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UNIVERSITY OF NOTTINGHAM

**A Case Analysis to Improve the
Application Maintenance and Support Outsourcing
of a National Airline**

ALICE CHEW

MBA



**A Case Analysis to Improve the
Application Maintenance and Support Outsourcing
of a National Airline**

by

Alice Chew

2009

A management project presented in part consideration for the degree of
Master of Business Administration.

Abstract

The reliance on outsourcing as a means of providing IT services has been growing steadily over the past decade. There have been numerous academic articles dedicated to IT outsourcing in general. This research seeks to fill the gap by providing insights to a less explored scope of IT activity outsourced - application maintenance and support (AMS); specifically, the post-contract management of AMS outsourcing. It is during this building block of management that success is ultimately determined.

This study takes the perspective of the client and provides management insights into a framework for successful AMS outsourcing.

Report has revealed that several outsourcing clients are reviewing their contracts to improve efficiency and costs to weather the recent global economic storm. The “AMS outsourcing framework for success” constructed in this study is applied on a case study of an Asian airline which has adopted AMS outsourcing for nine years and has not performed any review on this outsourcing. The objective is to help the airline identify the problems and shortcomings of its AMS outsourcing and provide recommendations to address them so as to attain a successful AMS outsourcing.

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My aspiration is to present a dissertation that makes a small but significant contribution to the world of information technology. Hopefully it does.

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Chapter 1

Introduction

1. Introduction

1.1. Importance of IT to Business

Information Technology (IT) has increasingly become an important tool in today's dynamic business environment. As Luftman et al (2004) explain, "From the early days of the computer as the simple 'number cruncher' supporting the accounting and financial functions in a business, technology has expanded its role and now supports the entire range of business operations, including the external activities that occur in dealing with suppliers and customers.". The support role of IT has also extended to business strategy; IT can provide and sustain competitive advantage for an organization that decides to use IT as an integral part of the business strategy (Luftman et al, 2004).

For effective application of IT in the 21st century, organizations should be aware of the IT competencies that are essential to respond to environmental changes and exploit IT for competitive advantage. Competition in the 21st century requires IT management to consciously identify and nurture "core" IT competencies that have strategic impact to drive competitive advantage in an organization's products and services (Rockart et al, 1996). Conversely, "non-core" IT competencies (e.g applications development and support for back office processes, help desk) are being identified as unable to help an organization differentiate its core products and services (Diromualdo and Gurbaxani, 1998).

1.2. IT Outsourcing

IT outsourcing has a long history stretching back to the 1960s, as illustrated in the timeline in Table 1-1. It originated from the professional services and facility management services in the financial and operation support areas during the 1960s and 1970s (Lee).

In the 1960s, time sharing, which involves purchasing computer time was popular as computer power was expensive. Organization bought data processing services from computer bureaus that are often run by large IT manufacturers. The 1970s marked the start of the standard application package concept where contract programming became the predominant form of outsourcing.

Gradually as IT became more affordable, many organizations built their own IT capabilities. In the 1980s, the focus was shifted to IT-supported vertical integration and IT was considered a valued in-house function. Organizations commonly operated their IT environment on a custom basis, buying standard equipment, system and application software, and communications, and assembling them into an infrastructure unique to each organization (Lee et al., 2003). From the mid-1980s onwards, a new type of IT outsourcing emerged – a larger range and depth of services is outsourced, people and equipment are frequently transferred to the vendor, vendors often agree to profit and loss responsibility, the nature of the relationship with vendors evolves towards partnerships, outsourcing is no longer restricted to small and medium sized companies that do not possess their own IT infrastructure (Cheon et al., 1995).

Table 1-1: Timeline of the Outsourcing Trend

Year	Outsourcing Focus	Outsourcing Approach
1960s	Hardware	Services and Facility Management
1970s	Software	Facility or Operation Management
1980s	Hardware and Software Standardization	Customization Management
1990s	Total Solution	Asset Management
2000s	Application Service Provider	Internet driven software services

Source: (Lee, et al., 2003)

However, IT outsourcing really took off after Kodak's landmark decision to outsource the bulk of their IT functions to IBM in 1989. According to Loh and Venkatraman (1992), this landmark deal legitimized the practice of IT outsourcing among US Fortune 500 firms.

Since then, IT outsourcing has been a widely-publicized practice. For over a decade now, IT outsourcing has been a key method used by organizations to manage IT resources (Choudhury and Sabherwal, 2003; Kishore et al., 2003; Lacity and Willcocks, 1998). It is an increasingly common business practice (Aubert et al., 2004; Barthelemy and Geyer, 2005) and during the recent years outsourcing has emerged as a major strategic alternative in information systems management. IT outsourcing has become one of the most prevalent and transformational trends in business today.

IT outsourcing is the practice of subcontracting part or all of an organization's IT functions to external vendors in order to acquire economic, technological, and strategic advantages (Loh and Venkatraman, 1992). IT outsourcing is seen as a viable option for organizations to stay competitive and get the ability to focus on core competences (Beijie, 1996).

Organizations have several strong business drivers for outsourcing IT. In a recent survey conducted by CIO Insight, cost reduction was identified as the main reason by almost 75% of respondents who are IT executives from organizations with annual revenues greater than \$1 billion. As shown in Figure 1-1, the Gartner survey of financial services companies also confirmed cost reductions as the top motivation for outsourcing. According to Stockwell (2004), through economies of scale and incremental efficiencies in services delivery, outsourcers can gain cost reductions of 15% or more.

Figure 1-1: Foremost Drivers for Outsourcing or Considering Outsourcing IT Services



Source: (Gartner, April 2007)

1.3. IT Outsourcing and the Airline Business

In the highly competitive airline industry to reduce costs while improving quality, an airline should focus on its core competences, which is operating a network of air services and outsource to others as many non-core activities and functions as possible (Doganis, 2001). The 2002 IT Trends survey based on responses from over 90 of the top 200 airlines conducted by SITA and Airline Business magazine showed that almost 90% of airlines have outsourced all or parts of their IT functions.

1.4. The Extend of IT Outsourcing Industry

The IT outsourcing trend has been expanding during the past decade and this growth is expected to continue (Tettelbach, 2000). According to a study conducted by the analyst firm, International Data Corporation (IDC), the \$92 billion worldwide IT outsourcing market is expected to grow at a 5% compound annual growth rate through 2011 (Hackett, 2007). Despite the uncertain economic situation due to the US sub-prime financial crisis,

research consultancy Gartner Inc forecasts spending on IT services worldwide to top \$1 trillion in 2012 (computerweekly.com, 2008). Gartner also predicts IT spending to be flat, but outsourcing to continue to grow in 2009.

“Although things look gloomy for the larger global economy, the outsourcing market represents a dichotomy: on the downside, organizations' cost-cutting outsourcing strategies may negatively impact market growth, but at the same time, the upside is that outsourcing will be adopted by more organizations to help them work through financial and competitive challenges,” said Allie Young, vice president and distinguished analyst from Gartner (Gartner.com, 2009).

The fifth annual “Gartner on Outsourcing, 2008-2009” report shows that the global economic slump caused outsourcing clients to re-evaluate their contracts to improve efficiency and costs. This affects provider selection and retention, how services are or will be delivered, delivery location and contract pricing. Beyond the drivers of efficiency and cost, many organizations will also experience business change due to impact of the economic crisis, which in turn will impact current outsourcing or plans for outsourcing (Gartner.com, 2009).

Moving forward, organizations that are outsourcing may change the contract terms in response to corporate change. Organizations that are not outsourcing will consider outsourcing their IT to focus on their core business. All the more, buyers and providers are required to be attentive to contract issues to in order to ensure a certain level of flexibility, since business change is almost certain. Organizations should avoid the pitfalls of cost-focused outsourcing and apply business-outcome-focused outsourcing to be successful.

1.4.1. The Airline Industry is in a Grim State

In the International Air Transport Association (IATA) March 2009 press release, IATA revised its forecast losses for the global air transport industry for 2009 from US\$2.5 billion to US\$4.7 billion, reflecting the rapid deterioration of the global economic conditions.

Doganis (2006) states that effective use of IT can significantly reduce costs and enhance service levels, given that airline agents' commissions can be up to 7.5% of total operating costs (and reservations/ticketing a further 5.4%). As noted previously, Gartner (2009) has reported that the global economic slump has also impacted many organizations' current outsourcing or plans for outsourcing. Hence, it is inevitable that airlines will need to review their present IT outsourcing contracts or outsourcing plans.

There is no single formula for all industries, each industry needs to approach outsourcing differently and that each organization must determine for itself the optimal method of achieving the results it seeks from outsourcing.

1.5. Research Focus and Objectives

The number of publications dedicated to outsourcing has increased in recent years. Outsourcing of IT covers a range from communications network management, hardware/software maintenance, application management, IS management, business processing outsourcing and so forth. According to a study done by Gonzalez (2006), as shown in Table 1-2, most of the academic articles dealt with IT outsourcing in general (77.1%) but most papers provide no detail regarding the type of activities that are or could be the object of outsourcing.

Table 1-2: Scope of the IS Activities Outsourced

	Until 1995 (%)	1996–2000 (%)	Since 2001 (%)	Total (%)
General	29; (22.1)	36; (27.5)	36; (27.5)	101; (77.1)
Software Development	6; (4.6)	4; (3.1)	8; (6.1)	18; (13.7)
Applications	0; (0)	0; (0)	11; (8.4)	11; (8.4)
E-commerce	0; (0)	0; (0)	1; (0.8)	1; (0.8)
Total	35; (26.7)	40; (30.5)	56; (42.7)	131; (100)

Source: (Gonzalez et al, 2006)

Despite the widespread diffusion of IT outsourcing over the years, the management of IT outsourcing continues to challenge organizations today (Ang and Straub, 1998; Levina and Ross, 2003; Hu et al., 1997). The reported success rate of traditional outsourcing is just 56% (Lacity and Willcocks, 1998).

In this regard, this dissertation is intended to focus on a less explored scope of IT activity outsourced - application maintenance and support (AMS). The case of a current AMS outsourcing at an Asian airline company - Primo Airlines (for the preservation of confidentiality, a fictitious company name is used) will be studied. A greater understanding of how to manage AMS outsourcing contract to create and sustain strategic value for Primo Airlines is highly desired. This dissertation will identify the present problems and shortcomings of this IT outsourcing and provide recommendations to address these identified issues.

1.5.1. Background Information of AMS Outsourcing at Primo Airlines

Primo Airlines has grown from a little airline from a small island state into a world-class carrier with annual revenues of more than \$16 millions. The airline is today recognized as one of the world's leading carriers, with network route spanning 65 destinations in 35 countries. Primo Airlines also has one of the world's youngest fleet in the air and has built upon its reputation as the world's most awarded airline as it continued to garner more awards every year (Primo Airlines Financial Report, 2008).

At the corporate level, Primo Airlines follows a strategy of related diversification. The Primo Airlines Group has 36 direct subsidiaries and associated companies (Primo Airlines Financial Report, 2008). The use of IT is an essential feature of Primo Airlines' strategy both in enhancing customer service as well as increasing efficiency.

Primo Airlines has an Information Technology Division (ITD) which plays a valuable role in making all other departments productive and successful in their activities.

Primo Airlines has outsourced its application maintenance and support work since 2000 and no formal review on this outsourcing has been conducted. The objective of this dissertation is to focus on this existing application maintenance and support contract. The focus will be on the post-contract management and application maintenance and support work. The viewpoint will be from Primo Airlines. This dissertation will aim to provide managerial insights on the post-contract management of outsourcing application maintenance and support scope of work.

1.6. Outline of the Dissertation

The section will give a summary of how this dissertation is organized and structured. This dissertation has been divided into six chapters as shown in Figure 1-2.

Figure 1-2: Chapter Outlines

- Chapter 1:** Introduction, background and research problem and study objectives
- Chapter 2:** Literature review of IT outsourcing (post-contractual management)
- Chapter 3:** Research Methodology
- Chapter 4:** Description of findings
- Chapter 5:** Discussion of findings
- Chapter 6:** Conclusion about the research

Chapter 1 has provided an overview of the research problem and study objectives. Chapter 2 will cover a literature review of IT outsourcing with the focus on the post-contractual outsourcing management and the related issues such as importance of contract and relationship management, critical success factors and outsourcing risks. An AMS outsourcing framework for success will be built and the research question will be formed. In Chapter 3, the research methodology used to conduct this study will be introduced. Chapter 4 will provide description of the research data collected from the respondents. In Chapter 5, the research data will be analyzed and findings will be presented. Finally, in Chapter 6, the study will be summarized and conclusion will be made.

Chapter 2

Literature Review

2. Literature Review

This chapter reviews the relevant literature which underpins the focus subject established in Chapter 1, which is the post contractual management of application maintenance and support work.

This chapter begins with Section 2.1 which examines the various definitions of IT outsourcing and compiles a definition to be used in this dissertation. Section 2.2 covers the core competencies suggesting that organizations should engaged third-party(s) to perform non-core organizational activities. Next, AMS outsourcing and its benefits are introduced in Section 2.3. Following this, Section 2.4 presents the core Information Systems (IS) capabilities framework highlighting the importance of organizations retaining core IS capabilities in order to achieve success in IT outsourcing. It then continues to Section 2.5 which look at the outsourcing lifecycle and points out that it is the post-contract management phase in the operate phase that marks the actual commencement of the outsourcing deal. Section 2.6 presents post-contract management using formal controls and relational governance. It also elucidates the importance of service level agreements and relationship management to make the outsourcing deal successful. The IT outsourcing critical success and failure factors and the management of IT outsourcing risks will be discussed in Section 2.7 and 2.8 respectively. Finally, section 2.9 presents the conclusion of this chapter with the key lessons learnt and an application maintenance and support outsourcing framework to attain successful outcomes.

2.1. Definition of IT Outsourcing

Outsourcing is defined as “having work that was formerly done inside the organization performed by an external organization” (Beaumont & Sohal, 2004). Although outsourcing is not specific to IT, it has become a fad in the IS domain and applies to everything from

the use of contract programmers to third party facilities management. There are various definitions of IT outsourcing defined in the IS literature.

Loh and Venkatraman (1992) define IT outsourcing as “the significant contribution by external vendors in the physical and/or human resources associated with the entire or specific components of the IT infrastructure in the user organization”. IT outsourcing was framed as a make-versus-buy decision, where contractual modes differ in the domain of influence within the corporation (Loh and Venkatraman, 1992).

According to Lacity, Willcocks and Feeny (1996), outsourcing is “to dismantle internal IT departments by transferring IT employees, facilities, hardware leases, and software licenses to third-party vendors.” Similarly, Hirschheim and Lacity (2000) define IT outsourcing as the practice of “transferring IT assets, leases, staff, and management responsibility for delivery or services from internal IT function to third-party vendors.”

Grover, Teng and Cheon (1998) define outsourcing of IS functions as “the organizational decision to turn over part or all of an organization’s IS functions to external service provider(s) in order for an organization to be able to achieve its goals.” Grover, Teng and Cheon (1996) also comment that outsourcing involve “a significant use of resources – either technological and/or human resources – external to the organizational hierarchy in the management of IT.”

Kern and Willcocks (2002) use a more process-oriented approach, focusing on long-term interaction. They define outsourcing as “a process whereby an organization decides to contract-out or sell the firm’s assets, people, and/or activities to a third-party supplier, who in exchange provides and manages these assets and services for an agreed fee over an agreed time period.” IT outsourcing is viewed as a longitudinal process involving several stakeholders groups.

Barthelemy (2003b) defined outsourcing as “turning over all or part of any organizational activity to an outside vendor.” Purchase is done from outside the organization to acquire

IT services needed to perform business functions. According to Langfield-Smith and Smith (2003), outsourcing is “the contracting of any service or activity to a third party”. Both definitions relate to interfirm relationship with the authors focusing on how to deal with uncertainty and risk encompassed in outsourcing: Barthelemy is concerned with management expertise as a predictor of success or failure and Langfield-Smith and Smith are concerned with the design of control systems.

Levina and Ross (2003) define outsourcing as a phenomenon in which a user organization (client) transfers property or decision rights over IT infrastructure to an external (vendor) organization. They believe vendors can deliver financial and managerial benefits to their clients that outweigh contract costs and risks and view relationship factors as predictors of outsourcing outcomes.

Among these definitions in the research literature on IT outsourcing, it can be concluded that IT outsourcing is the contracting of any service or activity from internal IT function to third party vendors in order for an organization to be able to achieve its goals. This process involves a significant use of external resources, either technological and/or human resources.

2.2. Core Competencies and Selective Outsourcing

Core competencies theory suggests activities should be performed either in-house or by suppliers. Activities that are not core competencies should be considered for outsourcing with “best-in-world” suppliers. Some non-competencies may have to be retained in house if they are part of a defensive posture to protect competitive advantage (Quinn, 1992). Therefore, organizations should perform in-house the IT functions that are both core competencies and critical to the success of the organization.

Core competencies and critical success factors/functions will vary among organizations but generally, the organizationally focused IT functions that are critical to the organization are (Luftman et al., 2004):

- Day-to-day operation
- Ability to competitively differentiate itself
- Ability to deliver value to its partners and customers
- Ability to innovate

In situations where the IT functions are not considered as a core competency but are critical to the organization's success, strategic alliance arrangement to either buy or hire resources and/or skills essential to meet the critical requirements is recommended (Luftman et al, 2004).

The issue of the strategic value of IT has brought about the concept of selective outsourcing, which involves outsourcing selected data processing functions. AMS outsourcing is a type of selective outsourcing, which can bring significant benefits and opportunities in the current IT environment (Judenberg, 1994). The vendor engaged for software maintenance for an applications system or group of systems is responsible not only for implementing corrections and enhancements, but also for managing the processes.

2.3. Application Maintenance and Support Outsourcing and Its Benefits

Application maintenance and support (AMS) is defined as the performance of the activities essential to keep a production software system operational and responsive (Swanson and Beath, 1989). The two major sets of activities are:

1. Promptly fixing software problems that cause the system to breakdown or to perform incorrectly.
2. Implementing changes, improvements, and enhancements to the system.

Lientz & Swanson initially defined three categories of maintenance: corrective, adaptive, and perfective. This definition was later updated in the standard for software maintenance, ISO/IEC 14764, which draws on two dimensions - the timing of the change (proactive or reactive) and the goal of the change (correction or enhancement), to divide software

maintenance in four categories, namely **preventive**, **perfective**, **corrective** and **adaptive** (Figure 2-1).

The activities on the correction dimension are targeted to maintain the quality of the application to conform to the expected specifications. Conversely, the activities on the enhancement dimension are initiated to enhance software maintainability and to improve the software maintenance effectiveness, without any functional change to the application.

Figure 2-1: ISO Software Maintenance Categories

	Correction	Enhancement
Proactive	Preventive	Perfective
Reactive	Corrective	Adaptive

1. **Preventive maintenance** provides activities to prevent application failure by advanced detecting and correcting of latent errors.
2. **Corrective maintenance** provides application failure assessments and corrections associated to eliminate an error condition in a software application which is impacting the operability of a production system.
3. **Perfective maintenance** provides quality, maintainability and operability improvements for a specific application and the whole application portfolio with an objective of reducing current level of resource consumption.
4. **Adaptive maintenance** provides activities required to adapt the system to a change in the current hardware, operating environment, or volume; there is no addition of new functionality.

Source: ISO standard (ISO/IEC 14764)

Properly structured AMS outsourcing arrangement will enable organizations to achieve benefits. Example of opportunity areas and benefits of selective outsourcing include (Judenberg, 1994):

- Freeing up existing maintenance staff to work on new development activities.
- Improving internal staff morale by removing the perceived drudgery of maintenance and providing opportunity to work with new technologies.
- Offering potential career paths for employees not moving to the new technologies.
- Reducing costs of providing maintenance.
- Supporting fluctuating maintenance demand with external variable costs rather than internal fixed costs.
- Improving service to applications system users with more responsive systems modifications and enhancements.
- Allowing management to focus on high-priority areas.

2.4. Core IS Capabilities

There are risks involved in outsourcing. One critical but often neglected risk mitigating practice is to retain key internal capabilities that underpin the business's future capacity to exploit IT.

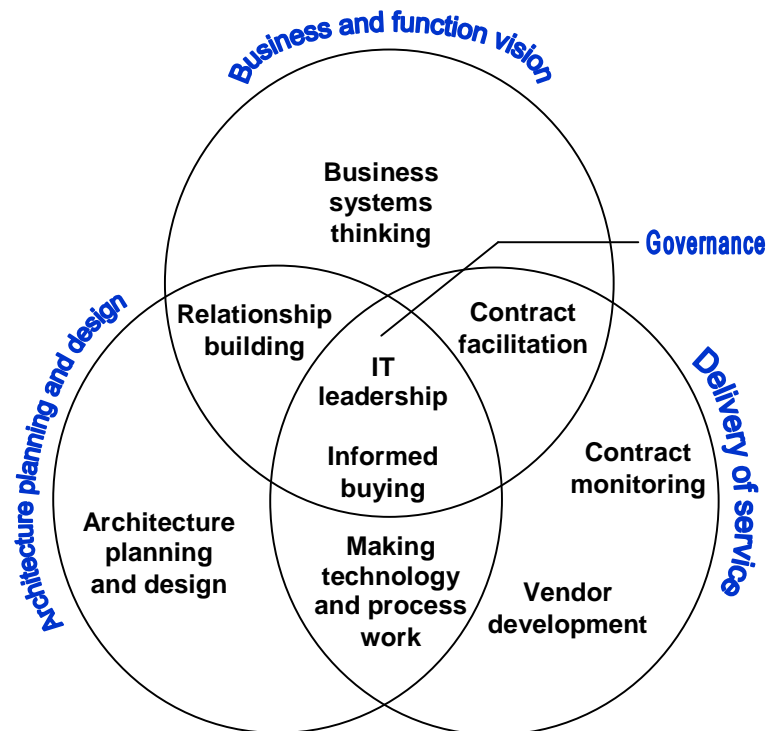
The importance of capabilities is established in the resource-based view of the firm (RBV), which argues that firms within an industry control heterogeneous strategic resource (Barney, 1991). The organization's performance is dependent on its ability to acquire, deploy and maintain a set of advantageous strategic "resources". Resources here refer to "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm" (Barney, 1991).

Extending the RBV, the capability-based perspective, popularized through Prahalad and Hamel's landmark Harvard Business Review article on core competencies (1990), focuses on intangible resources. The authors suggest that a firm is a learning organization that builds and deploys assets, capabilities and skills in order to attain strategic goals.

2.4.1. Retain Core IS Capabilities – Nine Core Capabilities Framework

The phrase “core IS capabilities” was coined by Feeny and Willcocks (1998) to propose that the human rather than IT assets characterize the management and staffing of a high performance IT function. They published a core IS capabilities framework in 1998, proposing four fundamental tasks and nine capabilities for future IT function (See Figure 2-2). They advocate that distinctive ‘core IS capabilities’, measurable in terms of IT activities supported and resulting business performance, create high level strategic competencies essential to facilitate the exploitation of IT.

Figure 2-2: Nine Core IS Capabilities Framework for High Performing IT and Back-office Functions



Source: Willcocks and Lacity (2006)

An overview of the nine core IS capabilities is shown in Table 2-1. These nine IS capabilities help to deliver the four fundamental tasks of the IT function (Feeny and Willcocks, 1998):

1. **Governance** – to provide leadership and coordination
2. **Business and function vision** – to elicit and deliver on business requirements
3. **Architecture planning and design** - to ensure technical capability
4. **Delivery of service** – to manage external supply

Table 2-1: An Overview of the Nine Core IS Capabilities

Core IS Capability	Primary Agenda
1. IT leadership	Integrate the IT effort with business purpose and activity
2. Business systems thinking	Ensure that IT capabilities are envisioned in every business process
3. Relationship building	Get the business constructively engaged in operational IT issues and the potential that IT offers
4. Architecture planning and design	Create the coherent blueprint for a technical platform that responds to present and future business needs
5. Making technology and process work	Rapidly troubleshoot problems being disowned by others across the technical supply chain
6. Informed buying	Manage the IT sourcing strategy to meet the interests of the business
7. Contract facilitation	Ensure the success of existing contracts for external IT services
8. Contract monitoring	Protect the business's current and future contractual position
9. Vendor development	Identify the potential added value from IT service suppliers

Source: (Feeny and Willcocks, 1998)

Additionally, each capability requires people with a distinctive mix of business, interpersonal and technical skills and with specific motivating values (See Table 2-2).

Table 2-2: Retained Capabilities: Skills, Orientations and Time Horizons

Core IS Capability	Skills			Time Horizons	Motivating Values
	Business	Technical	Interpersonal		
1. IT leadership	High	Medium	High	Future/present	<ul style="list-style-type: none"> • Strategy • Structure • Individuals
2. Business systems thinking	High	Medium	Medium	Future	<ul style="list-style-type: none"> • Strategy
3. Relationship building	Medium	High	High	Present	<ul style="list-style-type: none"> • Structure • Individuals
4. Architecture planning and design	Low-medium	High	Medium	Future	<ul style="list-style-type: none"> • Technology
5. Making technology and process work	Low	High	Low-medium	Present	<ul style="list-style-type: none"> • Technology
6. Informed buying	High	Medium	High	Future/present	<ul style="list-style-type: none"> • Strategy • Structure
7. Contract facilitation	Medium	Medium	High	Present	<ul style="list-style-type: none"> • Structure • Individuals
8. Contract monitoring	Medium	Medium	High	Future	<ul style="list-style-type: none"> • Structure
9. Vendor development	High	Medium	Medium-high	Future	<ul style="list-style-type: none"> • Strategy • Individuals

Source: Willcocks (2005)

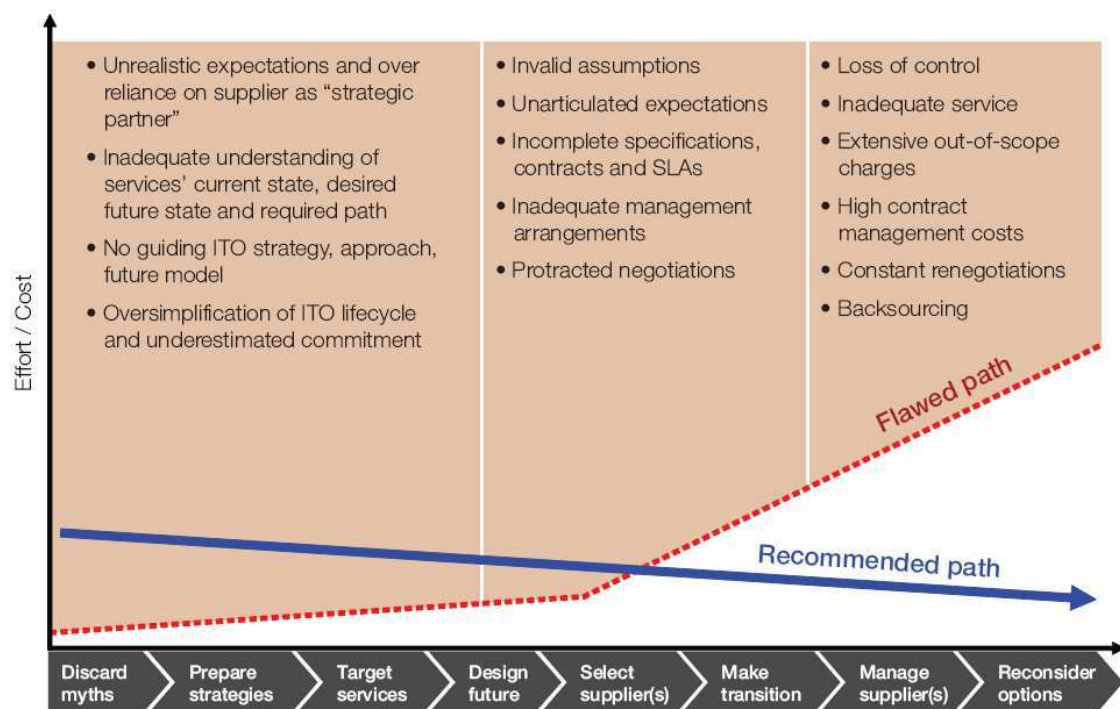
2.4.2. IS Capabilities Lessons

In a recent paper, Willcocks and Craig (2007) draw upon new research conducted in the 2006-2007 period where twenty organizations and their retained capabilities practices and were studied and also draw upon long-standing research in this area (cf., Lacity and Willcocks, 2001; Kern and Willcocks, 2001; Willcocks and Lacity, 2006; Kern et al., 2002; Feeny et al., 2005, Cullen and Willcocks, 2004; Willcocks et al., 2005). They concluded that retaining core IS capabilities is a tried-and-tested approach of getting on the optimal cost-effective outsourcing path and also discovered key lessons from building core retained capabilities which will be discussed in the next two sections.

2.4.3. Develop a Long-Term Strategic Focus on Core Capability

According to Cullen and Willcocks (2003), organizations practicing outsourcing should get on to the optimal and most cost effective path. Figure 2-3 shows the optimal path and the flawed path which many organization often take in the direction of outsourcing.

Figure 2-3: Getting on the Optimal Cost Effective Path



Source: (Cullen and Willcocks, 2003)

As it costs money to build core retained capabilities, organizations typically prioritize short term cost reduction gains over an ‘invest to save’ philosophy in outsourcing. This usually results in under investment and under resource of core retained capabilities which will cause important issues to be build up further down the line (Feeny and Willcocks,

2001). For core IS capabilities, organizations have to spend in order to save. Organizations need to develop a long-term strategic core IS capability instead of rushing into firefighting and concentrate only on the shorter term capabilities in the core capabilities framework.

For example, during a ten year outsourcing arrangement with EDS (1997-2007), Commonwealth Bank Australia (CBA) greatly under invested in their core capabilities. Fortunately, CBA reinforced their internal capability significantly to pull out from what was apparently becoming a flawed path (Reynolds and Willcocks, 2008).

2.4.4. Apply Core IS Capabilities Framework as an Evolutionary Process – Delivery, Reorientation and Reorganisation

Organizations often build core capabilities only after experiencing serious problems. According to Willcocks and Feeny (2006), one of the lessons learnt from the Dupont case and other cases they have researched (Willcocks et al, 2005) is that there is no ‘quick fix’ to leverage on outsourcing successfully. An organization should prioritize the development of core IS capabilities and evolve outsourcing incrementally at a speed of change and learning to match the organization’s ability to absorb. Organizations need to first identify their current position in the model of growing stages (See Figure 2-4) and go through three stages namely, **Delivery, Reorientation and Reorganization**.

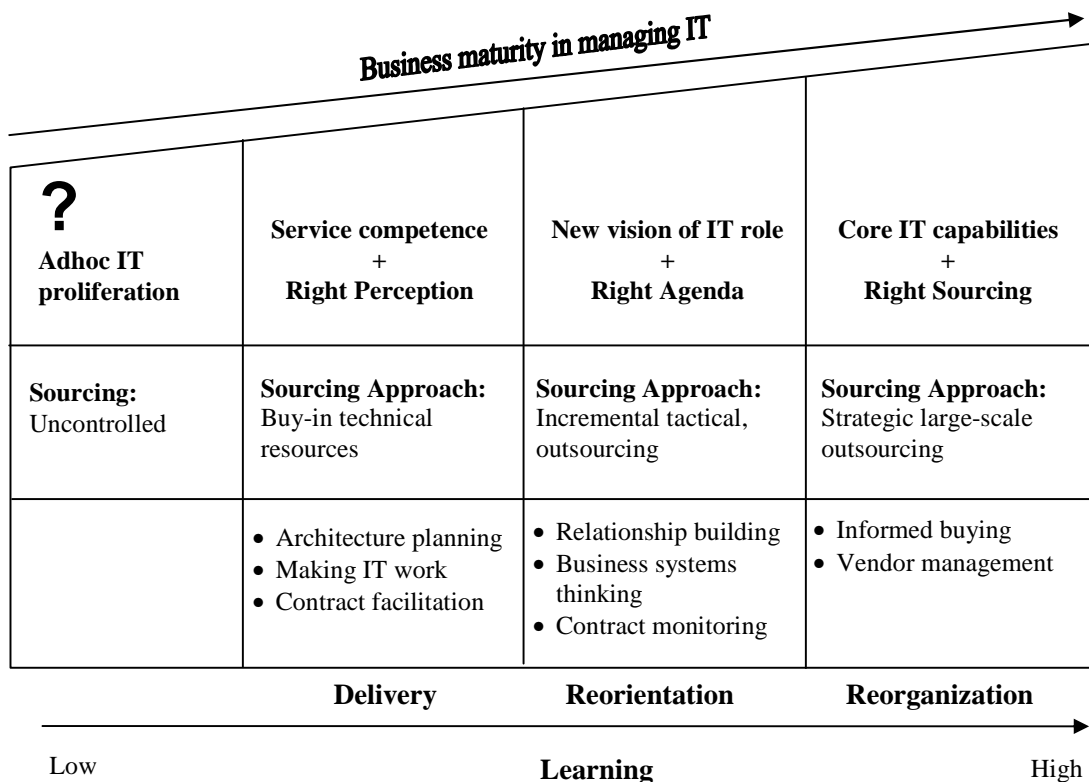
Organizations that are in the question mark phase are likely to face difficulties with uncontrolled sourcing, for example IT proliferates in an ad hoc mode, costs not under control, etc. A better decision is to progress to the **Delivery** phase and develop internal capability to focus on building technical and service competence. In this phase, organizations should focus on contract facilitating, making technology work and architecture planning. Organizations must also start to acquire IT service resources from external market and perform limited outsourcing.

Once the Delivery phase has been accomplished, the next phase is the **Reorientation** phase where IT function needs to be more business focused. The main concern will be to

develop business systems thinking and relationship building capabilities. Organizations should adopt selective outsourcing as the lower risk approach because of the lack of internal capability to handle large-scale outsourcing.

With Delivery and Reorientation completed, organizations can next advance to **Reorganization** where IT function is positioned to add value to the business both through internal capabilities and by leveraging the external IT services market. This requires focus on developing contract monitoring, informed buying and vendor development capabilities. This is the lowest risk phase for large-scale outsourcing.

Figure 2-4: Growth Stages and Evolving Core IS Capabilities for the IT function



Source: (Willcocks and Craig, 2007)

2.5. The Outsourcing Lifecycle

Several IT outsourcing research to date has focused on developing a framework for IT sourcing (Ang 1994; Aubert et al. 1996; Cheon et al. 1995; Clark et al. 1995; Cronk and Sharp 1995; deLoof 1995; Lacity and Willcocks 1995, 2001; Lacity et al. 1996; Willcocks et al. 1997). The models to analyze the decision have been replaced (or at least modified) with several attempts to understand the complete IT sourcing process (Hui and Beath 2001; Kern and Willcocks 2001; Lacity and Willcocks 2001; Hirschheim and Dibbern 2002; Cullen and Willcocks, 2003; Alborz et al 2004; Cullen and Seddon 2004; Cullen et al. 2005).

The framework proposed by Hui and Beath (2001) is intended for research on the IT outsourcing process. It contains decision, negotiation and contract-execution processes and contract is considered to have direct relationship with behavior in the contract management and service delivery processes. Kern and Willcocks (2001) proposed a framework that is built around configuration and process, with contract, structure, interactions and behavior as critical elements. A basic IT outsourcing life cycle model consisting of three phases is presented by Hirschheim and Dibbern (2002). It starts with outsourcing decision, continues with outsourcing relationship (life of the contract) and finish with cancellation or end of the relationship (end of contract), with the outsourcing experiences and outcome influencing the new outsourcing decisions. These outsourcing relationships also change the arrangement and management during the contract.

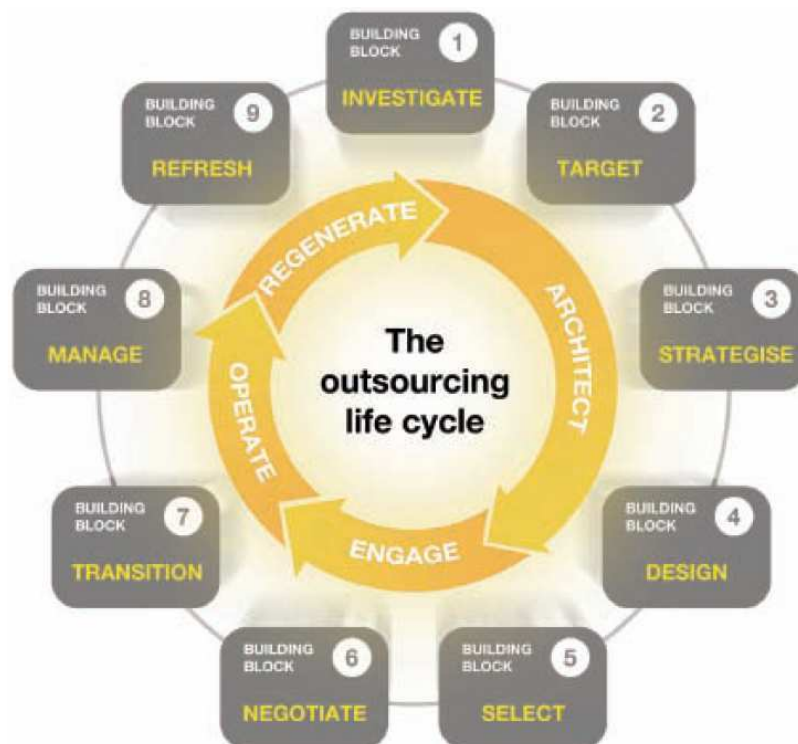
The contract and relationships elements are also found in the model proposed by Alborz et al. (2003). The outsourcing process is represented in three stages: pre-contract, contract, and post-contract. The contract stage focus on contract development, while post-contract includes governance, performance management, contract management, working relationship management, and knowledge management.

Cullen and Willcocks's (2003) model proposes that the outsourcing lifecycle consists of three phases: architect, engage, and govern and eight building blocks: discard myths, prepare strategies, target services, design future, select suppliers, make transition, manage

the outsourcing and reconsider options, for developing a successful outsourcing arrangement. Cullen and Seddon (2004) published seven key characteristics of IT outsourcing configurations: scope grouping, supplier grouping, financial scale, pricing framework, duration, resource ownership, and commercial relationship.

Recently, Cullen et al (2005) have identified from case studies an outsourcing framework which consists of nine building blocks in four phases (See Figure 2-5). The first four blocks made up the architect phase which lays the foundation for the arrangement. The fifth and sixth blocks comprise the engage phase, when the client selects the supplier and negotiates the arrangement. The seventh and eighth blocks made up the operate phase, when the arrangement is managed. In the final regenerate phase, the client review options and the cycle can resume.

Figure 2-5: The Outsourcing Lifecycle

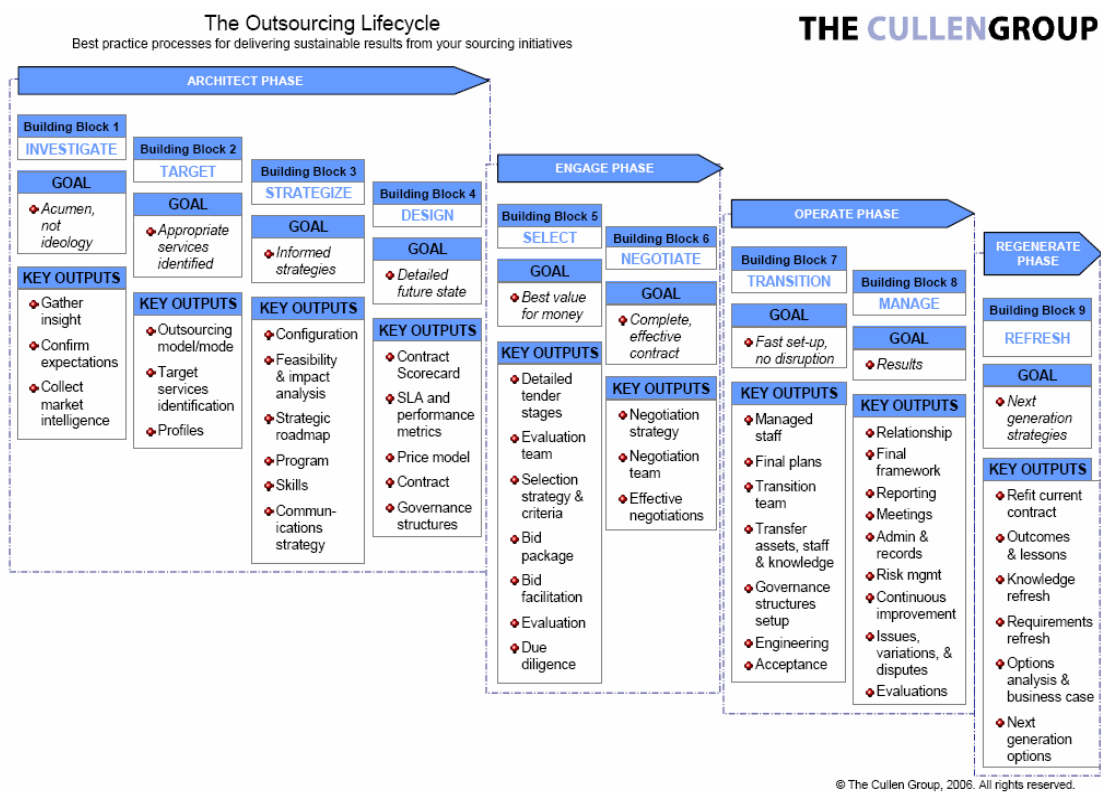


Source: (Cullen et al., 2005)

These building blocks contain more than fifty key activities (See Figure 2-6). The framework is a structured means to make decisions, prepare for and manage outsourcing from pre-contract to contract end. Two of the fundamental elements are the contract (as a result of negotiation) and management of the relationship.

There is one salient common aspect in all these models – all the authors have delineated contracts as the foundation for relationships.

Figure 2-6: The Outsourcing Lifecycle



2.5.1. The Eighth Building Block – Get the Results

This dissertation applies the recent nine building blocks outsourcing lifecycle framework defined by Cullen et al (2005) and focuses on the eighth building block in the operate phase. The previous seven building blocks were all preparatory work, comprising of design and implementation activities necessary to make the deal work over the governance

years. This eighth building block is the post-contract management stage, which is basically the starting point of “working together”.

2.6. Post-Contract Management

Post-contract management is a vital component; attention needs to be given to the task of actually making outsourcing work once the contract is signed. The purpose of the post-contract management is to ensure, on a regular basis, that the vendor is complying with the contract terms and achieving the agreement’s goals and objectives. It also provides the opportunity to review and revise the contract if required. It is during this building block of management that success is ultimately determined.

As discussed above, researchers have also commonly considered contracts as the foundation for relational exchanges. A deteriorating relationship can cause higher costs, operational disruption, and lost business opportunities (Goolsby, 2002) hence it is important that organizations know how to manage IT outsourcing relationships to create and sustain strategic value.

2.6.1. Contractual Theory and Management

Past research proposed two different forms of governance to handle interorganizational relationship (IOR):

1. **Formal controls** - driven by written contracts and other management-initiated mechanisms designed to guide behavior toward desired objectives
2. **Relational governance** - driven by unwritten, practice-based mechanisms designed to influence interorganizational behavior.

2.6.1.1. Formal Controls: Written Contracts

Written contract attempts to align incentives and interests by providing an administrative architecture, within which an outsourcing partnership proceeds (Gulati and Singh, 1998).

Research and industry best practice have revealed that contract is the central focus and hence its enforcement in the post-contract management stage (Lacity and Hirschheim, 1993, 1995). Table 2-3 and Table 2-4 summarize the main clauses of outsourcing contracts as specified by legal experts (Kern and Willcocks, 2000).

Table 2-3: Essential Clauses and Issues in IT Outsourcing Contracts (Part 1 of 2)

Clauses, i.e Terms and Conditions	Brief Outline
1. Parties and terms	The companies and length of contract.
2. Definitions	Explanations and definitions of wording.
3. Supporting documentation	Any documentation clarifying the clients and vendors intentions and objectives, and that can be helpful for dispute resolution (e.g. request for proposal (RFP)).
4. Asset transfer	Transfer of assets and employees to vendor
5. Base services, i.e. service supplying and testing	Description of services to be delivered to the vendor.
6. Performance standards, i.e. service level agreement	Description of the service levels vendor is expected to provide.
7. Service and equipment location(s)	The actual physical locations of services and security issues.
8. Additional services and projects	Any other services or projects the client may need or is considering.
9. Service management and contract monitoring	Both parties endeavour to achieve the terms stipulated in the contract.
10. Disaster recovery and security	Backup and emergency services and other security concerns.
11. Obligations & responsibilities of the client	Client should make all reasonable efforts to ensure achievement of the contract.
12. Benchmarking	Method for monitoring vendor's performance.
13. Vendor personnel	Overview of vendor's key employees for contract.
14. Payments	Describes the base charges and any additional charges for services delivered.
15. Payment schedule	The times of payment for the different services delivered.
16. Taxes	Explains the tax situation.
17. Audits	Financial control and monitoring.

Source: (Kern and Willcocks, 2000)

Table 2-4: Essential Clauses and Issues in IT Outsourcing Contracts (Part 2 of 2)

Clauses, i.e Terms and Conditions	Brief Outline
18. Change control and management	Provisions to change services and its management.
19. Dispute resolution	Procedures for dispute resolution.
20. Termination - fees and assistance	Reasons for termination, the fees that may arise when client wishes to terminate the contract, and the length of assistance the vendor shall perform.
21. Proprietary rights	Legal property rights given to the vendor for the length of the contract to deliver services of software and systems.
22. Confidentiality	Confidentiality of information and the effects of breach.
23. Damages	Liquidated damages in the event the vendor fails to meet service levels. Also liability for damages by the client or vendor to the other party when relating to the performance of the contract.
24. Miscellaneous provisions	Numerous other contractual terms and conditions
25. Appendices	Exhibits, i.e. schedules.

Source: (Kern and Willcocks, 2000)

2.6.1.2. Transactional Aspect of Contract

Kern and Willcocks (2000) focused on the transactional aspect of how the contract is enforced, which they identified as determining the control agenda. From the existing literature research, they identified three common dimensions which are applicable for analyzing control in IT: (1) focus of control (directed at whom or what), (2) measures of control (degree of control), (3) and process of control (means of enforcing control). Using this typology, they proposed a post-contract management agenda in outsourcing (See Figure 2-7).

Figure 2-7: Post-contract Management Agenda

1. Setting and/or approving IT strategy, architectural directions, and business improvements.
2. Insuring user service objectives and customer satisfaction targets are achieved.
3. Insuring quality and continuous improvements.
4. Setting and changing priorities to insure objectives of the business are met.
5. Being the focal point for determination and translation of all new business requirements necessitating vendor action.
6. Resolving disputes that arise.
7. Overseeing the vendor's performance as specified in the agreement.
8. Monitoring overall service quality and continuous improvement initiatives.
9. Assuring proper charges and billing for the services rendered.
10. General contract administration and amendment control.
11. Involvement in allocating new managers in Vendor Company to handle the account.

Source: (Kern and Willcocks, 2000)

The contract is found to be associated with five purposes in the post-contract management (Kerns and Willcocks, 2000). Firstly, the contract has a legal function; the arrangements of the deal stated in the contract are enforceable legally in court. Secondly, the contract attempts to identify the required service levels as far into the future representing user and organization requirements. Thirdly, the contract assures client control over the outsourcing venture by defining the obligations and expectations bearing on the vendor. Also, the contractual clauses are used to generate measures to monitor the vendor's performance. Fourthly, the contract outlines the bare bones of the client-vendor relationship. It sets the start and duration of contract, structure of the relationship, service levels, financial exchanges and also termination of contract with exit clauses and schedules, etc. Lastly, the outsourcing contract helps to guide the managers mainly involved in the outsourcing venture.

According to Kerns and Willcocks (2000), controlling takes place at different intervals in the post-contract management stage. Daily and weekly interactions involve output and

financial controls. Conversely, relational and change control occur occasionally and control over control may only be enforced as the last resort. They also discover parallelism among contract clauses, post-contract management agenda and control dimensions (refer to Table 2-5).

Table 2-5: Control Agenda in the Client-Vendor Relationship

Contract Clauses	Post-Contract Management Agenda	Control Dimensions
Service Level agreements and exchanges	Overseeing the vendor's performance as specified in the agreement	Output Control
Service measurements & monitoring procedures	Insuring user service objectives and customer satisfaction targets are achieved	
Penalty clauses for non-performance	Monitoring overall service quality & continuous improvement initiatives	
Financial payments & exchanges	Assuring proper charges and billing for the services rendered	Financial Control
Financial monitoring & assessment		
Dispute resolution procedures	Resolving disputes that arise	Relational control
Key vendor personnel	Involvement in allocating new managers in vendor company to handle new account	
Arrangements for adapting to changing circumstances in the future	Setting and changing priorities to insure objectives of the business are met.	Change Control
Early termination	No management agenda.	Control over Control

Source: (Kerns and Willcocks, 2000)

2.6.1.3. Relational Governance

Relational governance serves as mechanisms to influence interorganizational behavior through social enforcement (Macneil, 1980). It deals with how successful IT outsourcing relationship can be achieved with information exchange between the service recipient and

the service provider which in turn support a shared understanding of the task environment and mutual adjustments to align actions (Poppo and Zenger, 2002; Zaheer and Venkatraman, 1995; Zucker, 1986).

2.6.1.4. Relational Contract Theory

Macneil (2000) created the relational contract theory and defined contract as relations among people in an exchange. He identified the following ten common contract behavioural patterns and norms: (1) role integrity - requiring consistency, involving internal conflict, and being inherently complex, (2) reciprocity - the principle of getting something back for something given, (3) implementation of planning, (4) effectuation of consent, (5) flexibility, (6) contractual solidarity, (7) the restitution, reliance, and expectation interests (the linking norms), (8) creation and restraint of power (the power norms), (9) proprietary of means and (10) harmonization with the social matrix (the supracontract norms). The relational contract theory argues exchange relations will fail if these ten common contract norms are inadequately served.

Macneil (2000) suggest that relational contract theory is based on the following four core propositions:

1. Every transaction is embedded in complex relations.
2. Understanding any transaction will require the understanding of all essential elements of its enveloping relations.
3. Effective analysis of any transaction requires recognition and consideration of all essential elements of its enveloping relations that might affect the transaction significantly.
4. Combined contextual analysis of relations and transaction is more efficient and produces a more complete and sure final product than does commencing with non-contextual analysis transactions.

2.6.2. Contracts and Relational Governance are Complements not Substitutes

It is observed that complex contracts are increasingly used by organizations to govern their IT outsourcing arrangements (Fitzgerald and Willcocks, 1994; Kern and Willcocks, 2002; Saunders et. al, 1997), while other studies reveal that IT outsourcing arrangements use various relational governance mechanisms (Grover et. al, 1996; Koh et. al, 2004; Lee and Kim, 1999). However, the two mechanisms are expected to function as complements rather than substitutes in IT outsourcing (cf., Baker et al. 2002; Poppo and Zenger 2002).

Some recent studies have shown that contracts could be used to effectively manage various dimensions of relational exchange in IT outsourcing (Mani et. al, 2006; Mayer and Argyres, 2004; Vaast and Levina, 2006). Consistent with this view, Goo and Huang (2008) discover in their recent study that contract with well-structured service level agreements (SLAs) cultivate favourable relational attributes such as trust and commitment building between the client and the vendor, which, in turn, are related to successful relational outcomes of IT outsourcing. However, many organizations lack well-developed SLAs to successfully manage relationships and activities linked to IT outsourcing (Karten, 2004) because an effective SLA is one of the most difficult governance documents to produce for any IT arrangement (Cullen et al., 2001).

2.6.3. Service Level Agreements in IT Outsourcing Contract

SLA specifies the products or services to be delivered, sets the expectations, and defines the metrics by which the effectiveness of contracted services will be measured, examined, changed and controlled.

Goo et al. (2004) identify eleven interrelated contractual elements in SLAs that are vital in managing IT outsourcing relationships. Table 2-6 and Table 2-7 illustrate the eleven contractual elements which they have categorized into three areas, namely **foundation**, **governance**, and **change management**.

Table 2-6: Contractual Elements of SLA in IT Outsourcing (Part 1 of 2)

	Characteristics	Contractual elements of SLA	Contractual issues of SLA in IT outsourcing	Clauses in practice
Foundation	Publicizing common values, from the engagement belief, philosophy within a clan	Service Level Objectives	Spirit of contractual solidarity and publicity of common values, belief, philosophy between organizations to ensure performance	<ul style="list-style-type: none"> • A statement of both SR's and SP's business objectives from the engagement • A statement of overall from the contract • A statement of expectations and capabilities of the SP
	Resulting in sharing a common ideology, internalizing a set of values, and committing to a clan	Process Ownership Plan	Number of companies taking part in some aspect of the IS portfolios when outsourced	<ul style="list-style-type: none"> • Statement of processes directly affected by the services included in the agreement • Statement of process that are required to manage the agreement between the SR and SP • Statement of process ownership roles, authorities and responsibilities
	Providing means to create a general commitment between partners from which desirable actions evolve	Service Level Contents	Specification of obligations in terms of a statement of work, the associated and required service levels, and the price to be paid into all sourcing agreements.	<ul style="list-style-type: none"> • A general description of the services required, major categories of services and specific service elements • Service level target, time frame definition, quality statement, etc.
Governance	Mechanisms that mitigate disruptions	Measurement Charter	Tactical measurements for calculating and reckoning of service performance as well as success metrics derived from the SR's strategic plan.	<ul style="list-style-type: none"> • Statement of measurement methodology
	Setting and checking performance targets, interim milestones to ensure that the relationship remains on course			<ul style="list-style-type: none"> • Definition of what is to be measured
	Rewards or sanctions for meeting or missing the targets (Klein, et al., 1978)	Conflict Arbitration	Balance of power that imposes one's will on others	<ul style="list-style-type: none"> • Definition of processes to periodically measure the defined categories • A statement of the parameters for involving the third party in discussions between the SR and SP • A schedule for regular interactions between the parties, and timetables for resolving issues between the SR and SP • A statement of the practices and conduct rules required to preserve the independence of the independent advisor.
		Communication Plan	The approach for disseminating contract related information to all of the parties involved in the relationship through scheduled interaction and communication such as formal meeting and reporting	<ul style="list-style-type: none"> • Identified communication initiatives/initiative owners • Identified recipients for various communication initiatives • Communication schedules and media
		Enforcement Plan	Carrot and stick; sharing of benefits and burdens	<ul style="list-style-type: none"> • Penalty/reward definitions and formula • Conditions under which termination may occur • Detailed list of all penalty assumptions

Table 2-7: Contractual Elements of SLA in IT Outsourcing (Part 2 of 2)

	Characteristics	Contractual elements of SLA	Contractual issues of SLA in IT outsourcing	Clauses in practice
Change Management	Specific rules and procedures, which would lead to desired outcomes if followed	Future Demand Management Plan	Planning the process and methodologies for coping with change and contingencies in a long-term engagements: agreeing to agree	<ul style="list-style-type: none"> • Joint (SR/SP) demand forecasting process • Prioritization methodology for current and future demands • Process for scheduling, costing and modifying agreements
	Mechanisms that facilitate joint adaptation to problems raised from unforeseeable changes into the contract	Anticipated Change Plan	The joint development of expectations about perceived uncertainties, especially concerned with anticipated conflicts of interest and potential trouble	<ul style="list-style-type: none"> • Clear definitions of the key categories of change • Roles, responsibilities and decision-making procedures for the SR and SP for each category of change • Top drivers for change — reviewed regularly
		Feedback Plan	Continuous processes for changing interfaces, approaches and attitudes toward better service delivery states within a deal based on learning by doing	<ul style="list-style-type: none"> • Statement of how changes will be implemented based on measurement results • The road map for an efficient feedback on the identified drawbacks • Prioritization methodology for current tasks and feedbacks
		Innovation Plan	Cooperative innovation, especially joint efforts at continuous performance improvement and planning	<ul style="list-style-type: none"> • Process for innovation, including implementation and prioritization • Process for technology advancements (scope improvement and technology refreshes/upgrades) • Business-measured innovation (business process improvement)

Source: Adapted from Goo (2008)

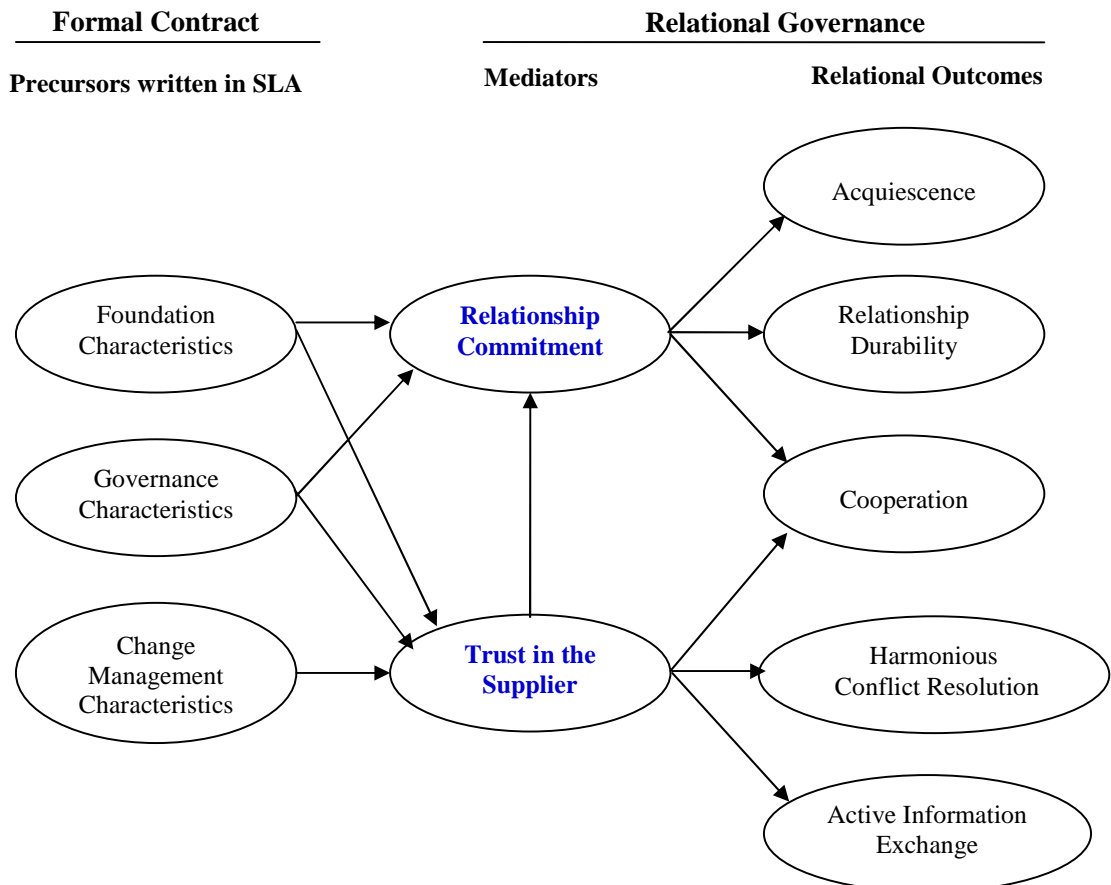
The **foundation characteristics** in SLAs take care of the basics (Stone, 2001) to build a spirit of agreement and ownership of the functional exchange (Singleton et. al, 1988). They help decision makers comprehend and share the intent of creating the relationship and set standards of conduct by defining what the client organizations and suppliers are obligated to deliver and at what cost (Ring and Van, 1994).

The **governance characteristics** harmonize the relationship through a clear statement of measurements, communication channels and methods, conflict arbitration, and penalty and

rewards. This continual assessment of the relationship values created for the various stakeholders helps to ensure that the relationship remains on course (Bendor, 1999).

Lastly, the **change management characteristics** deal with the inevitable uncertainties in the rapidly changing IT environment and business conditions where service providers are required to respond quickly to deliver new services or modify current one. Change management plan helps to ensure that the suppliers will deliver valuable inputs to the client organizations and strengthen the relationship (Scardino, 2001).

Extending from Goo's operational constructs for SLAs structures, Goo and Huang (2008) show the association of SLA structure characteristics with **trust** and **commitment** building, which together produce relationship outcomes that promote relationship success in IT outsourcing deals (See Figure 2-8). Firstly, "Acquiescence" and "Relationship Durability" are the direct results of relationship commitment. Secondly, "Harmonious Conflict Resolution" and "Active Information Exchange" are the direct outcome of trust. Thirdly, "Cooperation" occurs directly from both relationship commitment and trust.

Figure 2-8: Association of SLA with Trust and Commitment Building

Source: Goo and Huang (2008)

2.6.4. Getting Below the Surface

A complete contract reduces the uncertainty faced by organizational decision-makers and the risks from opportunism. It protects organizations from performance problems by restraining each party's ability to pursue private goals at the expense of common belief (Luo, 2002).

The contract is important but is a relatively superficial driver of day-to-day behaviour which produces limited success. A recent study done by Willcocks and Cullen (2005) on 235 client organizations revealed that no organization cited contract as a key factor in

successful delivery and management. The less successful outsourcing arrangements over-emphasize the forces that drive behaviour shown in the upper area of the 'iceberg' in Figure 2-9. The true behaviour drivers are the deeper drivers rooted in the values and attributes of the people accountable for executing the outsourcing deal. These drivers have to be conveyed and secured in the processes and in the people engaged in the relationship.

Figure 2-9: Getting Below the Surface - The Underlying Drivers of Behaviour



Source: (Willcocks and Cullen, 2003)

That said, an incomplete contract may result in ambiguity, which creates a breeding ground for shirking responsibility and shifting blame, increases the probability of conflict, and obstructs the ability to coordinate activities, utilize resources, and execute strategies (Luo, 2002). Formal contracts are often proved to be incomplete (Kern and Willcocks, 2001); they are either too loose (Lacity and Willcocks, 2003) or too inflexible (Barthélemy, 2001; Sabherwal, 1999). This is due to the volatility of IT and the possible changes in user and organization requirements; it is often complex and almost impossible to know the future requirements in long-term deals such as outsourcing. Brynjolfsson's (1994) work on the incomplete contract theory argues that "real world contracts are almost always 'incomplete', in the sense that there are inevitably some circumstances or contingencies that are left out of the contract, because they were either unforeseen or

simply too expensive to enumerate in sufficient detail.”. Uncertainty is inevitable and can only be mitigated (Willcocks et al, 1997). Hence regular contract reviews and renegotiations terms became a major feature of the contracting trends (Currie and Willcocks, 1997; Willcocks and Lacity, 1997).

Also, as outsourcing contracts are likely to be incomplete, the likelihood of opportunistic behaviour by the vendor is increased (Williamson, 1975; Hart, 1995). Although Macneil (1980) proposes to alleviate contract incompleteness through a relational, rather than a transactional, contract, there is evidence that most effective outsourcing contracts are neither completely relational nor transactional but essentially relational intertwined with transactional aspects (Currie and Willcocks, 1997; Lacity and Hirschheim, 1993; Willcocks and Kern, 1998).

Following the logic of Transaction Cost Economics which explains that complete contracting is often impossible, while incomplete contracts give rise to subsequent renegotiations when the balance of power is set (Gottschalk and Solli-Saether, 2005), relational attributes of exchange may play a role precisely instead of or along with incomplete contracts. By initiating trust, organizations are able to decrease the costs of monitoring and enforcing contract and reduce opportunistic behaviour of the other party. In all, those transactors who have established relational norms based on goodwill that can ease and lubricate the renegotiation process, they can reasonably expect to incur lower *ex post* bargaining costs (Gottschalk and Solli-Saether, 2005) and the *de facto* formal controls than those who have not.

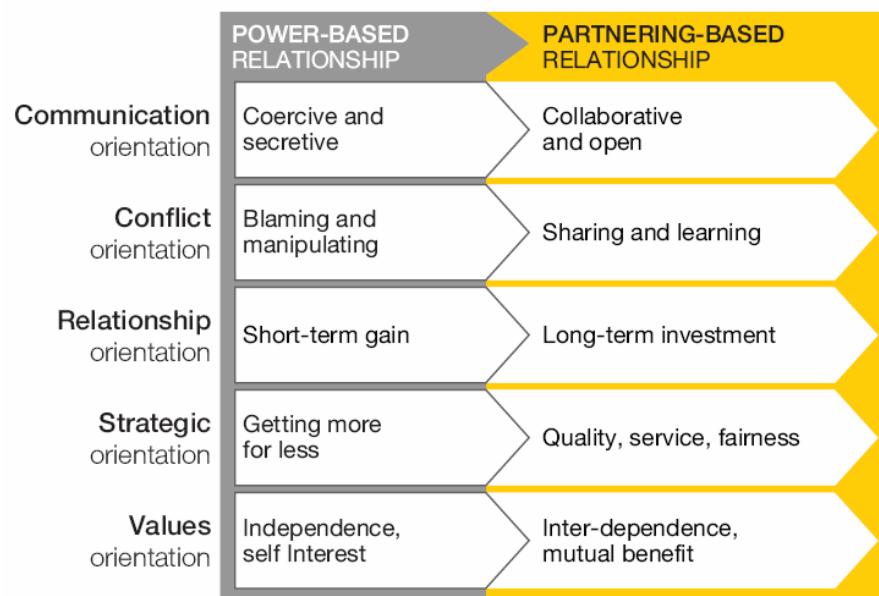
2.6.5. Relationship Management

Researches hitherto have revealed that the client-vendor relationship is more complex than a mere contractual transaction-based relationship (Kern, 1997; Klepper, 1994, 1995; McFarlan and Nolan, 1995; Willcocks and Choi, 1995; Willcocks and Kern, 1998). Many authors have proposed that the client-vendor relationship has to include relational contract (Kern, 1997; Willcocks and Kern, 1997).

A recent study has found that relationship management can produce a 20-40% difference on service, quality, cost and other performance indicators (Willcocks and Cullen, 2005) – it can make or break an outsourcing deal. Long-term success is dependent on how the relationship is managed. The best governing documents (e.g Contracts, SLAs, etc.) become weapons in a poorly managed relationship – to be used against the other party rather than to guide successful outcomes (Willcocks and Cullen, 2003).

The most successful outsourcing relationship results are achieved where the organization and outsource provider have well aligned cultures and develop a strong working relationship based on trust and an equal partnership, rather than one based on power and the use of penalties. Figure 2-10 illustrates the power versus trust relationship diagram.

Figure 2-10: Managing in a Recession: Relationship Choices



Source: (Willcocks and Cullen, 2003)

Power-based relationships are based on the negative threat of sanction that might be applied to get compliance. Conflict resolution usually involves manipulation and blame spread. Furthermore, short-term gains, “more for less”, and self-interest are the guiding principles. Organizations should watch out for the risk associated with the “winner's curse” - deals that excessively favour the client at the expense of the supplier but do not work to the client's advantage in the long run (Willcocks et al, 2002). According to a recent paper by Willcocks and Cullen (2005), three-quarters of "winner's curse" outsourcing deals, where the suppliers do not make profit, result in both the client and supplier having bad experiences.

Partnership-based relationships involve more open and collaborative communications. Also, conflicts are resolved constructively and the deal is treated as an inter-dependent long-term investment that brings benefits to both parties.

For all but short-term arrangements, power is a poor substitute for trust due to the high costs in monitoring and imposing sanctions, the negative orientations and behaviours adopted, and the limited goals achievable by the parties. Collaborative trust based relationships are more effective as well as cheaper to manage than power based ones.

However, this does not imply that organizations can neglect power, especially the balance of power. Power should be equally distributed, and not dominated by one side, to achieve successful outsourcing relationships. Simultaneously, trust is earned and built on performance, day by day. Without delivery, trust cannot be built and both sides will resort to power-based relationships and rigid contract terms to get what they want. Organizations should strike a balance between the two alternatives of power and trust. Extremes of either are rarely acceptable to clients or suppliers and rarely sustainable over longer periods.

The role of the trust element in outsourcing is also studied by Sabherwal (1999). He collected data from 18 outsourced IT development projects in five countries in his research and revealed four different types of trust; calculus-based, knowledge-based, identification-based, and performance-based (See Table 2-8). Sabherwal argues that outsourced IT

projects progress through cycles that involve trust, structure and performance. Good performance is achieved when a balance is struck between trust and structure but not when trust is lacking (distrust), or when an inappropriate structure is coupled with a specific type of trust (over or under control). He also suggests that a ‘psychological contract’ exists in outsourcing relationship. This contract of unwritten and often unspoken expectations is supported by the level of trust between the parties, and plays a role in resolving unanticipated problems of changes in outsourced activities.

Table 2-8: Types of Trust

Type of Trust	Is Build By...
Calculus-based trust	Expected long-term relationship
	Structural controls and penalty clauses
Knowledge-based trust	Previous joint projects
	Courtship
	Prior acquaintance among key employees
Identification-based trust	Emphasis on shared goals
	Team building
Performance-based trust	Celebration of key intern deliverables
	Periodic demos and pilots

Source: (Sabherwal, 1999)

2.7. IT Outsourcing Critical Success and Failure Factors

IT outsourcing success has always been a salient justification to IT outsourcing research (Lacity and Hirschheim, 1993). Outsourcing success is defined as the satisfaction with benefits from outsourcing achieved by an organization from implementing an outsourcing

strategy (Grover et al., 1996). Lacity and Willcocks (1998) viewed outsourcing as successful when “the outcome of IT sourcing decisions met expectations”.

McFarlan and Nolan (1995) draw on case research on more than 14 organizations and addressed the critical success factors in structuring and outsourcing deal. Their analysis of the case material suggests that the critical factors are:

1. Contract flexibility
2. Establish and monitor performance standards
3. Realistic and objective assessment of projected cost savings
4. Contracts while important, “are not panaceas”
5. Governance mechanisms should be based on mutual awareness and understanding

Similar success factors also appear in the multitude of studies done by Cullen et al. (2001), who derived the eleven critical success factors that contribute to successful IT outsourcing arrangements - delivery performance, good contract management, strong relationships, staff management, cost management, understand the customer, use service level agreements (SLAs), maintain control, be flexible, communicate and technical expertise. Table 2-9 summarizes the critical IT outsourcing success factors.

Table 2-9: Critical IT Outsourcing Success Factors

Critical Success Factors	Descriptions
1. Delivery performance	The services must be delivered not only to expectations and specifications, but improved continuously.
2. Good contract management	Both parties must have good contract management skills, processes and people.
3. Strong relationships	The relationship must be strong, with a team approach supported by a good understanding between the parties.
4. Staff management	The supplier must have quality staff and good staff management
5. Cost management	Both parties must have capable cost and financial management.
6. Understand the customer	The supplier must understand and listen to the customer organization and react to its needs.
7. Use SLAs	The vital use of SLAs and the principles SLAs are designed to achieve (clear service definitions, KPIs and performance measurement, etc).
8. Maintain control	The organization must control the arrangement and processes and ensure it stays competitive.
9. Be flexible	Flexibility and the ability to modify any aspect of the arrangement, as required, must be incorporated.
10. Communicate	There must be ongoing and effective communication between the parties.
11. Technical expertise	The supplier must provide technical expertise.

Source: (Cullen et al, 2001)

Cullen et al. (2001) also identified four major factors that lead to IT outsourcing failure (See Table 2-10). They are inadequate cost management, deficient staff arrangements by supplier, lack of understanding and expertise gap. Managing these four factors of failure helps to prevent failure but IT outsourcing success also requires pro-active management to focus on the eleven critical success factors.

Table 2-10: Critical IT Outsourcing Failures Factors

Critical Failure Factors	Descriptions
1. Inadequate cost management	Inadequate cost management, particularly when there is little flexibility within the arrangement with regard to scope.
2. Deficient staff arrangement	Deficient staffing arrangements by the supplier, beginning with the supply of the wrong type of staff and continuing with poor staff management.
3. Lack of understanding	The inability of the supplier to understand the organization, its needs and its priorities.
4. Expertise gap	The expertise gap between that expected from the supplier or promised to the organization and that actually delivered by the supplier.

Source: (Cullen et al, 2001)

A holistic approach to IT outsourcing is needed, which means recognizing and emphasizing the combination of several critical success factors (Gottschalk and Solli-Sather, 2005) including core competence management and relationship governance capable of adapting to change as business conditions evolve.

2.8. Managing IT Outsourcing Risks

Risk is inherent to almost any business decision including IT outsourcing deal. While IT outsourcing can help to attain lower costs, economies of scale, access to specialized resources, and new business ventures (Gupta and Gupta, 1992; Huff, 1991), it can also cause significant risks such as escalating costs, diminishing service levels, and loss of expertise if it is not managed effectively (Earl, 1996; Gack, 1994; Lacity and Hirschheim, 1993). There are abundant examples of outsourcing ventures winding up in disaster, for instance a book by Lacity and Hirschheim (1995) cited experiences of more than 20

companies winding up in disaster and similarly, several unfortunate outcomes are also found in Domberger and Hall's "The Contracting Casebook".

The prerequisite for reducing risk is its identification. Deriving the risk definition based upon transaction cost economics and agency theory (Barki & Rivard & Talbot 1993; Aubert & Patry & Rivard 1998), risk is considered as a combination of risk factors (causes) and undesirable outcomes. The risk factors indicate the probability of undesirable outcomes. When risk (or the combination of risk factors and undesirable outcomes) result in loss, negative consequences occur.

Aubert et al. reviewed the IT and the industrial organization literature and developed a list of potential negative outcomes of an IT outsourcing relationship and the connected risk factors (See Table 2-11); they have also performed validation using case studies (Aubert et. al, 1999, 2001). The risks factors can be group into three main categories: the principal (e.g client lack of experience), the agent (e.g opportunism), and the transaction (e.g asset specificity), which all deal with market failure. The outcome of their study shows that the risks of IT outsourcing can be mitigated by structuring the contract and managing the relationship.

The clients are often a major risk factor. Knowledge of the organization on experience and expertise with the activities outsourced and with outsourcing contracts play a key role. In addition, organizational culture fit with the supplier is also vital. Suppliers' experience and expertise with the outsourced activities and the management of outsourcing contract are important factors. Other characteristics like supplier size, its financial stability, its culture and the number of suppliers also need to be considered.

Lastly, the transaction itself, namely the outsourced activities is a key component of risk exposure. Transaction cost theory shows that uncertain activities are difficult to measure, and complex activities that make use of specific assets cause higher chances of contractual problems (Williamson, 1985).

Table 2-11: Components of IT Outsourcing Risk Exposure

Risks (Undesirable outcomes)	Factors leading to outcome
1. Unexpected transition and management costs (Cross, 1995; Earl, 1996; Nelson et al., 1996)	<ul style="list-style-type: none"> • Lack of experience and expertise of the client with the activity (Earl, 1996; Lacity et. al, 1995) • Lack of experience of the client with outsourcing (Earl, 1996) • Uncertainty about the legal environment
2. Switching costs (including lock-in, repatriation and transfer to another supplier) (O'Leary, 1990)	<ul style="list-style-type: none"> • Asset specificity (Williamson, 1985) • Small number of suppliers (Nam et al., 1996) • Scope • Interdependence of activities
3. Costly contractual amendments (Earl, 1996)	<ul style="list-style-type: none"> • Uncertainty (Alchian and Demsetz, 1972; Barzel, 1982) • Technological discontinuity (Lacity et al., 1995) • Task complexity
4. Disputes and litigation (Aubert et al., 1997b; Lacity and Hirschheim, 1993)	<ul style="list-style-type: none"> • Measurement problems (Alchian and Demsetz, 1972; Barzel, 1982) • Lack of experience and expertise of the client and/or of the supplier with outsourcing contracts (Earl, 1996; Lacity et. al, 1995) • Uncertainty about the legal environment • Poor cultural fit
5. Service debasement (Lacity and Hirschheim, 1993)	<ul style="list-style-type: none"> • Interdependence of activities (Aubert et al., 1997; Langlois and Robertson, 1992) • Lack of experience and expertise of the supplier with the activity (Earl, 1996) • Supplier size (Earl, 1996) • Supplier financial stability (Earl, 1996) • Measurement problems (Alchian and Demsetz, 1972; Barzel, 1982) • Task complexity
6. Cost escalation (Lacity and Hirschheim, 1993; Lacity et al, 1995)	<ul style="list-style-type: none"> • Lack of experience and expertise of the client with contract management (Earl, 1996; Lacity et. al, 1995) • Measurement problems (Alchian and Demsetz, 1972; Barzel, 1982) • Lack of experience and expertise of the supplier with the activity (Earl, 1996)
7. Loss of organizational competencies (Dorn, 1989; Earl, 1996; Lacity et al, 1995)	<ul style="list-style-type: none"> • Scope • Proximity of the core competencies (Prahalad and Hamel, 1990) • Interdependence of activities
8. Hidden Service Costs (Lacity and Hirschheim, 1993)	<ul style="list-style-type: none"> • Complexity of the activities • Measurement problems (Alchian and Demsetz, 1972) • Uncertainty (Barzel, 1982)

Source: (Adapted from Aubert et al., 2001)

Risk assessment and risk management are important contributors to successful IT outsourcing (Rao, Nam and Chaudhury, 1996). The objective of risk management is to reduce the level of risk exposure either by reducing the losses related to the undesirable outcomes, or by reducing the probability of such outcomes (Aubert et al., 1999). Risk exposures needs to be evaluated and monitored periodically to determine if it has remained the same and making sure that all the “standard safeguards” are well in place (Aubert et al.,1999).

2.9. Chapter Summary

This chapter has covered the literature review of IT outsourcing, focusing on the post-contract management phase, which is the eighth building block in the operate phase of the ITO lifecycle. It is during the management of this phase, that success is ultimately determined. Organizations commonly outsource AMS as an alternative to support services traditionally provided in-house in attempt to save money, acquire skills and services, and free up internal resources, etc. However, in order to attain success in AMS outsourcing, organizations need to be aware of the vital contributing factors.

A review of past research and case studies in the IT outsourcing field revealed thirteen key lessons in the post contract management phase to achieve successful AMS outsourcing:

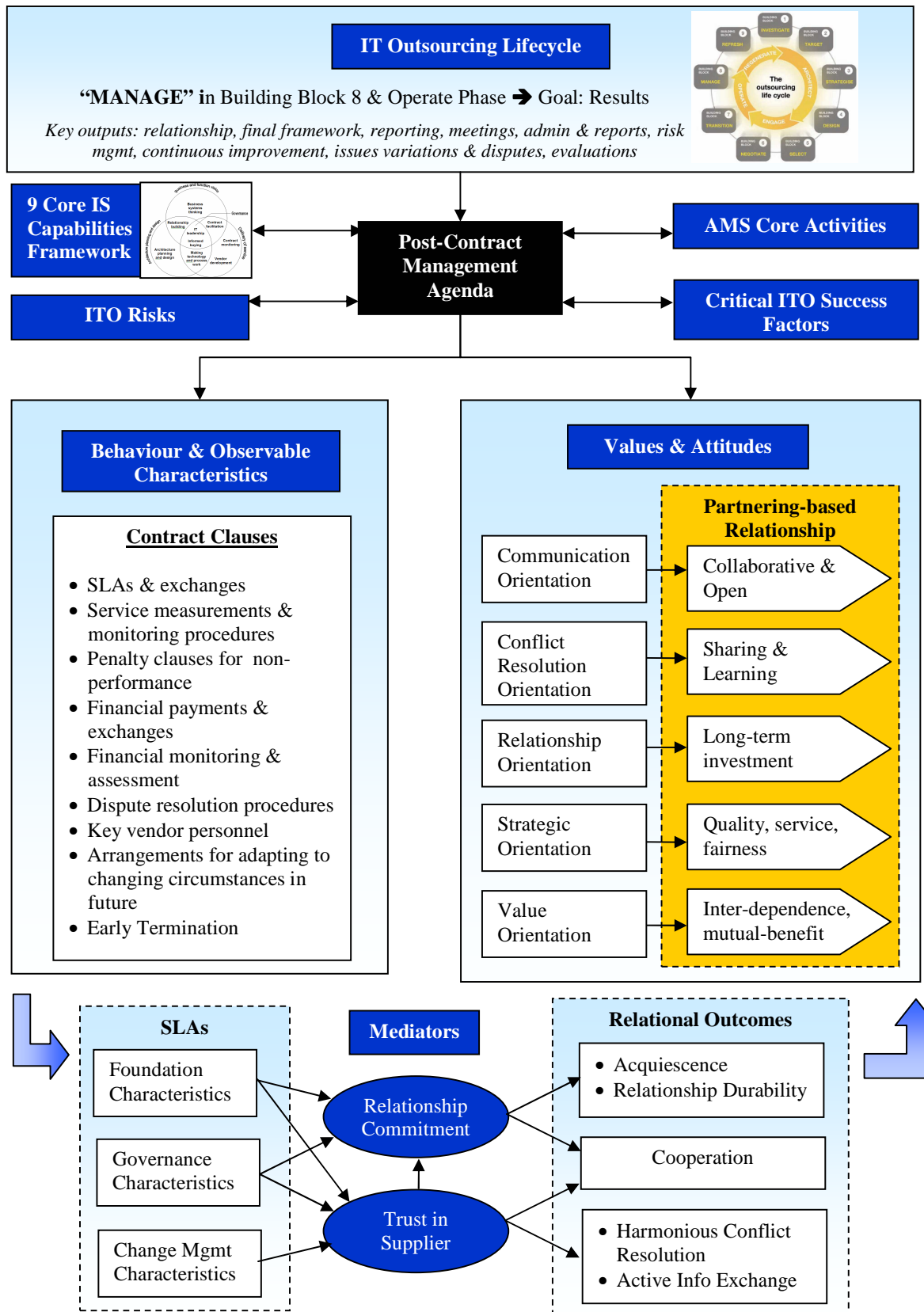
1. Organizations should develop and build and retained the nine core IS capabilities to create high level strategic competencies essential to facilitate the exploitation of IT.
2. Organizations need to develop a long-term strategic focus core capability, rather than a short-term focus, and apply core capabilities framework as an evolutionary Process – Delivery, Reorientation and Reorganization.
3. Post contract management is the eighth building block of the operate phase in the ITO lifecycle framework and it marks the starting point of ‘working together’.

4. The main scope of work for AMS includes preventive, perfective, corrective and adaptive maintenance. Properly structured AMS outsourcing arrangement will enable organizations to achieve benefits.
5. The contract is necessary however it produces limited success. This is because it is a relatively superficial driver of day-to-day behaviour and also an inadequate governance for outsourcing. That said, poorly constructed contracts with ambiguities, loopholes and incomplete terms can seriously damage outsourcing health.
6. Contracts can effectively manage various dimensions of relational exchange in IT outsourcing and that formal and relational governance functions are complementary, not substitutive.
7. An effective SLA is one of the most difficult governance documents to produce for any IT arrangement. A contract with well-structured SLAs can help to cultivate favourable relational attributes such as trust and commitment building between the client and the vendor, which in turn promote relationship success in IT outsourcing arrangements.
8. There was a clear recognition across the past research concerning the key role relationship plays in outsourcing. Outsourcing deals with well-managed relationships are expected to be more successful. This is because relationship management can create a 20%-40% difference on service, quality, cost and other performance indicators.
9. For all but short-term arrangements, power-based relationships are poor substitutes for trust because of high monitoring costs, the negative behaviours adopted and the limited goal achievable by the parties. Organizations should ensure that they balance their outsourcing relationships with vendors between power and trust.

10. An instant relationship is not possible overnight; trust is earned and relationships are built through performance gradually.
11. Given the positive association between both mechanisms and outsourcing success, developing an understanding about how the complimentary use of both mechanism could facilitate relationship quality might contribute to the development of outsourcing knowledge.
12. Managing the four factors of failure helps to prevent failure but organizations also need to pro-actively manage and focus on the eleven critical success factors to achieve IT outsourcing success.
13. IT outsourcing offers many benefits to organizations but at the same time it also cause significant risks such as escalating costs, diminishing service levels, and loss of expertise if it is not managed effectively. Therefore, risk assessment and risk management are important factors to successful IT outsourcing.

Considering all the thirteen key lessons learnt, an “AMS outsourcing framework for success” is derived as illustrated in Figure 2-11. This derived framework can guide organizations towards achieving successful AMS outsourcings. This dissertation will apply this AMS outsourcing framework to a case study research of how to improve the AMS outsourcing at Primo Airlines.

Figure 2-11: AMS Outsourcing Framework for Success



Chapter 3

Research Methodology

3. Research Methodology

Chapter 2 reviewed the literature on IT outsourcing, with the focus on the post-contract management of the AMS outsourcing. The review covered the IT Outsourcing Lifecycle, the nine Core IS Capabilities Framework, role of contract, how commitment and trust help in relationship management, the IT outsourcing risks and the critical ITO success factors. An AMS outsourcing framework for success was then built; it will lay the theoretical foundation for this research.

This chapter will describe the research methodology used to fulfill the research objective of how to improve the AMS outsourcing at Primo Airlines. Firstly, section 3.1 will discuss the research process and introduce the research process ‘onion’ which will guide this research. Section 3.1.1 to 3.1.6 will describe the six layers of the research process onion and the element(s) chosen in each layer. Finally, section 3.6 will cover the criteria for credible measurement - reliability and validity, and how this study will achieve them.

3.1. Research Process

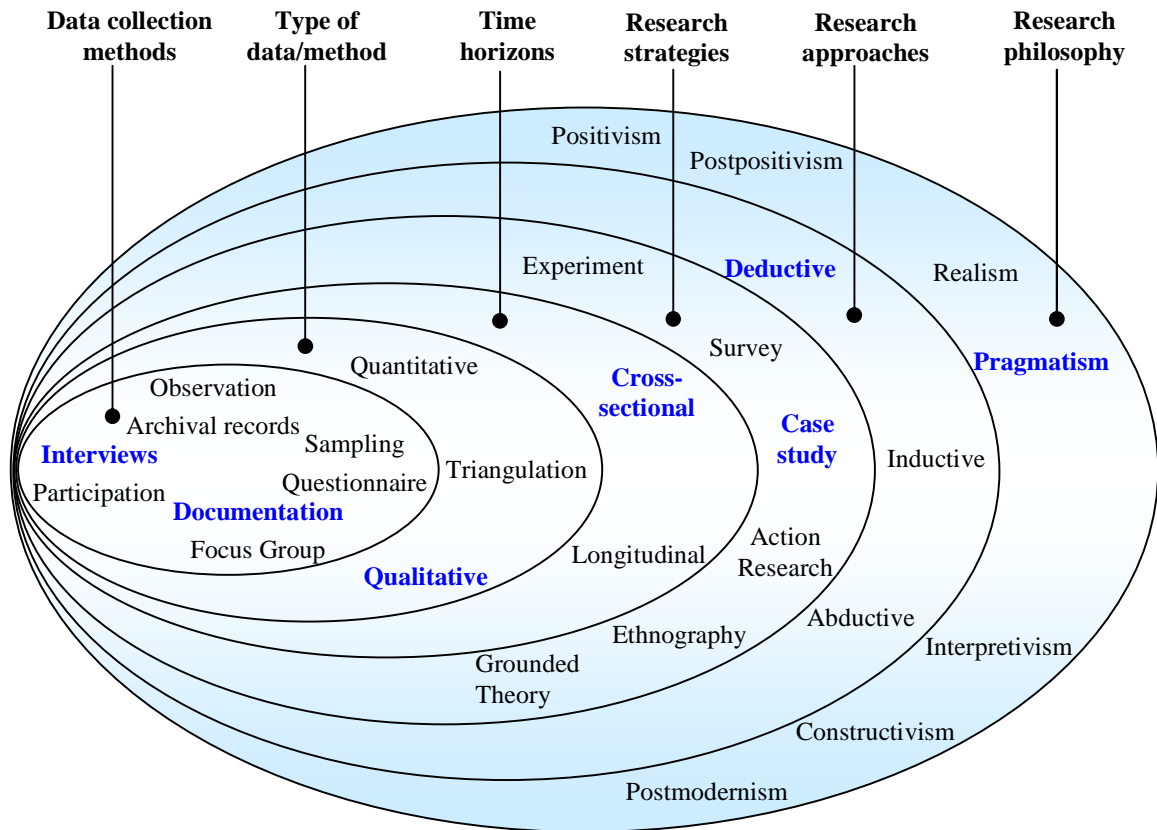
The research design is the “framework” for collecting the required information for the project in the best possible way (Malhotra et al, 2002). Not only does the correct design helps to save resources, it is also essential in undertaking valid and reliable research (Hedrick et al, 1993).

In general, it is assumed that a research study can be divided into two major types: objectivism and subjectivism. This has led to many research philosophies, which in turn provide a research process guideline. In general, a research design framework consists of three major elements of inquiry: 1) philosophical assumptions, 2) strategies of inquiry, and 3) methods (Creswell, 2003). Philosophical assumptions explain the assumption on which

the research design is based; it defines what constitute knowledge claims. Strategies of inquiry provide specific direction for procedures in a research design such as quantitative (e.g experiments, surveys), qualitative (e.g case studies, grounded theories) and mixed methods (e.g concurrent, sequential). Methods refer to techniques and detailed procedures of data collection, analysis, and writing such as questionnaire, interview, and focus group.

The research design framework by Creswell (2003) could be complemented by a research onion by Saunders et al. (2007), which included further elements like research approaches, time horizons, and types of data or method to provide a richer picture of the overall research design. A broad picture of the research design adapted from Saunders *et al.* (2007) is depicted in Figure 3-1. The elements in the different layers have dependencies, hence they suggest that a research design should be developed from the outer most layer (adopt a research philosophy) and subsequently peel off each layer until the last layer (define data collection methods). This research design methodology is adopted in this dissertation and the chosen elements are highlighted in blue.

Figure 3-1: Research Process ‘Onion’



Source: (Adapted from Saunders et al., 2007)

3.1.1. Research Philosophy

Philosophical assumptions or knowledge claims can be described from highly objectivism (positivism) to the mixed mode (postpositivism, pragmatism or realism) and finally to a highly subjectivism (Constructivism, Interpretivism, or Naturalism).

In the pragmatism approach, truth is considered to be “what works” or application and solutions to problems. In addition, reality is multiple and constructed. Pragmatism seems to be the most appropriate paradigm to explain the understanding of this “real” world, i.e.

the AMS outsourcing at Primo Airlines and it will be used in this dissertation's research design and knowledge claims.

3.1.2. Research Approach

Deduction, induction, and abduction are three basic forms of research approaches. Deductive approach involves theoretical proposition testing using an appropriate research strategy. In contrast to deductive approach, inductive approach involves theory development as a result of the observation of empirical data. Abduction serves to identify possible explanations for a set of observations.

As far as this study is concerned, the deductive approach is selected. The developed AMS outsourcing framework for post-contract management in Chapter 2 is adequately based on the study of existing literature from different researchers and evidence from case studies. The model will be used guide the type of data required for the research and also be used to analyze the research findings with the aim to provide recommendations on how Primo Airlines can improve its AMS outsourcing.

3.1.3. Research Strategy

Saunders et al (2007) describe the research strategy as a generic plan guiding the researcher to answer the specific research questions. There are various research strategies. Table 3-1 illustrates the six research strategies, which can be identified in the literature (Saunders et al., 2007).

Table 3-1: An Overview of Research Strategies

Research Strategy	Description of Strategy
1. Case study	Involves the empirical investigation of a particular contemporary phenomenon within its real-life context, using multiple sources of evidence
2. Experiment	Involves the definition of a theoretical hypothesis; the selection of samples of individuals from known populations; the allocation of samples to different experimental conditions; the introduction of planned change on one or more of the variables; and measurement on a small number of variables and control of other variables.
3. Survey	Involves the structured collection of data from a sizeable population. Although the term 'survey' is often used to describe the collection of data using questionnaires, it includes other techniques such as structured observation and structured interviews.
4. Action Research	Concerned with the management of a change and involving close collaboration between practitioners and researchers. The results flowing from action research should also inform other contexts.
5. Grounded Theory	Focuses upon describing and interpreting the social world through first-hand field study.
6. Ethnography	Theory is developed from data generated by a series of observations or interviews principally involving an inductive approach.

Source: (Saunders et al., 2007).

This dissertation will use case study as the research strategy. According to Yin (2003), case study “allows an investigation to retain holistic and meaning characteristics of real-life event – such asorganizational and managerial processes” and when “how” or “why” questions are being posed. On a similar note, Schramm (1971) also states that “the essence of a case study, i.e. the central tendency among all types of case studies, is that it tries to illuminate a decision, or a set of decisions: why they were taken, how they were implemented, and with what result”. It is thus suitable to use case study since the research objective is to find out how to improve AMS outsourcing at Primo Airlines.

3.1.4. Time Horizon

A cross-sectional research is the study of a particular phenomenon at a particular time, i.e. a ‘snapshot’ whereas longitudinal study of a particular phenomenon stretches over an extended period of time.

The time horizon chosen for this research is cross sectional due to the short duration of this dissertation (6 months).

3.1.5. Type of Data/Method & Data Collection Methods

The three main strategies of inquiry, namely quantitative, qualitative and mixed methods together with their data collection methods are shown in Table 3.2.

Table 3-2: Alternative strategies of research inquiry

Quantitative	Qualitative	Mixed Methods
<ul style="list-style-type: none"> • Experimental designs • Non-experimental designs e.g. Surveys 	<ul style="list-style-type: none"> • Narratives • Phenomenology • Ethnographies • Grounded theory • Case studies 	<ul style="list-style-type: none"> • Sequential • Concurrent • Transformative

Source: (Creswell, 2003)

The difference between quantitative and qualitative methods is generally expressed in terms of the type of data collection: the quantitative method involves numerical data and statistical analysis while the qualitative method gathers descriptive data for interpretation analysis (Saunders et al., 2007). The mixed method, referred to as “triangulation”, is a combination of quantitative and qualitative methods (Brannen, 1992),

Qualitative method is chosen for this research. This is because it is appropriate for a case study research where qualitative data are collected. This will help to gain insights into the AMS outsourcing at Primo Airlines.

3.1.6. Data Collection Methods

According to Walliman (2001), data may be collected as either primary or secondary. In this research, a mixed method using both primary and secondary data will be applied.

3.1.6.1. Secondary Data

Secondary data is data collected for some purposes other than the problem at hand (Saunders et al., 2007). It is very important that secondary data be undertaken first, because this can provide invaluable background information that can be used to define the project, develop objectives and specify the correct methodology (Malhotra et al., 2002). With the assistance of secondary data, primary data can be gathered. Secondary data was compiled from the academic literature, largely from books and journal articles as seen in Chapter 2. The secondary data helps to provide a foundation for answering the research question with the various case studies done by the academics and practitioners. In addition, documentations such as AMS outsourcing contracts and reporting, etc will also be gathered from Primo Airlines as part of the case study to understand the existing AMS outsourcing at the organization.

3.1.6.2. Primary Data

Primary data is a type of data collected specifically for the research project being undertaken (Saunders et al., 2007). For this study, semi-structured interviews will be the primary data collection method as it is one of the important data sources in case studies (Yin, 2003). The type of interview adopted in this study will be face-to-face interview due to its several advantages such as allowing opportunity for respondent to respond freely and reveal attitudes and feelings; which makes it possible for probing further and also it has a

higher rate of participation. Emails will be used to make and confirm appointments for the interviews as well as to send information about the research objectives prior to the appointments. Purposive sampling will be applied for the selection of interviewees because it is important to get the appropriate, involved, well-informed and knowledgeable people within the organization to have a good understanding of the strategies, processes and problems of the AMS outsourcing project. Hence, a range of people from the Primo Airlines IT Department will be interviewed with their consent.

3.2. Criteria for Credible Measurement

Saunders et al. (2007) divide the credibility of the research into validity and reliability.

3.2.1. Validity

Validity refers to the extent to which the information collected is true and represents an accurate picture of what is being studied (Saunders et al., 2007). De Vaus (2001) divides validity into internal and external validity. Internal validity is about drawing valid conclusion about the effects of an independent variable using the right research design. External validity is the extent to which the research results from a particular study can be generalized to all relevant contexts.

To address the validity problem, this study will use the validity framework by Saunders et al. (2007) who have identified six threats: history, testing, instrumentation, mortality, maturation, ambiguity about causal directions and generalizability.

3.2.1.1. History

Events outside of the study may affect an interviewee's attitudes and behaviors. It is impossible to determine whether any historical event could influence his answers. To mitigate this, observation of the body languages is important and will be noted.

3.2.1.2. Testing

This issue addresses the problem of interviewee being worried about bad repercussions after answering the questions correctly and as a result the answers provided could be biased. This threat is minimized by keeping the interviewee name anonymous unless consent is given. Also, contact with the interviewee will be maintained after the interview and minutes of the interview will be provided for review and corrections.

3.2.1.3. Instrumentation

The instrumentation threat is about ensuring that the instruments for measurement are measuring the right variables. The list of interview questions will be created after the extensive literature review. After the first interview, the questions will be reviewed to see if any changes are required. If new questions rose after the interview, the interviewee will be contacted again for discussion.

3.2.1.4. Mortality

Mortality threat means that participants drop out of the study. Careful selection of the interviewees will be done to prevent such event from happening. Interviewees also will be encouraged to be cooperative.

3.2.1.5. Maturation

Subjects change during the course of the experiment or even between measurements. If the study is conducted over a long period of time, other events and happenings can affect the results. This threat is minimized in this study as the primary data will be collected via interviews lasting about an hour each, over a period of three weeks.

3.2.1.6. Ambiguity about Causal Directions

This threat addresses the problem where different variables influence each other and hence not able to infer which is the one that causes the other. This study will draw on common sense and theoretical ideas to infer the temporal precedence of variables.

3.2.1.7. Generalizability

Generalizability refers to the applicability of the results of a research study to other settings. This will not posed much of a threat as the focus in this research is on the case study of the AMS outsourcing at Primo Airlines.

3.2.2. Reliability

According to Robson (2003), a study is reliable if the study yields consistent results as the one conducted previously using the same methods. He identified four types of reliability threats, namely subject error, subject bias, observer error and observer bias.

3.2.2.1. Subject Error

The subject can answer differently at various times. It is important to choose a “neutral” time when interviewee may be expected to be neither on a “high”, looking forward for the weekend, nor on a “low”, with the working week ahead of them (Saunders et al., 2007). Also if the subject is unfamiliar with the areas addressed in the interview questions, he is likely to provide answers with uncertainty. Interviews will be arranged on weekdays except Mondays and Fridays. Also, effort will be put to identify suitable interviewees who are able to provide useful insights and contributions to the research and they will be provided sufficient information about the research prior to the interviews.

3.2.2.2. Subject Bias

The subject can be influenced by external factor. For instance, the interviewee might provide answers, which he thinks his boss would like him to say. Only interviewees who give their consent will be interviewed and their names will be kept anonymous unless consent is given. The interviews will be held in enclosed meeting rooms and the interviewees will be assured that nobody can hear the conversation and the information provided will be used solely for the purpose of this study.

3.2.2.3. Observer Error

Observer error might happen when the data were collected in various ways by different observers. This risk is not present in this study because there will only be 1 observer. In addition, an interview guide (See Figure 3-2) is prepared to minimize the risk of an observer error. “One way to provide more structure than in the completely unstructured, informal conversational interview, while maintaining a relatively high degree of flexibility, is to use the interview guide strategy” (Patton as cited in Rubin & Babbie, 2001). More structure can also ease the researcher’s task of organizing and analyzing interview data.

3.2.2.4. Observer Bias

Data collected needs to be interpreted. The interpretation process usually differs when multiple observers are present, which is not applicable in this study. The researcher will not be biased because every interviewee will be allowed to voice his own opinion. The transcript with interpreted data will also be confirmed by the interviewees to avoid interpretation mistakes.

Figure 3-2: Interview Guide (Part 1 of 2)

Interview Guide for this Dissertation

Introduction

This interview will focus on questions related to the AMS outsourcing in your company. Please rest assured that this interview is for my academic research purposes only and your response will be kept confidential.

Section A: General Questions

1. How many years have you been working in the Primo Airlines Application Services department? What are the applications you are maintaining?

2. On a scale of 1 to 5 (with 1 being lowest), please rate yourself for each of the nine capabilities:
 - Business Systems Thinking
 - Relationship Building
 - Architecture Planning and Design
 - IT Leadership
 - Informed Buy
 - Contract Facilitation
 - Contract Monitoring
 - Vendor Development
 - Making Technology and Process Work

3. Can you describe the AMS outsourcing model adopted by the AS department?

Figure 3-3: Interview Guide (Part 2 of 2)

Section B: Contract Management

1. What is the scope of work defined in the AMS contracts?
2. What are the SLAs for AMS vendors?
3. How do you measure the services provided by AMS vendors and what are the monitoring procedures?
4. What are the rewards/penalties for performance/non-performance of AMS vendors?
5. Is there early termination clause in the AMS outsourcing contract? If yes, please elaborate.
6. How do you ensure proper charges and billing for services rendered by AMS vendors?
7. Is there any dispute resolution/escalation procedure? If yes, can you please tell me what are they?
8. To what extent is the company involve when there is a change of AMS key vendor representatives?
9. Is there flexibility in the AMS contract to adapt to changing circumstances in the future? If yes, please elaborate.

Section C: Relationship Management

1. Please rate the relationship with AMS vendors, on a scale of 1(poor) to 5(excellent).
2. Do you view the relationship with AMS vendors as a long-term investment or short term investment? Why?
3. Do you think there are there trust, commitment and cooperation in the relationship? Please elaborate.
4. Is there regular feedback and how is it being conveyed to the AMS vendors? How are conflicts with AMS vendors resolved?
5. Is there frequent and open communication with AMS vendors? Do the parties provide early earning to one another?
6. Are AMS the vendors proactive?
7. Do you face difficulties when communicating to AMS vendor because of culture difference?

I appreciate your precious time spent with me for this interview. Thank you very much.

Chapter 4

Description of Findings

4. Description of Findings

This chapter summarizes and describes the information gathered from the interviews conducted. The interview objectives are to find out the contract management and relationship management of the AMS outsourcing at Primo Airlines. The sections in this chapter are organized as follows:

- Section 4.1 provides the background of the IT Division at Primo Airlines and the division restructuring which brought about AMS outsourcing.
- Section 4.2 covers the interview findings gathered from the general questions in Section A of the Interview Guide (See Figure 3.2).
- Section 4.3 describes the interview findings gathered from the contract management questions in Section B of the Interview Guide (See Figure 3.3).
- Section 4.4 describes the interview findings gathered from the relationship management questions in Section C of the Interview Guide (See Figure 3.3).

The interview questions, where applicable, will also be listed in the aforementioned sections.

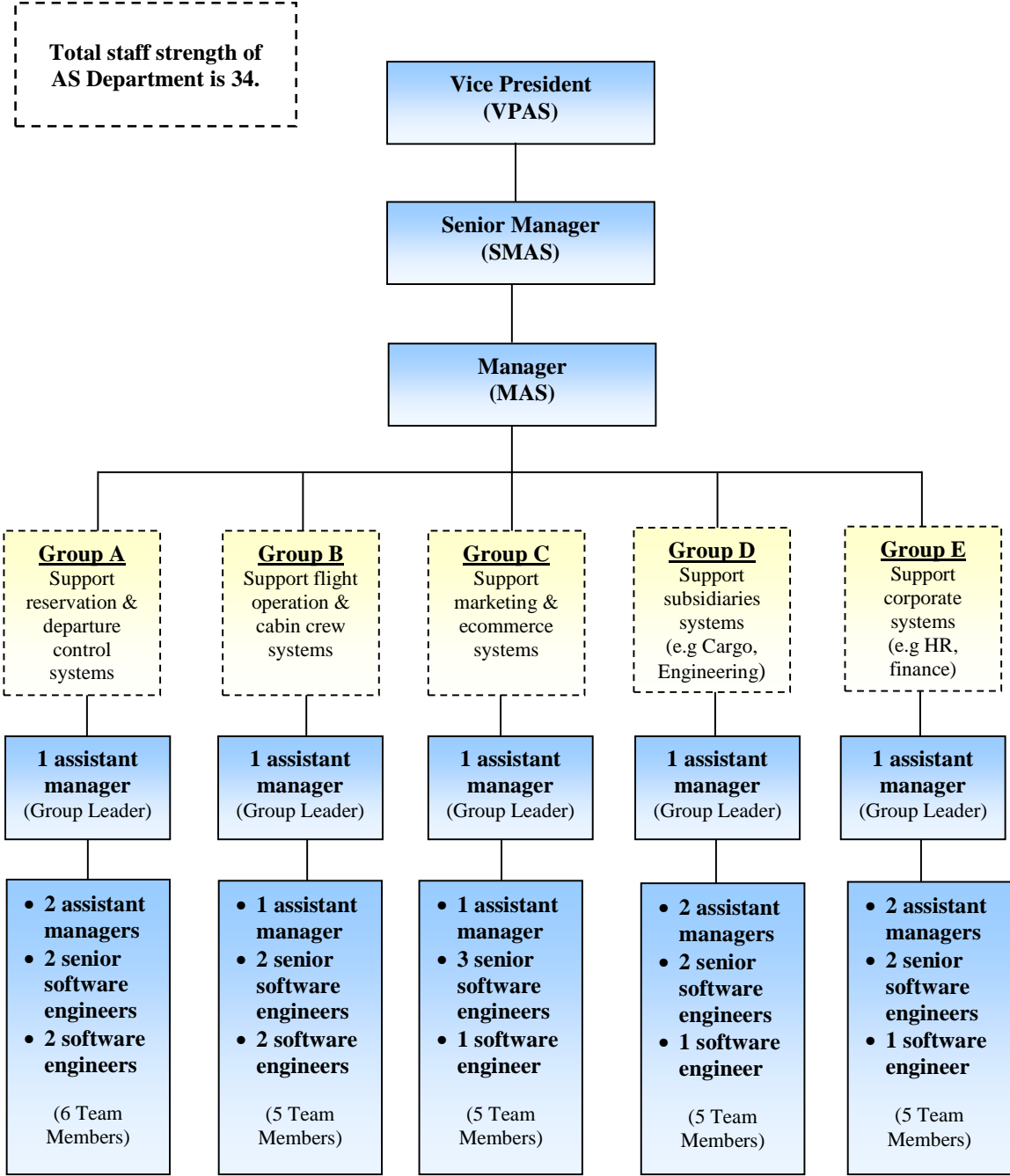
4.1. Background of the IT Division and the AMS Outsourcing at Application Services Department

The computer facilities at Primo Airlines are managed by the Information Technology Division (ITD). This division is responsible for the development, operations and maintenance of a wide variety of IT applications in areas such as Passenger and Airport Services, Cargo, Engineering, Finance, Flight Operations and Cabin Crew and Corporate

Administration. The ITD was restructured in 2000 and since then it is made up of six departments, namely Application Services (AS) department, Application Projects (AP) department, Business Management (BM) department, Infrastructure (IFS) department, IT Security department and IT Administration department. In early 2009, a new department called IT Architecture was formed in ITD. The main objective of this new department is to develop a blueprint for an appropriate technical platform to serve the current and future business.

As part of the restructuring in 2000, Primo Airlines also signed a series of application maintenance and support (AMS) outsourcing contracts, worth a few millions each, with six IT vendor companies. There was no transfer of the airlines IT staff over to the suppliers. Each vendor company manages a portfolio of applications. The AS department, consisting of one Vice President, one Senior Manager, one Manager and five teams, manages these AMS vendors and also ensure smooth operations of the AMS work. Figure 4-1 shows the AS department structure. The department supports over 160 commercial and corporate systems and each of the five teams in the AS department is responsible for one group of systems.

Figure 4-1: Structure of the Application Services (AS) Department at Primo Airlines



4.2. Interview Findings on Respondents' Profiles and AMS Outsourcing Model

This section covers the information gathered from the general questions in Section A of the Interview Guide.

4.2.1. Profile of Respondents

“Section A – General, Question 1: How many years have you been working in the Primo Airlines Application Services department? What are the applications you are maintaining?”

A total of twelve respondents, consisting of vice president, senior manager, assistant managers, senior software engineers and software engineers, participated in the interviews. They are carefully selected from the AS department to ensure that they are the appropriate people within the organization who have a good understanding of the processes and problems of the AMS outsourcing project.

As presented in Table 4-1, all the respondents have at least two years of working experience in the AS department and 7 out of 12 have been with the department since its formation in January 2000 as part of the ITD restructuring. The respondents are sourced from across the five AS groups to ensure that none of the group is left out in this study.

Table 4-1: Profile of Respondents for this Study

Job Title of Respondents	No. of Interviewees (Total = 12)	Approximate no. of Years Working in AS Department	Support Group
Vice President	1	8+	NA (Oversees AS department)
Senior Manager	1	8+	NA (Oversees AS department)
Assistant Manager (Group leader role)	4	8+	Group A
		8+	Group B
		8+	Group C
		8+	Group D
Senior Software Engineer (Team member role)	3	8+	Group B
		6+	Group C
		5+	Group E
Software Engineer (Team member role)	3	3+	Group A
		2+	Group D
		2+	Group E

Group A: Support reservation & departure control systems
Group B: Support flight operation & cabin crew systems
Group C: Support marketing & ecommerce systems
Group D: Support subsidiaries systems (e.g Cargo, Engineering)
Group E: Support corporate systems (e.g HR, finance)

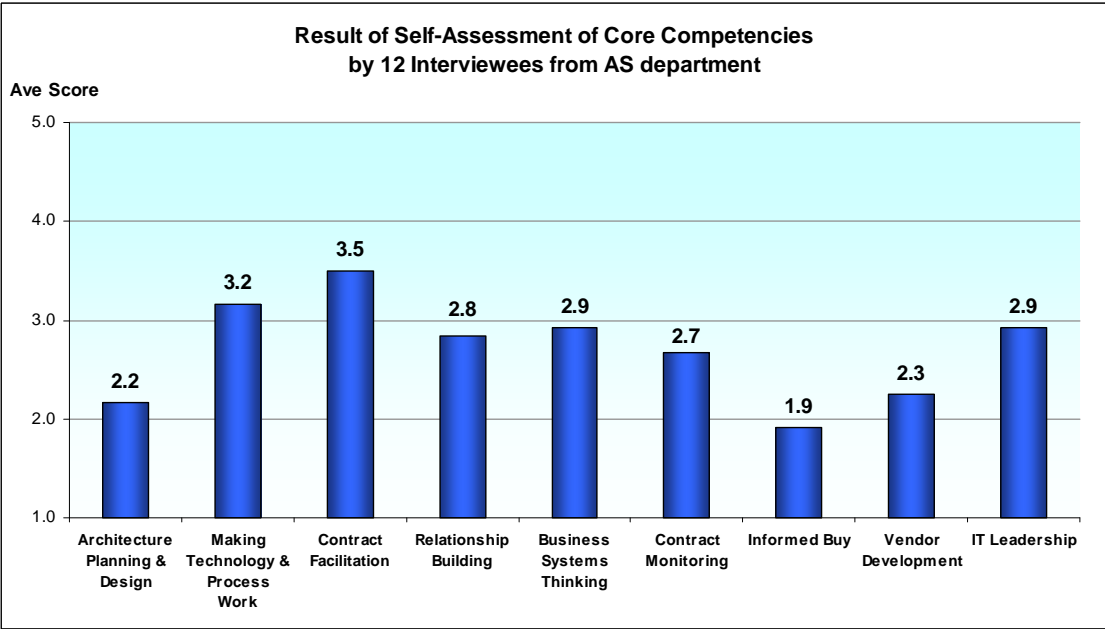
Each interview was scheduled for an hour, but most of the interviews took about 1 hour 30 minutes to complete. All interviewees were assured anonymity to promote openness. Interviews were transcribed and emailed to respondents for validation.

4.2.2. Core IS Competencies of Respondents

“Section A – General, Question 2: On a scale of 1 to 5 (with 1 being lowest), please rate yourself for each of the nine capabilities: Business Systems Thinking, Relationship Building, Architecture Planning and Design, IT Leadership, Informed Buy, Contract Facilitation, Contract Monitoring, Vendor Development, Making Technology and Process Work.”

The interviewees were asked to self-assess the nine competencies of the core IS capabilities on a scale of 1 to 5 (with 1 being lowest). Figure 4-2 shows the average score of each of the capabilities. Only two capabilities scored more than 3, which are “Making Technology and Process” and “Contract Facilitation”. The rest of the seven capabilities are below the average score of 3.

Figure 4-2: Result of Self-Assessment of Core Competencies by Interviewees



4.2.3. AMS Outsourcing Model at AS department

“Section A – General, Question 3: Can you describe the AMS outsourcing model adopted by the AS department?”

The maintenance phase of each new application starts when the project warranty ends. Majority (>90%) of the systems at Primo Airlines are white box applications (usually fully customized and source code is available), the rest are black box applications (usually off-the-shelf or third party software products and source code is unavailable). For white box applications, the appointed IT vendors follow the hybrid (onsite/offsite or onsite/offshore) delivery model, where 60-70% of the work is done by the onsite team and the rest done by the offsite/offshore team. For black box applications, the third party product vendors will provide the second level support from offsite/offshore and there will be another IT vendor to provide onsite first-level support.

4.3. Interview Findings on Contract Management at AS Department

The interview findings in this section were collected by asking the respondents on the contract management questions in Section B of the Interview Guide.

4.3.1. Scope of Work for AMS Vendors

“Section B – Contract Management, Question 1: What is the scope of work defined in the AMS contracts?”

In Primo Airlines, the AMS vendors need to define processes to carryout AMS activities and also comply with Primo Airlines IT Security and audit requirements.

The basic scope of work required by the AMS vendors includes problem management, application minor enhancement handling, black box applications first level support and

application system performance management. The details on the AMS scope of work are as described below:

1. Problem Management

- Solve application problems within stipulated SLA.
- Implement feasible solutions for all problems reported.
- Support applications used in Singapore as well as those that are used at overseas stations.
- Support applications running on production, testing, disaster/recovery and training environments wherever applicable.
- Provide preventive maintenance to reduce number of problems and improve reliability, stability and availability of system.

2. Application Minor Enhancement Handling

- Undertake and implement enhancements in a timely and cost effective manner.
- Provide resources to handle a predefined fixed man-days worth of enhancements.
- Provide continuous improvement to enhance applications' availability and stability.
- Perform application compliance assessment and testing for infrastructure projects.
- Provide ramp-up resources at fixed rate to meet any additional unplanned enhancements.

3. Black Box Applications (First Level) Support

- Provide first level on-site support for black box applications that have been customized to the airline's requirement. The respective product vendor will provide second level support from offsite/offshore.

4. Application System Performance Management

- Work with infrastructure maintenance and support teams to resolve problems, apply patches, upgrade/replace technologies, installation, etc.

Besides the basic scope of work, the AMS vendors are also required to perform general servicing, which includes transition management where they are required to provide a transition methodology and costing model to take over AMS service for new applications from development vendors. They also need to maintain up-to-date documentation and a knowledge database of list of problems and solutions.

4.3.2. AMS Contract Clauses

At Primo Airlines, most of the AMS contracts with the vendors follow the airline's standard AMS agreements. The main contract areas are namely, AMS SLAs, service measurements and monitoring, termination and penalty clauses, financial payments and monitoring, dispute resolution and escalation procedures, and provision to adapt to changes in future. Interview findings for each area will be cover in the sections that follow.

4.3.2.1. SLAs for Problem and Application Enhancements Management

“Section B – Contract Management, Question 2: What are the SLAs for AMS vendors?”

The performances of the AMS vendors are monitored by their abilities to meet the SLAs for both problem and application enhancement management.

The AMS vendors are required to comply with Primo Airlines' problem management procedures. The airline has a call center to handle problems reported by end users and tracks all reported problem using the “Problem Management System”. When a user reports an application problem to the call center by a user, a problem ticket is created and assigned a ticket severity ranking from level 1 (highest severity) to level 4 (lowest severity). Next, the call center operator will inform the AMS vendor responsible for the application via email; the vendor will also be contacted by phone if it is a severity 1 or 2 ticket. Upon receiving the problem ticket, the AMS vendor will commence work to resolve it. Sometimes, the users will directly report problems to the AMS vendors and when this

happen, the AMS vendors should record these problems with the call center before they begin their investigations.

The AMS vendors are required to abide by the airline SLAs for problem management. Table 4-2 shows a severity table used by the airline to define the four severity levels and the related SLAs (expected problem response time and resolution time).

Table 4-2: Severity Table at Primo Airlines

Severity Level	Application		User Base		Impact to business & Operations		Accept workaround		Problem Response Time ¹		Problem Resolution Time ²
	Critical	Non-Critical	Widespread	Localized	Major	Minor	Yes	No	Office Hours	After Office Hours	
1	X		X		X			X	30 mins*	1 hour*	2 hours*
2		X	X		X			X	1 hour*	2 hours*	1 day*
3		X		X		X		X	6 hours*	Next working day*	5 days*
4		X		X		X	X		1 day*	Next working day*	10 days*

* Fictitious values for confidentiality.

1. Problem response time: Measured from the time a problem is reported, to the time vendor accepts to commence investigation.
2. Problem resolution time: Measured from the time a problem is reported, to the time resolution or an acceptable workaround is provided fix the problem.

Majority of the applications (approximately 90%) at Primo Airlines have the same SLAs for problem management except for some of the black box applications. The main reason as given by the AS senior manager is “... some of our black box applications have less stringent SLAs compared to our standard SLAs for white box applications because it usually cost more to get the third party vendors to conform to our SLAs. So, we will get business users to assess the business impact and decide if the less stringent SLAs proposed by the third party vendors are able to meet the business needs.”

Other than problem management, the AMS vendors are also required to perform minor application enhancements. They are required to follow the project management lifecycle (Four phases: Initiation, Planning, Execution and Closure) for all application enhancements. The AMS vendors are to ensure that 90% of the application enhancements are delivered on-time.

4.3.2.2. Service Measurements & Monitoring Procedures

“Section B - Contract Management, Question 3: How do you measure the services provided by AMS vendors and what are the monitoring procedures?”

The AMS vendors are required to produce vendor weekly report and vendor monthly report. The AS department will consolidate all the vendor monthly reports to in turn produce the AS monthly report which will be reported in the quarterly management meeting. The main categories of the reporting are performance (KPIs) reports and progress/status reports. The different types of reporting are illustrated in Table 4-3.

Table 4-3: Reporting Categories Available at AS Department

Report Category		Target Audience	Frequency	Format and Contents
Performance	Key Performance Indicators (KPIs)	Primo Airlines IT management & AS department	Monthly	At the AS department level, report all KPIs in 12 month trend <ul style="list-style-type: none"> • Target > 95% SLA compliance for vendors problems management • Target > 90% on-time delivery of AMS vendors • Target within 5% variance for planned budgets and resource
Progress /Status	Problems	AS department	Weekly	At the vendor level, report <ul style="list-style-type: none"> • Details of problems reported in the week • Progress update for unresolved problems
		AS department	Monthly	At the AS department level as well as vendor level, report <ul style="list-style-type: none"> • For each problem severity, <ul style="list-style-type: none"> ➢ number of problems reported ➢ number of problems resolved within SLA ➢ number of problems resolved out of SLA (i.e breached SLA) ➢ 12 month trend • For each problem resolution that breach SLA <ul style="list-style-type: none"> ➢ application name ➢ severity level ➢ reason for breach
	Application minor enhancements	AS department	Weekly	At the vendor level, report for each ongoing application minor enhancement, <ul style="list-style-type: none"> • enhancement name • planned & actual dates of enhancement schedule (enhancement start, development, testing & end dates) • enhancement status to date • budgeted cost, actual cost to date & estimate cost to completion
		AS department	Monthly	At the AS department level as well as vendor level, report in 12 month trend <ul style="list-style-type: none"> • Monthly number of minor enhancements delivered on schedule versus late delivery • Monthly number of minor enhancements in each category of newly received, in progress, delivered and dropped.

4.3.2.3. Rewards, Penalty and Termination Clauses

“Section B - Contract Management, Question 4: What are the rewards/penalties for performance/non-performance of AMS vendors? Question5: Is there early termination clause in the AMS outsourcing contract? If yes, please elaborate.”

There is no penalty if vendors to fail to deliver expectations, neither is there reward for delivery of outstanding service. However, there is early termination provision in all AMS contracts in case of poor performance by the vendors. According to the senior manager of the AS department, “Continuation of the services will not longer be desired if prolonged under performance occurred or when a failure is so significant and the probability of re-occurrence is so high.”

4.3.2.4. Financial Payments and Monitoring

“Section B - Contract Management, Question 6: How do you ensure proper charges and billing for services rendered by AMS vendors?”

Each AMS contract includes the base fee the airline will have to pay for the base services provided by the vendor. There will also be agreed price rates for new services out of the previously agreed services scope (e.g. additional volume of services), as well as the incremental fees payable for additional services above baseline (e.g., hourly, daily, weekly, monthly).

Problems are tracked using the “Incident Management System” as described earlier and minor application enhancements are tracked using the “Project Bulletin System”. After the implementation of each minor enhancement, a “SOW”, for “Statement of Work”, document will be prepared by the AMS vendor. The SOW is the source data used for billing and is periodically being audited by the airline’s Internal Audit department. Typically, each invoice is reviewed and endorsed by the AS group leaders and the manager respectively prior to payment.

The vendor also prepares a “Statement of Account” document to consolidate all the SOWs raised for the work done in the calendar year. This document is updated every month and sent to the AS senior manager and group leaders for review.

4.3.2.5. Dispute Resolution and Escalation Procedures

“Section B - Contract Management, Question 7: Is there any dispute resolution/escalation procedure? If yes, can you please tell me what are they?”

The AMS vendors are required to provide details of the support structure including escalation procedures to resolve conflicts and disputes and their internal processes for problem and change management. Primo Airlines has informal disputes resolution mechanisms to deal with day-to-day operational disputes. There is also formation of management committee to administer such dispute resolution mechanisms. This management committee consists of both the Primo Airlines and the vendor management representatives familiar with the outsourcing arrangement. As commented by the AS senior manager, “Inevitably, disputes will arise during the life of the contract. The intention behind these escalation procedures is to encourage resolution of more minor matters at a low level within the organizations. It will not look good for either party if a dispute about a particular charge under an invoice delivered by the vendor is referred to the VP for resolution.” In the event that the parties cannot resolve dispute through the internal escalation procedure, they would refer the matter to the courts.

4.3.2.6. Change of Key Vendor Personnel

“Section B - Contract Management, Question 8: To what extent is the company involve when there is a change of AMS key vendor representatives?”

Whenever there is a change of AMS key vendor representatives, e.g account managers and team leaders, etc, the vendors are expected to inform Primo Airlines in advanced and

provide the resumes of the new vendor representatives. The airline can also interview the vendor representatives upon request; usually the candidates are selected as a result of joint decision made between Primo Airlines and the vendor company. If required, the airline will also conduct interviews to select appropriate AMS team members to support applications (e.g online booking website) which are critical to business. The AS group leader in charge of the online booking website commented "... all the team members in the AMS team supporting our online booking website were interviewed by me and my manager to ensure their competencies."

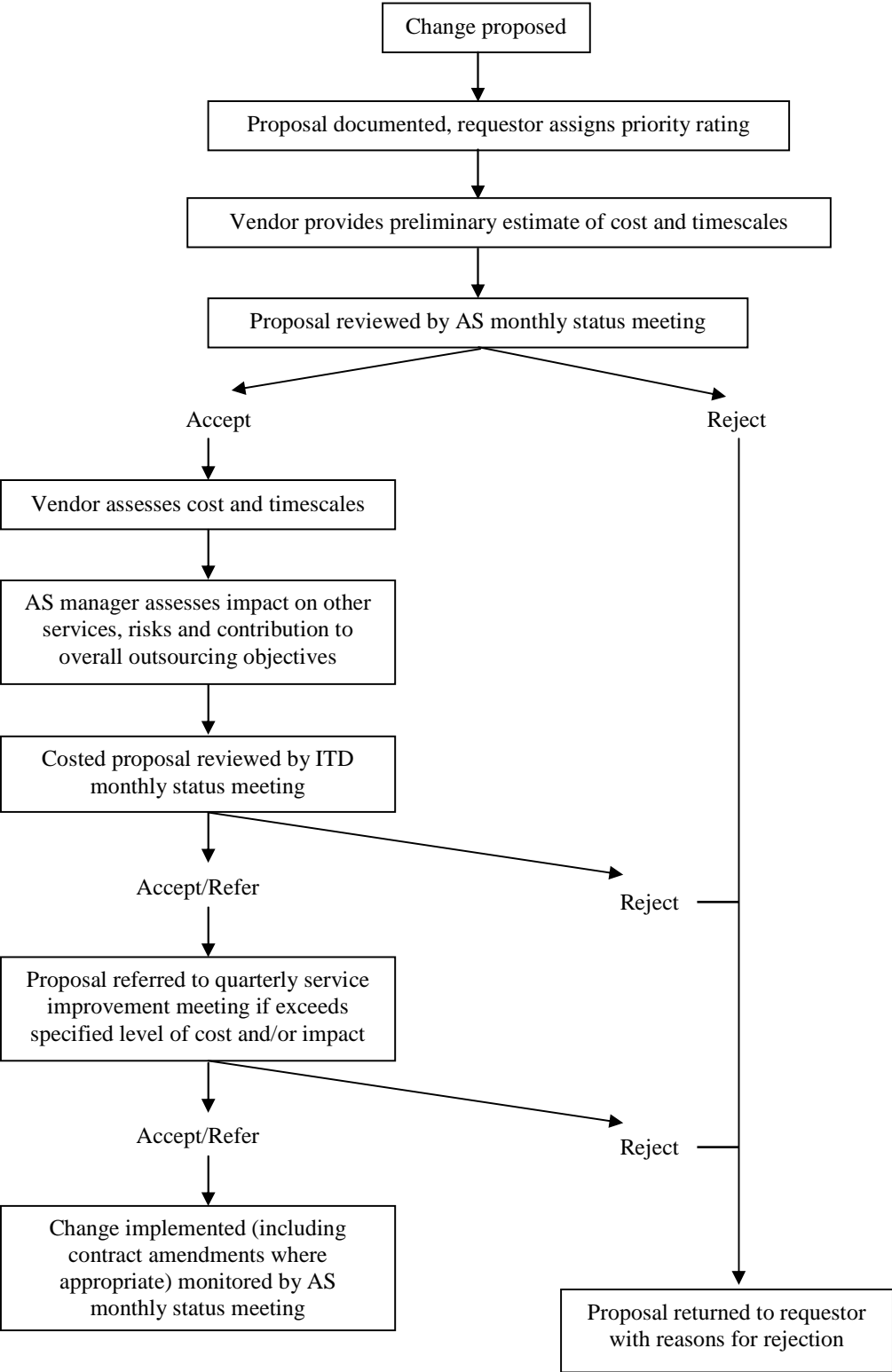
4.3.2.7. Change Control and Management

"Section B - Contract Management, Question 9: Is there flexibility in the AMS contract to adapt to changing circumstances in the future? If yes, please elaborate."

All outsourcing contracts include change control mechanisms to provide for service or technological requirement changes. "If major parts were to be changed, renegotiation or amendment of the contracts is needed." (AS senior manager). The change control process at Primo Airlines encompasses a set of procedures, which enable either the airline or vendor to propose a change and define where the change will be costed, how other impacts will be identified and where the decision will be made to accept or reject the proposed change. The process is illustrated in Figure 4-3.

The AS senior manager also commented that they control all changes to contract documentation using version control and change control procedures to ensure that no change are made without proper authorization.

Figure 4-3: Change Control Process at AS Department



4.4. Interview Findings on Relationship Management at AS Department

The relationship management questions in Section C of the Interview Guide were also posed to the interviewees. This section will cover the interview findings with regards to the relationship with the AMS vendors. The findings include the employees' perceptions of the relationships, the behaviours exhibited by vendors, the investment in the relationship and the communication aspects.

4.4.1. Respondents' Perceived Relationship with Vendors

“Section C – Relationship Management, Question 1: Please rate the relationship with AMS vendors, on a scale of 1(poor) to 5(excellent).”

The interviewees were asked to rate the relationship with the AMS vendors on a scale of 1(poor) to 5(excellent) and the result of the average score is 2.8.

4.4.2. Investment in Outsourcing Relationship

“Section C – Relationship Management, Question 2: Do you view the relationship with AMS vendors as a long-term investment or short term investment? Why?”

The VP of the AS department views the relationship with the AMS vendors as a long-term investment. However, mixed responses was given by the rest of the respondents – 6 viewed it as a long-term relationship, 4 considered it as short-term because the vendors are “simply performing their tour of duties” and there was 1 who even expressed it as a “medium-term” relationship.

The management puts efforts to meet up with the management of the AMS vendors on a quarterly basis. The interest to build the relationships is evident as the AMS vendors have offered to lower their service pricings in response to the global financial crisis which has

severely hit the airline; in return, the airline has offered suitable business opportunities to the vendors. The airline management also takes time off their busy schedules to accept vendors' invitations to visit their offsite/offshore offices. Likewise, the vendors also attend SITA conferences to keep themselves up-to-date with the fast changing airline industry.

The investment of time to understand the vendors' business, underlying drivers and motivations is found at the management level but not at the lower working levels. One software engineer expressed: "It is not necessary to know the vendors underlying drivers ... the motivation of vendor is to make a business out of the contract and maximize their profit with more enhancement work."

4.4.3. Trust, Commitment and Cooperation

"Section C – Relationship Management, Question 3: Do you think there are commitment, trust and cooperation in the relationship? Please elaborate."

The airline employees generally display ethical behaviour towards the vendors. This is supported by the AS Vice President's comment on the company core values: "Integrity is one of our company core values; we strive for fairness in all our business and working relationships."

4.4.3.1. Commitment

6 out of the 12 respondents (i.e. 50%) communicated that the AMS vendors are committed to the IT outsourcing relationship. One of the reasons cited for this mediocre response is because there are common incidents of unfulfilled promises. Examples given by respondents include failure to submit enhancement deliverables on time and failure to implement continuous improvement as promised, etc. There is also denial of individual responsibility from vendors by resorting to blaming. "A classic example of blaming is where the vendor blames the end user for wrong data entry and causing system error. But

the truth is that the error is because the data validation is done at the database level but not at the point of data capture at the application front-end” (AS group leader).

4.4.3.2. Trust

Only 2 out of the 12 respondents (i.e. 17%) expressed positive opinions in relation to the trust element in the relationship with their AMS vendors. The rest conveyed that as much as they would like to trust the vendors, they considered the vendors as “not trustworthy” because of past bad experiences. Some of the examples given were, “The enhancement solution proposals documented by the vendors don’t always fully address the business requirements.” (AS software engineer), “...we have cases where the vendors tested and verified the codes but we encountered errors when the program is deployed into production.” (AS senior software engineer) and “... we contracted another vendor company to takeover the support of an application from the incumbent vendor. The new contract pricing was partly based on the number of historical problem tickets. When the new vendor started on the support work, they realized that the actual number of problem tickets is higher and they have to ramp up their resources. After investigation, we found that the previous vendor didn’t log all problem tickets they received directly from users. Eventually due to the inaccurate information, we agreed to let the new vendor increase the AMS contract pricing.” (AS group leader).

4.4.3.3. Cooperation

With regards to the element of cooperation in the outsourcing relationship, 7 out of the 12 respondents (i.e. 58%) acknowledged that the AMS vendors are cooperative. They expressed that the vendors generally display their professionalism and “don’t resort to tricks” or “misplay”. However, they expressed that they would like to see more cooperation from the vendors so as to improve the level of customer satisfaction and to deliver more value to the company.

4.4.4. Feedbacks, Recognition & Conflicts Resolution

“Section C – Relationship Management, Question 4: Is there regular feedback and how is it being conveyed to the AMS vendors? How are conflicts with AMS vendors resolved?”

Feedback is communicated on a need basis informally, mostly when undesirable or pleasant event happens. Usually, this will result in sharing of suggestions for future improvements. Recognitions are given to the vendors when they have performed well, usually in the form of verbal praises or email communications to the vendors keeping the vendors’ bosses informed. Most of the time, conflicts are resolved at the working level. Rarely does the conflict need to be escalated to the management level.

4.4.5. Communication

“Section C – Relationship Management, Question 5: Is there frequent and open communication with AMS vendors? Do the parties provide early earning to one another?”

4.4.5.1. Modes and Frequency of Communication

The methods used by the AS department to communicate with their AMS vendors include emails, telephones and face-to-face meetings.

The AMS vendors send their status reports to the AS groups leaders on a weekly/monthly basis. Two out of the five AS groups conduct review meetings for all applications. The remaining three groups only hold review meetings for selected applications, which require more attention and provide the rest of their comments via emails. However, every respondent admitted that there are times when the scheduled review meetings did not happen and the most commonly cited reason is because of “too busy with other work”.

4.4.5.2. Lack of Early Warning

The AMS vendors will inform the AS teams for matters like leave plans changes and problem tickets, etc. However, 67% of the respondents commented that usually the information is not given adequately in advance to the AS teams. One of the AS group leaders cited: “The AMS vendors have a tendency to inform us only after problem tickets has breached the SLA. A more severe incident to show lack of early warning happened when one of our AMS vendors has planned for a new replacement for the onsite relationship manager but many of us got to know about it much later during one of those casual conversations.”

Occasionally, the AS department also do not give information in advance to the vendors, “Sometimes, we do not inform our vendors in advance when there are applications due for decommissioning. They would be able to plan their resources better if they were told earlier.” (AS group leader).

4.4.6. Reactive Behaviour

“Section C – Relationship Management, Question 6: Are the AMS vendors proactive?”

All the respondents expressed negative opinions in relation to this question. They viewed the AMS vendors as being reactive rather than proactive. This is exemplified by one AS group leader: “The vendors are ‘mechanical’; they think that being reactive is their job. ... There is this system problem that occurs every Monday without fail but the vendor will simply ‘fix’ the problem by rebooting the servers so as close the ticket. I have to repeatedly get the vendor to perform a thorough investigation so as to provide a permanent fix.”

4.4.7. Different Culture, Different Communication Styles

“Section C – Relationship Management, Question 7: Do you face difficulties when communicating to AMS vendor because of culture difference?”

Most of the employees working in the AS department are Singaporeans; however about 80% of the AMS vendors at Primo Airline are India nationals. The respondents expressed that there are culture differences at times, for instance a senior software engineer mentioned that “When it comes to disagreements, the vendors are more likely to display vagueness and lack of commitment... sometimes they claimed that they understand our instructions when actually they do not; in the end they make their own assumptions and mess things up.”

Chapter 5

Discussion of Findings

5. Discussion of Findings

Relating to the nine building blocks outsourcing lifecycle framework defined by Cullen et al (2005), this research focuses on the eighth building block - the post-contract management stage, which is essentially the starting point of 'working together'. The research takes the case study of the current post-contract management of the AMS outsourcing at the AS department of Primo Airlines. The objective is to identify the problematic areas and to provide recommendations to address these inadequacies. The previous chapter has described the findings collected by interviewing the employees from the AS department. This chapter will make use of the knowledge gained from the literature review and the proposed "AMS outsourcing framework for success" model in Chapter 2 to analyze the information gathered from the respondents and to present the research findings answering the research objectives.

The discussion in this chapter is organized as follows:

- Section 5.1 discuss about the core competencies of the employees and how Primo Airlines can apply the core capabilities framework as an evolutionary process.
- Section 5.2 to Section 5.3 discuss about the *formal controls* that are represented by the written legal agreements for the AMS outsourcing at Primo Airlines. The recommendations on how Primo Airlines should improve the formal controls are also discussed.
- Section 5.4 to Section 5.7 discuss the *informal controls* made up of unwritten and social exchange based activities used by the AMS outsourcing at Primo Airlines. Suggestions on how the airline can more effectively use these informal controls are proposed.

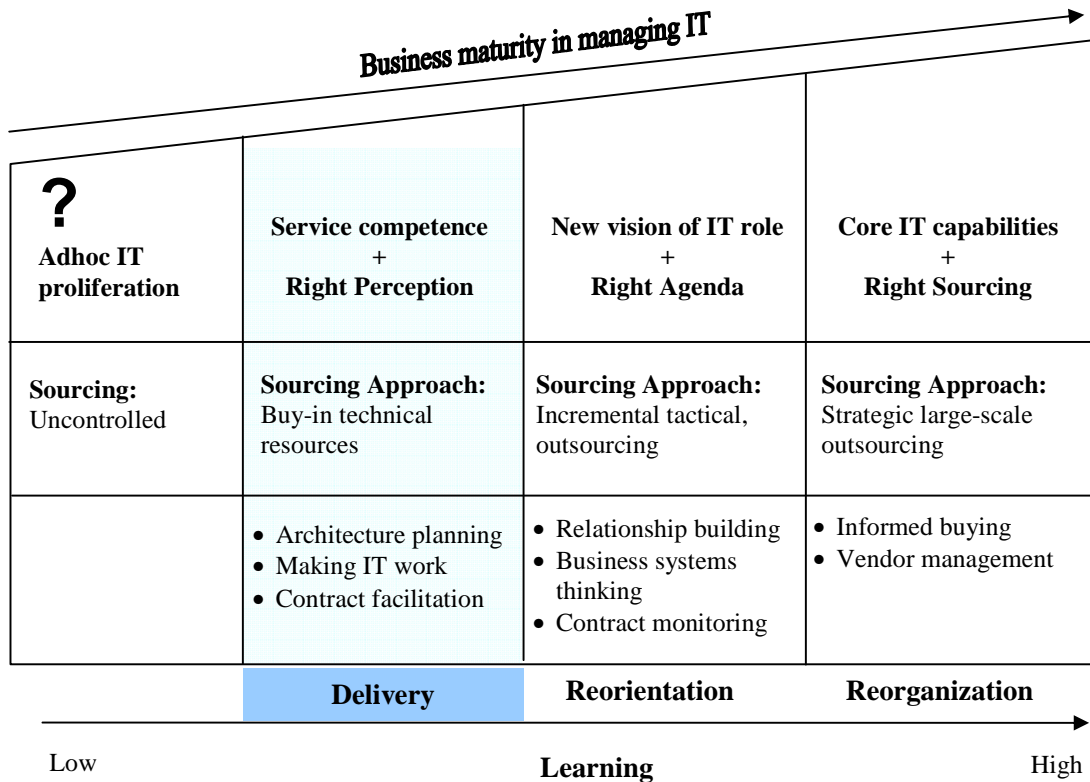
- Section 5.8 presents the discussion summary and management implications
- Section 5.9 covers the limitations of the study

5.1. Build Core IS Competencies

The Core IS capabilities framework model which is discussed in Chapter 2 is a robust way to model and template in-house management needs, identify gaps and develop action plans (Feeny and Willcocks, 1998). The nine roles of the core IS capabilities are complementary and interdependent.

Primo Airlines has evolved from an entirely in-house AMS model to the current outsourced AMS model. From the interview findings, Primo Airlines is considered to be at the **Delivery** phase (See Figure 5.1), where its main priority should be building up internal technical and service capability. The airline has mitigated its AMS outsourcing risk by retaining its employees to manage the AMS vendors, instead of transferring them to the service suppliers.

Figure 5-1: Growth Stages and Evolving Core IS Capabilities for the IT Function



Source: (Willcocks and Craig, 2007)

There are three important core competencies in the Delivery stage, namely, architecture planning and design, making technology and process work and contract facilitation. The outcome of the interviewees' self-assessment on the core competencies shows that architecture planning and design capability is weak with an average score of 2.2 out of 5. However, this weakness of the AS department is backed by the newly setup IT Architecture department which has a senior manager leading two senior software engineers. As the department is new, it will take time, perhaps six months or more, to produce the blueprint for the technical platform to serve the current and future business. The two other capabilities making technology and process work and contract facilitation

scored good average of 3.2 and 3.5 respectively as per the interviews. According to Willcocks and Craig (2007), problems will develop when any of the core IS capabilities are not suitably staffed. Hence, it is recommended that the IT Architecture department works towards building up the architecture planning and design capability, which it is lacks currently. Once that is completed, the airline can be considered to have accomplished and established the Delivery stage.

To achieve higher business maturity in managing IT, it is suggested that Primo Airlines progresses to the next phase, the **Reorientation** phase, after it has established the Delivery stage. In this phase, the airline will need to build up on the relationship building, business systems thinking and contract monitoring capabilities of the IT staff. The average score for each of these three capabilities are slightly lower than a good rating of 3, which means that the airline will have to put in more effort to develop these capabilities in their IT staff in order to leverage IT strategically for business purposes. At this stage, the airline should adopt selective outsourcing for a lower risk outsourcing approach.

Only with Delivery and Reorientation realized, the airline can then embark on **Reorganization**. Primo Airlines will need to focus and strengthen on building the lacking capabilities - both informed buy and vendor development capabilities have low average scores as observed from the respondents' self-assessment. Primo airlines should not attempt to do large-scale outsourcing unless it has moved its IT function and its business management practices well into the Reorganization phase where large-scale outsourcing will become less risky and strategic payoffs will become more likely. When in this stage, Primo Airlines should aim to value add to the business via its IT function - through its internal capabilities and also by leveraging the external IT services market. With IT and business strategy closely aligned, and business managers mature in their ability to leverage on IT for strategic purpose, many IT responsibilities can then be devolved to the business units; this was increasingly the case at DuPont and CBA (Reynolds and Willcocks, 2008). Only then can the IT function can complete its move to a high performing, core capabilities model.

5.2. Enhance AMS Scope of work

In Chapter 2, it was discussed that the ISO standard (ISO/IEC 14764) for application maintenance advocates that the timing of the change (proactive or reactive) and the goal of the change (correction or enhancement) divide software maintenance in four categories, namely preventive, perfective, corrective and adaptive.

From the interview findings, the main categories of the AMS scope of work at Primo Airlines include the below:

- Problem management
- Application minor enhancement handling
- Black box applications (first level) support
- Application system performance management
- General servicing (transition management and maintain up-to-date documentation and a knowledge database of list of problems and solutions)

An analysis of the airline's AMS scope of work using the ISO standard for software maintenance was done (See Table 5-1) with the main AMS activities at Primo Airlines organized into each of the four ISO categories.

Table 5-1: Summary of Assessment on AMS Scope of Work at AS Department

	Correction	Enhancement
Proactive	<p style="text-align: center;"><u>Preventive</u></p> <p><i>(✓ found in AMS scope of work at AS department)</i></p> <ul style="list-style-type: none"> • Provide preventive maintenance to reduce number of problems and improve reliability, stability and availability of system. • Provide continuous improvement to enhance applications' availability and stability. • Maintain up-to-date documentation and a knowledge database of list of problems and solutions. 	<p style="text-align: center;"><u>Perfective</u></p> <p><i>(✓ found in AMS scope of work at AS department but <u>needs improvement due to lack of Application Portfolio Management</u>)</i></p> <ul style="list-style-type: none"> • Undertake and implement enhancements in a timely and cost effective manner. • Provide resources to handle a predefined fixed man-days worth of enhancements • Provide ramp-up resources at fixed rate to meet any additional unplanned enhancements.
Reactive	<p style="text-align: center;"><u>Corrective</u></p> <p><i>(✓ found in AMS scope of work at AS department)</i></p> <ul style="list-style-type: none"> • Solve application problems within stipulated SLA. • Implement feasible solutions for all problems reported. • Provide first level on-site support for black box applications that have been customized to the airline's requirement. The respective product vendor will provide second level support from offsite/offshore 	<p style="text-align: center;"><u>Adaptive</u></p> <p><i>(✓ found in AMS scope of work at AS department)</i></p> <ul style="list-style-type: none"> • Perform application compliance assessment and testing for infrastructure projects. • Work with infrastructure maintenance and support teams to resolve problems, apply patches, upgrade/replace technologies, installation, etc.

The study found that the airline's AMS scope of work contains all four ISO standard software maintenance categories but the perfective maintenance category needs further improvement. This is because the existing perfective maintenance applies only at the

individual application level and does not include the whole Application Portfolio Management (APM).

APM is important because it develops fact-based application metrics to drive intelligent decisions and aligns application strategies to business strategies. According to Forrester Research (Murphy et al., 2004), a typical IT organization spends 73% of its human and capital resources maintaining an ever growing inventory of applications and supporting infrastructure. The practice of APM attempts to control these costs by identifying duplication and redundancy. According to the proponents of APM, business benefits can be achieved by removing this duplication and redundancy by retiring systems that were not necessary. Early APM practitioners have reported 10% to 30% reductions in maintenance costs and returns on project investments within 12 months.

It is inadequate for Primo Airlines to include only enhancements, which increase the functionality of an existing software system, as part of the perfective maintenance work. It is suggested that the airline keeps its strategic focus on smart management of application assets on an enterprise-wide basis. In order to achieve this, Primo Airlines needs to introduce APM to its perfective maintenance scope of work. The airline can begin by performing application mining and implementing a metrics program with key indicators based on function points, cost and productivity for the application portfolio as a whole. This would be used as a start for APM to enable more intelligent modernization decisions. The airline can also use the metrics developed in APM to streamline the portfolio, reduce effort and cost and increase IT's ability to innovate on behalf of the business.

5.3. Enhance AMS Contract Clauses

5.3.1. Service Levels for Problems and Application Enhancements Management

As discussed in Chapter 2, service levels are useful measures of ongoing performance. Hence, besides specifying the scope of work in the AMS contracts, it is also important to include the associated and required service levels. This helps to provide a means to create

a general commitment between partners from which desirable actions evolve (Williamson 1985).

In the interview, the respondents indicated that Primo Airlines has majority of its application i.e. 90% conforming to its standard SLAs. The airline also has a few black box applications with less stringent SLAs due to cost reasons but it ensures that all business requirements are met by the third party vendors.

The airline has done adequately in terms of defining the different severity levels of reported problems and setting service levels for problem response time and problem resolution time. However a minority of the black box applications has less stringent severity levels definitions, response times and resolution times, hence the AS department must be conscious of the various SLAs and not neglect these applications.

5.3.2. Improvement to Service Measurements & Monitoring Procedures

Once the service levels agreements and exchanges are specified, the next important control agenda as discussed in Chapter 2 is to monitor and ensure that the service objectives are met. From the interview findings in Chapter 4, it was revealed that all AMS vendors at Primo Airlines are required to generate and submit progress status reports regularly to update on problems and application minor enhancements. It is the responsibility of the group leaders and members to review and verify the submitted reports diligently to ensure that the information provided are accurate. With these reports provided, the AS department is able to monitor and assess if service objectives are achieved and performance targets are met.

5.3.2.1. Introduce Benchmarking

The abovementioned monitoring and assessment of performance is limited to the organization itself and is insufficient. One should make sure that vendor is innovative by

constantly initiating best practice and by investing in its plant, staff, and any other essential business functions (Milgate, 2000). Hence, Primo Airlines should also introduce a mechanism for benchmarking against other organizations in the industry to compare the service quality and value for money achieved through outsourcing standards and best practices. Without such a measurement technique, the Primo Airlines may become increasingly dependent on the vendor's judgment about reasonable service costs and miss out on new technological opportunities. The airline should also have provision in the AMS contract for negotiations based on benchmarking results.

5.3.2.2. Measure Customer Satisfaction

According to Kerns and Willcocks (2000), other than meeting service level targets, it is also important to attain customer satisfaction in an outsourcing arrangement. Therefore, it is recommended that Primo Airlines include a requirement to have the AMS vendors perform regular satisfaction surveys, with an obligation to improve survey results periodically. There should be a mechanism for measuring customer satisfaction in the AMS outsourcing contract and the airline should negotiate with the vendors on the content of the satisfaction surveys as well as the group of individuals to be surveyed.

5.3.3. Introduce Rewards and Penalty Clauses

Early termination clauses are important, as generally termination other than the expiry of the contract can result from changes in control of the vendor, offence, breach, insolvency or default. Early termination and penalty clauses are considered as contractual mechanisms designed to shift a significant part of the risk to the vendor. These kinds of risk sharing arrangements are gaining popularity as IT managers gain more experience with outsourcing (Jurison, 1995). Penalties and rewards are also vital as they encourage suppliers to deliver to expectations and, where desired, to deliver outstanding service (Cullen and Willcocks, 2003). The data collected from the interviews revealed that the

AMS contracts at Primo Airlines contain early termination clauses but do not contain either penalties or rewards.

5.3.3.1. Introduce Rewards

With rewards, Primo airlines should be able to enjoy the business benefit through increased levels of service delivered, but it is often difficult to measure the business benefit gained without a direct link to the actions of the supplier. Primo Airlines already has KPIs for SLA compliance for problem management and on-time enhancement delivery. Hence, in addition to these existing KPIs, Primo airlines should consider to include KPIs to achieve reduction of helpdesk calls, higher customer satisfaction ratings, etc. This is because in practice, rewards have worked best when target KPIs have been set for the few services that have value to the organization if the supplier exceeds minimum KPIs (Cullen and Willcocks, 2003). It is proposed that Primo Airlines award bonus payments and devise formulae that allow the vendors to share the benefits of service improvements.

5.3.3.2. Introduce Penalties

Beside rewards, Primo Airline should also revise the AMS contracts to include penalty clauses for substandard performance. Anecdotal evidence suggests that overly severe penalties are contrary to good performance. Also, it appears that a large number of small penalties are more likely to elicit desired improvements than a savage penalty that is seldom or never applied (Aalders, 2001). Hence, is vital for Primo Airlines management to be aware that day-to-day management of minor service lapses are probably best dealt with by a system of service credits, which can be paid as a fixed sum or treated as a rebate to charges.

It is essential that the Primo Airlines management recognizes that the goal of the penalties should never be to obtain the penalties, but rather to ensure that expectations are met. The

reverse is true of rewards, the purpose of which is to have the vendor to achieve and sustain them.

5.3.4. Good Dispute Resolution, Escalation Procedures and Change of Key Personnel Procedures

Based on the interview findings covered in Chapter 4, Primo Airlines certainly has proper dispute resolution and escalation procedures to resolve disputes. The airline will always attempt to resolve the disputes internally whenever possible before taking legal action. There is also involvement from the AS department when the vendor allocate new key personnel to handle the account. Hence, it can be concluded that Primo Airlines has the appropriate dispute resolution and escalation procedures in place and is also well involved when new key personnel from the vendor company are allocated and thus needs no further amendment at this point of time.

5.3.5. Good Financial Payments and Monitoring

According to the information given by respondents, the AMS contracts include description of the base charges and any additional charges for services delivered. The AS department also has procedures in place to verify and ensure proper charges and billings of the services rendered. With these in place, it can be concluded that the financial control dimension advocated by Kern and Willcocks (2000) has been properly included in the Primo Airlines' AMS outsourcing contracts.

5.3.6. Good Change Control and Management

The major rationale for creating flexible contracts is to recognize the fact that certain external factors not under the control of the contracting units may change (Fumas et al., 1979). As discussed in the literature review in Chapter 2, one of the critical success factors of IT outsourcing is to ensure that the agreement is sufficiently flexible to respond to

changes in the IT service requirements (Cullen et. al, 2001). From the interview findings, it can be concluded that Primo Airlines is able to cope with unforeseen changes as change control process are well-defined in all the AMS outsourcing contracts.

5.4. Increase Relationship Commitment, Trust and Cooperation

The interview findings from the respondents indicated that there was a lack of trust towards the AMS vendors. The commitment level exhibited by the vendors was only average with 58% of the respondents concurring that the vendors are cooperative.

Applying the literature review as discussed in Chapter 2, empirical work has demonstrated that relational contracting largely has been interlinked with *relational governance* (e.g. Poppo and Zenger, 2002), which in turn, has been represented by commitment, trust and cooperation. Also, it improves the performance of interorganizational exchanges in general (e.g. Zaheer et al., 1998) and IS outsourcing in particular (e.g. Choudhury and Sabherwal, 2003; Sabherwal, 1999). Hence, it is recommended that Primo Airlines improve on its level of commitment, trust and cooperation in the AMS outsourcing relationship.

In the literature review in Chapter 2, the association of SLAs with Trust and Commitment Building Model (Goo and Huang, 2008) was discussed. Applying this model, it is proposed that Primo Airlines uses **foundation characteristics, governance characteristics** and **change management characteristics** of the formal contract to positively influence the formation of commitment and trust building between the airline and the AMS vendors. An instant relationship is not possible overnight; trust is earned and relationships are built through performance gradually. According to Zaheer et al. (2003), relationships filled with trust are often valued as “the cornerstone of the strategic partnership,” and the parties involved are likely to commit themselves to such relationships. Once Primo Airlines has achieved commitment and trust in the AMS outsourcing relationship, it will be able enjoy qualitative relationship outcomes. When that happens, not only will there be cooperation, there will also be acquiescence,

relationship durability, harmonious conflict resolution and active information exchange in the AMS outsourcing arrangements.

The rest of this section will discuss how Primo Airlines can structure and improve the formal contractual characteristics as aforementioned to attain commitment and trust, which eventually lead to successful relational outcomes of AMS outsourcing.

1. Apply Foundation Characteristics to Improve Relationship Commitment and the Trust of Primo Airlines in AMS vendors

The foundation characteristic includes the element of Service Level Objectives, Process Ownership Plan and Service Level Contents (Goo, 2008).

- **Relationship Commitment**

Service Level Objectives and Process Ownership plan will allow Primo Airlines and the AMS vendors to share common expectations. According to the organizational commitment literature, when partners share values they will be more committed to their relationships (Gundlach et. al, 1995; Jap and Ganesan, 2000; Morgan and Hunt, 1994). Also, Service Level Contents will allow the parties to cooperate more effectively and for the AMS vendors to carry out services that the airline depends upon.

- **Trust**

Trust will emerge when outsourcing relationships are characterized by bilateral convergence of interests (Kumar et al., 1995). Hence, the identification of the process ownership and level of service to be delivered in the SLAs will help to formalize the roles and the responsibilities of the airline and the AMS vendors, which according to (Sabherwal, 999) will enhance trust in the outsourcing relationships.

With reference to the discussion in Section 5.3 on AMS Contract Clauses, Primo Airlines is well on track with regards to the foundation characteristics; except that as suggested earlier in section 5.3, it needs to improve on its service level contents to benchmark against the industry standards and to monitor customer satisfaction.

2. Apply Governance Characteristics to Improve Relationship Commitment and the Trust of Primo Airline in AMS vendors

The governance characteristics of SLAs aim to maintain relationships through a clear statement of the Performance Charter, Conflict Arbitration Plan, Enforcement Plan and Communication Plan (Goo, 2008).

- **Relationship Commitment**

SLA provisions underlying governance characteristics can build commitment in the IT outsourcing relationship. With Measurement Charter, Primo Airlines can set KPIs and assess if the AMS vendors are meeting the target performance and accomplishing stipulated terms in the SLA. It can reduce the uncertainty about behaviors and outcomes by providing formal rules and procedures to govern the relationship. With clear guidelines specifying the rights and obligations of the airline and the AMS vendors, the parties can improve coordination and also increase their level of commitment. Communication plan can help to provide information to foster confidence in the continuity of the relationship. Enforcement plan will require the airline and the AMS vendors to consider the legal and economic consequences of violating the terms in the AMS contracts. This will lead the parties to view the relationship as important and reinforce commitment (Jap and Ganesan, 2000).

- **Trust**

Trust in outsourcing relationships is largely associated with creating confidence of the service requestor in the service provider as a result of that party's ability to meet

the target performance and accomplish the stipulated terms in the SLA (Kern and Willcocks, 2002). Primo Airlines can employ the Enforcement Plan as “carrot and stick” to ensure that the AMS vendors satisfy the provisions in the SLA; at the same time, it helps to build up the airline’s trust in them. Additionally, a mutually agreed method of Conflict Arbitration Plan will bring about feelings of procedural justice between the parties. According to (Zaheer et al., 1998), these perceptions will encourage positive beliefs by suggesting that there can be harmonious outcomes to conflict resolution and tends to reduce the scope, intensity, and frequency of opportunistic behavior of the vendors, which, in turn, will lead to mutual trusting beliefs. Also, with communication processes to facilitate consistent knowledge exchange, it reinforces positive perceptions about the faithfulness of the AMS vendors (Deutsch , 1973).

From the interview findings, it can be concluded that Primo Airlines already has provisions in the AMS contracts for performance measurement, conflicts resolution and communication with the vendors. However, the interview findings revealed that Primo Airlines does not have a comprehensive Enforcement Plan – it only has exit policy but does not have reward and penalty. This links back to the proposal discussed earlier in Section 5.3 for the airline to enhance the AMS contracts to include reward and penalty to encourage AMS vendors to deliver to expectations and, where desired, to deliver outstanding service. To add on to these benefits, it is put forward here that implementing rewards and penalties will also positively influences the trust of the airlines in the AMS vendors.

3. Apply Change Management Characteristics to Improve the trust of Primo Airline in AMS vendors

The four contractual elements that underlie change management characteristics are Future Demand Management Plan, Anticipated Change Plan, Feedback Plan and Innovation Plan (Goo, 2008).

- **Trust**

With these change management characteristics serving as repositories for knowledge about how to govern future collaborations, the airline will be able to build trust in the vendors. This is because such open-ended provisions support a sense of situational normality with the implication that the AMS vendors in the contingent situation would still act normally and can be trusted.

From the interview findings, it is revealed that the AMS contracts at Primo Airlines have incorporated Future Demand Management Plan and Anticipated Change Plan but lacking in Feedback Plan and Innovation Plan. Thus, Primo Airlines should start to build up on its Feedback Plan by documenting the feedback process to provide the road map for efficient adjustments by identifying all affected areas and resources. Although continuous improvement is part of the AMS scope of work, the respondents expressed that 50% of the vendors failed to deliver. Hence, it is suggested that Primo Airlines synchronize the Innovation Plan with Enforcement Plans to identify the structure and processes for introducing new innovations.

5.5. Work on Values and Attitudes

The other negative findings from the interview described in Chapter 4 include the below:

- **Lack of early warnings**

Although there is collaborative and open communication found between the airline and the AMS vendors, 67% of the respondents commented that information is usually not exchanged well in advance.

- **Failure to execute regular review meetings**

Although the respondents schedule regular review meetings with the vendors, everyone confessed that sometimes the scheduled review meeting did not take place.

- **Short-term instead of long-term investment**

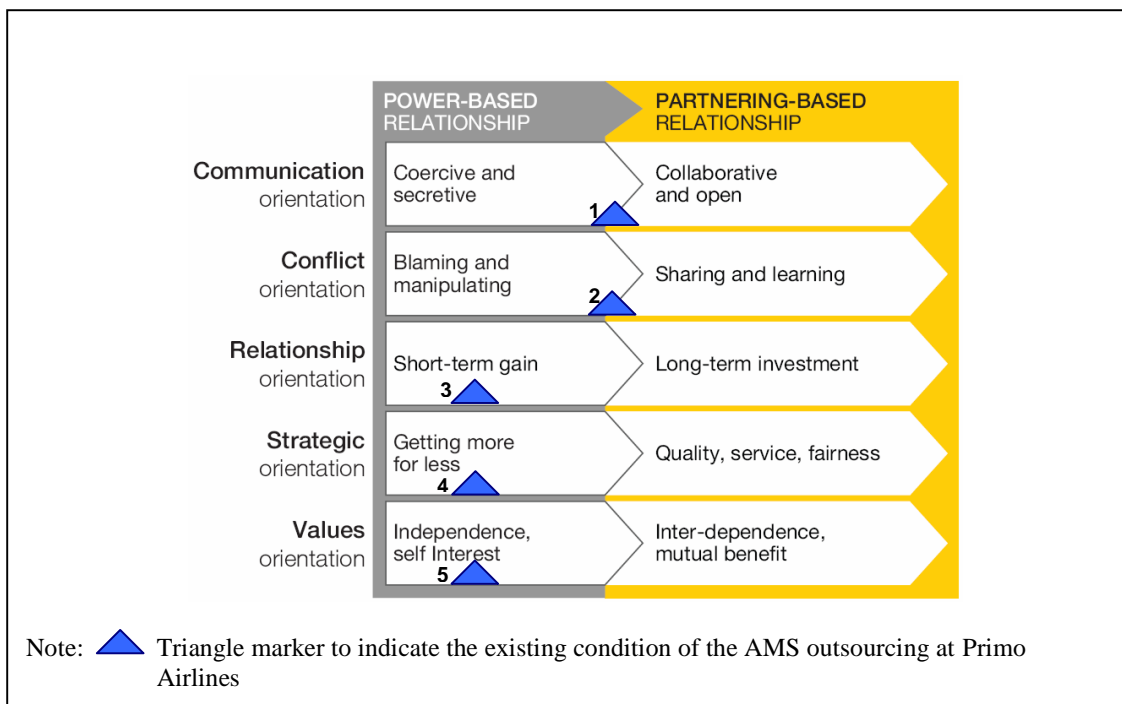
50% of the respondents do not view the relationship with the vendors as a long-term investment; they see it as a short-term investment.

- **Reactive rather than proactive behaviour**

All the respondents commented that the AMS vendors exhibit reactive rather than the expected proactive behaviour.

The power versus trust relationship discussed in Chapter 2 is reproduced in Figure 5.2. This time, findings from the interview are incorporated into the diagram - blue triangle markers are added to indicate the existing condition of the AMS outsourcing at Primo Airlines.

Figure 5-2: Managing in a Recession: Relationship Choices



As indicated by the Triangle 1 and 2 that lie in the middle of the two extremes, communication orientation and conflict orientation have been well-managed at Primo Airlines. However, the remaining orientations, namely relationship orientation, strategic orientation and value orientation as indicated by Triangle 3, 4 and 5 correspondingly were found to be more power-based. The rest of this section will discuss each of the orientation in details.

In the literature review in Chapter 2, it was discussed that power is a poor substitute for trust, given the high costs involved in monitoring and imposing sanctions, the negative orientations and behaviour adopted, and the limited goals that can be pursued by the parties involved in outsourcing. However, this is not to say power, especially the balance of power, is not important. For outsourcing relationship, organizations should strike a balance between the two extremes of a completely power-based relationship and one based solely on trust. Extremes of either are generally unacceptable to clients or suppliers and rarely sustainable over longer periods (Cullen and Willcocks, 2003). Studies have suggested that the power-based transactional type of contract and relationship – which many organizations will get sucked into during a recession – does not allow the organizations to go far (Willcocks and Craig, 2009). Outsourcing relationships where power is more equally distributed are much more successful for both sides than those in which one side dominates.

5.5.1. Communication Orientation

In the interview, respondents indicated that there are open communication and collaboration between Primo Airlines and the AMS vendors. This is favourable as knowledge transfer has the purpose of improving the competence of outsourcing customer and sourcing vendor (Sveiby, 2001). The airline should be conscious that there is room for improvement - to constantly ensure that important information is made available to one another in advance as 67% of the respondents commented about lack of early warnings from the vendors. The airline can also play their part by ensuring that relevant information

such as system decommission plan, are provided to the vendors in advance to allow better resource planning. It is proposed that the Primo Airlines discuss with its vendors how this can be achieved. Not only can this facilitate more efficient planning, it also allows problems or issues to be detected in advance.

5.5.2. Conflict Orientation

In terms of conflict orientation, it is established from interview findings that Primo Airlines has got well-defined conflict resolution procedures to manage conflicts and most of the time conflicts are resolved at the working level. Both Huber (1993) and Cross (1995) agree on the importance of defining and monitoring the structure and process for managing the outsourcing relationship on an ongoing basis. Hence, Primo Airlines should continue the constant monitoring of the processes involved in managing conflict and expectations.

5.5.3. Relationship Orientation

In the area of relationship orientation, during the interviews, mainly the airline employees who hold the position of assistant managers and above view the outsourcing relationship as long-term. Those who are of lower rank such as like the senior software engineers and the software engineers view it more of a short-term relationship. Kern and Willcocks (2002) find that IT outsourcing requires active management involvement beyond that most expect when organizations contract out. Typically, 70% of the client managers' time in post contract management is spent on managing relations. The airline management needs to be aware that a successful relationship requires substantial investment of time and effort by the involved parties at all levels. It is suggested that the airline makes effort to build at all levels fundamental understanding at all levels of each AMS vendor in order to establish key interpersonal relationships that will overcome the inevitable hurdles. This is because as advocated by Quinn (1999), outsourcing can be improved by establishing customer/vendor contact points at multiple levels throughout the relationship. Everyone at the airline needs to look beyond an existing contractual arrangement to explore long-term

relations with the vendors to create a win-win situation. The management's coordination of the vendor's work can induce the vendor's proactive collaboration resulting in better performance (Shi et al., 2005).

5.5.4. Strategic Orientation

As discussed in Chapter 2, organizations should not squeeze the suppliers' margin down to a threadbare level. The interview findings revealed that Primo Airlines maintains fairness towards vendors. There are also times when the airline will try to bring the AMS costs down as it thinks that the vendors are trying to get more revenue from the outsourced AMS work. The "Winner's Curse" can arise for a vendor and if vendors do not make margins, their miserable time in most cases translates into clients also having bad experiences. "Win-lose" for the client converts into "Lose-Lose" for both relatively quickly (Cullen and et. al, 2007, Kern and et al., 2002). Hence, Primo Airlines should not just focus on the costing; instead it should pay more attention to the quality of the services provided by the vendors. This includes monitoring emerging technologies, establishing and interpreting meaningful benchmarks, and structuring and coordinating tasks and activities between parties.

5.5.5. Value Orientation

Generally, organizations encountered undesirable situations occur where the client is motivated to squeeze the vendors for more resources and services without having to pay more, while the vendor is motivated to squeeze as much as profit margin as possible through contract add-ons and delivering only to service levels agreed (Willcocks and Cullen, 2005). As discussed in the literature review in Chapter 2, the client and the supplier are required to establish shared values, create mutual understanding and insights to build crucial interpersonal relationships.

From the interview findings, all respondents commented about the vendors exhibiting reactive behaviour rather than the expected proactive behaviour. Also, the vendors have a tendency to put the blame on the users when there are system problems. This results in a development of a sense of self-interest and a lack of interdependency on one another. As advocated by Quinn (1999), relationship building is required to ensure that customer and vendor goals and values are congruent. It is recommended that Primo Airlines develop interdependence and mutual benefits with the vendors. This can be achieved by putting in place mechanisms or processes that encourage partnering behaviour, such as introducing an incentive-based KPI rather than just penalties and allowing cost savings to be shared between the airline and the vendors, etc.

5.6. Overcome Cultural Differences

In the literature review in Chapter 2, the importance of culture fit in IT outsourcing is highlighted. According to the Price Waterhouse Coopers global outsourcing survey in 2007, 69% of all outsourcing deals fail completely or partially mainly because of the lack of cultural compatibility between the vendor and the client and poor relationship management (2008). Hence, corporate culture (the way business gets done in company, the values they share and the way people interact) and culture differences play a part in the success of outsourcing deals. National cultures can be described according to the analysis of Geert Hofstede (1980). The Hofstede Model of Cultural Dimensions is widely used for analyzing a country's culture. It contains four dimensions of culture: power distance, uncertainty avoidance, individualism and masculinity.

It was found from the interview that 80% of the vendors at Primo Airlines are from India nationality while most of the airlines employees in the AS department are Singaporeans. A comparison of the Hofstede cultural dimensions scores for Singapore and India is depicted in Table 5-2.

Table 5-2: Hofstede Cultural Dimensions Scores (India and Singapore)

Country	Power Distance	Uncertainty Avoidance	Individualism	Masculinity	Long-Term Orientation
Singapore	74	8	20	48	45
India	77	40	48	56	61

Description of Dimension:

- **Power distance:** (small vs large) The level of acceptance & tolerance for unequal distribution of power and the relationship which exists between those with power and those without
- **Uncertainty avoidance:** (high vs low) The extent to which people prefer to avoid risks and ambiguous situations and seek security and structure
- **Individualism:** (vs. collectivism) The tendency of people to see themselves primarily as Individuals vs. the tendency to perceive themselves primarily as members of the group
- **Masculinity:** (vs. femininity) The importance of masculine/"tough" values (e.g. achievement, assertiveness, success) vs. the importance of feminine/"tender" values (e.g., personal relationships, care for others, the quality of life, service)
- **Long-Term Orientation:** (vs. short-term orientation) The importance attached to the future versus the past and present. Values associated with long-term orientation are thrift and perseverance; values associated with short-term orientation are respect for tradition, fulfilling social obligations.

Source : <http://www.geert-hofstede.com>

Comparing the scores between Singapore and India, although they have almost the same power distance, Indians seems to have a much higher uncertainty avoidance, more individualism, have higher masculinity and are more long-term orientated as compared to Singaporeans.

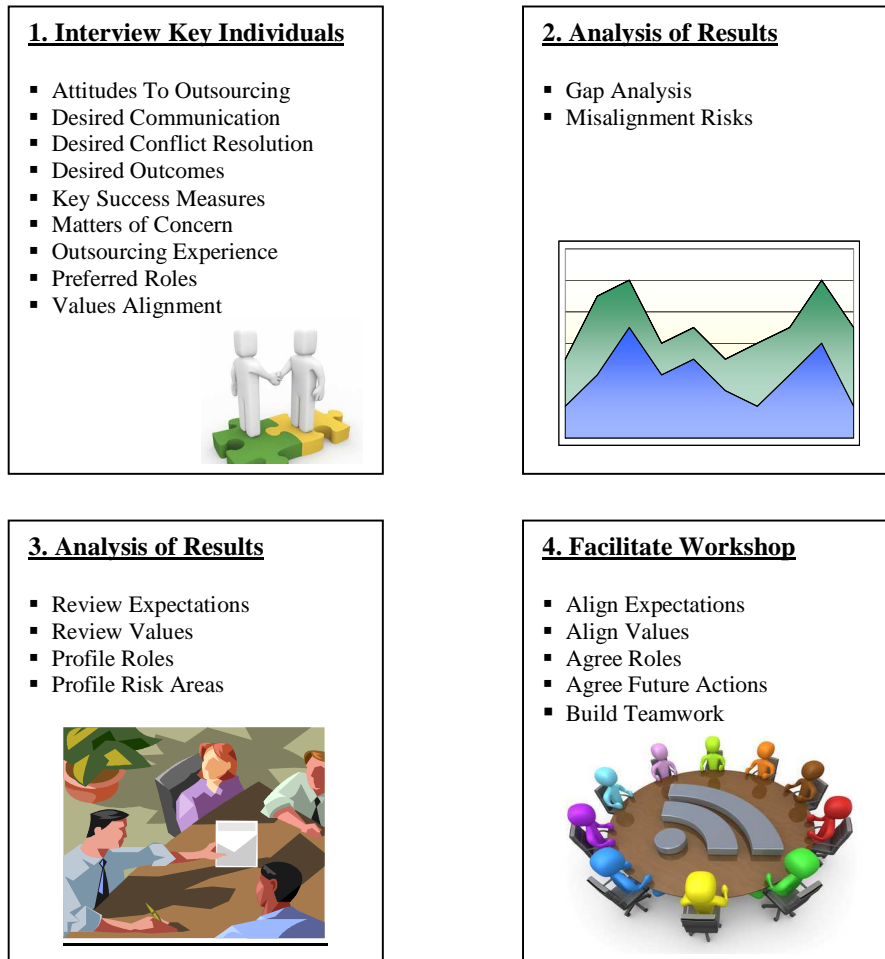
Not only is it crucial to find the right people to deliver the required work, it is also important to build capability within the team to work with in a culturally diverse environment. Hence, it is recommended that Primo Airlines put in place a training programme for the employees at the AS department on the different cultures of the AMS vendors. It should mandate everyone at AS department to attend its in-house courses e.g “Relationships at Work” and “Cross Cultural Awareness” to promote the importance of relationship and culture awareness at work. The airline can also develop systematic on-the-job cross cultural training to reflect on ongoing experience and to share knowledge within the employees.

Also, since the business culture of each organization is different, it is important for Primo Airlines to also educate the vendors about its company’s culture - the attitudes, thought patterns and behavior norms. Likewise, it should encourage its vendors to do the same to share their organizations’ culture.

5.7. Perform a Gap Analysis on the AMS Outsourcing Relationship

A values gap analysis has proven useful in the past where the success of relationship was the key to the success of the entire arrangement (Cullen and Willcocks, 2003). Hence, it is recommended that Primo Airline form a task force team to perform a gap analysis on the AMS outsourcing relationship. The main stages of the gap analysis are as shown in Figure 5-3.

Figure 5-3: Gap Analysis Process



Source: (Cullen and Willcocks, 2003)

5.8. Discussion Summary and Implications to Management

In summary, this chapter has applied the proposed “AMS outsourcing framework for success” model derived in Chapter 2 to analyze the post-contract management of the AMS outsourcing at Primo Airlines. The below summarizes the recommendations to improve the AMS outsourcing arrangement at Primo Airlines

1. Develop a long-term strategic focus on IS core competencies

Primo Airlines is in the Delivery stage of the growing stages and is well-equipped with contract facilitation and IT work competencies. This study proposes that the airline's IT Architecture department strengthens on architecture planning and design capability, which it lacks now, to establish the Delivery stage. The airline can develop to apply the core capabilities framework as an evolutionary process – with Delivery stage first, followed by Reorientation stage then Reorganization stage.

2. Include application portfolio management (APM) in AMS scope of work

The AMS scope of work at Primo Airlines covers all the activities, except for APM, listed in the ISO standard for software maintenance. The airline needs to introduce APM into the AMS scope of work to keep its strategic focus on smart management of application assets on an enterprise-wide basis.

3. Monitor service level contents diligently and introduce mechanisms for benchmarking and to measure customer satisfaction

The AS department should diligently monitor and assess if service objectives are achieved and performance targets are met by the AMS vendors. The airline should introduce a mechanism to benchmark against others in the industry to compare the service quality and value for money achieved through outsourcing standards and best practice. It should also set up a mechanism to measure customer satisfaction.

4. Add rewards and penalties into the AMS contracts

It is recommended to award bonus payments and devise formulae that allow the vendors to share the benefits of service improvements. Correspondingly, there should be penalty clauses for substandard performance, with minor service lapses dealt by a system of service credits. However, the management should recognize that the objective of the penalties is never to actually obtain the penalties, but rather to ensure that minimum expectations are met. The reverse is true of rewards, which is to encourage the vendor to deliver to expectations and, where desired, to deliver outstanding service.

5. Keep up the good dispute resolution procedures, financial control and change control

Primo Airlines has good dispute resolution and escalation procedures to resolve any disputes. It also has procedures to verify and ensure proper charges and billings of the services rendered. Furthermore, the airline has well-defined change control processes in all the AMS contracts, which make the contracts flexible to adapt to changing circumstances in the future. The airline should continue with these good practices.

6. Increase relationship commitment and trust for qualitative relationship outcomes

It is suggested that Primo Airlines uses foundation characteristics, governance characteristics and change management characteristics of the formal contract to positively influence the formation of commitment and trust building between the airline and the AMS vendors. With commitment and trust achieved in the relationship, comes a qualitative relationship consisting of cooperation, acquiescence, relationship durability, harmonious conflict resolution and active information exchange with the vendors.

7. Strike a balance between 2 extremes of a completely power-based relationship and one based solely on trust

Studies have shown that organizations tend to get sucked into power-based type of relationship during a recession. However, outsourcing relationships where power is more equally distributed are more successful than those which are dominated by power or one based solely on trust. Hence it is recommended that Primo Airlines strike a balance between the two extremes with the below recommendations:

- a) Improve on communication orientation to ensure information is exchanged in advance
- b) Maintain the airline's good conflict orientation practices..

- c) Instill, as part of relationship orientation, a long-term relationship mindset to all parties and encourage investment of time by the both management and the working level to create win-win.
- d) Work on strategic orientation to focus not just on costing but also on the quality of the services rendered by vendors because “Winner Curse” for the vendor can translate to bad experiences for the clients.
- e) Ensure that the airline and vendors goals and values are congruent in the outsourcing relationship for values orientations.

8. Manage the cultural gap

Primo Airlines should manage the cultural differences, at the corporate level as well as the individual level, with their outsourcing vendors. It is suggested that the airlines educate its own employees sending them to the relevant training programs to promote the importance of relationship and culture awareness at work. Concurrently, it should also request the vendors to perform similar trainings in efforts to bridge the cultural gap.

9. Perform gap analysis on AMS outsourcing relationship

It is proposed that Primo Airlines form a task force team to perform a gap analysis on the AMS outsourcing relationship as studies have show that a successful relationship is one of the key factors to a successful outsourcing arrangement.

Managing the risks factors of failure can help to prevent disappointment however, organizations also need to pro-actively handle and focus on the critical success factors to achieve IT outsourcing success. With the recommendations aforementioned, Primo Airlines is able to meet the eleven critical success factors (delivery performance, good management, strong relationships, staff management, cost management, understand the customer, use SLAs, maintain control, be flexible, communicate and technical expertise) as discussed in the literature review in Chapter 2. In addition, the airline management must be aware of not just the benefits of outsourcing, but also the risks that come with it. Both risk assessment and risk management are important contributing factors to successful IT

outsourcing. This is because of significant risks such as escalating costs, diminishing service levels, and loss of expertise if risks are not managed effectively. Primo Airlines can use the proposed “AMS outsourcing framework for success” and review periodically the health of its AMS outsourcing to ensure a successful AMS outsourcing deal.

5.9. Research Contribution

This study has drawn upon extant theories and models from the IS field to develop a framework called “AMS outsourcing framework for success” model. Applying this framework on a case analysis of an AMS outsourcing in an airline company, this study has provided recommendations to Primo Airlines on how it can leverage on AMS outsourcing to generate outputs for the company.

AMS outsourcing has been a neglected area of IT outsourcing by IT researchers. Hence, another contribution of this study is to fill in this gap in the IT outsourcing field. This would be beneficial as the growing phenomenon of AMS outsourcing has triggered the interest of many companies to gain knowledge on how to achieve successful AMS outsourcing.

In the past, researchers have studied the IT outsourcing theories and models in isolation. A different approach is adopted in this study – it has attempted to assemble all the relevant extant theories and models to create an “AMS outsourcing framework for success” to examine post-contract management of AMS outsourcing. A case analysis was conducted using the proposed conceptual framework containing the identified models and theories - core IS capabilities framework, AMS core activities, critical ITO success factors, ITO risks, formal controls driven by written contracts, relational governance and the mediators comprising of commitment and trust. The result of the study is that the framework is tested and proven to help in the realization of a successful AMS outsourcing deal. Practitioners no longer need to source all over for the applicable theories and models required for successful AMS outsourcing. This “AMS outsourcing

framework for success” has consolidated the important ones which can help to guide companies to appropriately manage AMS outsourcing.

In addition, the framework in this study has provided a foundation for the study of management of AMS outsourcing from the client perspective. Future study could take it further by incorporating the supplier (i.e vendor) perspective. Also, future study could use the framework developed in this study as a basis to explore the other types of IT activities (e.g application development, infrastructure, etc) that are or could be the object of outsourcing.

5.9.1. Limitations of this Study

Like any study, this work has some limitations that future research may wish to address. First, due to time constraint, a moderately small sample of size of 12 respondents was interviewed. The approach used in this case study was to appoint and interview two team members from each of the 5 AS teams who act as the spokespersons for their own team in the AS department and also to interview the VP and senior manager of the department. If time permits, a larger sample size, with more members from each team, could be used so as to have more extensive findings. Second, the case study took the perspective of the client in a post-contract management outsourcing. However, outsourcing deals involve the service requester and service provider. If time permits, future study could also get the client to take into consideration the perspective of the AMS vendors.

Chapter 6

Conclusion

6. Conclusion

It is likely that the global economic recession will deepen and only pick up around early 2011. The recent Gartner report has revealed that many outsourcing clients are re-evaluating their contracts to improve efficiency and costs to weather the recent global economic storm. Over the years, there have been several academic articles dedicated to outsourcing but most of them dealt with IT outsourcing in general. This research aimed to fill the gap by focusing on a less explored scope of IT activity outsourced - application maintenance and support (AMS). It is during the management of this phase of the ITO lifecycle that success is ultimately determined. This study has taken the perspective of the client (service requestor) and has provided to the management, insights on the post-contract management of AMS outsourcing.

This dissertation takes the case of an existing AMS outsourcing at Primo Airlines that commenced in 2000 but has no formal review performed on this outsourcing since then. The aim is to identify the problems and shortcomings of this AMS outsourcing and offer recommendations to address them so as to attain a successful AMS outsourcing.

With the review performed in this study on past research and case studies in the IT outsourcing field, thirteen key lessons in the post-contract management phase to achieve successful AMS outsourcing was concluded. Using these key lessons, the “AMS outsourcing framework for success” is constructed, which is then applied to the AMS outsourcing at Primo Airlines. With the interview information collected from the airline employees, an analysis was done and recommendations were provided to address the problems and to improve the current state of the outsourcing.

The “AMS outsourcing framework for success” illustrates that AMS is in the operate phase of the ITO lifecycle. It also highlights the seven important areas that the client needs to focus on for a successful AMS outsourcing outcome - nine core IS capabilities framework, AMS core activities, critical ITO success factors, ITO risks, formal controls driven by written contracts, relational governance and mediators consisting of commitment and trust.

In summary, the contribution of this study is two-fold. First, it examines the existing post-contractual management of AMS outsourcing at Primo Airlines and offered suggestions to improve it by applying the constructed “AMS outsourcing framework for success”. The airline management should take the action now to improve the AMS outsourcing and from then on, conduct periodic reviews to keep the AMS outsourcing in check. Second, this study suggests that the framework is also applicable to any organization that wants to accomplish a successful AMS outsourcing.

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