether a Continuous Alignment Approach provided the opportunities to amend and improve the alignment mechanism, as indicated in the BPO (Case Study 5), the Assessment Process (Case Study 4) and the PMF (Case Study 6). The One-Off Alignment Approach is, by definition, a discrete event. The systems and processes examined in Case Study 2, were established and being implemented for a considerable time and perhaps not amenable to ready change due to the pressures exerted by internal and external forces, such as other integrated processes, financial pressures from the joint venture organisations in the alliance, or the high expectation of operational results from the parent company.

**Eliciting Support for Alignment**

Investigation of the initiatives and activities implemented to elicit support for alignment processes within the organisation was undertaken in Case Studies 4 and 5. In both case studies, there were significant resources and investment in change management for the initiatives. There was also significant executive management support. Both of these assisted in eliciting support for the alignment mechanisms. A point of interest is that both of these case studies were utilising Continuous Alignment Approaches raising the question again as to whether it is the continuous alignment approach which engenders greater support for alignment through the mechanisms employed which elicit frequent communications.
**Emergent Issues**

Two emergent issues were raised after Case Study 1 and investigated in Case Study 2. These were discussed within the respective case studies. The remaining emergent issues were raised in Case Studies 2, 4 and 6. There were no emergent issues compared across alignment approaches so no further insight could be found regarding these issues from the alignment approaches.

**Other Factors**

Other factors could also be influencing alignment. It was observed that alignment appeared more successful in activities undertaken by INSURE and PRIMARY rather than UTILITY and CONSTRUCT ALLIANCE. It was suggested that nimbleness may be a key factor which could positively influence the alignment criteria such as Governance, Communications, IS&P Support for Business Direction, and IS Competencies and Skills Maturity. The organisations in the alliance case studies (Case Studies 1 and 2) were constrained by their own legal and operational inter-relationships. Decisions required collaboration and approvals from several leadership teams, whereas INSURE and PRIMARY, which were single entities, were not constrained and could be more agile in their decision-making and communications. Another factor could also be industry type. The parent organisations in both Case Studies 1 and 2 were utility organisations indicating constraints in terms or government regulations and bureaucracy. Although INSURE and PRIMARY were also affected by other types of government regulations, their internal organisational structures were perhaps less constrained. It is likely that an inter-play of these factors may have influenced the organisation’s alignment mechanisms.

**Overall Conclusion**

Greater responsiveness to the internal needs and influences within an organisation were observed within the continuous alignment approaches. Other observations for this approach included: greater collaboration and communication from senior levels; more positive impact on operational processes; greater extent in eliciting support for the alignment processes within the organisation; governance and executive management processes were observed to exert a strong influence in the alignment initiatives. Overall, continuous alignment was concluded to be an effective method for alignment. There was evidence that, when there are large scale changes to technology infrastructure or systems, then a One-Off Alignment Approach is the most likely
required due to the significant amount of planning, resource and financial investments required. In particular the strongest external influences on an organisation were observed within the One-Off Alignment Approach. However there are a number of factors that appear to be crucial for success in One-Off Alignment approaches, in particular strong governance and communication.

When smaller changes or incremental changes are required, one of the Continuous Alignment Approaches can be undertaken. Here, critical success factors include a high level of communications and collaboration and organisational support for the alignment initiatives. Simultaneous use of both One-Off and Continuous Alignment Approaches can be successfully utilised depending on the context and purpose of the initiatives.

7.3 NON-ALIGNMENT

From the case studies it can be concluded that non-alignment may also be a driver towards organisational change. As was shown by the case studies, all the engagements underpinning the case studies were driven by evidence of non-alignment. Case Studies 1 and 2 were driven by a lack of organisational capacity, motivating the organisations to seek alliance or partnerships with external parties.

The Enterprise Architecture initiative investigated in Case Study 3 was a direct result of non-alignment of the organisation’s information and IT systems and processes with their business direction. The legacy enterprise architecture of the organisation was inadequate in fulfilling the business objectives to leverage new products and services to their existing client base or for the organisation to expand to new markets.

In Case Study 4, non-alignment of potential new technology compared with the organisation’s IT policy was the main criterion used to disallow technologies. In the final two case studies, the organisations aimed to align their IT systems and processes to business goals using project management as the main mechanism of alignment.

So it can be argued that non-alignment is the trigger for organisations to seek various ways to align business and IT strategies to align: One-Off Alignment in the first three case studies and one of two Continuous Alignment strategies.

Interestingly, there was an exception to this general observation from all case studies. It was observed that in Case Study 4, (see Section 5.2.5.4) a non-aligned result for one assessment was the impetus to change the IT policy and allow the ‘non-aligned’
technology. Hence there is some evidence that non-alignment can have positive outcomes by challenging the organisation to review its current business goals and / or IT strategies and perhaps aligning these to the new technologies providing the organisation new ways of doing business. This may be a method of IT change to embracing new technologies, and as discussed earlier in Section 5.2.6.1, organisations who have not adopted new technologies and new ways of doing business were negatively impacted.

7.4 CRITERIA FOR ALIGNMENT ASSESSMENT

A number of alignment mechanisms were also investigated. The selected approach was therefore to investigate alignment across three approach types: One-Off Alignment; Continuous Alignment Driven by the Business; and Continuous Alignment Driven by IS Processes. The criteria utilised for alignment assessment, were selected and adapted from previous research: governance; communications; level of support of IS to business direction; and IS competencies (Buckby et al. 2005, Luftman 2004b, 2015, Tarafdar and Gordon 2007) using a 5 level rating system (Luftman 2003b, 2004b).

The criteria were applied to assess the organisation’s alignment initiative from the perspective of the case study and related to the engagement underpinning the case study. This allowed the researcher to focus on these specific characteristics and make an assessment based on the criteria. The criteria were used to assess the investigated issues and applied to provide insight as to factors that may be contributing or hindering the extent of alignment. Similarities and differences between investigated issues within an alignment approach were discussed at the end of the alignment approach chapters. Relevant issues that were investigated across alignment approaches were discussed in this chapter.

7.5 IMPLICATIONS FOR OTHER ORGANISATIONS

Implications for other organisations could be drawn for organisations with similar profiles such as strong Defenders with leanings towards Prospector behaviour. These organisations are, for most part, mature organisations and leaders, or have strong market presence, in their business area. However they are looking to either strengthen their market lead or to venture into new but related areas of business.
Organisations may look to a number of strategies based on this study: enter into partnerships or alliances with organisations with complimentary capabilities; ensure their information and IT systems and processes will support their intended business strategy and if not take steps to restructure them to support these goals; collaboration between business and IT departments within their own organisations to assess the value of new technologies in supporting or indeed modifying their business goals; and use project management methodologies to assist in the continuous alignment between systems and processes and business goals.

From this study it can be concluded that these strategies need not be mutually exclusive but can be simultaneously applied depending on the situation. Four strategies could be formulated based on the alignment approaches and the investigation of key issues in the case studies. The four strategies are listed in Table 7-2.

<table>
<thead>
<tr>
<th>No</th>
<th>Suggested Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enter into partnerships or alliances with organisations with complementary capabilities (One-Off Alignment Approach - Case Studies 1 &amp; 2)</td>
</tr>
<tr>
<td>2</td>
<td>Ensure their information and IT systems and processes will support their intended business strategy and if not take steps to restructure them to support these goals (One-Off Alignment Approach - Case Study 3)</td>
</tr>
<tr>
<td>3</td>
<td>Collaboration between business and IT departments within their own organisations to assess the value of new technologies in supporting or indeed modifying their business goals (Continuous Alignment Approach - Case Study 4)</td>
</tr>
<tr>
<td>4</td>
<td>Use project management methodologies to assist in the continuous alignment between systems and processes and business goals (Continuous Alignment Approach - Case Studies 5 &amp; 6)</td>
</tr>
</tbody>
</table>

The first strategy looks at organisations with complementary capabilities. The first two case studies demonstrated this strategy: the organisation required additional or specialist construction capability which was lacking internally and sought these capabilities to be met by partnering with independent organisations.

The second strategy was demonstrated by the Enterprise Architecture (EA) initiative in the third case study. This represented a huge resource and financial investment for the organisation which was looking to restructure their information systems and processes to enable and support new businesses for their existing client and products base.

Although the focus was for EA, it may potentially be extrapolated for other large scale transformative initiatives such as physical re-locations or restructuring initiatives in other organisations. The third and fourth strategies represent the continuous alignment approaches driven by business direction or by systems and processes.
respectively. The third strategy looked at a collaborative effort between the business and IT departments to assess technology or potential projects. This successfully delivered a consensus decision between the business and the IT arm regarding the potential use of the technology.

The fourth strategy focused mainly on project management systems and processes providing the mechanism of alignment. This was primarily the establishment of project management framework and methodologies either where none had existed before as in the Projects Office in Case Study 5 or the establishment of a business wide Project Management Framework across the organisation for the delivery of high-end and low-end projects to achieve the business’ goals in Case Study 6.

With strategies 2, 3 and 4 used in one of the four organisations investigated, it was also confirmed that they can be applied concurrently to fit the varying needs of different parts of the organisation.

The next trends in business strategies are focussed around the inter-connectedness of information and using this for business decision making. Strategic innovation has been shown to provide significant value for organisations whilst at the same time challenging traditional ways of thinking and working” (Prince, Barrett, and Oborn 2014). Future research could investigate strategic tools focussing around data analytics and new technologies such as cloud services and mobile technologies and internet-of-things (Perera, Zaslavsky, Christen, and Georgakopoulos 2014, Prince et al. 2014) and how these could be used to more closely align business strategic direction with an organisation’s technology, systems and processes.

7.6 DISCUSSION ON METHODOLOGY

Chapter 3 Sections 3.3 and 3.4 describe the case study methodology adapted from Eisenhardt (1989a) for this study. A discussion on the methodology following its use for the six case studies is warranted.

Selection of Issues for Case Studies

The decision on which issues to be investigated in case study was, for this study opportunistic and dependent on the engagement provided by the organisation to the researcher. That is to say, the purpose of the initiative was set prior the engagement of the researcher and hence the issues pertaining to the case study could be easily
determined by the stated purpose. This is also probably the case with many in situ case studies where the researchers determine areas of interest to be investigated.

**Investigating Issues Arising from the Literature Review**

This investigation of issues for the case study within the context of the case study worked well. The issue and the questions formulated around the issue, could be investigated using the designated instruments of interviews, project documents and any public documents available.

Framing investigations through the issues, and associated questions raised by the issue, allowed for the focussing of data collection and analysis to the issue itself and allowed for in-depth investigation for that issue. This reduced the risk of too much broad information and not enough detailed information for informed analysis to occur. This enabled recommendations and / or conclusions drawn at the end of each issue.

This targeted approach for data collection and analysis, based on the issues, also enabled analysis and alignment assessment.

Ideally issues could be investigated across all case studies and all three alignment approaches. However, due to the opportunistic nature of the engagements underpinning the case studies and the differing role of the researcher within each engagement, this would have created artificiality in investigation and ignored the serendipitous opportunities for investigation of specific issues. The methodology, allowed for the determination of the most relevant issues on a case-by-case basis for each case study.

**Emergent Issues**

There was an expectation that Step 6: Referring to Theoretical Context of the Single Case Study Model, as shown in Figure 3-5, would raise additional issues which would then be looked at in view of the available data collected and analysed for the specific case study. In this way issues specific to the case study, but not originally predicted and reviewed, could be looked at in detail within the case study. In Case Study 1, two emergent issues (Emergent Issues 1 and 2), were raised and investigated. These were deemed of sufficient importance to investigate in Case Study 2 as well. The single case study model as it currently stands does not explicitly provide for the raising of additional issues to be selected and investigated for other case studies.
This Step 6 could perhaps be adapted to ensure that a relevant literature review be undertaken regarding the arising emergent issues. An amended model is suggested as shown in Figure 7-1 for a single case.

**Level 1 - Research**
- 1. Define Research Question and Identify Issues
  - 1a. Consider emergent issues from prior Case Studies

**Level 2 – Alignment Approach & Case Study Selection & Analysis**
- 2. Select Case
- 3. Determine Instruments and Evaluation Criteria
- 6. Refer to Theoretical Context
  - 6a. Undertake case study specific literature review
  - 6b. Identify emergent issues

**Level 3 – Implement Case Study**
- 4. Undertake Case Study
- 5. Analyse Data
- 5a. Analyse Data for emergent issues
- 7. Make Conclusions for this Case Study

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**Figure 7-1 Amended Single Case Study Model for Emergent Issues**

**Single vs Multiple Case Study Models**
Following the implementation of the case studies, it was recognised that a multiple case study model may be useful to capture and revisit emergent issues raised at the end of each case study to allow repeatable investigations across similar case studies investigating similar issues.

For example, Case Studies 1 and 2 may look to fit a multiple case study model, as both were looking at alignment from a partnership / alliance perspective. To allow a repeatable investigative model for the successive case studies, it would be best that similar variables and factors are in play, such as the same alignment approach, similar issues and the same or similar organisational factors.
A potential multiple case study model is proposed in Figure 7-2. This multiple case study model has not been utilised or tested in the field. Although it is worthwhile to note that with case studies in the field, there may always be differing circumstances, selection of similar case studies to investigate under the same alignment approach and raised issues may provide further insights, as it is in the comparison of the similarities and differences that learnings can be addressed to other situations.

7.7 CHAPTER CONCLUSION

This chapter provides a comparison of outcomes across alignment approaches. The three alignment approaches: One-Off Alignment; Continuous Alignment Driven by Business Direction; and Continuous Alignment Driven by IT Systems and Processes
were examined. The comparison and similarities of the three approaches was discussed showing that the One-Off Alignment Approach had difficulties in the alliance context but was successful in the single organisation context. The latter two approaches were recognised as being continuous alignment regardless of the motivating source. The continuous alignment approaches were found to be generally more successful than the One-Off Alignment approach; however it was acknowledged that a single organisation had successfully implemented all three approaches simultaneously in different areas of the organisation. This gave evidence that the approaches could be used in a complementary way depending on the context. The strengths and weakness of non-alignment between business and IT strategies was discussed, indicating that while alignment is highly desirable for the success of an organisation’s initiatives and business goals, recognition of non-alignment was seen as the main impetus for initiating strategic alignment initiatives and in one case non-aligned technology was the impetus of review of the organisation’s IT strategy and its incorporation into the overall IT strategy. This shows that non-alignment could also benefit an organisation. The alignment criteria were also reviewed and implications for other organisations looking at strategic alignment were discussed.

Chapter 8 concludes the study by reiterating the problem under investigation, summarising the answers to the research questions, discussing this study’s strengths, limitations and contributions to current theory and practice as well as proposing future research directions to extend this study.
Chapter 8. Conclusion

8.1 REITERATION OF PROBLEM

Organisations recognise that one of the major contributors to their business success is the alignment of their business direction and their IT systems and processes. Termed strategic alignment, closer alignment allows an organisation to leverage its IT resources to fully support its business goals and directions. Despite this recognition and practice, successful alignment is difficult to achieve, with many organisations expending significant IT resources in the attempt to achieve it. Investigating this phenomena in real-life cases where organisations attempted to align their IT systems and processes in a variety of ways is of benefit to understanding the motives, the mechanism and the impact of these initiatives, leading to two major research questions: firstly, what initiatives can an organisation put into place to initiate or progress the strategic alignment between its business goals and direction and its IT systems and processes?; and secondly, what characteristics or dimensions of an organisation can influence its choice of alignment approach?

8.2 ANSWERING THESIS RESEARCH QUESTIONS

The literature was reviewed from the perspective of the two research questions. A number of issues were raised from the literature review which warranted examination. The two research questions were investigated in detail applying the issues raised by the literature review within the context of six case studies across four organisations using a defined case study methodology. This approach provided an opportunity to understand and gain insight to respond to the two research questions:

1 – What initiatives can an organisation put into place to initiate or progress the strategic alignment between its business goals and direction and its IT systems and processes?

This study confirmed that an organisation can put into place three types of strategic alignment approaches: One-Off Alignment; Continuous Alignment Driven by Business Direction; and Continuous Alignment Driven by IT Systems and Processes.

One-off Alignment can be seen to cover strategic responses such as instigating partnerships and alliances with complimentary organisations to jointly deliver the business goals, or to cover restructuring of information systems and business processes
to align the organisation’s internal structure and behaviour to the required business goals.

Continuous Alignment Driven by Business Direction is observed to cover alignment such as the assessment process whereby the business sector of the organisation drives the organisation to continually assess and determine which new technologies would enhance the business goals or indeed modify the business goals.

Continuous Alignment Driven by IT Systems and Processes includes project management and project office establishment which provide the systems and methodology to continually align the organisations operational and / or strategic initiatives to the business goals.

An important outcome of this study is that these approaches are not necessarily exclusive and that they can be applied simultaneously by an organisation. One organisation successfully utilised the three approaches concurrently in different areas of its business. The organisation utilised the One-Off Alignment approach to design and implement their enterprise architecture initiative to redress the limitations in their legacy systems which were hindering fulfilment of their business goals for leveraging their customer base for increased business and to venture into new markets. The high levels of governance, communication from the senior executive and support elicited from the relevant organisational areas indicated success in the venture. Likewise successful delivery of initiatives utilising a Continuous Alignment Approach in setting up two other initiatives were also successful: assessment process for determining new technologies and systems proposed by business areas; and establishment of a business projects offices to prioritise operational activities and provide rigour and discipline afforded by project management discipline. The success of the three different alignment approaches within the same organisation is evidence that different initiatives can be applied depending on the business context, provided other factors addressed by issues raised in the literature are present, such as strong governance, good communication by senior management, sufficient resources for the initiative, and that the systems and processes to support the business direction are being addressed.

**2 – What characteristics or dimensions of an organisation can influence its choice of alignment approach?**

A number of factors of an organisation are observed in this study to influence and impact strategic alignment. These include organisational characteristics, organisational
management control systems in place, organisational resources and organisational governance structures. This study raised these as issues and determined that organisational characteristics such as Defender / Prospector characteristics were observed in these organisations which supported the theory that these organisations were amenable to strategic alignment initiatives.

Other characteristics raised as issues were seen to be aligned to dimensions of alignment noted by Chan and Reich (2007) and including strategic, structural, social, cultural aspects. These were detailed for the purposes of this study as: governance; communications; information systems (IS) competencies and skills; and information systems and processes (IS&P) support for business direction.

It was found that where Governance and Communication at the Senior Level were rated as High, strategic alignment was observed or in the process of being realised. Where these two dimensions were rated as Low, strategic alignment was absent or greatly reduced. In fact where Governance and Communication at the Senior Level were High the other two dimensions also showed High.

The other dimensions also indicated that strategic alignment was only observed when IS Competencies and Skills Maturity and IS&P Support for Business Directions were also high. Where these two dimensions were rated Low, strategic alignment was not observable.

In summary four dimensions were required for strategic alignment to occur:

- High level of governance practices
- High level of communications at the senior level
- High level of IS competencies and skills
- High level of IS&P support for business direction.

The major outcome of this study has been to successfully extend understanding of these two research questions in the context of theory and real-world practice.

**Summary of Thesis Results**

One-Off Alignment is an effective approach for large scale business diversification. Continuous Alignment appears effective for evaluating business driven IT initiatives. The establishment of a projects office is supported by a continuous alignment to business strategies. A highlight of this research is the successful utilisation of the three
different alignment approaches within the same organisation during the same time period, showing that different alignment approaches can be implemented simultaneously, depending on the context. The four organisations also displayed expected alignment behaviour according to Defender and Prospector organisational characteristics (Miles and Snow 1978).

Organisations should align their business direction and IT systems and processes to promote best conditions for business success. One-off alignment strategies and events do assist to effectively align systems and processes to business direction, particularly to setup a new alignment strategy or for large re-alignment requirements. However, it is continuous alignment processes that yield the best outcomes and project management appears to be a strong and effective instrument for alignment. In other words, continuously align business direction and IT systems and processes using project management as a mechanism.

The adapted methodology can be used to effectively and systematically investigate in situ case studies allowing theory to inform practice and practice to inform theory.

8.3 STUDY STRENGTHS

A number of strengths in this study allow this research to add valuable insight into the organisational attempts at strategic alignment.

Real Life
All six case studies were undertaken as part of real-life initiatives and projects instigated by the organisation itself and not by the researcher. This reflects the organisational needs and strategic attempts by the organisations driven by in real-life industry and commercial needs and not by theoretical questions or research. This provides invaluable insight as to what organisations are facing in terms issues and problems, how they are attempting to address these through strategic alignment, and how this relates to the theory of organisations, their business and IT systems and processes.

Different Alignment Approaches
The six case studies covered a variety of different strategic alignment approaches. These were looked at within a theoretical framework of approaches: One-Off Alignment; Continuous Alignment Driven by Business Direction; and Continuous
Alignment Driven by IT Systems and Processes. This provided a valuable insight and strength to the study to view and evaluate these approaches.

In particular the instance of three case studies showing three varying alignment approaches at the same time within the same organisation allowed the variables of organisational specificity and industry specificity to be removed in studying the effectiveness of varying approaches.

Different Organisations Representing Differing Industry Sectors
This study also looked at varying industries: utilities organisations; utilities alliance organisations; insurance; and a primary industry cooperative organisation. This strengthens the premise that the inferences drawn from this study can be applied to other organisations and to other industries.

In-Depth Researcher
One major strength of this study is the in-depth researcher also worked on the business initiatives as directed by the organisations. This allowed the researcher to be fully immersed and fully involved in the alignment initiatives and hence providing an in-depth investigation of these alignment initiatives. Additionally the researcher could provide direction in some cases with respect to strategic alignment based on theory and previous research. As Project Manager, Senior Business Analyst or Senior Member of the Lead Team, this researcher would have viewed many situations from the perspective of strategic methodology, or strategic planning and management. Hence the practitioner is informed by the theoretical constructs and is influenced by theory in the implementation of the engagement.

Focussed Research
The case studies investigated in this research are between three to eighteen months duration. This long immersion into the study of each case study provides an opportunity for in-depth study and gaining of insight which would otherwise not be afforded to an observer while surveys or quantitative analysis can be limiting in providing understanding of the motivations and internal forces that may be shaping these case studies. This in-depth study is, of course, recognised as specific to this particular case and hence may have some value for addressing like problems in other organisation. With such in-depth study comes also the realisation that the problems and solutions for this case study may not be easily applied to other cases. However the focussed and unique nature of the case study investigation can make insights gained to
more transparent and can “make it easier to generate insights that would otherwise be obscure” (Eisenhardt 2016, p 1118).

**Multiple Approaches within the Same Organisation**
Investigation of an organisation utilising multiple approaches within the same time period provided a good opportunity to look at the impact of these approaches with internal and external factors constant. This means variables such as economic situation or market conditions, or CEO and executive management style, can all be taken out of the equation in attempting to compare alignment approaches and strategies.

**Opportunistic Investigation**
The opportunistic approach to case study and issue investigation enabled the researcher to look into organisations, initiatives and research questions that may become available only rarely. The opportunity to investigate these issues should be taken advantage of to learn about real-life approaches and activities of organisations.

### 8.4 STUDY LIMITATIONS

As this study focuses on six case studies within four organisations, one limitation is whether these observations can also be generalised to other organisations. Although this has been reduced somewhat due to the study being situated within varying industries, as discussed in the sections above, nevertheless, generalisations to other organisations and industries need to be undertaken with caution. Insight from these case studies could be successfully applied if looking to organisations exhibiting similar organisational characteristics, such as Defender/Prospector characteristics or similar motivations for alignment such as strengthened market share or new related markets.

Following on from this, the qualitative approach can also be viewed as a limitation. Quantitative data with respect to trends and actions of organisations have general appeal to the scientific method and can inform the researcher. For example, providing statistical information regarding the percentage of organisations which act according to Defender characteristics is required as the basis for sales or advertising information. The qualitative approach has its limitations but can inform in-depth motivations for which the quantitative approach may not be able to provide insight.

The strength of having the researcher as an in-depth participant could also be viewed as a double edged sword. This study does not attempt to provide objective analysis of the
initiatives and, with the premise of the in-depth researcher being the Project Manager and/or Business Analyst in the case studies, by its nature provides a very subjective investigation and analysis of outcomes. Although viewed as a strength in the previous sections, the in-depth researcher approach may also be regarded as limiting in researching initiatives specific to the researcher, organisation, or case study resulting in a potentially narrow view of the issues investigated.

Despite the classification of the opportunistic style of investigation as strength of this research, it also has its limitations. The danger of opportunistic investigation comes from its strength of looking at research questions and issues that are readily available for investigation and hence becoming too narrow or not investigating specific issues or research questions to provide balanced perspective of an organisation.

The concept of the in-depth research can also be viewed as one of its limitations. This can become researcher bias. That is to say, being a participant and often case a significant director of events as part of underlying engagement, may cause the researcher to view situations by the themes being researched. It is naïve to think that this was not occurring in this study. As a significant director of the engagements underpinning the engagements, the researcher’s strategic alignment perspective may also bias the solution and the implementation along these lines. This bias needs to be recognised and perhaps the extent of such bias could be explored in other studies of this nature.

**8.5 CONTRIBUTION TO PRACTICE**

This study brings solid investigation of strategic alignment within four large organisations. The case studies showed that for these organisations, One-Off Alignment was an effective approach for large scale business diversification while Continuous Alignment, whether business driven or IT systems driven was found to be effective for evaluating and aligning IT initiatives with business strategies. The success of the three alignment approaches within the same organisation showed that different alignment approaches can be successful depending on the context. Additionally the study confirmed that the four organisations displayed expected alignment behaviour according to Defender and Prospector organisational characteristics (Miles and Snow 1978).
The case study research model was deemed an effective method to investigate in detail and examine the theoretical basis of real-life industry or commercial based strategic alliance initiatives.

Practitioners and business and IT Consultants often use results from their own prior experiences to inform how they approach their future work. This study can assist practitioners in their work with the added benefit of the study’s strong basis within strategic alignment theory.

### 8.6 CONTRIBUTION TO THEORY

This research provided in-depth insight to the motivations of organisations in their strategies and implementation of alignment between their business directions and IT systems and processes and hence the link between theoretical approaches and real-life actions.

The methodology devised for this study is based on case study methodology as a proven approach for investigating in situ situations (Eisenhardt 1989a, Eisenhardt and Graebner 2007, Hartley 2004, Merriam 2002) and provides for the in-depth investigation by the researcher as a significant director of events.

This methodology adaptations and development, demonstrated that this study’s adaptation of Eisenhardt’s case study model (Eisenhardt 1989a, Eisenhardt and Graebner 2007), provides an effective systematic methodology to investigate in depth, in situ case studies and contributes significantly to the theory of IT case study investigation methods.

This study fulfils the three goals for theory building from case studies according to (Gehman 2017): it has a clear theoretical goal and objective; the qualitative theory has been customised for this research context; and the methodological tools are suited to the research context. The theoretical goal and objectives have been clearly identified through the research questions and the issues raised for investigation to address the research questions. The qualitative theory has been customised in the context of the organisations and case studies selected with the specification of the alignment approaches while the issues raised from the literature review were used to assess the alignment for each case study. Finally a proven methodology (Eisenhardt 1989a, b, 2016, Eisenhardt and Graebner 2007, Eisenhart and Sull 2001) has been applied.
The ability of a systematic study based on theoretical prior research is invaluable, adding to the body of knowledge in the field of strategic alignment. This study confirms the value of the insider researcher and provides the opportunity for real world projects to inform theory and be informed by theory.

### 8.7 Future Research

As with any research, this study can be further extended by future research. As Case Studies 1 and 2 are alliances between very different organisations, further areas warranting research could be types of alliances and partnerships and the impact of mergers and acquisitions on strategic direction. Another area of investigation could be the specific tools and systems to leverage the power of new technologies such as data analytics and social media and cloud computing and their impact on strategic alignment.

Future research could also examine the use of the multiple case study models and test its effectiveness for similar case studies or ‘action research’ like case studies particularly in longitudinal studies of organisations and their strategic alignment attempts across years.

The adapted case study methodology developed by this study could be used in future case study research and perhaps further enhanced or adapted. To fully explore the approaches organisations may take for strategic alignment, it would be ideal to examine the various approaches taken by an organisation over several years, examining the approach and the relative impact the approaches make on organisational performance. Additionally tools and instruments could to be examined to adequately reflect the dynamic and changing nature of an organisation’s business environment for example, an amendment of Earl’s T-Portfolio model (Earl 2003) to reflect time and competiveness requirements, as discussed earlier in Section 5.2.6.2, or further developed to reflect changing alignment in the Balanced Scorecard (Kaplan and Norton 2001a, b).

The original issues list raised from the literature review included four issues centring on organisational business or operational performance. As discussed previously in Section 3.6 regarding scoping constraints, it was determined that the selected case studies provided little direct investigation for organisational performance, hence Issues 9, 10, 11 and 15 were removed from the scope from this study. Future research, however
could seek out case studies that would provide the opportunity for direct investigation and look into how One-Off or Continuous Alignment approaches affect organisational business performance through study of these issues.

The general trends in business strategies appear to be focussed around the interconnectedness of information and using this for business decision making. “Strategic innovation has been shown to provide significant value for organisations whilst at the same time challenging traditional ways of thinking and working” (Prince et al. 2014, p.106). Future research could investigate strategic tools focussing around data analytics and new technologies such as cloud services and mobile technologies and internet-of-things (Perera et al. 2014, Prince et al. 2014) and how these could be used to more closely align business strategic direction with an organisation’s technology, systems and processes. Other research can also focus on the extent that practitioner literature, such as “how-to-books” for CEOs and CIOs, are based on theory and academic research and consequently whether this impacts practitioner knowledge and organisational performance.

8.8 CONCLUDING REMARKS

This chapter reviewed the original problem and addressed the two research questions raised for investigation. By looking at the strengths and limitations of this study, its significance and its contribution to practice and theory was assessed. Future research areas were briefly explored.

This thesis concludes that a one-size may not fit all situations either across organisations or indeed within a single organisation. Different alignment approaches may be successfully used simultaneously by an organisation to address differing needs of the business and IT communities and in fact may be required.

Organisations need to align their business direction and IT systems and processes for business success. One-off alignment strategies and events are effective in aligning systems and processes to business direction especially in the setup of large initiatives with significant resource investment needing large scale re-alignment. However, it is with continuous alignment processes that the best outcomes are observed and project management appears to be a strong and effective instrument for continuously aligning business goals and IT systems and processes. The methodology adapted and developed
by this study can be used to effectively, and systematically investigate in situ case studies, allowing theory to inform practice and practice to inform theory.
## Appendix A – Issues

### Appendix A-1 Issues Arising from the Literature Review

<table>
<thead>
<tr>
<th>No</th>
<th>Issue</th>
<th>Reference</th>
<th>Case Study</th>
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<tbody>
<tr>
<td>1</td>
<td>Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>2.7.1 Models of Alignment</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Investigate how an organisation can engage continuous alignment processes.</td>
<td>2.7.1 Models of Alignment</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>2.7.1 Models of Alignment</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether an organisation with characteristics aligned with Miles and Snow's (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model's expectations.</td>
<td>2.7.2 Organisational Categorisation</td>
<td>1, 2, 3, 6</td>
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<tr>
<td>5</td>
<td>Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>2.7.2 Organisational Categorisation</td>
<td>1, 2, 5</td>
</tr>
<tr>
<td>6</td>
<td>Investigate the internal and external influences on an organisation and their perceived impact on alignment.</td>
<td>2.7.2 Organisational Categorisation</td>
<td>3, 4</td>
</tr>
<tr>
<td>7</td>
<td>Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation.</td>
<td>2.7.2 Organisational Categorisation</td>
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<tr>
<td>8</td>
<td>Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>2, 5</td>
</tr>
<tr>
<td>9</td>
<td>Investigate what systems and processes can be put into place to affect alignment and hence operational performance.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>Investigate whether organisational and operational performance can be seen as an indicator of increased alignment between IT strategy and business direction.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>N/A</td>
</tr>
<tr>
<td>11</td>
<td>Investigate the impacts of strategic alignment on organisational performance and perceived business value of IT</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
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<tr>
<td>12</td>
<td>Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>5, 6</td>
</tr>
<tr>
<td>13</td>
<td>Investigate the tools and processes evident and in use by organisations.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>6, 4</td>
</tr>
<tr>
<td>15</td>
<td>Investigate the types of strategic planning processes that are employed by organisations to drive business successes in opening up new markets or opportunities.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
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</tr>
<tr>
<td>16</td>
<td>Investigate areas which might benefit from non-alignment.</td>
<td>2.7.3 Alignment Strategies, Processes Tools and Mechanisms</td>
<td>4</td>
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</table>
## Alignment of Business Strategies and Information Systems and Processes in Large Organisations

### Appendix A-2 Issues Mapped Across Alignment Approach and Case Studies

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>1 One-Off Alignment</th>
<th>2 Continuous Alignment Driven by Business Direction</th>
<th>3 Continuous Alignment Driven by IT Systems and Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case Study No</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Case Study Name</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>ISSUES ARISING FROM LITERATURE REVIEW</strong></td>
<td>Establishing a New Alliance</td>
<td>New Operational Processes for an Existing Alliance</td>
<td>Designing New Enterprise Architecture</td>
</tr>
<tr>
<td>1 - Investigate how one-off alignment initiatives assist with alignment of IT and business strategies.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2 - Investigate how an organisation can engage continuous alignment processes.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3 - Investigate some of the strategies used by businesses in their attempt to align their IS strategic direction to the business.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4 - Investigate whether an organisation with characteristics aligned with Miles and Snow's (Miles et al. 1978) organisational types, exhibits expected governance and alignment strategies consistent with the model's expectations.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5 - Investigate governance and executive management factors and their effectiveness in leveraging IT for alignment.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6 - Investigate the internal and external influences on an organisation and their perceived impact on alignment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>7 - Investigate the internal and external forces on an organisation and their impact on the strategic planning of the organisation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8 - Investigate how alignment of business direction and IT processes may affect operational processes.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12 - Investigate the impact of IS competencies such as knowledge management, collaboration, project management, and IT Governance as a mechanism of alignment.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>13 - Investigate the tools and processes evident and in use by organisations.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>14 - Investigate initiatives and activities implemented by organisations to elicit support for alignment processes within the organisation.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>16 - Investigate areas which might benefit from non-alignment.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tbody>
</table>
## Appendix A-3 Emergent Issues Arising from Revisiting Theoretical Context of Case Studies

<table>
<thead>
<tr>
<th>Emergent Issue No</th>
<th>Description</th>
<th>Case Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Investigate the impact of the business models such as value chain or alliance models used by organisations.</td>
<td>1,2</td>
</tr>
<tr>
<td>2</td>
<td>Investigate the impact of the governance of alliance organisations on alignment strategies.</td>
<td>1,2</td>
</tr>
<tr>
<td>3</td>
<td>Investigate the type of management control systems in operation and their influence on strategic alignment.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Investigate whether a modified Earl’s T-Portfolio model could be used to assist risk based decision making for selection of IT applications or systems in alignment to business direction.</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Investigate whether changes observed in an organisation’s business and/or information systems processes could be attributed to contingency causal factors such as a causal agent within the project or are they more attributable to internal driven motivation such as culture or policies?</td>
<td>6</td>
</tr>
</tbody>
</table>
Appendix A-3 Emergent Issues Mapped Across Alignment Approach and Case Studies

<table>
<thead>
<tr>
<th>Alignment Approach</th>
<th>1 One-Off Alignment</th>
<th>2 Continuous Alignment Driven by Business Direction</th>
<th>3 Continuous Alignment Driven by IT Systems and Processes</th>
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<tbody>
<tr>
<td>Case Study No.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Case Study Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISSUES ARISING FROM CASE STUDY INVESTIGATIONS</td>
<td>Establishing a New Alliance</td>
<td>New Operational Processes for an Existing Alliance</td>
<td>Designing New Enterprise Architecture</td>
</tr>
<tr>
<td>EMERGENT ISSUE 1</td>
<td>Investigate the impact of the business models such as value chain or alliance models used by organisations.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EMERGENT ISSUE 2</td>
<td>Investigate the impact of the governance of alliance organisations on alignment strategies.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>EMERGENT ISSUE 3</td>
<td>Investigate the type of management control systems in operation and their influence on strategic alignment.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>EMERGENT ISSUE 4</td>
<td>Investigate whether a modified Earl’s T-Portfolio model could be used to assist risk based decision making for selection of IT applications or systems in alignment to business direction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMERGENT ISSUE 5</td>
<td>Investigate whether changes observed in an organisation’s business and or information systems processes be attributed to contingency causal factors such as a causal agent within the project or are they more attributable to internal driven motivation such as culture or policies?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B – Interview Questions

Case Study 1 – UTILTIY - Establishing an Alliance - Interview Questions

1. What was the purpose of the customer funded project?

2. What is the role of program enablement in the Customer Funded initiative?

3. What do you see as the most crucial outcome of the Customer Funded initiative?

4. What is the strategic direction taken by the organisation to accomplish the outcome?

5. What role did you play in determining the business basis / strategic direction?

6. What has been undertaken to enable the other divisions and sections, e.g. IT, Field Services, HR, Service Delivery, and Customer Services to support the strategic direction? How are they aligned and by what processes?

7. What are your impressions regarding their level of alignment? How do you think they could have been improved?

8. Have any business benefits been realised to date (i.e. early wins)? How have these impacted the other areas of [UTILITY]?

9. Do you have any other comments about the role of the Customer Funded initiative?

Case Study 2 – CONSTRUCT ALLIANCE - Establishing an Alliance

No interviews were conducted for this case study.
Case Study 3 – INSURE - Enterprise Architecture Initiative - Interview Questions

1. What are the Enterprise Architecture Initiatives?

2. What is the business basis for the Enterprise Architecture Initiatives?

3. What do you see as the most crucial outcome of the EA Initiatives?

4. What is the strategic direction taken by the organisation to accomplish the outcome?

5. What role did you play in determining the business basis / strategic direction?

6. How do the technology directions being undertaken realise or support the strategic direction? How are they aligned and by processes?

7. What are the objectives of the EA program?

8. How will these objectives deliver the strategic outcomes desired?

9. What are the business benefits to be realised on the successful delivery of the EA program?

10. What are the IT benefits expected to be realised?
Case Study 4 - INSURE - Assessment Process - Interview Questions

1. What is your understanding of the Assessment Process?

2. What is your understanding of how the Assessment Process was started?

3. Were you involved in the discussions and / processes to start and establish the Assessment Process?

4. What has been your role in the Assessment process?

5. What do you see is the role of the Assessment process in the organisation?

6. What are the benefits from the process to the business?

7. Have there been any negative impacts to the business? If so, what?

8. What are the benefits from the process to Information Technology Services (ITS)?

9. Have there been any negative impacts to ITS?

10. How would you like to see the process changed?

11. Do you have any other comments about the role of the assessment process?
Case Study 5 - INSURE - BPO Interview Questions - Interview Questions

1. What is your understanding of the Business Projects Office (BPO)?

2. What is your understanding of how the BPO was started?

3. Were you involved in the discussions and processes to start and establish the BPO?

4. What has been your role in the BPO establishment?

5. What has been your role in the operation of the BPO?

6. What are the benefits from the BPO to the organisation?

7. Have there been any negative impacts? If so, what?

8. Would you like to see changes to the BPO? If so how?

9. Do you have any other comments about the BPO?
Case Study 6 – PRIMARY - PMF Interview Questions for

1. What has been your role in the PMF implementation project?

2. What will be your role in the operation of the PMF?

3. What is your understanding of the role of the Project Management Office (PMF) in [PRIMARY]?

4. What are the expected benefits of the PMF to the organisation and in what ways will the PMF achieve these benefits?

5. What are the major components of the PMF and how do you see them affecting [PRIMARY] business operations?

6. Do you envisage any negative impacts in the future? If so, what?

7. How would you like to see the PMF develop / mature in the future? If so how and in what time frame

8. How do you think the PMF can assist [PRIMARY] in the following areas:
   a. Responsiveness to Business Direction
   b. Reducing Risks

9. A Consultative Approach in the inception and design (BPR) and implementation (reference group).
   a) How do you think these have helped?
   b) Do you see this initiative (PMF) bourne out of the leaders in the organisation saying they wanted it or from the workers saying they needed it or a mixture?

10. Leadership and Management Impact on IT and Business Alignment.
   a) How do you think the [PRIMARY] leadership team has influenced and been influenced during the PMF design and PMF implementation
Appendix C – Alignment Approach Conclusions

### Alignment Approach 1 Conclusions

<table>
<thead>
<tr>
<th>Conclusion Approach 1-1</th>
<th>It could be concluded that change management was not effectively implemented on an ongoing basis.</th>
<th>4.5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion Approach 1-2</td>
<td>Adequate resourcing of the Alliance team enables the delivery of the program of work and return on investment to the parent organisations.</td>
<td></td>
</tr>
<tr>
<td>Conclusion Approach 1-3</td>
<td>Better communication and a closer joint view of the initiative is required to enable compromise from each of the parent organisation cultures to create a more “joint” culture in the joint venture and reduce the conflicts.</td>
<td></td>
</tr>
<tr>
<td>Conclusion Approach 1-4</td>
<td>Successful product delivery is possible despite difficulties; however this is separate from success of the alliance. Monitoring and reviewing the organisational goals of all interested parties and associated systems and processes will facilitate delivering the goals. Otherwise the true goals for the business may be lost in the delivery of the products and the benefits to the organisations may not be realised.</td>
<td></td>
</tr>
<tr>
<td>Conclusion Approach 1-5</td>
<td>An organisation may need to establish new processes and review and change existing processes, even those that may not be directly impacted.</td>
<td></td>
</tr>
<tr>
<td>Conclusion Approach 1-6</td>
<td>All areas of an organisation may be impacted when establishing an alliance or partnering relationships as new business models and processes are introduced and existing processes are changed.</td>
<td></td>
</tr>
</tbody>
</table>

### Alignment Approach 2 Conclusions

<table>
<thead>
<tr>
<th>Conclusion Approach 2-1</th>
<th>Increased collaboration and communication between business and IT communities contributes to increased understanding of costs and benefits.</th>
<th>5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion Approach 2-2</td>
<td>Change may take time for all parties to accept despite strategy reviews and process amendments.</td>
<td></td>
</tr>
</tbody>
</table>
### Alignment Approach 3 Conclusions

| Conclusion Approach 3-1 | Implementation can be localised as well as across the organisation. Implementation locally as in Case Study 5 allowed it be customised an focussed to the needs of the business unit while in Case Study 6, the focus of the PMF were enterprise wide. In both case studies, however, senior management and stakeholder support was also seen as crucial for successful implementation. |
| Conclusion Approach 3-2 | It is possible that using project management as a mechanism for alignment can be generalised to a number of organisations across different industries. |
| Conclusion Approach 3-3 | Representatives from affected areas should be engaged to ensure buy-in and involvement. |
| Conclusion Approach 3-4 | It is essential and crucial to project success to have executive sponsorship and ongoing support. Senior management and high level stakeholder endorsement for the implementation is essential for the success of the alignment mechanism. |
| Conclusion Approach 3-5 | Project Management Methodologies and Framework can have a significant effect in the organisational culture and be an agent of change as part of continuous alignment processes. This may occur in not only changing the processes but also the organisation language and focus of work. |
| Conclusion Approach 3-6 | Setting up a project management framework and/or project management office for an organisation or even part of an organisation can be a good alignment mechanism for the business direction of an organisation. |
## Appendix D – Undisclosed References – Restricted

<table>
<thead>
<tr>
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Bibliography


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