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Maximizing Benefits in Information Technology Outsourcing

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ABSTRACT

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Information Technology (IT) outsourcing has traditionally been seen as a means to acquire new resources and competencies to perform standard tasks at lowered cost. This dissertation challenges the thought that outsourcing should be limited to non-strategic systems and components, and presents ways to maximize outsourcing enabled benefits while minimizing associated risks.

In this dissertation IT outsourcing is approached as an efficiency improvement and value-creation process rather than a sourcing decision. The study focuses on when and how to outsource information technology, and presents a new set of critical success factors for outsourcing project management. In a case study it re-validates the theory-based proposition that in certain cases and situations it is beneficial to partly outsource also strategic IT systems.

The main contribution of this dissertation is the validation of proposal that in companies where the level of IT competency is high, managerial support established and planning processes well-defined, it is possible to safely outsource also business critical IT systems. A model describing the critical success factors in such cases is presented based on existing knowledge on the field and the results of empirical study. This model further highlights the essence of aligning IT and business strategies, assuming long-term focus on partnering, and the overall target of outsourcing to add to the strengths of the company rather than eliminating weaknesses.

Key words: IT Outsourcing, IT Management, IT Strategy, IT Value Add
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Helsinki, April 15th, 2007 Petra Turkama

CONTENTS

THE LIST OF ABBREVIATIONS

BPO	Business Process Outsourcing
E-commerce	Electronic commerce
IT	Information Technology
ITO	Information Technology Outsourcing
MIS	Management Information System
NPV	Net Present Value
ROA	Real Options Analysis
ROI	Return On Investment
SLA	Service Level Agreement

DEFINITIONS

Adaptive Infrastructure: Modular information technology system consisting of reusable components, patterns and services, enabling easy introduction of new business initiatives while continuing to improve ongoing initiatives (Robertson & Sribar, 2002).

Data Warehousing: A strategy in which data is extracted from large transactional databases and other sources and stored in smaller databases to ease analysis (Robertson & Sribar, 2002).

Infrastructure: The underlying structure of physical hardware, components and services used to support a wide range of human activity from transportation of power to distribution of computing (Robertson & Sribar, 2002).

Interaction cost (transaction cost): Represents the money and time expended whenever people and companies exchange goods, services and ideas. It determines how companies organize themselves and form relationships with others (Hagel & Singer, 2003).

IT infrastructure: The basic conditions required for an organization's work to proceed. Information technology infrastructure enables organizations to share information, conduct transactions and control their operations (Robertson & Sribar, 2002).

IT Outsourcing: Third party management of IT assets, people and/ or activities required to meet pre-specified performance levels (Lacity & Hirchheim, 1995).

Outsourcing: The strategic use of outside resources to perform activities traditionally handled by internal staff and resources (Outsourcing Institute of Jerico, USA 2001).

Platform: An organizational concept that refers to grouping of individual component technologies into technical layers or domains to provide a base infrastructure for common technologies (Robertson & Sribar, 2002).

Selective sourcing: Making use of third party vendors for certain IT functions which represent between 20 and 60 per cent of the IT budget while still retailing substantial internal IT department (Laudon, 2000).

1. DEFINING THE RESEARCH PROBLEM

1.1. Introduction

In today's markets competitive advantage is realized by combining technology with company specific resources, competences and tacit knowledge (Ramirez & Wallin, 2000). As advanced information technology solutions are becoming industry standards, planning focus is shifting increasingly toward new business and profit models, adaptive organizational structures and management concepts (Dekker, 2003). Since the early 1980's, outsourcing has been seen as an effective way to achieve this organizational flexibility and agility.

Information technology outsourcing projects are typically profusely cost-driven, even so much so, that the strong emphasis on costs savings sometimes leads to investment decisions that do not fully support business continuity. Furthermore, companies typically have also other targets in outsourcing, so the question remains:

Research problem*: How to maximize benefits in IT outsourcing?*

The question addresses the planning and management processes that need to be sub-optimized in order for IT systems to fulfill the strategic goal of adding net value to the company at the optimized cost. It also relates closely to partner selection and control.

Outsourcing as a means to help company achieve its' overall business objectives and make strategic transitions remains a less studied area. Some critics even argue that outsourcing cannot add value to a company, and thus should be a solution only for companies with no IT related strategic incentives (Rapp, 2000). However, also companies that use IT strategically (as an integral part of their core products and services) outsource. This brings the research problem to the next level:

Research question 1: *How to determine which outsourcing model works best in the company's specific situation?*

This question addresses companies' specific targets in outsourcing, as well as their organizational readiness to engage in advanced outsourcing models and agreements.

These days IT investments represent a major part of all new capital investments made by multinational corporations (Goolsby, 2003). However, a sound approach to measuring the systems' overall bottom line contribution in business terms has been missing in several

companies, or when implemented, has been controversial and unreliable (Kambil, Henderson & Mohsenzadeh, 1991). Therefore we ask:

Research question 2: *How can an IT investment's business impact and baseline savings be reliably measured and controlled in outsourcing?*

1.2 Previous Research on the field

A significant amount of research has been published on information technology outsourcing (ITO) following the popularity of the phenomena. Transaction cost theory (Willamson, 1975) is the most often presented rational for outsourcing. IT outsourcing has also been considered as a process of restructuring organization and resourcing (Yakhlef, 1996; Foucault, 1972), as well as an administrative innovation (Loh & Venkatraman, 1992). Academic literature on make-or-buy (or co-operate or compete) problematic developed most resurgently in the 1980's, and was based on the competing theories of transaction cost economists (Williamson,1975; Coase, 1937; Dyer, 1997) and those with a resource-based view on the firm (Penrose, 1959; Wernerfelt, 1984). Later also core competence models (e.g. Barney, 1991), networking theories (Dyer & Singh, 1998) and value chain analysis (Porter, 1985) have been associated with ITO research. The most recent research associates outsourcing with the emergence of new types of hybrid and borderless organizational models and assimilation of industries (Clark, 2003).

The societal nature of IT systems is highlighted in the works of Hirscheim, Klein and Newman (1991), who extended social action theories from Weber (1974), Etzioni (1967) and Habermas (1976) to technology research. In business or company level the phenomena can be considered as an administrative innovation or a natural development step in resource optimizing process (Carr, 2001). In industry level outsourcing can be linked to wider discussions on industry level networking and digital convergence (Mol, 2001). Other popular research approaches include post project analysis on critical success factors, partner management and knowledge creation (Lacity & Hirschheim 1994). This plethora of approaches emphasize IT's multi-disciplinary nature, as well as the wide-ranging social, economical and structural impacts IT outsourcing has had on global economy.

Regardless of the approach, most research on IT outsourcing strives to identify the determinants, motives and intentions for outsourcing (Laudon, 2000). Information technology outsourcing is extensively documented in trade periodicals and other applied literature, but there is still little systematic multi-disciplinary research linking the drivers, critical success factors and

impacts of outsourcing on company's competitiveness and future potential (Willcocks, L; Sauer, C., 2000).

1.3 Scope and Limitations of the Study

The research interest in this dissertation is mainly in understanding the critical success factors in different types of outsourcing cases. It examines the process of sharing current and future business needs and knowledge within organizations and their partners, and the use of this information to manage limited resources for an optimal result. The study considers outsourcing as a strategy to increase company's future value, and examines IT management and planning processes that would ensure that IT systems have the ability to accommodate business operations even through rapid changes in direction and priorities.

The study builds on the assumption that the use of advanced IT services is a pre-requisite for professional business operations in contemporary companies. Rather than examining "make-or-buy" problematic, this dissertation focuses on how to ensure that a company has selected the optimal outsourcing model for their specific environment, and maximize thus enabled benefits and savings. While addressing various IT management and resourcing theories, the main emphasis is on factors contributing to the company's future competitiveness.

Studies on manufacturing or production outsourcing are not included in this study, as IT service environment is different to such degree that theories from those fields of business cannot be fully extended to it (Malone & Crowston, 2001). Also, out of scope is the technical analysis of IT systems and speculations about replacing future technologies.

2. RESEARCH APPROACH

The dissertation seeks to better understand the studied phenomena through theoretical presumptions, and present a process-oriented representation of the findings. Company operations are studied from inside-out, and described based on the Authors' interpretations of the available data. Consequently, this research effort would best be described as constructive and hermeneutic (Alasuutari, 1999). Active interviews were used as the principal data gathering technique, so the Authors own opinions and targets clearly influenced the outcome of the process.

2.1 Research Design

In order to answer the research questions, the following steps were taken:

a) Definition of the research problem. The problematic behind the research questions was defined and background for the research topic presented together with its' linkages to wider discussion on outsourcing as a discourse.

b) Literature review. Relevant literature was reviewed and the most relevant parts are collected in Chapter 3 as a background for identified management and control problems when the level of contractual commitment in outsourcing increases.

c) Proposition Development. Based on the existing theories and the Authors' personal observations, propositions addressing critical success factors in IT outsourcing were created.

d) Empirical Enquiry. The research propositions were validated with three case companies. Personal interviews, questionnaires and data reviews were transcribed in order to identify the incidents relevant to this study.

e) Analysis of the empirical findings. The findings were exposed to cross-case analysis and compared to pre-understanding so as to look for analogical features and re-validate the theory based propositions. This further explains differences between the respective case companies and helped in creating the proposed model for critical success factors in outsourcing.

f) Creation of a model for critical success factors in value adding outsourcing. The model reflects the created propositions and presents the findings of the analysis.

g) Summary and conclusions. The last chapter concludes the findings with a discussion on their credibility and potential replica in another context. It highlights the main contribution of the dissertation as well as its' practical and theoretical implications, and suggests areas for future research.

Figure 1. Below describes these steps in a flow chart.

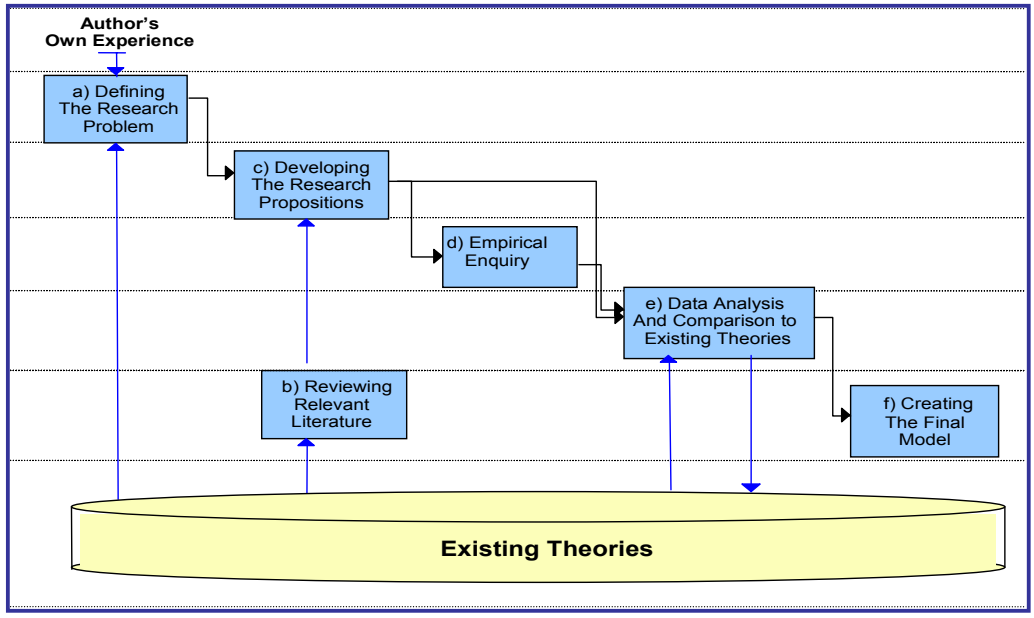

Figure 1. The Structure of the Dissertation

2.2 Research Method

As the target in this dissertation is to develop a model describing how to effectively manage knowledge and resources in IT outsourcing projects, constructive research method seemed the most appropriate for the situation. Furthermore, as the Author assumed an active role in the data collection phase, this method emphasizing the importance of communication between the researcher and the target organization was considered a good fit for the study (Olkkonen, 1993).

The practical functionality and theoretical novelty of the developed model was validated with an empirical market test typical for constructive research (Kasanen, Lukka & Siitonen, 1993). The process was hermeneutic seeking to accurately interpret unclear parts of the studied phenomena and compare the findings to prevailing theories. Identified analogies would then further prove the practical utility and relevance of the findings (Kasanen, E., K. Lukka and A. Siitonen, 1993). The theoretical contribution in this research effort lays in the re-validation of existing IT management theories.

The high-level process of constructive research is described in Figure 2. The diagram highlights the dual criteria for the created solution: its' practical and epistemic utilities.

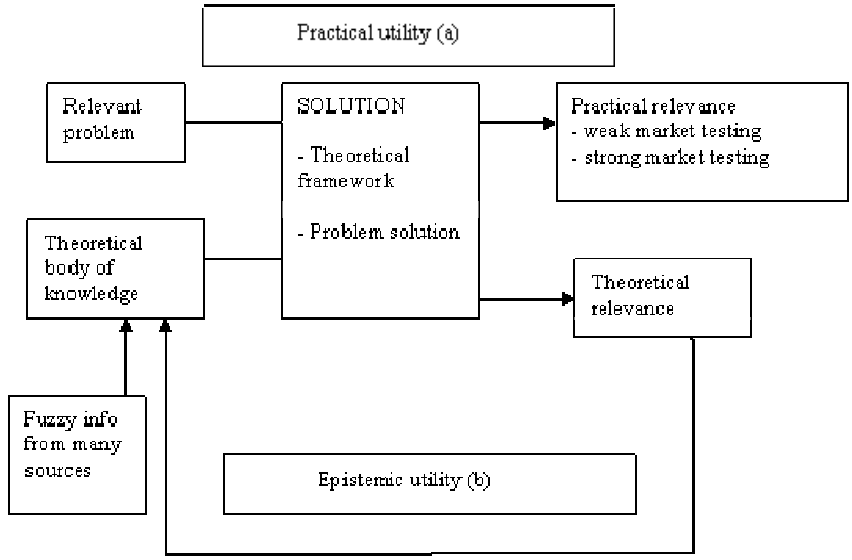

Figure 2. Constructive research diagram (Constantinescu, 2005)

Critics of the method argue that it cannot offer grounds for establishing credibility and generalization of the findings. Those with positivistic view to science also question the scientific value of hermeneutic research where the role of a researcher is participatory (Kasanen, E., K. Lukka and A. Siitonen, 1993). In this research effort these challenges are tackled by selecting representative real-life cases and limiting the scope of the study to a few aspects of IT management. The use of several case companies enables cross-case examination and triangulation that further explains the differences between chosen outsourcing strategies and helps in evaluating the novelty of the implemented ideas. Furthermore, a chain of evidence is established backwards and forwards with suitable qualitative and quantitative measures where applicable.

2.3 Data Collection Method

In order to understand the research environment thoroughly, qualitative techniques (in-depth interviews, document reviews, data search) were seen as the best methods for data collection and analysis. The findings were first categorized by company, and sought for patterns and regularities. Then the author analyzed the data cross cases, and interpreted the findings reflecting on the pre-understanding. Significant deviations and surprises were analyzed further, and modified assumptions re-evaluated before the final framework and suggestions were constructed

The data collection was an iterative process of building new data and constantly comparing it to the existing knowledge on the field. During the empirical validation process the emerging new data was used to shape the propositions to better respond to real-life cases. The emerging biases were minimized by establishing a data base for the empirical findings, and by presenting the research intent and questions in a similar format to all informants.

The incorporated theoretical framework relative to the research questions and proposed propositions draws on the works of acknowledged contemporary strategists and decision-making scholars. It includes a review of contemporary research on information technology management, different IT sourcing strategies, performance measurement and evaluation of capital investment projects. Also investigated are IT systems' links to companies' overall business strategies and economic performance.

After the initial contacts to the selected companies were established, the data collection started with personal interviews with IT managers, senior business managers and relevant sourcing managers. Interviewees also included development managers, IT service managers and regional project managers. The informants were selected based on their role and involvement in recent outsourcing projects. Many of the informants nominated new persons from their organizations who could provide better answers to variant questions. Reliability of data was improved by interviewing representatives both from IT departments and business divisions. Interviewees represented both the company headquarters where the most strategic decisions are made, as well as local country units where most of the implementation work is carried out.

All interviews followed the same semi-structured manner, and the questions had been made available for the interviewees beforehand. After the questions were reviewed the interviewees' areas of expertise were discussed in more detail. Reviewing the collected data with key informants together with establishing a firm research focus eliminated the research biases prone to the data collection method. It also ensured relevance of the findings and improved credibility.

The interviews were transcribed for analysis based on a final approval from the participants. Then, the data was categorized not only in company level but also axially between the cases. Triangulation enabled cross-company comparisons and improved the reliability of the findings. Even the data was mainly descriptive in nature, it was first exposed to quantitative analysis in order to improve clarity and ensure consistency of the findings. In the final analysis factors like the interviewees position in the organization, experience in IT outsourcing and involvement in

the specific cases under discussion were used to determine the relevance and importance of the individual findings. The general questionnaire can be found in Appendix 1, and the summary of the validation in Appendix 4.

In addition to the interviews, supporting material includes strategy papers, standard operational procedures and descriptions of IT management tools, templates and processes. As every case company was re-organizing their IT function or related processes at the time of data collection, the informants had recent experiences and a special interest in the topic. This was considered to add to the value of the findings. Moreover, the material includes project documentation from recent outsourcing cases. The learnings from the past experiences had been well documented by the companies, and have thusly provided an important input to the research.

3. THEORETICAL BACKGROUND

This chapter presents a review of theories relevant to the research problem. These theories form the bases for the research propositions presented later in Chapter 4.

In order to better understand the numerous ways outsourcing can benefit an organization, the research questions are approached from three angles:

- First, by focusing on the role of IT in a company's value creation process. This includes studies on the factors influencing that role, as well as various management models and strategies used to capture the potential of implemented systems.
- Secondly, by exploring contemporary outsourcing markets and various sourcing strategies available to companies today.
- The third part of the review focuses on measuring and controlling targeted business benefits in outsourcing.

In this research the main focus is on factors impacting IT enabled company level benefits like improved accuracy in planning, system agility and more effective use of resources (Icarr, 2001). Performance is evaluated by focusing mainly on operational efficiency, user satisfaction and improved management of stakeholder networks.

3.1. Using Information Technology Strategically

Traditional theories on IT focus mainly on IT enabled cost reductions in form of automatization, reduction of market inefficiencies and decrease in transaction costs (Williamson, 1985; Coase,

1937; Malone, 1987). Porter (1985), Olsen (1994) and Venkatraman (1994) started emphasizing IT's role also in organizational transformation and revenue creation. Following the rapid development of advanced technologies in the late 1990's, IT research is increasingly focusing on technology's role on strategic level: in creating new revenue sources, changing consumer behavior and restructuring traditional supply and value chains (Clarke, 2002).

Information technology enables companies to know more of and become increasingly interactive with their customers and partners. Ramirez & Wallin (2000) introduce the term 'value constellation' to describe the knowledge-intensive value creation process that occurs in customer and supplier interfaces for mutual benefit. This increase in value propositions is enabled by exclusively designed solutions consisting of confidential business intelligence and tacit knowledge of the company and its operations (De Meyer, Duffa & Srivastava, 2002). Treacy & Wierseman (2001) define value proposition as "the implicit promise a company makes to a customer to deliver a particular combination of values: price, quality, performance, selection, convenience and so on." Information technology often plays a dual role in the value creation process: a physical component of the offering or as a mechanism to facilitate the business process that results in the product (DiVanna, 2003).

Some scholars still argue that while IT has contributed to the creation of value, it has rarely proven to be the source of competitive advantage to companies others than its creators (Eskett, Sasser & Schlesinger, 2003). They claim that a competitive advantage is created by an innovative application of technology, not by the technology in its own right. Consequently, Clarke (2002) highlights the importance of remembering "the service behind the systems", meaning the underlying management processes and capabilities as the ultimate sources of competitive advantage.

3.1.1 Difficulties in Using Information Technology Strategically

Despite the vast potential of information technology it has been estimated that 75 per cent of information system implementations are operationally disappointing (Curley, 2004). Reasons range from difficult system usage, unreliable data and processing delays to excessive operational costs and chronic production problems (Fitzsimmons & Fitzsimmons, 2000). Even more common is the practice of over-investing in IT and underestimating the potential of the systems (Lewis, Clayton; Reitsma, Rene; Wilson, Vance E.; Zigurs, Ilze, 2001). These difficulties can often ultimately be accounted for organizational ability to apply IT in its' operations.

Challenges in effectively using IT resources are also partly being contributed to past investments in IT (Perkins, Peter; Knell, Scott, 2004). Many companies have come to their current infrastructure and service portfolio as a result of a series of decisions made in different parts of organization. Lack of coordination and integration in IT management can cause expensive duplication of effort as well as inaccurate and inadequate information for managing the business. Furthermore, if the priorities are not based on overall business needs and priorities, the cost of running systems increases and potential business benefits dissipate (Ward & Peppard, 2002). Furthermore, in case the implemented infrastructure does not support business objectives, it can even become a constraint to business development (Ward & Peppard, 2002).

3.2 Selecting an Optimal IT Strategy

Crucial to creating a company's IT strategy is to assess the level of in-house IT competency and IT's role in increasing business value in the company's specific situation. For that purpose Doctor Rapp (2002) proposes a model for categorizing companies in three groups based on how they use IT in creating functional benefits and establishing competitive advantages. The variables include:

1. The structure of in-house IT department

2. The levels of management hierarchy

3. The level of system customization

In the most advanced companies IT is seamlessly integrated into the business strategy, company operations and organizational processes. Functional benefits and competitive barriers are pursued systematically and proactively with customers and suppliers in order to develop and control industry standards. In order to use IT to this extent, the company must possess high level of IT competency and infrastructure, which typically evolves in time through informal maturity process.

Carnegie Mellon University's maturity model (2003) proposes that IT maturity corresponds to the company's future potential in using IT for improved customer (and company) value. As presented in Figure 3., IT mature organizations align IT and business processes, use sustainable economic models and analyzing methods for evaluating IT investments, as well as recognize IT as a strategic asset to the company.

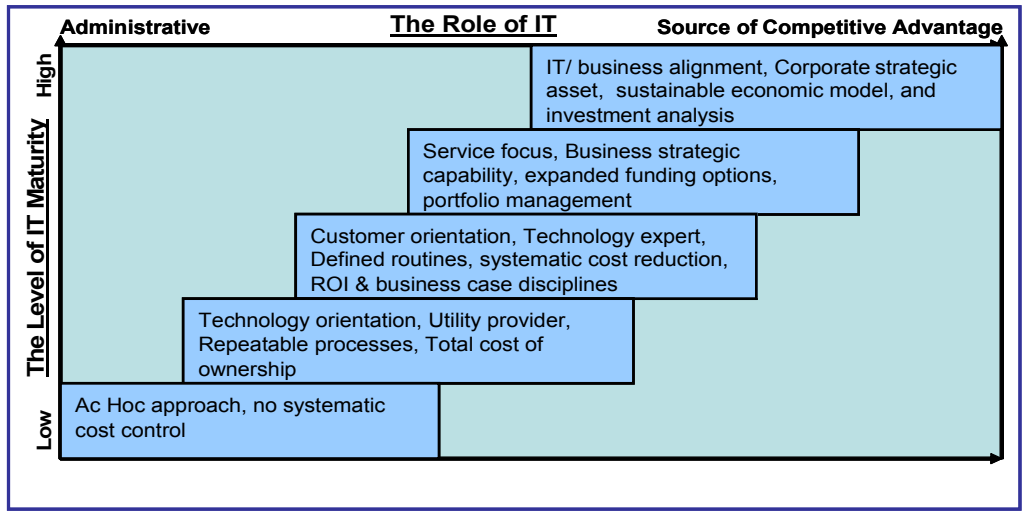

Figure 3. The Levels of IT Maturity (Carnegie Mellon University, 2003)

DiVanna (2003) has found further that the companies using IT strategically today typically:

1. Build on their existing competitive advantages and resources,
2. Make investments driven by a sound business strategy emerging from their competitive environment,
3. Know their industry and use IT to create higher competitive barriers and thus benefit from greater returns and strategic flexibility,
4. Consider IT investing as a continuous process of assessing potential technologies and suppliers.

Contemporary research also presents a direct link between a company's success in using IT, and its' history of investing in it (Laudon, 2000). This development usually follows an evolutionary path from technology led strategies toward more integrated, organization-wide planning processes. Earl (1996) describes this evolution as an incremental process of an increased integration and consensus concerning IT strategy (Table 1.).

The level of business management's involvement in the planning processes typically increases with maturity. In the final stages IT and corporate strategies co-exist in a participative environment, encompassing both users and managers within the organization and its' interest groups.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
IT Strategy's Main Task	IT Application mapping	Defining Business Needs	Detailed IT Planning	Competitive Advantage	Linkage to business strategy
Key Objective	Management Understanding	Agreeing Priorities	Balancing the portfolio	Pursuing Opportunities	Integrating Strategies
Directions From	Process strongly IT led	Senior management initiative	User and IT together	Executive senior management and users	Coalition of users, management and IT
Main Approach	Bottom up development	Top down analysis	Balanced top down and bottom up	User innovation	Multiple methods at the same time
Summary	Technology led	Method driven	Administrative	Business led	Organization led

Table 1. Evolutionary Approach to IT (Earl, 1996)

Lacity and Hirscheim (1998) depict the same process by dividing the evolution into three stages, namely delivery, reorientation and reorganization. Central to their model is the increasing stakeholder involvement in system development and the emergence of user support services. Simultaneously, the gap between users and IT professionals diminishes and the strategic potential of the systems is realized.

3.2.1 Information Technology Strategies

IT strategy has been considered as an iterative process of fulfilling stakeholder expectations and increasing company value with the latest technologies in the given environment (Perkins & Knell, 2004). It has been said that IT management is all about relationships (Carley, 2001; Engers, 2001). Seamless and continuous dialogue between business units and IT management, as well as with the selected service providers is central to effective resource management (Dekker, 2003). In the optimal case, high level executives form a steering board for relationship management and strategic level planning (Malone, Crowston, 2001). However, IT and business manager' different orientations and views on IT can cause cultural clash between the groups (Clarke, 2003). As perceived success of a system can be very different across the organization, managing expectations is the key for the organizational climate to remain favorable (Heskett, Sasser, Schlesinger, 2003). Olsen (2001) argues further that organizational climate strongly affect the success of an IT strategy.

However, in addition to supporting company's business objectives, an IT strategy should also have its' own distinguished goals (Ward & Peppard, 2002). Typically companies have several overlapping systems running in parallel, so rationalizing, commoditizing and simplifying

technologies are common high level targets for any IT strategy (Ward & Peppard, 2002). Adaptive structure, flexibility and reusability are other typical high-level targets for IT managers (Johnson, Scholes, 1999). Flexibility eases the introduction of new business applications and enables various reconfigurations. The importance of adaptive structure is highlighted if parts of the system are outsourced (Olson, Malone, 2001). IT system's modularity can be assessed by evaluating factors such as the scalability of the system in case of an expanded user base, its' presentation, partitioned complexity and reusability. Evaluations often include also an analysis on the level of system integration and speed of change (Laudon, 2000).

Hawryszkiewycz's model on IT's infrastructure's relation to business strategy (as presented in Figure 4.) highlights the importance of aligning IT infrastructure to business objectives so that when changes in market environment occur, the system is simple to rearrange in order to fulfill co-operative needs. The most fundamental aspect in aligning, according to Hawryszkiewycz, is introducing new technology in an evolutionary manner, based on strategic choices and solid business case.

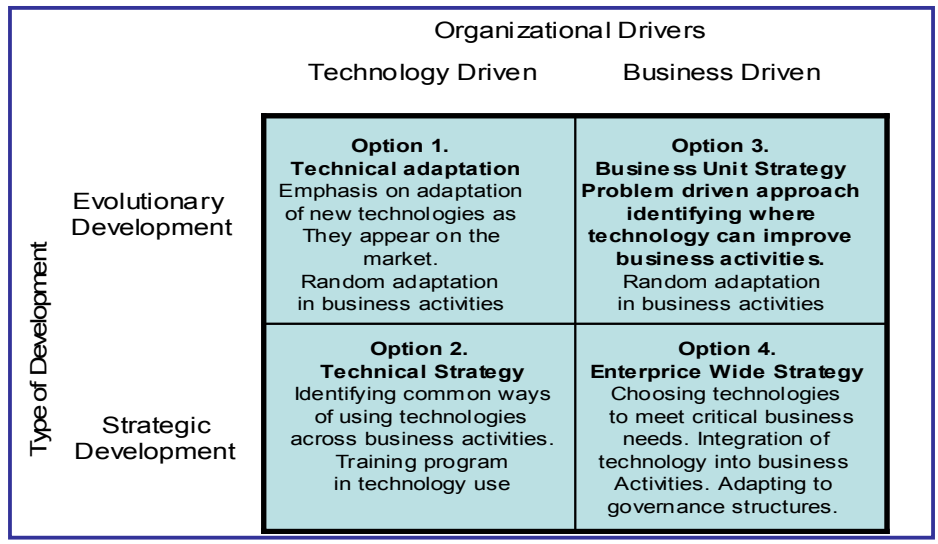

Figure 4. Technology and implementation: approaches to adapting technologies to business processes (Featuring Hawryszkiewycz, 2000)

According to Johnson & Scholes (1999) the main approaches to managing information technology are strategy execution approach and technology potential perspective. In strategy execution approach, business strategy is the main driving force behind IT system design. All adjustments are made following changes in business strategies. The risks of the model include

concentrating on short-term needs, which can lead to building IT systems that are constrained in their attempt to serve corporate vision.

Technology potential perspective utilized advanced technology as the driver and enabler for business operations. This model is best suited for new companies that are building on technological innovations. Other common approaches include competitive potential model and service level approach. The earlier also builds on technological advantages, and on how technology can be used to advance core business operations. Service level approach concentrates on IT strategy as a means to produce an improved organization and maximize resource usage. The danger here, like in the earlier models, is a detachment from the business strategy and a loss of focus.

Resource based view on IT considers the systems to consist of technology, people, intellectual capital and relationships (Ward & Peppard, 2002). This approach emphasizes the intangible aspects of IT solutions, and further clarifies the requirement for multi-disciplinary approach to IT management practices. It also recognizes the inter-relation between the assets, as described in Figure 5. A sustainable IT strategy should address all these assets and define targets for performance, development and cost for each component individually, as well as facilitate seamless information sharing across the domains.

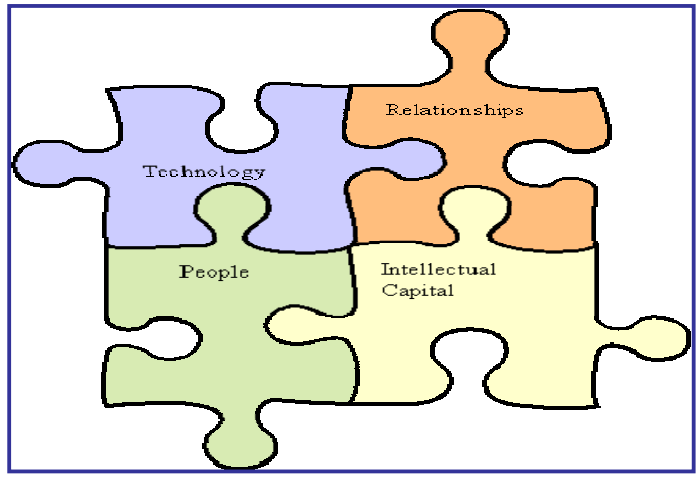

Figure 5. Components of an Information Technology Solution (Ward & Peppard, 2002)

Earl (1996) presents a different approach to information technology strategy: he argues that IT as a function should be treated like other business critical unit within the organization. Curley (2004) presents similar views, stating that IT should be managed like a business with similar

principles and success criteria. A proposed strategy would be coupling IT management with a business line, where the manager has responsibility over the both operational entities. In such a case, a sustainable economic model for IT is developed, and all activities in the value chain are balanced (Mooney et al, 1994).

3.3 Information Technology Sourcing Strategies

During the last decade traditional supply chains have been increasingly replaced by complex multi-layer networks, where companies have parallel partner and competitor relationships, and their boundaries are becoming increasingly undefined (Wang, Kleinman, Luh, 2001). Figure 6. Visualizes the significance of this change, and further clarifies the need for new types of management concepts and collaboration models in this emerging networked economy.

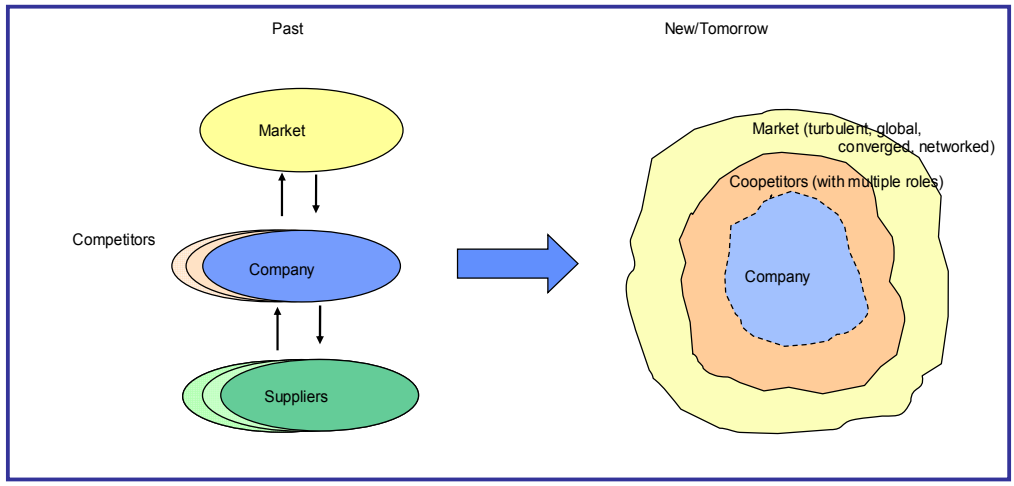

Figure 6. Changing Landscape of Product and Service Creation (Kosonen, 2004)

New multilayered and interdependent industry structures, open technology standards and inter-operability requirements are also changing the definition of company resources (Teece, Pisano, Shuen, 1998). The new types of sourcing opportunities highlight increased mobility, flexibility and fluidity of knowledge access, as well as increased mutual dependency (Hitt, Amit, Lucier, Nixon, 2002). This research effort focuses on IT outsourcing as an example of such advanced networking models studying factors and management processes underlying strategic level collaboration.

3.3.1 Information Technology Outsourcing

Distinguishing features between manufacturing outsourcing and IT outsourcing are for example, the extent of customer participation in the service process, fluctuations in demand cycles and the point of delivery (Fitzsimmons & Fitzsimmons, 2000). Classical outsourcing theories need to be modified for service environment, because (Lacity, Willcocks & Feeny, 1994):

1. Information technology evolves rapidly
2. The underlying economics change rapidly
3. The penetration to all business functions is ubiquitous
4. The transformation cost to a third party service provider is expensive
5. Inexperience in outsourcing causes problems
6. Efficiency is gained through efficient management practices rather than economies of scale

In volatile IT markets the importance of strategic fit and intangible benefits is increasing, as well as the quality of the partner's own network (Laudon, 2000). However, overall cost and moving towards fixed-cost structures continue to be the major drivers for outsourcing despite contrary public statements (Lacity; Willcocks, 2001; Goolsby, 2003). Other valued benefits included business continuity, improved asset utilization and focus (Huband, 2004). The priority of each factor depends on the outsourcing company's own specific economical and competitive situation, volatility of the markets as well as the industry it operates in (Gulker, 2003).

Tangible Benefits	Intangible Benefits
Increased productivity	Improved asset utilization
Lower operational cost	Improved resource control
Reduced workforce	Improved organizational planning
Lower computer expenses	& flexibility More timely information
Lower vendor cost	Increased organizational learning
Lower clerical & facility costs	Legal requirements attained
Lower rate of growth in expenses	Enhances employee goodwill
Rationalized software cost	& satisfaction
Improved cost control	Improved decision making
	Increased options in operations
	Higher client satisfaction
	Better corporate image

Figure 7. Typical Targets in Information System Outsourcing (Laudon, 2000)

3.3.2 The Reasons to Outsource Information Technology

The impulses to outsource IT usually spring from the company itself (Rapp, 2000). Outsourcing is seen as an effective way to implement new ideas, strategies, and change at a faster and more controlled rate. Lacity & Willcocks (2001) have divided the different rationale to outsource under six types, namely organizational, improvement, financial, revenue, cost and employee driven outsourcing. Typically a company's targets in outsourcing would include characteristics from more than one of the categories.

Type	Driver Characteristics
Organizationally Driven	Enhance effectiveness by focusing on core business, Increase flexibility, Transform the organization, Increase product and service value, customer satisfaction, and shareholder value, Streamline the IT function, Comply with organizational strategic direction, Acquire additional resources.
Improvement-Driven	Improve technical services, gain access to new technologies & innovations, focus internal IT staff on core technical activities, Improve credibility and image, operating performance, management, and control.
Financially Driven	Reduce investments in assets and free up these resources for other purposes, Generate cash by transferring assets to the provider. Improve cost controls & ROI.
Revenue Driven	Gain market access and business opportunities through the provider's network, Accelerate expansion by tapping into the provider's developed capacity, processes, and systems, Expand sales and production capacity during periods when such expansion could not be financed, Return to core competences, facilitate mergers and acquisitions, Start up new companies and re-evaluate of organizational and managerial structures.
Cost Driven	Reduce costs through superior provider performance and the provider's lower cost structure, Turn fixed costs into variable costs
Employee Driven	Give employees a stronger career path, Increase commitment and energy in non-core areas, reduce uncertainty

Table 2. Reasons for Outsourcing IT function (Lacity; Willcocks, 2001).

Outsourcing has also proven to benefit companies in-directly through increased strategic flexibility, greater goal orientation and higher quality of knowledge exchange (Delporte-Vermeiren, 2003). On the negative side is the weakening control of one's profit, which is typically especially the outsourcer's concern. Other reported disadvantages include the difficulties in and the cost of managing and controlling the partner interface, as well as poor visibility to future needs (Delporte-Vermeiren, 2003). An interesting question from a value maximizing point of view is who should lead the process creation and forecast long-term capacity needs?

Advantages	Disadvantages
Economies of Scale through complementary assets	Weakening Control of own profits
Increased strategic flexibility	Lack of standardizing and fixed agreements
Greater goal orientation	Increase in information overload
Long term focus in co-operation	Instability due to dependency on different factors
Higher exchange of knowledge	
Higher quality	
Wider market reach	

Figure 8. Benefits of Strategic Outsourcing (Delporte-Vermeiren, 2003)

Despite the fear of losing control over a strategic asset to outsiders (Williamson, 1985), recent research indicates that most executives experience control gains in business results within the first months in an outsourcing agreement, and many realize control gains immediately after the outsourcer takes control of the function (Goolsby, 2003). According to Beekman & Robinson (2002), companies with similar basic knowledge and different specialized knowledge benefited the most of the partnerships. However, the exchange of design data is still regarded as a major barrier in cooperative development initiatives.

3.3.3 Selecting the Appropriate Outsourcing Model

The optimized IT sourcing model is a subject to various control variables, such as company size, the level of internationalization, industry, competition and maturity (Rapp, 2000). Doctor Rapp emphasizes the role of IT maturity, which demonstrates itself especially in the level of IT systems' customization and strategic targets in using information technology. The highest level IT users develop and control industry standards and develop applications that are hard or impossible for competitors to emulate.

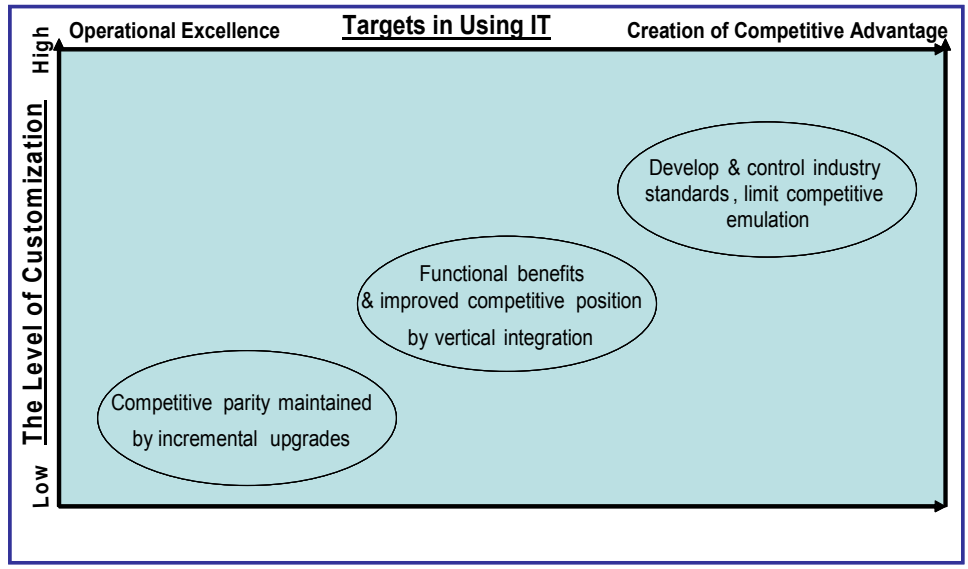

Figure 9. Profiles of the Different Strategic Levels of IT use (Featuring Rapp, 2002)

In addition to business criticality also the degree of market volatility play a central role in selection of outsourcing model (Rigsby & Greco, 2003). Traditional outsourcing concepts are best suited for low volatility, low risk projects with strongly cost related targets. In the other extreme is transformational outsourcing, where the emphasis is on long term benefits and total cost of system ownership.

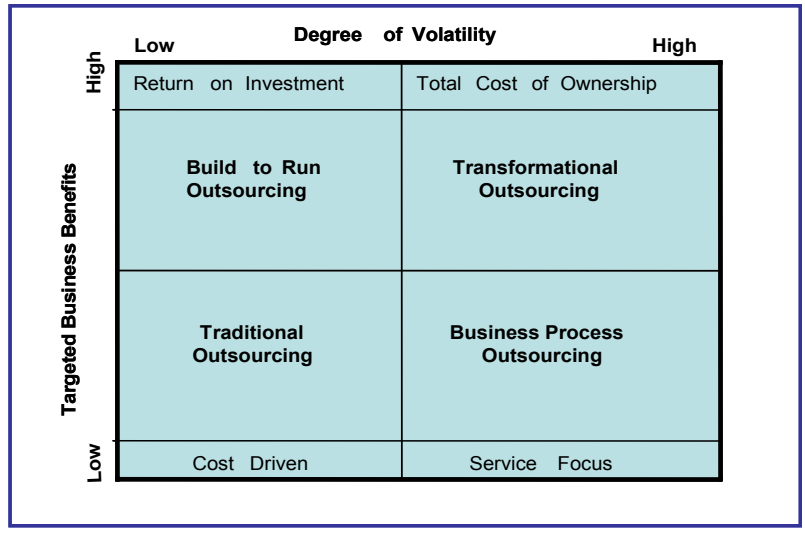

Figure 10. Recommended Outsourcing types and principal measures in various competitive environments

Companies' approach to selecting service providers has changed over the past years, and the use of several suppliers has started to occur again (Goolsby, 2003). By going to specialists in

each area, customers seek to get a better price than if they give all the work to one provider. Conversely, fewer buyers are retaining advisory firms with outsourcing expertise, and the complexities in today's outsourcing decision-making processes are increasing. Traditionally, companies have used outside expertise for assessing risks, conducting business case analysis and evaluation of draft contracts. The declining trend has been accounted for increased experience in outsourcing, cost reduction and the advisory firm's questionable knowledge of buyers' business (Gulker, 2003).

The number of strategic alliances in which the company is engaged has been found to correlate with the success of its' development efforts except for in volatile market environment (Beekman & Robinson, 2002). Conversely, after certain saturation point the managerial information processing demand increases and resources that are occupied with relationship management lower the marginal returns (Roehaermel and Deeds, 2002). These "hidden costs" include also higher than anticipated transition costs due to disruption in work practices, higher turnover of employees with tactical skills, and decreased employee morale (Gulker, 2003).

3.3.4 The Evolution of IT Outsourcing

IT outsourcing has existed in various forms for as long as modern information technology has existed. During its' onset, outsourcing was mainly considered an arrangement for small companies operating in domestic markets. Eastman Kodak started the outsourcing trend for international companies in 1984, and was soon followed by several Fortune 500 companies, such as Continental Bank, Enron, National Car Rental, Xerox, General Dynamics, McDonnell Douglas, Lufthansa, KF Group, British Aerospace, Canada Post and Continental Airlines. Despite the various reasons to outsource, researchers mainly attribute the growth of IT outsourcing markets to the aimed focus on core competencies and difficulties in capturing added value through IT (Lacity; Willcocks, 2001).

In late 1980' several widely published outsourcing projects reported difficulties in collaboration and several companies paid out significant sums to extricate from their outsourcing contracts (Barta, Zabow, 2003). Reasons for problems ranged from unrealistic expectations to poor asset management and strategic incompatibility. Typically, the service provider had stronger negotiating power while the outsourcer failed to asses and communicate their real IT requirements and ended up investing in overcapacity (Bergman, 2003). This, coupled with the lack of comparable baseline data and the difficulty of balancing "hard" and "soft" arguments, made performance evaluations and benefit management quite challenging. Furthermore, the potential savings were commonly considered to benefit the service provider more than the outsourcing company (Kangas et all, 2000).

Despite the numerous reported challenges the trend to outsource continues. Today IT markets are overheated with overcapacity, the availability of offshore workers, new remote download tools and new self-repair technologies that replaced human workers (Cordon, Vollman, 2005). There is a countless number of service providers, which has lead to tightening competition and thus improved quality and lowered margins (Bergman, 2003). In the future the market is expected to grow more diversified with companies that profile and segment their service offering more specifically. Off shore companies and companies offering complete “consult-build and run” end-to-end services are further placing pressure on prices and services (Bendor-Samuel, 2003).

3.3.5 The Elements of Successful IT Outsourcing Contracts

The service provider is usually under immense pressure to demonstrate value and cost cuttings, and often achieves cost reduction goals within the first two years in a five- or even 10-year contract (Olson & Olson, 2001). However, the agreement should be designed to create continued value over the life of the contract (Bergman, 2003). Incentive pricing and gain-sharing strategies encourage service providers to fulfill the buyer's objective of lowering costs and capturing the value of existing IT assets (Millar, 1994).

In order to improve business impact, service providers need to clearly identify the service areas that are most important to the buyer. By targeting the areas of under-and over-achievement for the buyer, the service provider can take steps to improve the alignment of effort and bring more value to the relationship rather than lower prices (Barta; Zabow, 2003). The critical success factors in outsourcing according to Outsourcing Institute’s Membership Survey in 1998 indicated similar management attributes:

1. Understanding company goals and objectives
2. A strategic vision and plan
3. Selecting the right vendor
4. Ongoing management of the relationships
5. A properly structured contract
6. Open communication with affected individual/groups
7. Senior executive support and involvement
8. Careful attention to personnel issues
9. Near term financial justification
10. Use of outside expertise

The potential service providers’ strategic and cultural compatibility directly affect the success of collaboration (Kangas, 2000). Software interoperability and the cost of required middleware can

be surprisingly high, and even lead to refusing a supplier. To maintain integrity, security and confidentiality of interconnections and prevent unauthorized data or system access, system customization is recommended to be done in house or at closely affiliated subsidiaries or partners (Fitzsimmons; Mona, 2000). Outsourcing can cause a company's core competences to shift to the supplier accidentally, and trade secrets or proprietary information may then leak out to competitors (Dekker, 2003).

In partner like, long-term outsourcing relationships management focus shifts increasingly from product features to accumulated process value (Loh & Venkatraman, 1991). Processes and inherited IT cultures experience progressive assimilation due to the implemented technology. Simultaneously, several existing processes are gradually replaced by jointly adjusted practices. This further improves the companies' competitive situation as such evolutionary emerged products and practices are hard for competitors to emulate. Reviewing the existing contract so as to produce more value when needs change has also been proven a more effective and less costly strategy than putting the contract out for a competitive re-bid (Goolsby, 2003).

Perceptions of value change over time as a result of shifts in markets, business opportunities, and corporate objectives (Sabherwal, 1999). Therefore the contract should be flexible enough to withstand the inevitable changes that will occur in technology and marketplace during the length of the agreement (Bent; Furton, 2003). Uncertainty about the markets and partners elevates the value of a collaborative venture. On the other hand, if both parties have the same valuation and knowledge about the future, development and growth are not as fast as they would be when a level of uncertainty is embedded into the relationship (Reuer, 2002).

Typical problems in outsourcing cases are similar to those within the in-sourced IT management. The customer is seeking to minimize the expenses while simultaneously maximizing the use of the service provider's expertise, facilities, and resources. The outsourcing provider, on the other hand, seeks to maximize profit from the engagement while minimizing the expenditure of time, labor, and resources. This natural conflict of interest is made more acute by the parties' expenditure of large sums of money over long periods of time. Lewis et al. (2001) nominate resource management as the issue most prone to causing conflicts in collaboration. The sometimes ambiguous and vague language of the outsourcing agreement fails to describe the roles with enough detail, and may thus cause different interpretations.

Boland and Tenkasi (2001) identify the managers' lack of reflecting the other party's assumptions as among the potential reasons for failure in collaboration. Traditionally, the

disputes get "resolved" in favor of the party with the greatest economic power (Barta; Zabow, 2003). The implementation of the real-time resolution process or a panel of neutral dispute resolution professionals is recommended for improving participants' knowledge of each other's valuations and reduce the gap between true and perceived ideals. (Bent; Furton, 2003).

3.3.6 IT Outsourcing vs. Insourcing

Published literature typically portrays an overly optimistic view of IT outsourcing, as it reports estimated savings instead of actual ones (Huband, 2004). There is also a point of inconsistency in statements given and actions taken by the surveyed companies. The general argument of the opposing groups is that the key attributes to competitive advantage (value, rarity, immutability and insubstantiality of the resources) will be lost if companies rely on external service providers (Porter, E. 2004).

Scholars have found both positive (Capon, 1990; Hendry, 1995; Quinn, 1999) and negative (Poppo & Zenger, 1998; Lacity & Hirschheim, 1994) relations between IT outsourcing and company's economic performance. Opponents of IT outsourcing claim that IT service providers serve particular IT requirements or environments, and do not commit to system integrator's role with operational understanding to make IT work on a fail-safe basis. (Loh, Venkatraman, 2000). External service providers also benefit from the economies of scale in hardware purchasing and operating costs. Savings in opportunity, research and development costs, as well as technical expertise are considered to be in the service provider's favor (Lacity & Hirscheim, 1998).

A supplier's superior labor expertise is also largely a myth, since clients are often supported by the same staff as they used to be supported by. In fact, the internal IT department often poses superior economies of scale to vendors. They have the business intelligence, can minimize shareholder, transaction and marketing cost, and they do not have the pressure to generate profit (DiVanna, 2003). Rapp (2000) argues further that in extensive outsourcing, strategic options are surrendered to the service provider. Beneficial loops can be lost as the customer moves one step further from the developers. Lacity (1996) presents similar views and considers outsourcing a short-term solution that does not stand the test of time.

Contemporary research has also addressed the question of whether or not outsourcing is beneficial for IT industry as a whole. Bradley & Hamel (1992) argued that outsourcing can cause a spiral of industrial decline, especially in knowledge intensive businesses. The supplier learns

to perform the activity through the buyer and then starts competing in the same field. The buyer also gradually loses internal capacity to deliver the services and loses to the same forward integrating suppliers (Kotabe, 1998). Consequently, all companies on the field end up with similar solutions and industry development stagnates.

Despite the vast criticisms towards outsourcing, the alternative sourcing strategies have proven to have their drawbacks as well. Lacity & Hirschheim (1995) have identified conflicting expectations, share of responsibility and power, and the difficulties in demonstrating efficiency as the most common challenges in in-house sourcing. Stakeholders' conflicting expectations result in senior management's perception that IT cost is too high and user's perception that the service is poor. The peculiar issue, however, is that the same arguments are used both for and against outsourcing (Yakhlef, 1996, Mol, 2000).

3.4 Measuring Information Technology Investments

People's tendency for cognitive biases in judging optional process outcomes is considered the main challenge in IT system analysis. Conservatism, over-optimism and overestimating the predictability of past events directly affect the outcome of performance evaluations (Hodgkinson & Sparrow, 2002). In 90's, several companies did not yet have formal justification procedures or post-implementation reviews for IT investments, and managers often turned to soft arguments in an attempt to justify IT projects (Lincoln & Shorrock, 1990). Tightening of financial situation and continuously increasing IT spending have forced companies to revisit and develop these controlling and evaluating procedures.

In recent literature IT investment cost is typically associated with technology cost and in some cases with the cost of supporting company's administration (Perkins, Knell, 2004). These costs fall under the business cost structure, which illustrates the entire spectrum of costs directly associated with the actual production and co-ordination of the company. IT investments also fulfill the description of long-term capital investments, as the rationale is to support business to meet its targets or cut costs. IT investments are also viewed as positioning technology, comparable to investments on research and development (Perker, Benson, 1998). Recent surveys in USA have indicated that the trend is leaning towards business related measures, such as business continuity cost, loss of business opportunities due to an absence of IT systems, and rationalization of the organization (Huband, 2004).

However, traditional financial analyses alone are not suitable for information technology environment, as the comparison of the outputs to the inputs neglects the value of managerial flexibility and strategic potential (Huband, 2004). Targets set for outsourcing cases typically emphasize quantitative end-of-value chain variables that describe economic performance, whereas sourcing is an intermediate activity, in the beginning of company value chain (Willcocks, Sauer, 2000). A more appropriate assessment model would account for the growth realized by the business from the projects enabled by information technology (Kambil, Henderson & Mohsenzadeh, 1991). On the other hand, planning cycles in contemporary companies are constantly shortened, and thus result in employees' unwillingness to commit to longer-term objectives (Dekker, 2003). This type of planning is challenging to IT management, as the initial investments are typically large, and costs and benefits are not linear.

Some scholars recommend the parallel use of several complementary measures for the optimal result (Hochstrrasses (1990), Peters and Symons, 1990). The key in using the measures successfully includes incorporation of a sufficient number of variables into the analysis, and yet, not too many. Irrelevant measures are costly and the reliability of the results can suffer. Often applied measures include high level of system usage, financial payoff, achieved system objectives, attitudes towards IT and user satisfaction (Markus, Keil, 1994).

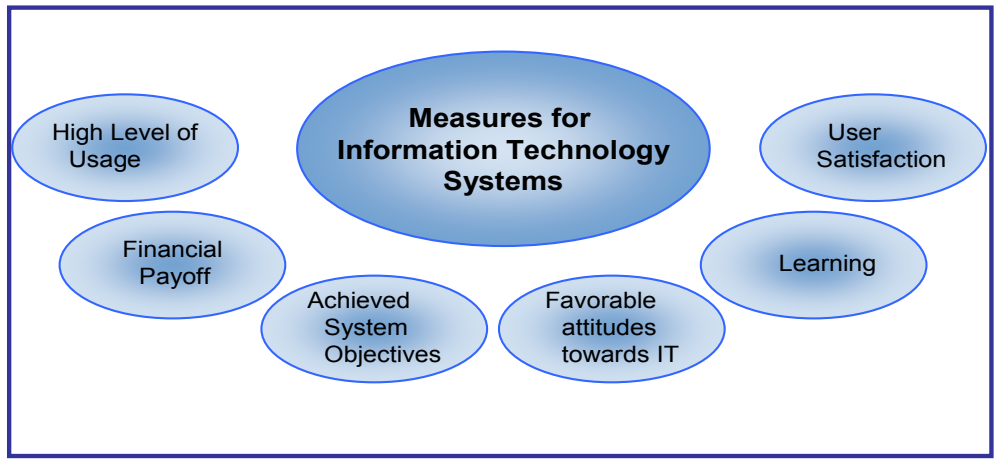

Figure 11. Measures for Information System Success (Markus, Keil, 1994)

3.4.1 Measuring Techniques

An optimal IT project portfolio includes low-risk, high-benefit projects, as well as a limited number of high-risk and low-profit projects in order to keep up with industry development (Perker, Benson, 1998). This chapter presents techniques that combine qualitative and quantitative elements for the evaluation and control of balanced portfolio investments.

Value chain analysis is the most used technique for analyzing where IT can be utilized in order to find the critical leverage points of greatest benefit (Kimball, Henderson & Mohsenzadeh, 1991). The comparable features are the carried risks and benefits or predefined system features. IT assessment begins with a broad overview of the business perspective including long term mission, goals, vision, strategy and drivers. It provides an objective view of a company's competences, technical and human capabilities, efficiencies, and synergies. From a process point of view it identifies the areas that might require more focus or preparation.

Non-financial and strategic drivers that cannot be quantified for capital budgeting evaluation purposes can be evaluated with portfolio analysis or scoring models like Balanced Scorecard (BSC). It provides management with a comprehensive picture of business operations and a methodology that facilitates the communication and understanding of business goals and strategies at all levels of an organization (Clarke, 2001). These perspectives typically include financial, customer related, company internal, and learning and growth related aspects. Performance is not only linked to short-term outputs, but also to the way in which related processes are managed.

The critical success factor (CSF) analysis identifies required competences for each such factor. These competences are underpinned and linked to performance standards for a detailed objective setting. Business priorities and competitors' ability to imitate the factors are analyzed next, followed by development of scenarios of future development plans. Ferguson & Khandelwal (2000) argue that a company's selection of critical success factors (CSF) is directly linked to the level of IT in and business integration into the company. Already the works of Rockart (1979) proclaimed CFS analysis as a tool for measuring maturity of organizations and industries.

Still, the most often used measure for IT investments is Return On Investment (ROI) (Laudon, 2000). The time value of money, cash flow after the pay-back period, and the disposal value of the system, as well as cost of borrowing money are included in the (modified) accounting rate of ROI. It calculates the estimated returns by adjusting cash inflows by deprivation. Furthermore, the model is often modified to include estimated future costs and benefits, and is best used for rough level comparisons of optional IT investment projects, together with a cost-benefit ratio. However, various applications have different expected lifetimes, which are non-linear and much shorter than those of industrial equipment, so ROI or equivalent depreciation do not provide comprehensive analysis.

Net present value analysis shows the value of an investment, taking into account its cost, earnings and the time value of money (Brealey & Myers, 1988). Net present value (NPV) models are widely used, even not easy to implement. The biggest limitation is that it neither considers the value of managerial flexibility nor the value of potential follow on investments arising from the initial project. The estimation of the future cash flow is difficult, as well as an identification and assessment of project impacts on the cash flows of other ongoing initiatives. The opportunity cost of capital accounting over time and an incorrect addition of risk premiums can offset managerial optimism. These limitations can be overcome by undertaking sensitivity analyses so as to estimate the project value under various assumptions and scenarios.

Each technique has its' own uses and deliverables. This chapter focused mainly on non-financial techniques that seek to find the areas where IT could be used for increased business value and new revenue creation.

Technique	Deliverables
Business Strategy Analysis	Business strategy, initiatives, priorities and IT requirements
CSF Analysis	Areas of successful business activity, potential IT thrusts, performance measures
SWOT Analysis	Analysis on strengths, weaknesses, opportunities and threats in internal and external business environment.
Balanced Scorecard Analysis	Business objectives and key information requirements, performance measures
Business Portfolio and Competitive Strategy Analysis	Options for long term IT investments to increase competitive position
Value Chain Analysis	Internal information flows, potential IT impact
Process Analysis/ Business Process Re-engineering	Identification of core business processes, their effectiveness, improvement options, redesign blueprints and resultant IT options
Organizational Modeling	Assessment of the business and IT environments, filtering mechanism in assessing the options for change
Business Modeling	Enterprise models including entity, objectives, process dependencies, data flow charts and conceptual architecture
Real Options Analysis	Forecast of the present value of various investment options
Technology Assessment and IT Infrastructure Review	Inventory of current HW and SW, assessment of IT organization, procedures, skills and methods
Current Portfolio Analysis	Profile of the current applications, coverage and contribution to business, user and technical satisfaction

Table 3. Measuring Techniques used in creating IT Strategy (Ward & Peppard, 2002)

3.4.2 Measuring IT Related Decision-Making Processes

Professional management practices have been identified as among the main factors affecting the level of added value of IT systems (Berberon, Blander, 2002; Broadbent, Butl et al., 2000; Clarke, 2001). Effective company-wide decision-making processes and tools also correlate positively with the success of strategy implementation (Ramanujam & Venkatraman, 1998). Well-informed team members can better analyze multiple alternatives that are presented to them simultaneously, and therefore make decisions faster. The benefits of speedy decisions also include accelerated cognitive processes and an increase of an individual's confidence to act (Clark & Collins, 2002).

Due to the high number of variables and the overall complexity of IT related decision-making, heuristics are often used to simplify issues and reduce the planning horizon (Drucker, 2002). Data is simplified into assumptions that are then categorized and prioritized for evaluations. Successful decision-makers integrate intangible people-based knowledge, insights and experiences, as well as traditional quantitative database information in rational, fact based analysis (Rigsby and Greco, 2003). The process can be further improved and automated by supporting tools and processes.

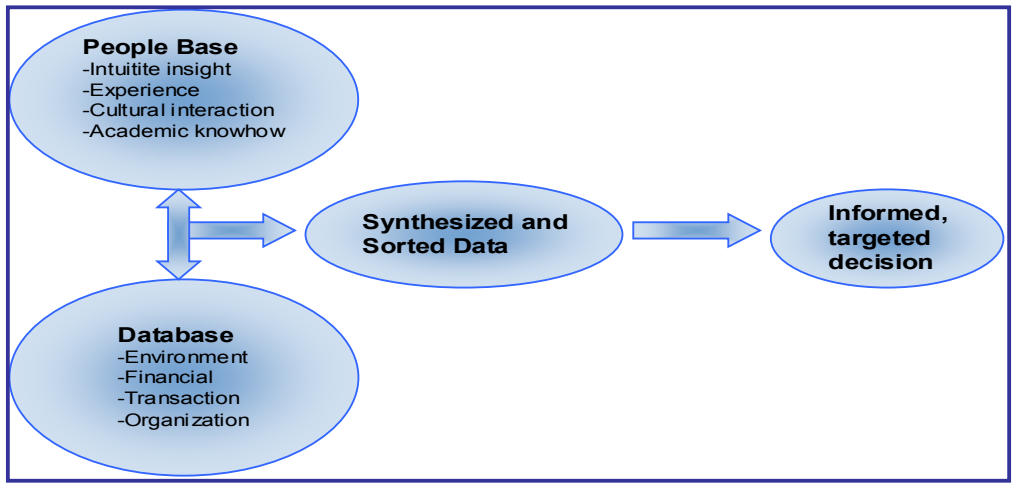

Figure 12. The interrelation between tacit knowledge, IT and business outcome (Rigsby and Greco, 2003)

The quality of decision-making is typically evaluated by speed, accuracy and relevance. (Golub, 1997). Decision-making analysis identifies the processes that must adapt to and reflect changing organizational structures. The three variables that are ultimately measured are technology (IT enables better distribution of information), processes (systematic, repeatable ways of working), and people (consensus and mutual trust). A comprehensive analysis includes both mathematical

and value-laden comparisons, and due to objectivity requirement would be best performed by an independent third party (Wang et al, 2001). However, sensing the process should be a continuous activity including analysis of management team awareness, the use of counselors, and organizational consensus (Carley, 2001).

Proposed measures for decision-making process include resource efficiency, process enrichment and effectiveness (Kling et all, 2001). Resource efficiency refers to maximized output from the invested money and dedicated time and effort from the personnel. Enrichment comes in the form of improvement and adaptability of the planning process. Incremental learning ensures the process's responsiveness to the exercise, and improves motivation, control, innovation and interaction. Effectiveness process-wise describes meeting of the intended goals. These processes help in predicting future trends, evaluating alternative solutions and avoiding problems by enhancing management (McNamara, 2002). Process-effectiveness also improves viability of the implementation schedules, accuracy of priority setting, and clarity of management responsibilities.

3.4.3 Measuring the Benefits of IT Outsourcing

Outsourcing as a resource allocation decision can have a major impact on company's overall balance sheet. In recent years the trend has been toward more formal, explicit and institutionalized methods (Luehrman, 1998). The reasons behind this are the commensurately decreasing cost of financial analysis, their tailorability and general managers' improved analyzing skills. These days managers in all levels are more capable to value operations, opportunities and ownership claims through the three fundamental factors: cash, timing and risk associated with the projects.

A growing concern among IT outsourcers is measuring the bottom line impact of the strategy (Ward, Peppard, 2002). The earlier mentioned Accenture survey (2002) revealed that 57% of respondents measured service levels as the barometer of the outsourcing value. This does not give a comprehensive view of the performance, because overall a bottom line improvement can also result from seasonal business cycles, employee training, reorganization, new management, new business products, etc. (Gonchar, 1997). In this scenario companies may end up paying lower than an in-house rate, and yet much more than the actual cost of the services (Gonchar, 1997).

In outsourcing the basic problem is valuation of operations or assets-in-place by discounted cash-flow-analysis or weighted average cost of capital evaluation (Bharadwaj, 2000). This, however, is critical as it provides the base line for supplier negotiations. The next step, the valuation of various opportunities in that point of time, is equally demanding. Typically the absence of formal valuation procedures for strategic options has given to personal, informal procedures that can become highly politicized (Willcocks, Sauer, 2002). A recommended tool for generalists is option-pricing models with five or less variables that capture also contingencies that managers face as the business evolves. Simulation techniques and scenario analysis can then be used later for more detailed calculations where needed (Wang, Kleinman, Luh, 2001).

The performance criteria for the various dimensions and aspects of supplier relationship typically include the supplier's impact on enabled business processes, continuing validity of the deal, effective communication and alignment of interests, collaboration, agility to change and competitiveness of the fee (Barta & Zabow, 2003). These ex-ante processes lay foundation to supplier collaboration and reduce deviations and different interpretations in ex-post monitoring (Dekker, 2003).

Smith et al. (1995) have classified different control mechanisms to formal and informal, or social, controls. Formal control refers to the continuous process of assessing various aspects of the relationships, and quantifying them for reporting. Informal controls are related to the more intangible dimensions of the relationship, such as trust, reputation, risk taking and social networks. The role of these controls typically increases with the strategic importance of the relationship (Beekman, Robinson, 2002).

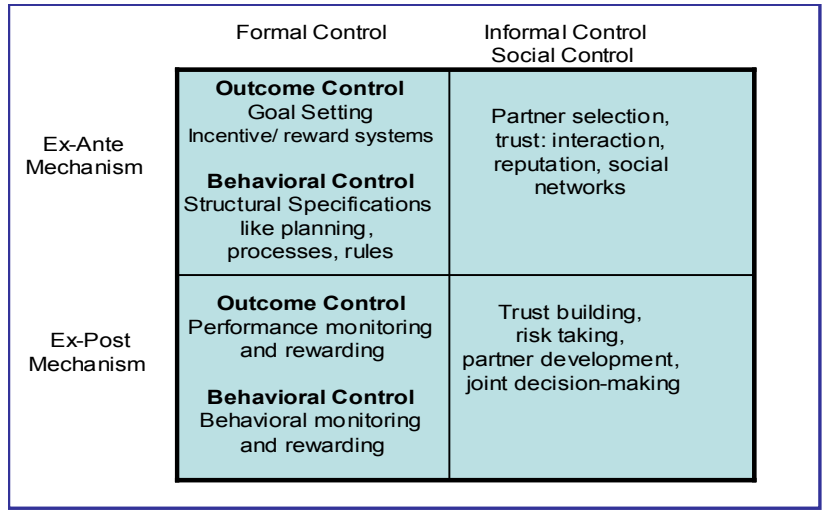

Figure 13. Formal and Informal Control Mechanisms for supplier relationships (Smith et al., 1995)

Malone and Crowston (2001) suggest a parallel use of parametric and baseline analyses for IT. Parametric analysis acknowledges the interdisciplinary nature of information technology, and the abstract theories can include parameters like incentive systems, cognitive capabilities and communication costs. Baseline analysis is used for comparing the behavior of the system to the pre-project performance by pre-defined parameters, and then using another theory for explaining the deviations. These techniques allow for evaluation of both direct and in-direct benefits of the strategy and minimize measurement biases (Clark, Collins, 2002).

3.5 Summary

This theoretical review addressed the aspects of IT management and outsourcing relevant to the research question. A summary of the topics covered below:

IT Systems in Companies Today:

- ➔ Benefits of using IT
- ➔ Assessing the role of IT and the level of IT competency in companies
- ➔ Different IT Strategies

IT Sourcing Strategies:

- ➔ Benefits and special features of IT outsourcing
- ➔ Evolution of IT outsourcing markets
- ➔ Elements of successful IT outsourcing contracts
- ➔ IT outsourcing vs. insourcing

Measuring Information Technology Investments

- ➔ Techniques & Concepts for measuring IT investments
- ➔ Measuring IT Related Decision-Making Processes
- ➔ Measuring the Benefits of IT Outsourcing

According to the existing knowledge in the field, the role of Information Technology in today's companies varies from being a purely administrative necessity to the major source of competitive advantage. Some of the key findings included:

- IT's contribution to business performance depends on how integrated the operations are and how technologies are applied to business processes.
- Business integration requires a thorough understanding of the capabilities and limitations of information technology, tacit knowledge about company's operations, and a shared vision of the business strategy.

Information technology outsourcing continues to grow despite several difficulties associated with performance standards and evaluations. Increased competition and offshore service providers have lead to the diminishing of service providers' margins and companies seeking to differentiate their service offering and add value to their customers by linking technical applications to a business domain.

Some companies are still cautious of outsourcing IT operations extensively. The reasons vary from the fear of leaking business critical tacit knowledge to competitors to the fear of losing control over the function. The last part of the review discussed the various aspects of measuring and controlling IT together with related techniques. IT investments were recommended to be treated as capital investments, and analyzed with several complementary models that combine qualitative and quantitative techniques.

4. BUILDING THE PROPOSITIONS

The literature field does not yet offer well-grounded hypotheses on the ideal management model for IT outsourcing situations. This chapter presents ten propositions that address conditions and variables that positively contribute to the success of outsourcing projects.

The research question one: "How to determine which outsourcing model works best in the company's specific situation?" captures the essence of the research problem. Answers to this question are sought by research proposals based on the two following assumptions:

1. A company's internal organizational climate, processes, and competences are ultimately the critical success factors in IT outsourcing.
2. Long-term supplier relationships between IT mature companies should focus more on adding value to business operations and the relationship than on cost savings.

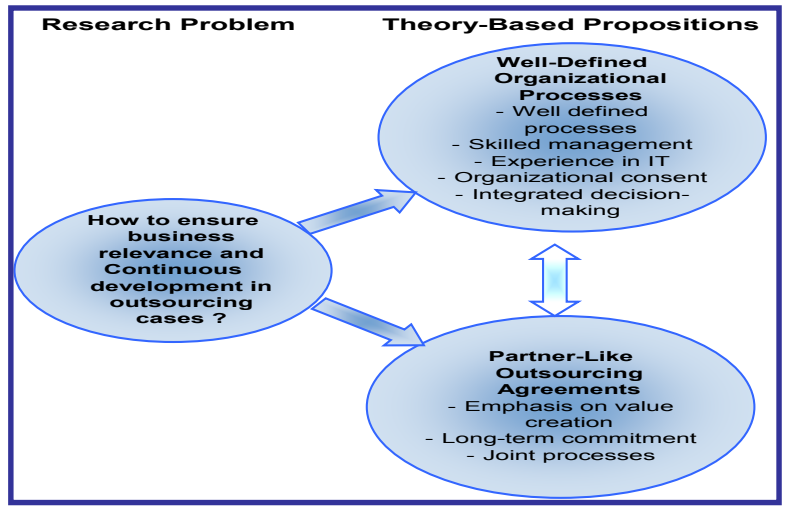

Figure 14. The theory-based proposition used as the basis for research propositions

All propositions emphasize the importance of visionary IT management, organizational integrity, and the ability to take a helicopter view of IT systems. They are based on the theoretical review and the Author's personal observations, and influenced by discussions with professionals in the field. A set of measures is presented together with each proposition, and are used to determine whether the empirical application of the propositions provides proposed outcome.

4.1 Optimizing the Value of IT Outsourcing

The following propositions highlight the importance of recognizing the role of IT within company operations and defining related organizational and supplier processes accordingly. The proposed metrics are related to *cost, efficiency, productivity and the quality of IT services*. The ultimate metrics for the added value are increased sales, profit and market share, as well as customer and stakeholder satisfaction. The propositions 1, 2 and 6 deal mostly with inter-organizational processes and organizing of supplier relationships (Assumption 2.), whereas propositions 3, 4, 5 and 7 relate to company's internal IT strategies and management practices (Assumption 1.).

Proposition 1. Optimized IT sourcing model depends mainly on the role of IT in the company's operations.

Measures: business criticality of IT, the integration of IT and business strategies, drivers for outsourcing, the level of in-house IT competences

Indirectly: the level of customization in IT systems, the organization's use of processes

Building on the before-mentioned Assumption 2., this proposition suggests that the more critical IT services are to the company's operations, the more partner-like the supplier relationship should be. The importance of the IT function correlates with the level of in-house competences, the level of customization in IT systems, and the maturity of existing IT solutions (Rapp, 2002).

In case IT is central to the company's operations, the solutions are more likely to be heavily customized and complex due to the long history of investing in IT. Therefore it is proposed, that in such cases optimal supplier agreements should be customized and have features of partnership agreements, where the partners share responsibility for the end product and commit to the continuous development of the relationship (Gonchar and Goolsby, 2003). Unit cost advantage is limited in these kinds of relationships (Malone, Crowston, 2001), and thus the benefits and added value must be found from long-term commitment to the cooperation, joint planning, and common incentives. In such cases also the companies' strategic fit, innovative capabilities and market position start to play a bigger role in the collaboration. A theory to support this causal chain has been developed by Rapp (2000), Bergeron & Blander (2003), Lacity and Hirscheim (1998) and Earl (1996).

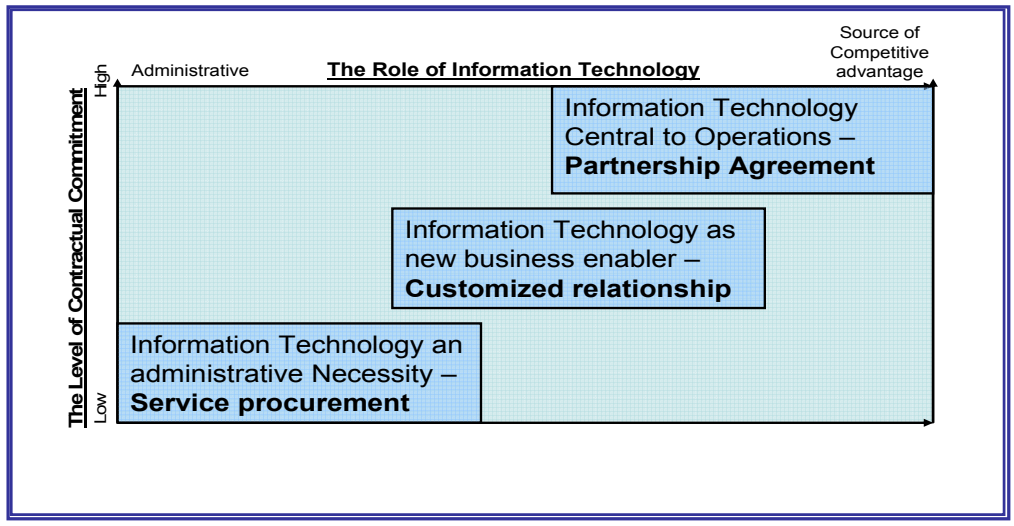

Figure 15. Company-proposed positioning in the use of Information Technology and suppliers (Featuring Rapp, 2000)

In companies where IT is used primary to perform standard administrative tasks, it makes sense to outsource the bulk of IT operations to an external service provider. The cost advantage is apparent for both parties and the contract negotiations less time consuming.

Proposition 2. IT Outsourcing's contribution to a company's business performance will be improved if the service provider and the outsourcer have shared profit and loss incentives

Measure: Strategic incentives in IT outsourcing contract, non-financial targets, time-to-market, involvement in end-product design

This proposition continues to build on the Proposition 1. regarding arranging high-value supplier relationships. Often-mentioned features for complex multi-layer arrangement of inter-organizational relationships like outsourcing include strong inter-organizational planning, interactive and dynamic relationships, and increased flexibility (Delporte-Vermeiren, 2003). This proposition suggests that building strategic partnership with accountability for the buyers' end product will benefit both companies most in volatile market environments.

In fast-changing ITO markets, the intensity and scope of the collaboration rather than the length of contract define the level of mutual dependency (Gulker, 2003). Bergman (2003), Bendot-Samuel (2003), Barta & Zabow (2003) state that the supplier should assume at least some level of responsibility for the end product. Support for this proposition is also given by practical real-life situations within the ITO markets. The mutual benefits of a partnership are reflected in the service offerings of contemporary IT outsourcing providers (Bent, Furton, Bergman and Goolsby, 2003).

Rapp (2000) and Millar (1994) argue that the maximal benefits are obtained through customized relationships, where continuity and sustainable competence-building are higher than the industry average and thus improve both companies' long term competitive potential. A trusted partner can also help companies to find and implement the latest innovations in the field. Shared interests and a customized relationship ensure that no critical business information leaks to competitors.

The proposition may seem self-evident, but surprisingly few partners envision the future together and share responsibility for the end product within their respective outsourcing agreements. This can be explained by the difficulties in implementing such incentives, measuring performance, and evaluating each party's contribution to the final outcome (Lacity, Willcocks & Feeny, 1994). Performance-based payment and incentive programs can also be risky in a fast changing environment where such rewarding systems may distort focus. Also, the majority of companies' planning and control processes still emphasize short term objectives and fast pay back times for investments.

Proposition 3. The success of an IT outsourcing project largely depends on an organization's ability to adapt to changing situations and apply information technology into its' business operations.

Measures: IT outsourcing projects concluded in time and budget, gross functional IT steering structures for IT

In order to benefit from partner-like relationships, a company's own processes should be organized first. Outsourcing is not a remedy for managerial challenges in IT management. Quoting an interviewee, there is no sense in outsourcing organizational problems. This proposal suggests that among the main critical success factors for outsourcing is the company's ability to integrate IT and business management processes.

In their research on corporate strategy, Johnson & Scholes (2001) explore the idea that the point of differentiation and value creation in contemporary companies is the organization's ability to apply and combine technologies with its' existing business processes. Mata, Fuerst & Barney (1994) present similar views, stating that managerial ability is the primary source of competitive advantage in fast changing business environment. Carr (2001) emphasizes the importance of integrating technologies with product operations, and thus initiating new value creation. Peter Drucker (2001) argues that managerial skills and an organization's ability to learn are the key factors in using IT to positively contribute to business value. Keen (1993), as well as Dvorak, Holen, Mark & Meehan (1997) state that management ability ultimately determines the company's success.

Clark (2002) is in the forefront of scholars emphasizing the role of tacit knowledge within the value creation process. Technology alone cannot support professional business processes and continuous improvement. Motivated and educated personnel can contribute to cost savings by re-assembling, rewiring and aggregating the existing IT network elements to better respond to emerging new requirements (Hodginson & Sparrow, 2002). Change resistance is lower among well-educated employees, and they are also faster in learning new processes and adapting to changes. This view is supported by Bharadwaj (2000), Kettinger, Grover, Guha & Segars (1994), who argue that organizational agility and the ability to adapt to changes benefit the company more than first mover advantages. This too indicates that competitive advantage is less linked to technological advantage than to managerial skills and the organizational capacity to utilize the skills.

After handing over the operations, the speed in adapting to new ways of working is critical to the projects as a whole (Malone, Lai, Kenneth, 2001). The inability to transform the organization quickly and combine the existing IT systems and processes with possible new ones can lead to a situation where several systems are running in parallel and a lot of manual work is required to control the data. These problems cannot be attributed to the service provider's performance, as the root cause for challenges springs from the outsourcer's own organization.

Proposition 4. The benefits of IT Outsourcing are maximized if a company-wide consensus concerning IT function and operating environment exists

Measures: User attitudes towards IT, the level of involvement in IT system design, speed of decision making, the level of continuity in IT strategy

IT investments usually require a long-term commitment to the selected technology, and the benefits of the new systems are sometimes realized only several years after implementation. Furthermore, the investments are typically large and must be paid upfront in the project's initial stages. This can cause disagreements and climate that lead to a less optimal IT investment portfolio. This proposition suggests that IT related expectations should be realistic, and the management needs to be given enough time and support to realize the systems' potential.

The continuity and development of the services are the foremost concerns for most business customers and users (Parker, Benson, 1988). Active participation in the planning processes ensures that everyone's interests are served. The general perception of IT and recent experiences with the function heavily influence an individual's willingness to participate in the planning (Fitzsimmons & Fitzsimmons, 2000). The perception of the systems, in turn, also depends on the level of the individual's involvement in the planning phase (Clark, 2003). This again, is directly linked to the ability in managing expectations and carefully balancing the requirements of each stakeholder group (Lacity & Hirschheim, 1998). Malone & Crowston (2001), Olson (2001), Lawrence & Lowe (1993) and Hirchheim & Klein (1989) share the view and argue that attitudes towards IT development reflect the opinions of the systems and the IT function as a whole. The need for a cooperative climate is emphasized in outsourcing, where the communication to the service providers must be clear and uniform.

General consensus and co-operation improve organizational efficiency, which in turn is often attributed to an innovative use of information technology. Efficiency is about doing the right things with right resources in the optimal environment and time. Rigsby and Greco (2004) have categorized the sources of organizational efficiency into processes, roles, and strategic

alliances. Laudon (2002), Hamel (1997), and Rigsby & Greco (2003) discuss organizational efficiency as a competitive advantage in today's market environment. IT can provide tools and act as an enabler for this efficiency, however, a professional management and capable employees are required to make these tools work for maximal benefit.

Proposition 5. IT Outsourcing adds the most value to a company if IT strategy is planned as a part of overall business strategy

Measures: the selection of critical success factors (IT maturity), the level of integration in organizational planning processes

Aligning strategic IT and business planning processes ensures system compatibility and system relevance. The works of Curley (2003) and Parker and Benson (1988), as well as Heskett, Sasser and Schlesinger (2003) argue that IT can contribute to the creation of value only when applied to business operations, not by its own right. This proposition is based on the assumption that the co-operation between IT and business units should be seamless in all organizational levels, including strategic planning.

Venkatraman (1994) argues that a positive relationship exists between the value added by IT systems and the level of IT diffusion into organizational processes. The higher the level of integration, the more benefits can be expected from using IT. In the optimal case, IT planning processes are fully embedded into business planning processes (Johnson & Scholes, 1999). This view has been supported also by Carr (2001), Clark (20022), Rapp (2002), Rigsby & Greco (2003), and Hawryszkiewycz (2000).

When an information technology strategy is planned together with the overall business strategy, resource efficiency, system relevance and continuous development are assured. Integration also serves another goal: management awareness of the systems increases, which triggers learning, improves IT capabilities and shapes positive attitudes towards the systems (Parsons, 1983).

As stated in Chapter 2, contemporary research on IT outsourcing argues that the most value comes from outsourcing deals that include strategic transitions. In order to accommodate such collaboration, IT management must find a balance in serving the company's long term strategic targets and reacting to emerging new requirements (Goolsby, 2004).

Proposition 6. Clear division of roles and well-defined areas of responsibility in the beginning of the project improve efficiency and ensure that the co-operation begins on good terms. Strategic and organizational compatibility are just as important to value-adding partnering as complementing resources.

Measures: Number of conflicts, exchange of value information

This proposition addresses the linkages between the two basic assumptions regarding critical success factors in outsourcing. It proposes that defining roles and responsibilities in supplier interface is just as important as describing them within own organization. Monitoring and control systems are easier to design and agree on if organizational structures, roles and task arrangements are planned together (Rapp (2002), Laudon (2000). This type of joint planning is possible only when the companies' strategic and organizational compatibility are ensured (Lacity, Willcocks & Feeny, 1994).

The IT outsourcer and service providers typically have a natural conflict of interests when entering the co-operation. Lewis et all. (2001), Bent & Furton (2003) and Malone (1994) remind companies of the risks of hardened relationships. In partnership cases, an extensive mutual dependency both technically and strategically can lead to expensive write-offs. However, reviewing the existing contract is more economical than finding a new partner (Gonchar, 1997) and so good relationships also have clear financial impacts.

Companies with high-value partnerships are better able to overcome difficulties and develop their relationships (Barta & Zabow, 2003). Ramirez & Wallin (2000) emphasize speed and flexibility as the main sources for a competitive advantage in partnering. In well-structured partnerships, learning, business focus and growth are shown to be more efficient than in companies operating alone (Beekman & Robinson (2002), Delporte-Vermeiren (2003) and Roehaermel & Deeds (2002)).

Proposition 7. In-house IT personnel play a critical role in IT management even when the function was, or parts of it were, outsourced

Measures: Parties involved in collaboration, IT personnel's role in value creation

With this proposition the Author wanted to highlight the importance of developing IT-house (managerial) competencies even the IT systems were outsourced. Typically, an IT manager should be able to take a techno-economical view of the systems and, in addition to technical

expertise, have a good understanding of the company's business processes and overall objectives.

The external service provider seldom gets to the core of his customer's operations, nor understands the legacy systems and their linkages to businesses (Rothaermel, Deeds, 2002). However, outsourcing typically changes the tasks of in-house IT personnel towards more managerial and coordinating roles, as well as introduces completely new tasks to the organization

4.2 Controlling IT Investments

In order to make informed decisions, managers need to have access to reliable, fact based data. Research Question 2. "How can an IT investment's business impact and baseline savings be reliably measured and controlled in outsourcing?" is addressed with three propositions. These propositions discuss various considerations in selecting evaluation and analyzing techniques for IT outsourcing projects. In addition to measuring, the propositions also discuss benefit management and joint planning processes.

Proposition 8. Measures for evaluating optional IT investment projects should be developed separately in each individual case. The measures should include enough qualitative and quantitative elements to emphasize the investment's strategic potential.
Measures: the use of qualitative measures, the type of control processes, employed performance evaluation criteria

This proposition build on the assumption that the investments vary significantly in regards to complexity, length and technical characteristics, which makes it impossible to use the same criteria for all cases. Furthermore, different types of companies and situations require different data, and therefore the measures should demonstrate all the value propositions for various stakeholder groups (Sawhney & Parikh, 2003).

The most suitable IT measuring techniques depend on the field of industry the company operates in, it's competitive position, maturity, and approach to technology (Ballantine, 1994; Willcocks & Lester, 1994 and Hochstrrasses, 1990). Kambil, Henderson & Mhosenzadeh (1991) and Breadley & Myers (1988) propose firm specific tools and techniques for IT investments, because benchmarking and comparisons to industry standards do not give much added value in

the case of IT. Cost allocations, structures and impact of the heritage systems make each company's situation unique and comparisons biased (Barta & Zabow (2003), Gonchar (2003).

In company level performance can be divided into economic and strategic performances. The earlier refers to short-term performance, whereas the latter describes more complex causal chains and relationships (Kaplan & Norton, 1998). Non-monetary dimensions, including measures like business continuity, accumulating knowledge capital and strategic fit describe the investments' future potential and relevance to business operations much better than directly cost and SLA related controls. In the possible case that the agreement involves strategic transitions, ex-ante controls like value chain, scorecard and real options approaches can give the best result in evaluating the state and potential of the investments and the relationship.

In order to analyze the importance of these strategic dimensions it is crucial to be able to describe or even quantify these seemingly intangible and non-monetary values (Hochstrrasses, 1990; Peters and Symons, 1990). The difficulties in doing so often limit the introduction of innovative measuring techniques (Breadley & Myers). Also, qualitative measures alone can not be used as a basis for decision making, but rather are recommended to be used in addition to traditional finance & control data.

Proposition 9. Integrating and streamlining decision-making processes with the outsourcing partner improves efficiency, ensures end-to-end visibility and reduces cost.

Measures: Company-wide processes implemented and in use, information available and in the right format for decision-makers, data transparency

In outsourcing cases, harmonization of decision-making can result in increased cost-efficiency, smooth co-operation and improved cost control. The level of process integration usually increases with the scope of the outsourcing contract. Proposition 9 suggests that process integration is central to effectively controlling and measuring value-adding partnering, and thus should be among the main targets during the transition project (Laudon (2000), Lacity & Hirchheim, (1995).

Harmonized control processes and support systems for decision-making enable exchange of high-value information and also improve the quality and speed of decisions (Laudon, 2000; McNamara & Vaaler, 2002, Clark & Collins, 2002). Wang, Kleinman & Luh (2001) suggest that properly implemented co-ordination processes are among the most critical success factors in

supplier collaboration. Lack thereof can lead to serious misinterpretations of the other party's intensions. Unclear processes have also been nominated as one of the main reasons for failure in collaboration initiatives (Boland and Tenkasi, 2001).

Proposition 10. IT solution's business value needs to be systematically managed. Benefit management system consists of business oriented mindset, methodology and tools.

Measures: IT's contribution to value creation agreed on and communicated across the organization, system relevance measured systematically, IT systems evaluated in business terms

This proposition suggests that IT solution management would benefit from being managed like a business entity with its own processes, customers and targets. A corporate IT department should be viewed as an alternative to external service providers, and evaluated according to similar principles. This "internal supplier" view of IT increases user awareness of IT delivery cost, helps to identify IT enabled benefits, and raises the department's profile. Expected IT enabled benefits can be incorporated into future budgets, and business units can take advantage of the cost savings ante annual planning phase (Kosonen, 2004). Furthermore, this type of accountability improves commitment to the future business value (Curley, 2004).

Value creation begins in the project initiation phase when a business case quantifies benefits on a mutually agreed level of detail. Project deliverables would be communicated in business terms, such as IT customer pull, strategic impact, decreased business risk and end-to-end performance improvement. Often used measures in business cases also include the level of innovation and learning, end user satisfaction and impact on key business variables (Kaplan & Norton, Laudon, 2000). Conversely, while the business cases emphasize business oriented targets, once the systems are up and running, reporting usually focuses on cost and technical performance (Olson, Malone, Smith, 2001). However, in order to systematically manage benefits, the systems' business value should be clear throughout the development and service delivery processes.

4.3 Summary of the Propositions

This research effort proposes that the company internal factors contributing to the highest returns on investments in outsourcing are high-level integration of IT and business operations, skilled management and well-defined processes. Furthermore, it proposes that the maximal benefits from outsourcing deals are obtained through value adding long-term contracts with joint profit and loss incentives.

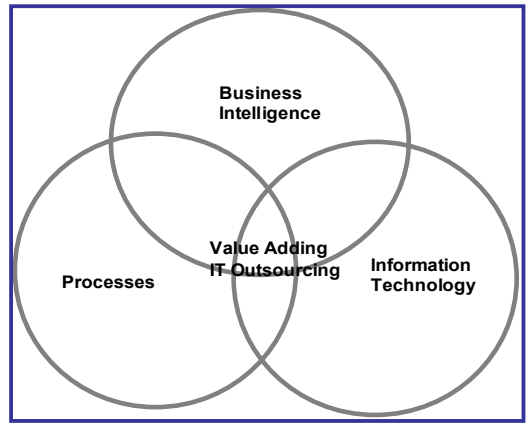

Figure 16. The Main Elements of Value Adding IT sourcing model

It also emphasizes the importance of using customized measures, and proposes linking an IT system's performance evaluation to that of the company's overall business objectives. However, as the right mix of ex- ante and ex-post measures depends on numerous variables, the study does not take a position on how and when to apply each technique.

5. THE EMPIRICAL ENQUIRY

This chapter presents the case companies and describes the data collection procedure. The companies were selected to represent different types of international corporations with multi-layered information technology requirements. All case companies use advanced information technology to add value to their products and services in various stages of their life span. Also, IT is used to improve process efficiency and enable implementation of new types of business models. Each company operates in a different field of industry and had grown into its' current form by following very different paths.

Consequently, the IT systems were also in different stages of evolution and maturity. Also, the companies' targets and scope in outsourcing were very different, which enabled the examination of various types of outsourcing projects. Consequently, all case companies had recently outsourced parts of their IT systems and had further restructuring projects ongoing. This worked very well with the research proposition in regards to the relation between IT maturity and outsourcing. As the projects were still fresh in the informant's memories, finding participants for the study was relatively easy. The companies' and informants' identities are kept confidential.

5.1 Data Collection

The data from the case companies was collected between September 2003 and April 2004. The initial contacts in the case companies were those of IT managers who then referred the author to other relevant informants. The main source of data was in-depth interviews with company representatives. During the initial phases, the reason, targets and scope of the study were explained to and discussed with the interviewees. These early views and comments were then used to shape and improve the relevance of the research propositions.

With each company the aim was to interview relevant senior managers from the business functions, IT managers who were responsible for either outsourcing decisions or collaboration management, and relationship managers who were involved in the supplier interface. Due to the strong process focus, the referred informants also included finance and control managers, as well as process development professionals. In order to validate the findings and avoid biases of only talking to decision-makers, a few typical end users were also brought into the process. 45 persons were interviewed in total. A list of the interviewees and their position in the case companies can be found in Appendix 3. The data was collected in semi-structured interviews either in person or in form of a teleconference, which was supported by an email exchange of documentation and feedback.

In most cases, the interviewees were first contacted by telephone. The author presented the dissertation and told the interviewees how they had been referred to the author. The interviewees then received a description of the research project, research questionnaire and their proposed area of contribution to the study by email, so as to familiarize the interviewees with the subject and prepare them for the interview. This process enabled maximal utilization of the time available. The interviews typically ran an hour long and covered the topics more extensively than the pre-designed questionnaire (the main body of the questionnaire in Appendix 1). The interviews were then translated into English and sent to the informants for comments and approval. Even more, a number of the interviewees participated in the process more actively and supplied relevant documents including process descriptions, strategy material, standard operational procedures and data from the outsourcing projects. Appendix 4. summarizes the research operationalizations by proposition.

5.2 Introduction to the Case Companies

This chapter presents the case companies focusing on information technology management and related decision-making processes. A special emphasis is placed on IT strategy, its' evolution

and links to overall business strategy. The evaluation, development and management processes for information technology are examined by focusing on cross-functional co-operation, outsourcing arrangements and underlying processes.

5.2.1 Company A

5.2.1.1 Introduction to the Company

Company A is one of the world's leading telecommunication equipment providers. It employs over 50 000 persons in over 170 countries across the world. The company's business objective is to strengthen its' market leadership by creating personalized communication technologies for people's individual needs. It also has a history of contributing to the development of new technologies, systems and standards for mobile communications. The company has established alliances with other service providers in order to make mobile access to services easier for the end user. Company A has entered several joint ventures over the years, particularly in the areas of manufacturing, research and development. Regional joint ventures have proven to be an effective way to combine the company's global technology leadership with strong local partners so as to accomplish faster and higher market penetration in new and emerging markets.

In this research effort, Company A represents an international high technology company with advanced, mature IT systems. Advanced information technologies are integrated not only into the product and service offering, but also into the company's internal processes. Data from the company included 21 in-depth interviews, participant observations, strategy, process and project documentation, and reported metrics. The interviewees included global and regional IT managers, development managers, process developers and business unit representatives. The informants mostly represented top level global and local IT management. Functionally most interviewees worked closer to general portfolio management and service delivery than development. In addition, also relationship managers, communications personnel and human resources representatives were involved. The questionnaire addressed both the overall company strategies and more specifically recent IT outsourcing projects.

5.2.1.2 Information Technology Strategy

An innovative use of information technology is central to the company's mission to enhance people's lives through wireless communications opportunities. The company devotes substantial amount of time and resources to creating standards and specifications for the whole communications industry. This type of industry creation by networking with customers, partners and competitors is central to Company A's strategy. Within its' own organization IT and business

representatives are in constant dialogue and aim to develop processes and IT portfolios to support these targets.

Information technology services are mostly delivered by an in-house IT department. The department consists of about 1500 employees operating in over 40 countries. Today, processes are harmonized to a great extent on a global level. The network structure is centralized and the development of services is concentrated in a few selected locations worldwide. Service introduction and deployment are handled on a regional level.

Both the IT systems and related management practices have gone through a long evolutionary path. Management focus has shifted to new areas due to the maturing of systems and the changing of business focuses. The latest management strategies have emphasized extended organizational capabilities and location independent services. The drivers for this new type of organizational structuring include ongoing digital convergence, increased knowledge complexity, and globalization. The acknowledged key challenges in the increased networking include an effective resource usage (both external and internal resources), and value creation and capture.

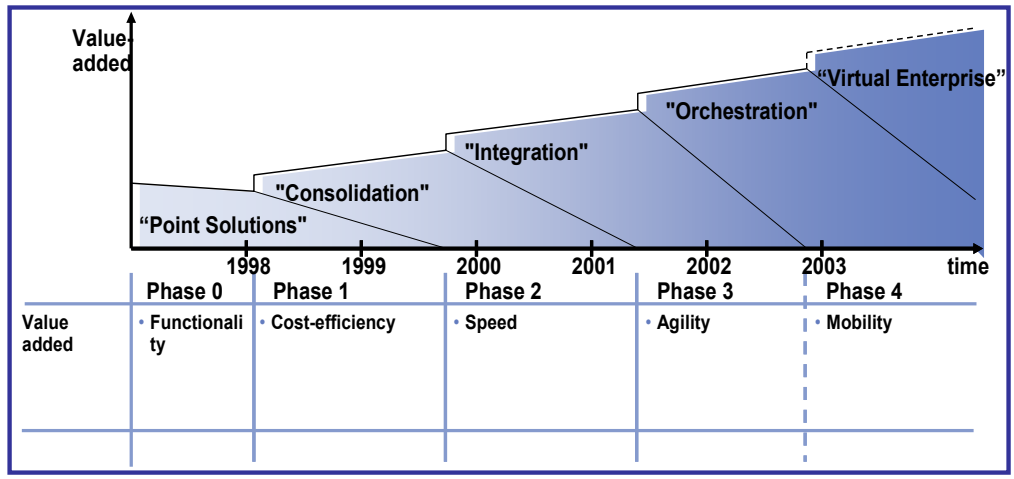

Figure 17. Evolution of Company A's Focus Areas in IT System Management

According to the director of IT operations, finding the right 'formal' governance structure for different types of cross-company and cross-industrial activities is crucially important for both effective value creation and capture. Extended enterprise structures need various kinds of 'formal' governance mechanisms, where the unit of analysis goes well beyond the traditional boundaries of the company. In order to benefit from the networked service creation, the companies must develop certain capabilities in house. These key competencies include a

capability to vision, from global intelligence networks, modular structures and process, and an ability to scale operations quickly at an affordable cost.

Recent experiences from networking have emphasized the importance of top management involvement in connecting and combining different resources across the company, as well as that networking activities can not be evaluated or managed separately from the other company's value creation processes. Also the importance of informal expert networks was emphasized. The nodal members of these networks are often more important for the success of the company than managers and executives.

5.2.1.3. Information Technology Management

Company A's information technology department is responsible for not only continuity, quality and (cost-) effectiveness of the company's IT services, but also the meeting of established levels of service and a continuous renewal of existing portfolio. The IT department is considered a platform that serves all business units through a service portfolio streamlined with business operations. The IT management's tasks include developing new innovative services, defining use cost for existing services and handling change management within the IT environment. This includes impact analysis, release acceptance, and performance and capacity planning. The department also takes the main responsibility for decisions about physical location of the service delivery. The information technology function is also responsible for defining and developing service management sub processes like service level definitions, capacity planning, cost control, compatibility testing and availability management. IT management operates in close co-operation with other business and support units, and is represented in top level management board meetings.

Effectiveness in IT management is ensured by strong focus on the processes. The importance of proper documentation and automation of processes is highlighted by the size and geographical diversification of the company. These procedures are recognized as having a direct impact on cost, quality and accumulated learning. Therefore, investments have been made so as to develop and integrate tools and processes for IT management, system development and maintenance. Processes are promoted by frequent trainings and incentive programs. Good documentation and easy access to information are also promoted, as thus enabled synergies in the form of accumulating process excellence and re-usability of the solutions are expected to bring considerable savings to the company. Root-cause analysis and problem management are examples of continuous improvement actions that lengthen the expected life span of the services.

Roadmapping and portfolio management processes are applied throughout the service range. Fundamental principles for new service introductions include e.g. a solid business case, net benefits and wide user base. IT managers emphasize that only the services in use deliver real benefits. Therefore, investment programs must generate enough usage to provide real measurable benefits. Business cases are monitored throughout the development program and checked to make sure that its' assumptions still hold true. Steering groups are in charge of making go/no-go decisions in each development milestone meeting. After the development effort is finished, a post-program review is conducted in order to collect learnings for future projects.

End user services are supported by a globally-implemented support model. Business-related services are planned in close co-operation with operating business units both on global and local levels. Although the implemented IT solutions are mainly global, due to local requirements, customized, local solutions are also enabled. The support for services is organized by a multi-tier support model. In parallel with end user support, application support is organized using a key user network. In each country and region there are key users who support end users and contribute to the further development of the solutions in key user forum. The strength of the arrangement is the accumulation of learning and local presence. One risk typically associated with this type of high-level user support is high cost.

5.2.1.4 Position on Outsourcing

Company A's business strategy is to concentrate on the highest value-added products and services, and outsource what is not strategic – so long as there is a business case for it. In case of IT, the drivers for outsourcing were mainly organizational, aiming to optimize resource usage and concentrate on core business. The other main outsourcing drivers were the shift from fixed cost structures to the implementation of use-based variable cost, and resource optimization.

Company A uses various IT outsourcing models, ranging from open books partnership to so-called 'black box design'. The earlier type of arrangement involves a high level of commitment and co-operation. The work is carried out following Company A's monitoring and control procedures, as well as their tools and even facilities in some cases. The latter sourcing model refers to contractual development, where the best in class supplier produces products or services according to requirement specifications appointed by company A, but also following their own processes. In this arrangement, the ownership for the component or service can remain with the supplier.

Application and platform development are done either in-house, or in very close co-operation with partners. Data warehousing and user care operations have been partly outsourced in recent years. The general computing infrastructure, including related services, server hardware, operating system and platform, was outsourced in 2002. The main purpose for outsourcing was rationalizing the usage of the system, as company A's requirements did not fill the existing capacity. A contract was signed for three years with the option for extension. Under the terms of the agreement, the supplier would run and manage Company A's business infrastructure operation centers in four countries. The supplier will manage Lotus® Notes groupware, Microsoft(TM) Exchange messaging and file print and sharing services and 3,000 servers in seven operation centers worldwide.

Approximately 260 IT employees moved to the service providers' organization as a result of the agreement. Outsourcing minimizes Company A's financial risks in IT services by defining specific cost-savings targets and jointly sharing any savings over and above the target. Cost reduction benefits to Company A are expected to be approximately 25 percent over the three-year term. The contract was made on a global level, as Company A's IT network topology is centralized. The supplier is paid by transactions and partly by back lock. There is a fixed fee based on an estimated number of transactions, which is reviewed quarterly, although adjustments can also be made between the reviews if necessary.

Initial experiences from the transition project and collaboration were positive. The outsourcing partner was a long time supplier before the outsourcing took place, and therefore strategic fit had been ensured and common processes established. The actual change project lasted for half a year, an average for projects with a similar scope. There were no issues with change resistance as the reasons for outsourcing were clear and well communicated throughout the organization. Collaboration follows Company A's procedures, and the partners participate in change management in all affected areas. The outsourcing partner takes part in developing Company A's systems through an official change request process, where they can submit propositions with pre-defined tools and templates for a gross-functional evaluation board.

Supplier performance is monitored continuously, and achieved savings are divided between the companies. Companies operate with open books for the first few years into contract. The contracts also include clauses for mis-performance. In the case that conflicts arise, nominated persons from the both companies would be available to negotiate the situation and report to the management of their own company. In case escalation was required, executive sponsors would be called up on the negotiations. In the initial phases, the only arguments that arose concerned

asset management. During and after the hand over, there had been some unclear issues regarding the ownership of certain network elements. The main lesson achieved from the project was that planning and documenting must be extremely detailed, and a partnering agreement must exist before the outsourcing takes place. In the case of Company A an early-established mutual trust and a long term commitment to co-operation helped when dividing the unexpected expenses and workload.

5.2.1.5 Managing IT Outsourcing Projects

Company A has a standardized outsourcing support concept that describes how the IT department supports the company's associates in outsourcing cases. The concept includes clearly defined roles and responsibilities, a project model with needed tools (e.g. scope agreement template, use cost estimation principles) and depicted roles in outsourcing interface. Additionally, comprehensive communications material and general plans for further development are included in the package.

The project team consists of technical personnel, business owners and relationship managers. The stakeholders in the outsourcing project form a steering group that the project team reports to and uses for escalation. The stakeholders are presented in the Figure 28.

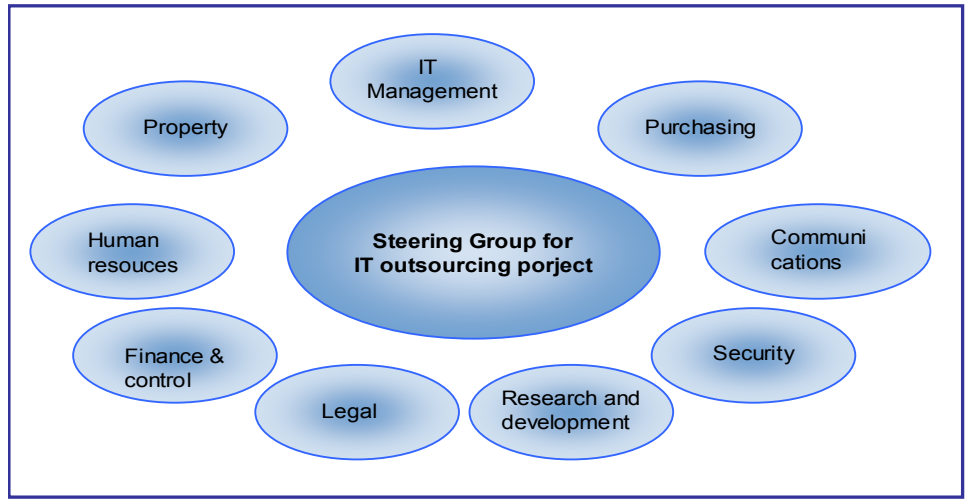

Figure 18. Stakeholders in a typical outsourcing project

The process is divided into three parts: study, plan and implementation. The first phase provides valuable information for business case validation as it points out potential problems in the planned collaboration, as well as gives the first cost and schedule estimates. The readiness for

collaboration and potential risks and hidden costs are assessed prior to business case calculation. A standard project proposition template includes the description of the project, business case, service provider and operating environment.

The planning stage validates that the intended new owner is capable of collaborating with the company and that a planned level of collaboration can be implemented without compatibility or continuity risks. All applications and equipment in scope are listed with their interfaces to other services and business processes. Project costs and investment requirements are estimated and the collaboration capability is verified for each individual site separately. The contract is signed after this stage is completed, and the case becomes public.

In the implementation phase, the collaboration environment is deployed and the responsibilities are transferred to the new owner as well as to the in-house support organization. The handover is followed by a so-called ‘phase out’ period where the operations are driven up and gradually start to follow pre-defined processes. Also later the collaboration is very close, and controlled by continuous performance metering and periodical audits.

5.2.2 Company B

5.2.2.1. Introduction to the Company

Company B is a multinational technology corporation operating in several fields of business. The company is a leader in power and automation technologies’ industries. The corporation consists of a group of companies operating in around 100 countries and 700 subsidiaries, employing around 110,000 people. The company has developed and maintains infrastructures in many countries. In recent years, the company has increased its focus on alternative energy and advanced product technologies in power and automation industries.

The company’s strategy is to offer more value for customers while building a leaner organization. Customer orientation and environmental sustainability are central to the company’s values. The company aims to ensure customer competitiveness by supplying them with top-quality products and the latest technologies. This is done through a patented concept of linking products and systems together with the information needed to run, monitor and maintain information management systems. IT solutions enable customers to benefit from increased efficiency, reliability, production yields and a return on asset (ROA), and lower production and maintenance costs.

In this context Company B represents advanced information technology users. The company uses information technologies to add value to their products and services and differentiate from competitors. Also, the company takes an active role in their customers' value creation process and gives not only full support and training but also advice and ideas on how the customer could maximize the benefits of the applied technologies. Company B cooperates with over 70 universities and research institutes in order to keep up with the latest developments in the field. Advanced IT solutions are becoming an increasingly integral part of the company's product offering. However, the company is not yet actively involved in IT industry creation and standardization work.

Because the author had no prior experience working with Company B, the data collection started with a review of press releases, publications and internet searches on the company's IT supply contracts and outsourcing projects. The manager of the company's IT development was contacted in October 2003 to plan the execution of the data collection and to nominate the first interviewees. The actual data collection took place during October 2003 and March 2004. Data from company B includes 15 interviews with global and local IT managers, development managers and consultants. A few business units and finance and control function were also involved. In addition to one-to-one interviews, the data sources included process documentation, company presentations and results from recent employee surveys. The data describes not only general company wide processes and policies, but also experiences from a recent outsourcing project. Outsourcing contracts have been signed on a country level, and this dissertation focuses on one of these local projects.

5.2.2.2 Information Technology Strategy

According to the strategy material, information technology solutions support the company's mission to permit their industrial and utilities customers to achieve superior business results by providing services to maximize the life and performance of their production assets. Company B recognizes the importance of fast decision-making measured by time to action, and emphasizes the information systems' role in the process.

The company uses open architecture in its' company wide IT architecture. Company B has developed a platform to integrate diverse automation and information technologies in real time to provide better support for business decisions, and standardization of global processes. An open platform allows for an inclusion of standard or proprietary applications, for production planning, optimizing control, and administration. True plant-wide information integration capabilities are

obtained through the use of open technology, and include TCP/IP, SQL, DDE, and the X Window System. The objectives for the company information system emphasize easy access to existing data both horizontally and vertically. The focus is on the high level of integration and automation, asset optimization and collaborative business processes. This is enabled by an object orientation and a close cooperation with various business entities. The same principles are applied to the comprehensive IT solutions that the company offers to its customers in a wide range of industries.

Information technology is considered increasingly central to the company's business operations. However, IT strategy is still planned separately from the corporate strategy. On the other hand, co-operation is still close even at the highest level and the head of IT department reports directly to top management. The reason for this is the diversity of the IT requirements by various businesses. The solutions have not been re-used to a great extent in the past, but in recent years the trend has changed through increased modulation and object based approach. In addition to traditional performance metrics, system performance is evaluated based on its contribution to engineering, production, maintenance, and sales efficiencies. IT strategy also places strong emphasis on cost efficiency. According to the Company B's IT manager, these targets have been met very well in recent years, and the company has managed to deliver world-class services at lower-than-industry-average cost.

5.2.2.3 Information Technology Management

Company B's in-house IT personnel consists of 2700 persons, who are involved with developing applications and hardware for core business units. Outsourcing agreements with the IT suppliers have been done separately for each country in order to optimize performance and cost. Business units operate in different industries and markets, and thus no economies of scale are sought in partnering. IT strategy is proactive and flexible. Visibility into the future is poor and decisions are made by reacting fast to changes and requirements from environment. An annual IT operational plan gives the high level guidelines that are also discussed with corporate strategists.

Company B's strategy team deals with IT issues annually. Global IT department has a high level of freedom concerning IT related decisions. Their principal role is integrating and co-ordinating local operations and defining guidelines for IT processes and services. IT system development springs from local customers' needs, and solutions can be sourced locally. Large-scale projects with global impact are planned on a global level. The trend leans strongly toward smaller IT

projects with short time to profit. In prioritization situations, big customers and units are served first, and smaller ones receive fewer resources. Decision-making is dynamic and fast.

On a local level, the decisions are made by a partner team consisting of finance and control and IT managers from the largest business units. This team discusses and plans operations together with external service providers. An IT council with supplier representation and in-house IT personnel meets monthly to decide on operational issues such as change management and the execution of projects. Decisions are made based on business cases prepared by development teams in various parts of the organization.

IT investments and costs are understood and accepted throughout the organization. Internal business units have a good visibility of IT costs and thus know what the allocated IT fees consist of. There are three categories for supported PCs, which together with volume define the unit fee. Departments are encouraged to take measures to decrease IT cost by evaluating their real IT needs and required capacity. In the supplier interface, cost transparency and awareness are identified as areas for further development. There is an IT budget for general work, and additional ad hoc development is done at an arms length manner. Future trends are constantly reviewed in seminars and other research forums.

Reducing the information cycle time, increasing accuracy and improving staff efficiency requires a special blend of knowledge, experience and innovation. This used to be a challenge for the company, but in recent years a company-wide system integration has made the task easier. The new approach to capturing, aggregating and transferring information across what had previously been an unrelated information platform, has increased the accuracy and reliability of reports across the board. Security controls protect the integrity of original accounting data and limit access to specific fields. These controls, coupled with the tailoring of reports to various business' needs and simplifying one-off report creation, has freed IT resources for other more strategic projects.

Even though global processes and standards are being introduced to support the integration and harmonization efforts, resistance in service departments retards implementation. So far, global standards have raised cost and caused concerns over the speed of decision making processes. There have also been some bad experiences with harmonization efforts in the past.

5.2.2.4 Information Technology Sourcing

Company B has outsourced standard IT infrastructure services in several countries during the past few years. The impetus for outsourcing has been mainly cost driven. Other targets include concentrating on core competences and value adding IT services, while leaving routine tasks to the outsourcer. Prior to outsourcing, the services were unified globally as far as possible, so as to maximize the economies of scale and minimize cost. The actual outsourcing projects took several years. Because the infrastructure management is organized on a country level, also the outsourcing was done country by country. Part of the personnel moved to the outsourcer's organization, some stayed in-house and others were released. Company B is known for its leading technical solutions, so business critical solutions are developed in-house. Suppliers so far have not proven to be a source for innovations, and consequently, more ideas and development initiatives from the supplier would be welcome.

The success stories from other outsourcing companies in the industry played a role in making the decision. The agreement signed in 2003 was not the first IT outsourcing deal for the company. A few years back, the company signed a global outsourcing contract with a leading service provider. The deal was, however, soon ended due to issues with flexibility, speed and cost. After that, countries were given a greater degree of decision making power in sourcing issues. The lesson learned was that in IT, "one-size-fits-all" solutions do not exist, and a certain degree of customizing is always required. Since then, the company has been weary in initiating large scale IT projects.

However, vertical company wide projects are also needed. An example of such an outsourcing case is a recent eComerce project, where the supplier was asked to present the company as one global company to the outside world, and generate cross-sell opportunities between different subsidiaries. The company has a worldwide central product data repository, which is capable of handling 800.000 products from hundreds of internal divisions. The purpose of this worldwide repository is to acquire, maintain and publish the product portfolio for internal and external purposes, provide access to product information to internal staff, and to feed the eCommerce channels. The main challenges Company B faced were:

- How to support different multicultural demands from 100 countries that are exemplified by different languages, different metrical systems, different local publishing wishes, different taxonomies amongst multiple international business processes and etc.

- How to create consistent, up to date and complete product information globally

- How to acquire product information from multiple internal or external ERP systems, XML, flat files and Excel out of different countries with different taxonomies

- How to support and manage different Classification (taxonomies) standards for different countries

- How to create a flexible global repository with different departments in subsidiaries of 100 countries, who manage the product information acquisition, management and customized publishing

- How to support customized & localized publishing via print (catalogues), intranets, portals etc.

The supplier delivered a central Product Repository that manages Company B's attribute sets and classifications as well as the roles, responsibilities, access rights and profiles for all parties involved in the Product Information Management Processes. The platform loads product information in various formats such as ERP systems, flat files, XML and Excel. When the product information is imported, company B's own content managers are involved in the enrichment of the information. When the data has been enriched and validated, the information is exported in various formats that enable the use of different local applications.

The supplier was evaluated by the time it took for the product to reach the global market, cost per SKU (stock keeping unit), business readiness, and the cost for global Product Information Management and efficiency in internal and external worldwide product information acquisition process. In company's service support model application and platform support are separated. The service provider has a help desk for solving urgent end-user cases. Application support is handled by a dedicated key user network in-house. Users are also frequently trained to handle new applications and learn about computer ethics.

Experiences from outsourcing and collaboration have been mainly positive. The cost of operations has decreased and the supplier has kept SLA fairly well. The contract is reviewed annually, but adjustments can also be made more frequently if necessary. Current control techniques focus on technical performance and cost. Charging is hour-based, however, also other charging models are being investigated. There is a lot of interest for a new type of business-oriented measuring system. Yet as the environment changes quickly, performance based charging models are perceived difficult to maintain. Also, the lack of baseline data from previous years slows implementation of such measures.

5.2.3 Company C

5.2.3.1 Introduction to Company C

Company C is a global technology and market leader in special glass solutions. In addition to glass products, the company is the number one producer of processing machines and tools for glass and stone industries. Company C operates in 34 countries worldwide, and employs over 1100 people. The company is growth-driven and is expanding its operations both organically and through acquisitions. Its' aim is to improve profitability based on market leadership and faster-than-market-average growth. Acquisitions target sales and customer synergies from complementary products and networks. Organic growth is supported by an extensive regional presence and substantial investments in product development. Company C is also an active member of industry-wide development activities.

The company has been in a constant state of change since 1995, when it began its transition first into a technology conglomerate, then gradually became a focused glass processing corporation. The target for the future is to further strengthen the company's position as a market leader in all main market areas both for the glass processing equipment and value adding solutions.

All subsidiaries are wholly-owned by the parent company. Each of these units has their own board of directors that reports to Company C's corporate board of directors. Subsidiaries also have autonomy to define their own incentives and bonus schemes. Reporting lines are defined by business area, function and geographical location. This matrix structure is mirrored in all company units and serves to enable seamless communication and comparability of performance. In addition to these organizational entities, the corporation includes customer service offices in all major market areas.

Company C was selected to represent a typical manufacturing company in regards to its need for information technology. The company wants to be close to its customers and thus has a global customer service network. There are sales companies at more than 30 service points worldwide. Machine manufacturing and assembly takes place in dispersed locations around the world, and the factory operations are based on the use of subcontractor networks. In this environment reliable supply chain and communication applications are the most important IT solutions for overall operability and performance. Data collection from company C took place in March and May 2004 in company headquarters. All interviewees represented the same location, as company wide decisions and reporting were concentrated in headquarters. The interviewees

included the general management, IT management and staff, and finance and control representatives. The IT department operates under F & C function, which explains the close linkages to financial management.

5.2.3.2. Information Technology Strategy

Major changes took and are taking place in Company C's information technology solutions as well as in related management models. Due to its' fast growth in the past few years, the company has not yet had a chance to develop a long-term IT strategy. IT solutions have been implemented country-wide following their specific needs, and adjusted to existing heritage systems. The general rule is that basic infrastructure solutions are defined globally, whereas applications have been developed for local requirements. Application development has been done partly in-house and partly by external partners. In the future, the use of external parties will increase due to system complexity and limited in-house IT resources.

In the beginning of 2004, an external consultant was hired to assess the company's information technology solution and assist in planning for a more profound IT strategy and guidelines. Both the technical solutions and management structures would ideally change with the new strategy that would be implemented during the year 2004. The target was to harmonize IT solutions and processes as far as it was possible and economically feasible. A company wide reporting system for all subsidiaries was a special requirement from the businesses, where the growth is partly enabled by acquisitions. Therefore compatibility and safety issues will be key concerns in future IT development of projects.

The new IT strategy will look three years into the future, while staying agile and flexible for dynamic adjustments. According to the IT manager, information technology is considered an administrative tool that enables effective information sharing and provides support to core business operations. Communication between the business units and the IT department is casual and open. The anticipated changes are likely to increase IT cost (which is currently very low), but that is acknowledged and accepted by the business managers.

5.2.4.3. Information Technology Management

Company C's IT systems and related processes will change significantly in the next few years. Changes are expected both by the expanding scope of company operations and selective outsourcing. Effectively this means harmonizing IT systems and processes globally with external

service providers. In the future, the IT strategy will be developed on a parallel level with business strategies. Company C's own IT department will remain small with a local presence in all countries. The in-house personnel will be mainly responsible for requirement specifications and coordination tasks, while the external service provider will assume operational responsibility over the network.

In its' current support model Company C's own personnel supports all business units and countries from one point. The support is provided from a help desk that can be contacted by informal emails or phone. Statistics about the support needs have started to accumulate during the past few years, and have been used as an input for capacity planning. The support relies heavily on service providers, as most of the application development has been sourced externally. Because the support process has not been defined in detail, the statistics and baseline data for contract negotiations is somewhat incomplete. There have also been concerns about the increasing IT cost. As the existing support has been considered adequate for the current scope of IT operations, sudden increase in IT spending can cause dissatisfaction among the business management.

The decision to outsource came easily to Company C. Drivers were strongly related to business focus and the extending scope of operations. The company operates in manufacturing business where economies of scale are more important than high technology innovations. Information technology is not considered central to the company's value creation process, but rather a necessity for operational efficiency. The company has been dealing with external service providers for years and the experiences have been mostly positive. Also, IT requirements are expected to become more complex in the future, which calls for more co-ordinated approach to overall system management. As the company had not invested heavily in IT in the past and most of the implemented applications are standard commercial solutions, the change was expected to be relatively easy.

In-house IT personnel are the primary point of contact for the external service providers. IT manager reports to finance and control department, which is also responsible for supplier selection, contract negotiations and relationship management. IT cost is allocated to cost centers by the number of installed computers, regardless of the applications used. According to the financial manager information technology cost in general is considered fair and user attitudes towards IT are neutral. User base is fairly small and implemented applications few. Therefore one of the targets for the ongoing change project is to improve user awareness and IT skills.

5.3. Summary of the Case Companies

All studied companies operate mainly in business-to-business environment, which explains certain level of similarity in their IT systems and management concepts. The requirements for basic infrastructure are similar, but business requirements vary significantly. The differences are mainly caused by the nature of businesses and industries the companies operate in. Another reason for different IT structures is the way the companies had grown to their current scale. Past investments in information technology played a large role in the way the infrastructures had evolved. General development trend in all the companies is towards higher level of integration, harmonization and transparency. The companies are in different stages in this process, which also demonstrates the maturity of their IT systems. Targets for system development and outsourcing varied mainly concerning synergy gains and level of consolidation, and correlated with the role of IT in companies' core operations.

The Role of IT in the case companies:

IT was used to differentiate and add value to offered products and services. IT infrastructure was built to support business operations and related investments were planned together with business representatives. Co-operation between operational business units and IT department varied from semi-structured information sharing to systematic collaboration. Communication across the company was considered increasingly important in all companies, as well user awareness and involvement in system design.

IT Strategy:

Information technology strategy was planned as a part of business strategy, paralleled and using partly the same processes. The time and effort business executives dedicated to IT issues varied significantly between the companies. Also the planning horizons and outsourcing strategies were different. The point of authority over IT was dedicated either to development managers, finance and control representatives or a board of senior business executives.

IT Outsourcing:

All companies had outsourced parts of their IT function. Company A had signed a global multi-year contract with incentive based payment and joint development efforts. Supplier operates very close to business critical operations and is expected to add value to company A's operations. Company B has taken more conservative approach to outsourcing. Service providers deliver cost-effective services for non-core operations. Focus is on cost reduction, which is reflected in the use of country level contracts. Operations and supplier management are run mainly by local organizations with high level of autonomy. In Company C information technology is considered a commodity and the growing infrastructure needs are covered by a turn-key solution provided by an external service provider.

Processes and Control:

IT related decision-making and prioritization processes varied significantly by company. All case companies had implemented control mechanisms to systematically measure IT system performance but business related measures were used more conservatively. The trend was towards higher level of process harmonization and standardization within the company as well as among the suppliers. Outsourcing was considered to improve asset management, control and efficiency.

6. VALIDATING THE RESEARCH PROPOSITIONS

The following chapter presents the validation of the research propositions. This is followed by a cross case analysis and a short summary of the findings. With each proposition the if-then logic that was used to interpret the data is shown as presented to the informants. Cross case analysis and discussion on the result follows in Chapter 7. Data from the case companies was mapped under ten categories following the research propositions. The narrative answers to the Author's questionnaire were placed in tables by company in order to get an overview of the data, and to verify that the answers pointed to the same direction. The tables summarizing the data are presented in Appendix 4.

Typically the informants raised fairly similar issues and concerns regarding IT management, which together with supporting process documentation made it possible to draw a general, high-level picture of the company's position toward presented propositions. However, the most informative data was gathered from the interviewees' individual experiences and comments, which in some cases deviated from the ruling opinion.

Next the data was examined further with cross-case comparisons. The identified variations were then reflected to pre-understanding and existing theories on the field to explain the reasons for the deviations. Interviews and other material also presented new before neglected view points and insights to outsourcing and organizational efficiency. These views together with the stand points towards the presented propositions were then used to develop a model addressing the factors contributing to system relevance and continuous development in outsourcing.

6.1 Strategies for Ensuring Continuous Development and System Relevance in IT Outsourcing

The propositions related to research question one addressed organizational and contractual issues that contribute to companies' ability to maximize benefits in outsourcing. This chapter presents the views and opinions the case company representatives had on the optimized sourcing and management models for IT in their companies' specific situations.

Proposition 1. Optimized IT sourcing model depends on the role of IT in the company's operations.

Pre-understanding and the first look at the companies indicated a strong link between the companies' IT orientation and the type of outsourcing contracts they made with IT service providers. After closer examination it came evident that all companies had several different types of outsourcing projects and contracts. In macro-level companies approach to IT and outsourcing followed the proposed principles but in project level the correlation did not exist. The initial assumption was modified after only a few interviews with the case company representatives. The new assumption describes the companies' approaches better, and proposes a new dimension for traditional service classification and portfolio management.

Assumption:

IF IT is strategically important

- THEN targets in outsourcing emphasize added product and company value
- THEN end product/ core operations' related IT services can be outsourced
- THEN long term focus, join incentives and development projects with the partner
- THEN value adding/ partnering types of sourcing models favored

IF IT is considered a commodity

- THEN targets in outsourcing emphasize short term economic gains and minimized spending
- THEN cost driven service procurement models with few long term incentives
- THEN low level commitment to partnering, shopping around for competitive bids, no exchange of value information with the supplier

Modified assumption:

The more value adding and business critical the individual service or solution is, the more commitment required from the supplier in the outsourcing contract.

The companies' position to using IT was first assessed by directly asking the personnel how they perceive the role of IT in their operations. The answers were then reflected to the proposed categorization for IT maturity as presented by Rapp (2000) and Carnegie Mellon University scholars (2002) in page 28 . Most informants from the companies had very similar views on the role IT played in their operations. This was attributed to good internal communication and the informants' position in the organizations. The perception of the companies' approach to outsourcing varied some among the interviewees. This could partly be explained by the level of their involvement in the outsourcing projects, as well as their personal experiences and opinions of the changes. A summary of the related answers can be found in Appendix 4.

In company A the approach to IT outsourcing was a little more systematic than in the other companies, which is partly explained by the industry the company operates in, and partly by the strong process focus in the company. The director of IT operations in Company A is actively involved in developing IT management methodologies and the industry as a whole. The latest innovations in the field are absorbed to company's operations and co-operation with business units is developed continuously. The informants described the role of IT as strategic source of competitive advantage and differentiation, as well as an enabler for new organizational models and business.

Using the earlier described categorization for companies' IT orientation, company A represents the highest level (3) when discussing the strategic use of IT, whereas company B fall under the middle category (2). The company has implemented the latest information technology applications and the level of IT competency is very high. However, Company A also outsources business critical and customer interface related applications. The interviewees described IT central to product differentiation and for maintaining market leadership in their field of business. Yet the director of IT in Company B states that IT department works in extremely cost conscious environment, and pressure to show cost efficiency influences investment decisions heavily. ROI and short pay back time are the principal evaluation criteria for investments. The strategy is planned only for short term, which gives great flexibility, but can also limit system features and possibilities in networking.

Company C has not incorporated IT related topics into their business plans, and thus represents Level 1 company in the proposed categorization. As stated in Appendix 4., IT was seen as an operative tool to improve efficiency, quality and communications, but also as a factor in product differentiation. IT content in end-customer solutions varied significantly by product group, which can partly explain the variation in the views. According to the IT manager in Company C the system development in the company has been incremental and addressed the new requirements as they emerge. The new strategy will be more proactive and emphasize harmonization and improved planning.

Table 4. describes the case companies approach to IT management, their IT maturity, and its' relation to the selected outsourcing strategy. The suggested relation between the IT maturity and expected functional benefits was evident in the case companies. However, the selected outsourcing strategies did not directly reflect the strategic importance of IT in general level as assumed. The companies' use of various outsourcing models and techniques further highlights the complexity of IT management and the number of variables affecting the optimal outcome of the projects.

IT Maturity	Company	Approach to IT	Outsourcing Strategy
Level 1	**Company C**	IT treated as a cost. Lasting functional benefits neither sought nor expected. Network build on standard commercial IT packages	Outsourcing with one-stop-shop principle. Also local variants of the contracts.
Level 2	**Company B**	IT recognized as a strategic tool to improve competitive position. IT planning constant, incremental.	Semi-customized IT inputs from long term partners. Also body shopping.
Level 3	**Company A**	IT fully integrated into a business strategy, operations and organizations. Functional benefits pursued continuously	Various outsourcing strategies ranging from service procurement to strategic joint ventures.

Table 4. Strategic use of IT and outsourcing strategies in the case companies

Next the interviewees were asked to describe the targets and scope of their outsourcing projects. In Company A the level of long term commitment was strongly correlated with the type of services outsourced. In Company B the service contracts were made in country level, and generally included non-product related services. Company C, in turn, had few strategic incentives with their outsourcing partner, and due to the type of services had not developed too strong dependency on the supplier. As it became evident that the companies used several different types of outsourcing contracts depending on the services and locations, the initial assumption was discharged.

The proposition was then modified and different outsourcing projects were placed in companies' value chain. The more value adding and business critical the service or solution was, the more commitment was required from the supplier in outsourcing contract. Although the value chain model was new to the interviewees, the most had seen similar presentations earlier, and the approach was generally considered to apply with certain restrictions. It was pointed out that in each case the situations and drivers for outsourcing vary, and thus heuristics do not apply very well. A manager of IT outsourcing in Company A stated that in addition to risk management there is a vast number of variables that need to be assessed with the steering group in each case. The scope, urgency and linkages to other services vary case by case, and therefore it is impossible to create comprehensive guidelines and rules for the evaluation process. Table 5. below summarizes the data from Company A.

Company A	The role of IT in the company	What is Outsourced?	Targets in Outsourcing?	Strategic Incentives, level of commitment in outsourcing?	Applicability of the value chain approach
Person A1	Strategic, source of competitive advantage	Data computing Service Desk, several application development projects	Flexibility, better use of assets, cost, focus on core	None, high/ medium, case by case	Better than proposed division based on maturity
Person A2	Strategic, industry leader	Data computing Service Desk, project management	Flexibility, cost, focus on core activities	Depends on the case, target towards closer, long term partnering	Applies
Person A3	Strategic, central part of products	Data computing Service Desk, single projects	Better use of assets, focus on more value adding tasks	Depends on the service, some high commitment, some none	Applies fairly well
Person A4	Strategic, differentiating products, operational must	Data computing Service Desk, external consulting used for projects	Flexibility, better use of assets, cost	Both black box and white box, depending on the service	Applicable
Person A5	Strategic, ensures world class performance	Data computing Service Desk, process description tasks	Better use of assets, total cost	Depends on the service, some high commitment, some none	Applies
Person A6	Strategic, increases company value	Various service development activities, service desk, computing	Better use of assets, cost, organizational reasons	Depends on the service, some high commitment, some none	Principle applies
Person A7	There would be no company A without advanced use of IT	Computing, service desk	Better use of assets, focus on core competencies & advanced technologies	Depends on the service, some high commitment, some none	Applies both high level and single cases
Person A8	Strategic, needs to be defined more detailed	Various service development activities, service desk	Flexibility, better use of resources	Depends on the service, some high commitment, some none	Applies
Person A9	Strategic both as a part of product and services and supply chain	Service desk, various project tasks	Better use of assets, outsource standard tasks	Depends on the service, some high commitment, some none	Applies in principle
Person A10	Strategic, both to operations, products and innovation	Various service development activities, service desk	Flexibility, better use of assets, focus on value adding	Depends on the service, some high commitment, some none	Applies
Person A11	Strategic, leading edge applications used	Service desk	Efficiency, resources allocated to more complex tasks	Depends on the service, some high commitment, some none	Applies
Person A12	Strategic, continuously developed	Service desk	Accommodate peaks, better use of assets	Depends on the service, some high commitment, some none	Applies
Person A13	Strategic, central to everything	Computing, service desk	Better use of assets, standard services do not add value	Depends on the service, some high commitment, some none	Applies
Person A14	Strategic, present in all operations	Various service development tasks, service desk, computing	Focus on core competencies, competence profile & learning focus	Varies	Applies
Person A15	Strategic, ensures market leadership	Various service development activities, service desk	Core competence focus	Depends on the service, some high commitment, some none	Applies
Person A16	Strategic, high end, best in class	Service desk, data computing	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A17	Strategic, source of competitive advantage	Service desk, consultants used extensively in projects	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A18	Central to efficiency both externally and internally	Various service development activities, service desk	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A19	Strategic, source of competitive advantage	Various service development activities, service desk	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A20	Strategic, source of competitive advantage	Service desk	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Conclusion	**Strategic, a central to product offering and future competitiveness**	**Standard services & end product related, development tasks – a mix**	**Economic, organizational, strategic benefits, stay at competitive edge**	**Varies case by case: high and low**	**Significant correlation exists**

Table 5. Company A: The applicability of the proposition 1

The findings supported the pre-understanding that IT systems consist of a portfolio of investments each of which needs to be managed individually. Based on the findings and the pre-understanding a categorization for IT investments is suggested as:

I. Sustaining investments for running operations´

II. Incremental investments for accommodating organic growth of the business, and

III. Growth investments for supporting business growth initiatives.

IV. An additional class would be investments in innovations and experimental technology.

Most typically the sustaining investments include commercially available software with little or no need for customization. The IT solutions' business value increases with their level of strategic importance and innovativeness. Simultaneously, the level of system customization and complexity typically increases.

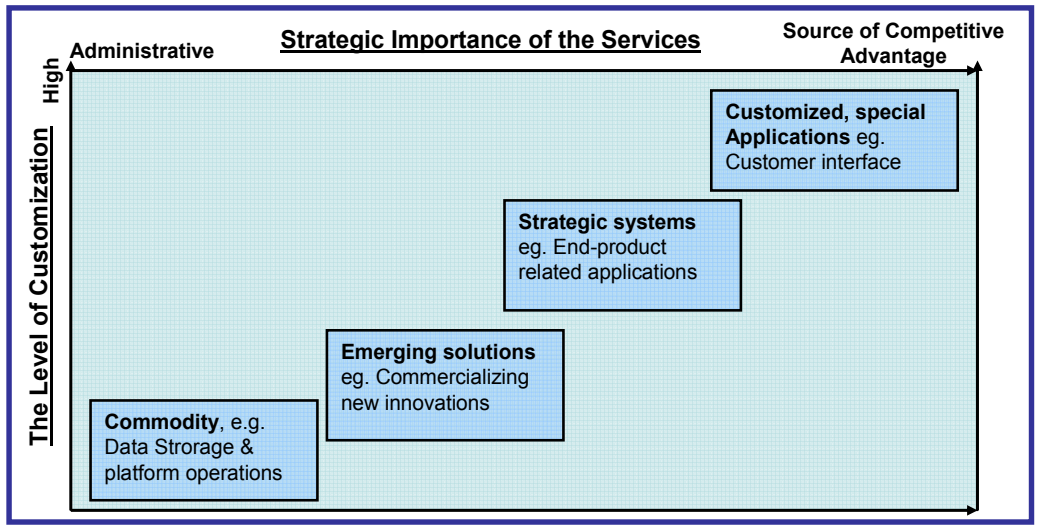

Figure 19. IT Outsourcing Projects Organized in a Value Chain

This categorization can be used to segment investment portfolios into vendor management view, and rethinking the investments in a value chain. The classification may also be used as an additional dimension in portfolio management and prioritization processes.

Proposition 2. IT Outsourcer's contribution to company's business performance will be improved if the service provider and the outsourcer have shared profit and loss interests

The informants' views and experiences on shared profit and loss interests with the outsourcing partners were two-folded. While the case company representatives supported the idea of capitalizing on joint improvement projects and increased supplier responsibility of the end-

product, implementation of such incentives was postponed and considered complicated, even risky. Companies that had included non-monetary targets into their outsourcing contracts often did not have systematic control or evaluation processes to follow up the progress of these initiatives. Therefore there was little hard data about the suppliers' performance or contribution improvements prior and after outsourcing projects to back up the proposition. Thusly the validation is based on the informants' opinions and perception. The basic assumption here is that increased co-operation with IT partner contributes to performance improvements across the organization, and can be best promoted by shared profits and losses.

Assumption:

IF shared incentives with the partners

- THEN higher level of commitment, more focus on the big picture
- THEN better overall performance (both in task & group level)
- THEN performance monitoring and rewarding planned accordingly
- THEN joint development efforts, faster learning

IF suppliers responsibility limited to service delivery

- THEN focus on short term economic gains
- THEN beneficial loops may be lost
- THEN risk of missing emerging opportunities (technological laggards)
- THEN responsibility over service development & life cycle management unclear

Company A had included cost saving and improvement targets in the outsourcing contracts and good performance was rewarded financially. The targets included use cost reductions, new service introductions, resource planning improvements and process harmonization. The savings were calculated in project or unit. The answers to whether the company was going to implement such incentives in wider scale varied some, but generally the feeling was that co-operation and the suppliers' accountability in terms of improvements was going to increase in the future.

The ambitious target setting and continuous change in Company A pressured also the suppliers to develop their services and keep up with industry development. The suppliers worked following Company A's processes in close co-operation with in-house IT personnel and were committed to quality and commonly agreed goals. Supplier could propose new projects through Company A's official channels and thus enabled savings or other benefits were divided between the companies. In many cases the challenge in implementing shared profit and loss incentives was

figuring out a fair way to single out the supplier's contribution and communicate the net improvement in financial terms.

According to an internal unit survey the employees took more ownership of their work after outsourcing, and were more willing to stretch beyond their job description when needed. This type of behavior, as well as development initiatives were expected from the suppliers as well. In case of customized high commitment relationships this type of collaboration is typically more active. In that the findings supported the pre-understanding that joint profit and loss incentives lead to better performance and continuous development.

Company B recognizes its' suppliers as a valued and integral component of the company's long-term success. The supplier cooperation is built with a long term focus and thus measures are taken to continuously develop the relationships. The company leverages its' global resources and strengths to assist suppliers in areas such as continuous process improvement, R&D and quality management. Yet in the recent outsourcing cases the co-operation with the supplier was not extensive enough to include profit and loss incentives to the contract. Further, Company B's outsourcing did not penetrate to core product related development and support tasks.

Therefore the profit and loss incentives were not considered a priority now nor in the near future. Supplier was mainly measured for improvements in service levels and reductions in headcount and cost. The outsourcing contracts did include high level cost saving targets over a five years period, and achieving or exceeding these goals was rewarded financially. According to a local IT manager the supplier relationship was developed mainly by Company B. The supplier had not been a kind of source of innovations and proactive improvement ideas as hoped for. Yet the means to contractually urge that were considered limited, and thus the issue was handled by relationship management and would be taken up in annual performance reviews.

Company C had not included end-product related incentives in the previous outsourcing contracts, but was planning to do so in the future (the end product in this context refers to the over all IT solution rather than core products). As the company is experiencing rapid growth, the IT systems have to evolve to accommodate the growing demand. This is why the service provider's contribution is expected to be the greatest in the areas of global of harmonization, flexibility, new service introductions and speed in implementing the required changes in the network. In the new mode of operations shared goals and performance based compensation were considered central to successful collaboration.

Proposition 3. The success of an IT outsourcing project largely depends on the organization's ability to adapt to changing situations and innovatively apply information technology to their business operations.

The proposition was approached by first assessing the companies change readiness and capabilities. These factors are directly linked to the success or failure of the transition project and initial phases of the collaboration. Cost and resource efficiency in using IT is ensured by close co-operation between the business units and IT personnel. These capabilities were mapped by asking the informants to describe their IT planning procedures. The questions addressed three organizational domains: agility, integrity and capability, and their relation to the success of outsourcing projects.

Assumption 1:

Organizational agility & ability to change determined by:

- organizational maturity
- managerial capability
- educated/ well trained work force
- well communicated reasons and targets for changes
- employee involvement in the process
- fast adaptation of new processes
- low change resistance

IF organization able to change fast (here: adapt to the new mode of operations in outsourcing)

- THEN the network and end user effects of the change process minimized
- THEN fast hand over
- THEN outsourcing transition process concluded in time & budget
- THEN employee motivation remains high
- THEN outsourcing project considered a success in initial phases

Data from the case companies suggested that organization's ability to adapt to the new ways of working with the supplier had a direct impact on the perceived success of the project. All case companies considered their capability to change as good. The interviewees attributed this to the fact that their organizations have been in constant change during the past few years, and people were accustomed to it. In company A organizational ability to change was even among the main strategic goals for the company. The company had invested in building modular, re-configurable

processes and organizational structures that allow for strategic agility and renewal. Rapid changes were considered a part of organizational culture and the management was trusted to communicate openly about the changes. In addition to change readiness, the interviewees nominated accumulating process knowledge, well defined roles and long-term partnership as the critical success factors for the recent outsourcing projects.

Company B had experienced several major changes in the past few years and thus developed in-depth knowledge of a wide variety of change management programs such as business process re-engineering, six sigma and kaizen. The company's goal is to always align organizational structures and competence development with key business drivers and business strategy for optimal performance. The main targets for organizational development included becoming a professional and efficient project organization, having a strong and highly skilled local presence supported by global centers of excellence, and developing a proven ability to develop new products and solutions during project execution. Flexibility and agility are ensured by team based structure. Team based approach ensures high motivation and energy levels, effective knowledge sharing and thus quicker decision-making. Well planned appraisal processes during the change project reduce change resistance and keep employees motivated.

Company C has proven its' ability to adjust to new situations during several major changes that have taken place in the company during the past decade. The organization has been able to grow and stay profitable despite several mergers, acquisitions and swifts in strategy within the parent company. The interviewees described the company strongly growth-driven, and thus organizational agility and flexibility are among the focus areas for strategy. With several other ongoing changes in the organization, the outsourcing of IT services was not considered a major risk or challenge for the organization. Furthermore, the company had a long history of managing outsourcing cases. The employees understood the reasons for the changes and the service providers were well known, trusted partners. More concerns were expressed about the continuous development of the IT service portfolio and its' ability to respond to growing demand.

Assumption 2:

Organizational integrity determined by

- cross-functional co-operation and steering boards
- systematic company wide processes
- clear operational procedures and roles
- continuous cross-functional involvement in IT service delivery development
- IT involvement in product/ service development

IF planning and decision-making processes integrated

- THEN priorities clear -> consensus
- THEN focus clear -> cost-effectiveness
- THEN responsibilities clear -> resource-effectiveness
- THEN organizational effects & influences of outsourcing understood and planned for
- THEN outsourcing project perceived successful in long term

The empirical findings indicated a direct link between organizational integrity and agility. Cross-functional co-operation was considered crucial for ensuring IT system relevance and co-evolution with business solutions, which in turn reduces costs and improves general perception of the systems. Joint planning and shared data bases had proven a source of innovations and new spin offs from the existing portfolio. In Company A joint portfolio planning and process harmonization are continuous practices. According to the informants a lot of effort is dedicated to process and tool development. The approach to planning is systematic and seamless information sharing of essence. The company has implemented relationship managers' and IT sponsors' roles to promote information sharing and increase awareness of the IT solutions and their role in the company's value creation process. Outsourcing had not and was not expected to influence standard planning processes with the business units, as the operational responsibility over the supplier interface was with the IT department.

Company B offers a wide range of customized solutions to its' local and global customer. As the product portfolio is very large, effective data management and harmonization are among the main challenges for the company. The management challenge has been solved by local presence and country-wide processes. The countries are given a high degree of independency in selecting optimal IT management and planning models. Information sharing is open and effective, and IT managers have a thorough understanding of business processes and vice versa. In addition to local registers, there are also global data bases for sharing and retrieving business specific information vertically. Global infrastructure solutions are managed by global team of IT professionals, who are in a constant dialogue with local affiliates. Content management and supplier interface are operated at local level. The target is that in the future all IT products integrate seamlessly together and allow for online business decisions based on real-time data from production processes or stock markets. Promising areas of software research and development include component, middleware and integration technology, data mining, agent technology, Internet applications and software engineering.

In Company C the IT department is fairly small and therefore has not developed its' own specific reporting or planning processes as separate from the rest of the company. Thusly the decision-making and steering processes are naturally integrated. The head of IT department reports directly to the director of finance and control. This ensures effective exchange of information and close control of IT spending. IT strategy is developed together with company's business management, and thusly focus and priorities are very clear. The ongoing outsourcing project also benefits from the close cooperation within Company C's organization.

While the interviewees agreed with the proposition in principle, there were also comments on the relevance of the proposition. In most companies user impact in outsourcing was minimized, and a special group handles collaboration and supplier interface. Adaptation is only required from a limited group of professionals that are used to dealing with external partners. In this type of arrangement the success of the project can not be directly linked to organization's ability to change. Employee motivation during the transition was more of a concern for some IT managers. In many cases the employees were moved to the service provider's organization while continuing to do the same job. In most cases the employees would have preferred to stay with the original company. There were no statistics about people voluntarily leaving the company at the time of outsourcing, but it was estimated that several valued professionals had looked for other jobs.

Proposition 4. Benefits in IT Outsourcing are maximized if senior management and IT managers have consensus concerning IT function and operating environment

As discussed in Chapter 4. political competition and disagreements concerning costs can influence IT spending and prioritization process, as well as outsourcing decisions in a way that is not optimal for the company overall. With this proposition the Author seeked to address the causality between the level of organizational consent and supplier management processes in the case companies. The informants were asked to describe user attitudes and involvement in IT management in their companies, as well as tell about the ways these factors are measured. The informants also described how they saw the relation between organizational consent and decision-making.

Assumption:

IF consensus over IT exists:

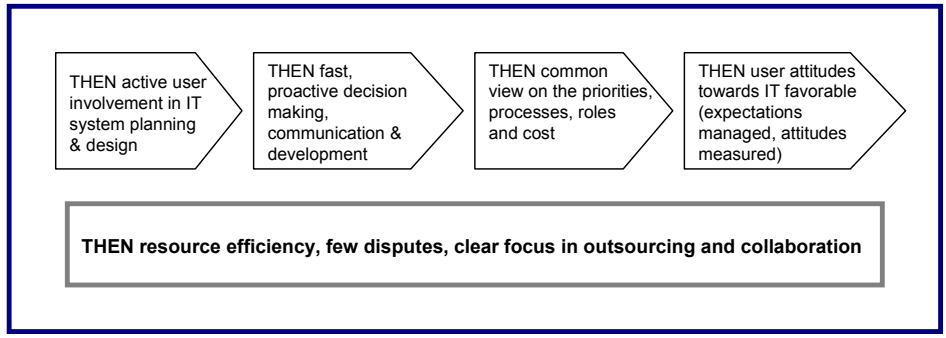

Figure 20. The if-then analysis describing the relation between organizational consensus and successful supplier operations.

During the data analysis it became evident that the collected data from the case companies was not sufficient enough to evidence a clear link between company's internal consent and the success of IT outsourcing. The reason for that was the difficulty in pointing out the role organizational consent played in the prioritization and decision-making processes, as well as establishing clear causality between the consent and successful outsourcing projects. In retrospect it can be noted that better proposition set up could have eliminated the problems with validation. In current form the proposition describes an idealistic, theoretical model that can not be applied in practice.

Despite the difficulties in measuring, the empirical evidence provided a rich view of the decision making processes and business-IT cooperation in the case companies. In general the role of IT was reflected in the attitudes towards it. The more IT content the end-products had, the better the image of IT department and its' competency was. Consensus was reached by cost transparency and clear roles concerning decision-making. Quoting an interviewee the means to deliver the services required is not of interest to business units, as long as the allocated cost remains at an acceptable level. All case companies had sound business and organizational reasons for outsourcing, and there were no reports of politics affecting the decisions. Consent regarding information technology in general was considered to trigger more involvement in system design, and thus improve its' business relevance. Also, cross-functional steering groups were perceived to improve overall project outcome.

In Company A co-operation between business units and in-house IT department existed in several layers and forums. In general co-operation was considered functional; even several improvement areas were identified. An example of such improvement projects was a use cost re-definition and reduction project. Users were encouraged to get involved in system design by providing tools and channels for active participation and feed back. User attitudes were measured regularly, and a special emphasis was placed on following up the studies and communicating detailed action plans based on the findings. The principle was that every survey must be followed by concrete corrective actions.

Company B has proven track record of lower than industry average IT cost (total IT spending/ company turnover). Despite that the service level was considered good. Users could get involved through local key user networks and support organizations. Company opted for small scale projects and incremental development of the systems after learnings from a major SAP implementation. Company's business executives also agreed that IT software is the single most important member of the portfolio of emerging technologies. Whether product related or as an enabler to the processes, software technology was agreed to be integral to delivering added value in the future developments.

Company B uses a process modeling technique to improve consent for changes. The process modeling also increases understanding of the new processes even for people that are not familiar with them. The process modeling identifies the areas of concern or special attention within the process, and form bases for IT solution design and measuring.

		Model Quality	
		Low	**High**
Process Quality	**Low**	A poorly understood, underperforming process: Little chance of improvement	A well understood process: Opportunities for improvement identified
	High	Benefits not explicit: Lost opportunities for improving other processes	Benefits and features of the process well understood: Helps expanding the good practice.

Table 6. Process Quality versus Model Quality (Company B, 2004)

Co-operation between different operational units in Company C was close and casual. IT management was well-informed of the business-decisions that would affect their operations and set new requirements for the systems, and vice versa, the business management was notified of

new system features and temporary limitations. General attitude towards IT was positive, and it was considered an enabler for more effective and productive operations.

Proposition 5. IT Outsourcing adds the most value to the company if IT strategy is planned as a part of overall business strategy

Whereas the earlier propositions discussed business integration in operational level, this proposition focuses more on companies' long term planning and roadmapping capabilities. The proposition addresses the identified value gap between the organization's needs and the technical solutions offered by the service providers. The basic assumption is that

If IT strategy is planned together with business strategies,

- THEN goals and objectives are shared
- THEN IT enabled opportunities are being fully exploited
- THEN IT is managed like a business line
- THEN performance is communicated and measured in business terms
- THEN is collaboration focused and contributing to company's business objectives

This topic was approached from two angles; first focusing on the level of strategic integration in the case companies and secondly by analyzing its' impacts on collaboration. The interviewees explained their companies' IT steering and management structures and relation to business divisions. Once the level of strategic cooperation was analyzed, it was reflected to the perceived benefits of outsourcing. Correlation between the perceived success of an outsourcing strategy and recognition of IT as a strategic asset was evident in all case companies. Yet the peculiar thing was that measured improvements and perceived benefits of the projects emphasized very different factors.

The case companies used a variety of tools and techniques for developing and measuring IT strategies and their business value. In Company A's customer solutions the technology content is so extensive that the planning processes could not be separated. IT elements are included in all strategy levels, roadmapping and business analysis. The process is strongly business driven and targets and achievements are communicated in business terms. IT strategy is planned in co-operation with the business units, who together approve the final strategies.

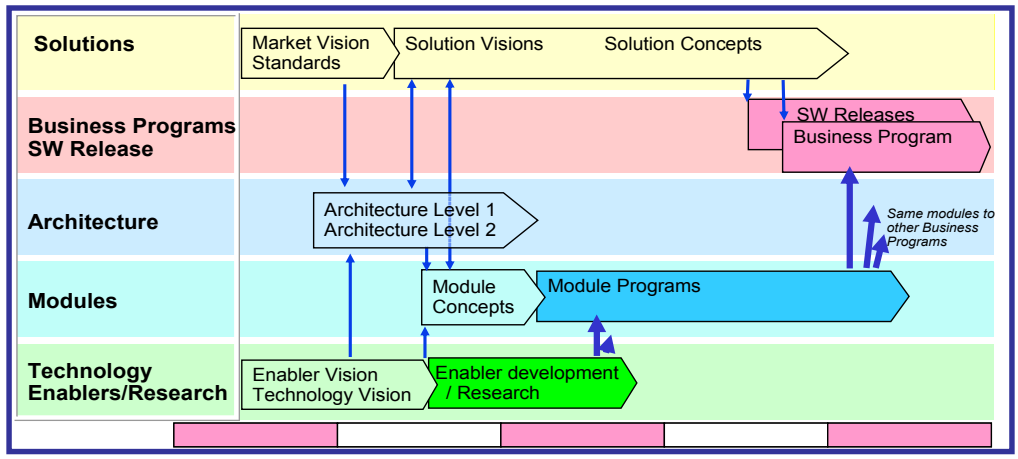

Figure 21. Template for an Integrated Technology and Business Roadmap (Company A)

In company B, the strategic planning processes are also integrated to a high degree. In order to accommodate joint planning, the company has re-defined technically oriented service-level-agreements as business goals easily understood by the business units. IT managers are involved in both annual strategy processes and research, and development projects are launched in close cooperation with business and marketing people. This type of cooperation is essential to the company's aimed focus on customers' specific needs while it also benefits from a strong and early move into advanced industrial software development and the provision of value-added services.

"We are working very closely with our business divisions to balance the technology push with the market pull," says the head of Company B's Research Program for Advanced Technologies. He adds that 75 percent of his research money is focused on large core product related technology projects. The remaining 25 percent goes to smaller, more blue-sky projects that take technology beyond the limits of convention. In line with this strategy, the Company's target is to make all efforts as flexible, result-oriented and global as possible.

This is achieved by linking and integrating operations with universities and other external partners in a fully networked online environment. The development of technology platforms for all divisions would enable group-wide solutions and clearer, simpler and more cost-efficient development paths from R&D into business operation. Company B also emphasizes the importance of a careful implementation of the strategies, as well as a shared understanding of the goals and performance criteria.

Company C was in the process of developing it's first long-term IT strategy together with their outsourcing partner. The strategy workshops were attended by representatives from across the company, and thus it can be concluded that the planning is well aligned with the business strategy. The main targets for the new strategy emphasize compatibility issues in extended enterprise environment (one-stop-shop), adaptive systems and efficiency.

Company C, like many of its' industry peers, focuses on saving energy by improving its' production efficiency with increased automation and advanced IT applications for supply chain management. The company's fast growth rate sets special requirements for the systems, and therefore IT strategy focuses on supporting the existing business operations. New IT enabled revenue creation is also increasing in Company C. The latest IT enabled developments are related to maintenance and remote system and production management. These applications are developed and managed together with the external partners.

Proposition 6. Clear division of roles and well-defined areas of responsibility in the beginning of the project improve efficiency and ensure that the co-operation begins on good terms. The early phases of the outsourcing project determine the course it is going to take in the long-run.

Empirical research supported this proposition by approving the importance of clearly defined responsibilities, tasks and escalation paths in the beginning of the transition project. Many of the informants referred to previous outsourcing projects that had highlighted the importance of careful asset management and process descriptions. Unclarities regarding resources, authority and asset divisions in the supplier interface had been the main reasons for disagreements during and after earlier transition projects.

Many of the challenges surfaced only after the change project was finished and the project team had moved to other tasks, and thus solving these issues proved not only time consuming, but also influenced other collaboration activities. Usually, compromises and goodwill were needed when dividing unexpected costs amongst the parties retrospectively. The reasoning behind Proposition 6 is summarized below:

IF roles and responsibilities are clear

- THEN smooth transition & hand over, joint planning
- THEN strategic fit, change readiness and compatibility assessed

- THEN building trust, exchange value information
- THEN minimal user impact
- THEN clear asset and interface management, few disputes
- THEN organizations are able to move to higher level of exploiting IT opportunities, and build more complex collaboration models (e.g. co-opetition) for optimized performance (e.g. networked service creation)

Company A has outsourced several business-critical IT services. The suppliers focus on transforming Company A's IT environment to a more flexible, scalable infrastructure, improving service performance while minimizing recurring fixed costs. The whole concept of collaboration is based on mutual trust and exchange of value information. Confidentiality is insured by extensive supplier screening, evaluation processes, and carefully drafted Non Disclosure Agreements (NDA). A Senior VP of Company A's IT has stated about the agreement, "We are pleased to be working with a global service provider like our partner. It is a natural fit, not only in terms of competence but also values and culture." Furthermore, he noted, "The deal, which will bring significant annual cost savings through economies of scale, is part of our on-going strategy of building on core skills, while teaming up with good global partners."

The head of IT outsourcing process development in Company A suggested that in the optimal case, the organizational structures and processes in the service provider's organization mirror those in the outsourcing company. This means that the processes would not require extensive re-engineering because of the changes, but rather the supplier's task would be to find persons to fill these roles as they were defined by their customer in the first place. This way, the end user effects are minimized and a baseline information for evaluating the anticipated improvements holds valid. The company has systematic partnering and alliance processes that include partner screening, evaluations, qualifications, validation and collaboration. In fact, the most important decisions concerning functional cooperation have been made during the partner and supplier evaluation phases.

In order for new suppliers to conduct business with Company B, an assessment of supplier capabilities will be conducted using a standardized methodology. Company B's Supplier Qualification Process globally provides a common approach to supplier selection. This process enables the company to assess the suppliers' quality of management and environmental systems' capabilities, and ensure alignment with its' overall Supply Chain Management strategies. The overall methodology includes quantitative as well as qualitative criteria.

The head of Company B's strategic partnering states about the company's supplier networks, 'We aim to set the highest standards for the quality of our products and services, meet delivery commitments to our customers and offer value for their business. We view our suppliers as an integral extension of our global enterprise and strive for a transparent and efficient collaboration with best-in-class suppliers from which all our stakeholders benefit - customers, investors, the company itself and suppliers." Company B is committed to building partnerships with suppliers through an open communication of expectations and a series of standardized processes. Company B also recognizes their suppliers as a valued and integral component of the company's long-term success. Therefore, the company is committed to providing technical resources to their suppliers so as to support their development and help them to achieve a sustainable competitive advantage.

Company B is able to leverage its global resources and strengths in order to assist suppliers in areas such as continuous process improvement, lean manufacturing, and quality management. By participating in the Supplier Development Process, suppliers will share the company's R&D and technology capabilities. Company B contributes to strategic supplier development by customizing development plans, sharing resources and technologies, exchanging best practices, and monitoring performance. Its' structured approach to Supplier Qualification, Supplier Performance Requirements, Supplier Performance Assessment and Supplier Development enables long term supplier success.

In Company C the favorable conditions for collaboration are ensured early in the planning process. The company has outsourced several non core activities, like communications and public relations, and thus is experienced in dealing with external parties. IT services have been provided by a few local long term suppliers who know the company's IT solution and its past investments in IT. The cooperation relies on close relationship with partly open books, as well as casual data sharing and regular performance reviews. All rights to the jointly developed solutions stay with Company C.

There have not been any major issues or disputes in the relationships, and thus the collaboration benefits from mutual trust and commitment to the partnering. Synergies are sought from common backbone for CRM, PDM and ERP solutions, as well as various finance and control applications. Cooperation with the groups' other IT service suppliers is constantly increasing, which will require new types of coordination and collaboration capabilities from the company.

Proposition 7. In-house IT personnel plays a critical role in solution management even if the function or parts of it are outsourced

This proposition, like most others, suggests that the foundation for successful outsourcing lays in the outsourcing organization, and the critical success factor is its' ability to organize the collaboration.

Assumption:

IT personnel's role in collaboration process:

- Accommodate process redesign
- Ensure sufficient data flow within and outside the company
- Act as the point of value creation (possesses combined knowledge of technological potential and company's specific situation)
- Ensure system relevance, right cost, evolution and communication
- Act as the main point of (operational) contact to suppliers

In relation to this proposition the interviewees were asked to describe the changes outsourcing caused to remaining IT personnel's work, as well as their role in supplier collaboration. It was commonly agreed that there is a need for having skilled IT personnel in-house, even if the bulk of IT services was outsourced. The in-house IT experts act as a link between business personnel and the outsourcer's technical personnel, and can transform business requirements into technical terms. Other tasks include cost control, system definitions and performance control. Interviewees also pointed out that the real capacity requirements should be assessed before contractual engagements are in play.

In Company A, several organizational units were involved in IT supplier management. IT personnel had the ownership over technical definitions and control. Company A considered its' employees as a valuable asset, and encouraged continuous learning and personal development. Following the company's values, personal initiative and entrepreneurial behavior are encouraged, as well as a vertical cooperation between multicultural and multi-skilled teams. Despite outsourcing parts of the IT solution, the company invests heavily in furthering the development of its' IT capabilities and management models.

In company B, most business related applications were developed in-house, which meant that the suppliers were mainly concerned with communications and infrastructure applications. The

responsibility for daily supplier operations lay with the local units rather than with global executives like in Company A. Most decisions regarding IT were made within the IT department, which made communication with the suppliers clear and fast, which in turn highlighted the importance of having highly competent IT personnel in local level. Company B equally values its' personnel and gives them the opportunity to improve their skills, knowledge and creative potential for their own benefit as well as for the company. Company B recognizes the link between motivated, focused personnel and increased customer and shareholder value, and strives to help people achieve their goals with their job functions.

Coordination and requirement specification were also the main concerns for IT personnel in Company C. System relevance was ensured by close co-operation with the business units and a strong representation in the company's strategic planning processes. The importance of the cooperation is increasing with the company's new remote management and maintenance applications and the target to become a "one-stop-shop" for its customers. The principal functions of the IT personnel included understanding business operations and priorities, and translating the intelligence and requirements into technical terms and SLAs. The Company was planning its first high-level IT strategy, and so required strong input from IT personnel who are familiar with the history and the evolution of the company's IT investments to date. The personnel were also responsible for the technical definitions in the supplier interface.

Company C is committed to employee well-being and continuous learning. The company has introduced a monthly discussion forum in company headquarters, in which the leaders of various functions discussion topical themes and answer employees' questions. As the company grows, it faces challenges in defining group and unit-specific personnel processes and deploying them into all units. A joint Electronic Human Resources Information System (eHR) has been introduced to support the management of personnel skills and to enable a the mapping of existing competencies and development areas. The company also participates actively in a regional business campus network, where the member organizations make use of each others' know-how and experiences so as to create new learning methods, share skills and initiate joint learning schemes.

6.2 Control Processes for Benefit Management

Whereas the Research Question 1 addressed IT related processes and strategies, Research Question 2 is more concerned with control and measuring processes. Challenges in measuring intangible or indirect benefits have often led to a situation where these variables have been left

out of investment evaluations. Measurement usually concentrates on SLA and user satisfaction, while the targeted business benefits are judged based on perceptions rather than actual accumulated data. The following research propositions seek to present the benefits of using customized, business oriented control processes and metrics.

Proposition 8. Measures for evaluating optional IT investment projects should be customized for each individual case, and should include qualitative and quantitative measures that emphasize the investments strategic potential.

This proposition builds on the assumption that if an IT system's or service's value is determined by customized measures and communicated in business terms,

- THEN the measures reflect company valuations, targets and accounting practices
- THEN the IT services' special features are acknowledged, and maturity in deploying IT improves
- THEN the focus is on producing information for service lifecycle management, with portfolio view (focus on interoperability, big picture, not single services)
- THEN networking effects and synergies are accounted for
- THEN stakeholder communications are easier and the value of the services is known at all times

The topic was approached by asking the informants about IT projects' initiation phase and the related processes in their companies. The informants also described their measuring practices and position toward the use of customized measures. Following the feedback customized measuring was supported in principal, but in practice the same measures were often used in all cases for better comparability and clarity.

The rationale for qualitative measures was acknowledged, but due to difficulties in implementing them, mainly the quantitative evaluation criteria were used. Although each case company had a significantly different approach to evaluating and appreciating IT investments, the approach in all companies emphasized the IT investment's technological dimensions and operational performance against SLA. Total IT spending was communicated as a percentage of the company's' annual turn over. The data was collected from self-reports as well as from computer logs and statistics.

The greatest differences occurred when evaluating non-monetary variables like knowledge creation, relationship development and learning. In most cases, incentives related to these targets were assessed annually based on the overall financial success of the project. Investment decisions were rarely made based on financial grounds alone. Scorecards, business case templates and check lists were used to map intangible project outcomes. However, often these variables were not monitored in milestone reporting during the projects.

Company A has a long history of working with external service providers and thus has developed advanced partner portfolio management tools and methodologies. These processes include supplier screening, qualification, rating, integration and auditing. The company also has a comprehensive set of global supplier requirements. To ensure supplier compliance, assessments are conducted on regular bases. Openness and trust are considered important aspects and enforced through face-to-face meetings, supplier assessments, contractual agreements, supplier training and development, supplier events and web sites. The collaboration management process includes an Early Warning System for identifying potential risks in partnering. Dedicated executive representatives, relationship managers and partner team members participate in assessing the risks and developing the cooperation further.

Company A has a very systematic approach to project evaluations in their different stages. The process is automated from project initiation to its' closing. In the project planning phase, the estimated benefits of the project are mirrored against the costs. Often used business related measures include:

1. INCREMENTAL SALES (value), measured by Gross Margin %, and gross profit due to incremental sales.

2. GROSS MARGIN IMPROVEMENT, measured by sales value, and gross profit due to higher GM%

3. SAVINGS in OPERATING EXPENSES, featuring savings in internal and external personnel's salaries and total savings in OPEX

4. ROTATION DAYS, describing Trade Receivables Rotation, Inventories Rotation and Business impact of change in inventories per period and discounted cumulative.

During service creation and deployment projects, evaluations concentrated on status reporting (scope, time, cost, tasks, resources, risks, change requests and issues), progress and risk management reporting, and Issue/Error Log description. For established services, the SLA defines control variables and target levels of performance.

The optimization of global supply base is a key element in Company B's business strategy. The company is committed to improving the supplier's performance through a standardized Supplier Performance Rating process. This process consists of a data-driven approach so as to regularly measure and provide feedback to suppliers. The feedback enables open communication, continuous process improvement, and supplier development. The Supplier Performance Rating process measures and monitors the following Key Performance Indicators (KPIs):

- Quality: Defects per million opportunities (dpmo)
- Delivery: Percentage of on time deliveries
- Cooperation: Multi-dimensional metric consisting of commercial, technical, transaction, and lead time criteria

Suppliers who exceed pre-determined threshold of business with Company B will receive a monthly supplier performance rating report. These criteria are scored and weighted to determine the overall Supplier Performance Rating. The Supplier Performance Rating score is then used as the basis for future sourcing decisions and for annual awards and recognition.

On project level business cases concentrate on added customer value and potential cost reductions. Processes and measures vary from country to country, but all follow mutually agreed guidelines. Service management databases are integrated and thus enable sharing best practices and innovations.

In Company C the main criteria for new IT investments is their business criticality and added customer value. Services can be divided into supporting services and product related applications. During service development and deployment processes the suppliers use their own processes and report to the company's IT board using pre-defined measures. These measures vary some by company, but not significantly by service. The criteria for the services include thus achieved synergies, increased level of automation and savings in operational costs. In use phase the services are monitored toward SLA. The continuity of the services is ensured by regular updates to the implemented services. The services are mainly based on commercially available solutions, so the level of customization and system complexity is low. The suppliers' competitiveness and quality of the service delivery is ensured by close cooperation and periodical audits.

Proposition 9. Integrating and streamlining IT related decision-making processes and tools improves quality of the decisions, ensures cost transparency and reduces cost

Decision-making processes were addressed focusing on harmonization, speed and quality. The case company representatives also shared their views on the importance of process redesign with outsourcing partners. The proposition highlighted the benefits of well-designed organizational procedures and their relation to company's overall performance.

Assumption:

IF there is a strong focus on process excellence in extended enterprise context

- THEN synergies emerging from various parts of the network are fully exploited
- THEN economies of scale and accumulating learning are made use of
- THEN proactive information sharing, timely data flow
- THEN easy access to relevant information ensured
- THEN information in unified, reusable format (no information overflow)
- THEN demand forecasting, capacity planning and risk analysis up to date at all times

Harmonized processes were regarded as a prerequisite for professional portfolio management and informed decision-making. There were hundreds of projects starting every year, which called for standardized tools and processes for initiating, creating and deploying the services. Process control was strict in all companies –so much so, that management had their bonuses partly tied to the level of process implementation and usage. All companies strove to improve the level of harmonization globally and thus increase service impact and usage.

In company A portfolio management, planning and development were continuous processes involving representatives across the IT function and other relevant units. Management processes were constantly reviewed and developed further by a dedicated group of IT professionals, and the extent of business involvement in process work was increasing. The aim was to harmonize terminology and milestone definitions across the company, which would ease co-operation and communication, especially for the service providers who are dealing both with the IT and business units. Just-in-time resource usage tools and processes was a special emphasis area in process development, together with bi-annual short term planning processes.

Well-defined, modular processes were also seen as the key to strategic agility: the ability to respond to changes in the market place even with radical organizational shifts. Modular

processes and supporting tools were considered among the main factors influencing resource efficiency and productivity.

IT related processes were among the focus areas of development also in Company B. The company had just kicked off its' second effort to harmonize processes globally. The first effort (a few years back) was terminated due to the complexity of the task and strong resistance from national organizations. The second effort was initiated because of the need to reduce overall costs and improve quality and control over the function. In cooperation with its' customers, businesses and leading universities, the company had defined common targets for all IT projects:

- directly address and install key performance indicators

- derive and exploit specific process and equipment know-how

- become based on world class and cost-effective components and communication solutions

- become open and easy to integrate with all relevant products and applications.

In Company C, the existing processes required structural re-thinking following the expanding scope of services. The managing director of the company has stated about the system development that a special emphasis will be given to easy access on information and automatization of supporting processes in the future. He also highlighted the importance of decreasing power distances in the organization, and increasing employee involvement in decision-making, by advanced communication and information technology applications. The company's IT solution is based on a common backbone for all applications, which enables modularity and effective sharing of information across the applications used in different parts of the organization.

Proposition 10. IT-enabled business benefits need to be systematically managed. A benefit management system consists of a business oriented mindset, motivation, methodology and tools.

This proposition once again promoted information technology as an integral part of company operations, not just a technology component in the value chain. In order to validate the proposition, the interviewees were asked to describe the benefit management processes, focuses and measures in their companies. It was commonly agreed that value creation process

should be continuously managed, and both tangible and intangible benefits communicated to stakeholders on regular bases.

In the case companies A and B hierarchically-structured portfolios ensured that each service had an owner and a systematic support structure. The service managers were in constant dialogue with business representatives and service providers in order to ensure timely change management and system relevance. Service managers reported to solution managers who had the responsibility for life cycle management. Services with declining user impact or business value were run down or upgraded with the latest technologies. Company C's service portfolio was small enough to be managed under one steering group.

Benefit management was also identified as an area of improvement in all case companies. Project management methodologies, databases and templates were considered to have a direct impact on efficiency and the quality of project management. An increased business involvement in steering groups was also identified as a solution for a more business oriented approach to system development. The business benefits being the evaluation and prioritization criteria for services, the less-profitable projects could be terminated or cancelled in early stages. Some companies still practiced "silo" thinking, where business and IT personnel had separate processes and approaches to service management. Other problems were caused by tight cost control, which made benefit creation in company level challenging.

Company A strives to capture and manage potential benefits through detailed processes and tools for all stages of the product/service life cycle. The process begins with venturing and research organizations, which study and develop new technologies and management models as integral parts of the company's renewal and value creation procedures. Business programs and organizations then explore the validated innovations in their testing and prototyping laboratories, and filter the most suitable and potential approaches to their creation projects. Throughout the process, the innovation's commercial potential and company specific fit are assessed in parallel with compatibility and quality issues.

Company B's approach to benefit management highlights the importance of integrating business strategy and objectives with information technology strategy and opportunity assessment. The strategic value analysis of the IT solution describes the contribution IT can make to a specific business area. This, together with opportunity assessment, identifies the development ideas most fitting to the ruling business strategy. Benefit analysis and an IT supported concept for

collecting business requirements maximize added value and ensure that the IT systems evolve together with the business strategies.

The point of value creation in Company C lies in integrating packed software solutions with tacit knowledge of the company's business operations, and thus developing high-end applications that add value to its' customer offering. The company is committed to increasing its' customers' competitiveness by applications that enable savings in maintenance costs, minimize production down time and improve planning accuracy. Benefit management in practice is ensured by continuous dialogue with customers and thus thoroughly understanding their business requirements. In regards to infrastructure services, the external suppliers have proven to be good sources of ideas in system upgrading and updating situations.

6.3 Cross Case Analysis and Comparison to Existing Theories

This chapter summarizes the results of the market test. The theory-based propositions that were re-validated in the empirical enquiry are now reflected to existing knowledge on the field in order to determine theoretical contribution of this dissertation. Analyzing the cases together also improves the reliability of the findings and helps point out deviations and irregularities (Yin, 2001).

Propositions 1 and 2 in Chapter 4 suggested that the drivers to outsource, and thus the targets for the projects, are directly linked to the strategic importance of IT in the company's operations. However, based on the available data, this causality could not be fully established in the market test. Cost reduction and efficiency gains were the principle targets in outsourcing regardless of the role of IT in their operations. Organizational issues like core competence focus and teaming up with a world class professional were the other often mentioned goals. The drivers to outsource were typical to the industry, and thus the companies can be considered to represent typical industrial IT outsourcers on macro level.

	Drivers for Outsourcing	Outsourced Parts	Success Criteria
Company A	Focus on core business, Increased flexibility, Streamline IT function, Reduce investments in assets and free up these resources for other purposes, Turn fixed costs into variables	Data Storage, Server Functions, User Support, Service Desk, Application development (partly)	Reduced cost and headcount, SLA, Resource utilization, User satisfaction
Company B	Focus on core business, Increased flexibility, Focus internal IT staff on core technical activities	Infrastructure services, Server management, PC support, Service Desk, User care, Application development (partly)	Reduced cost and headcount, System relevance, SLA, Increased customer value
Company C	Focus on core business, Increased flexibility, Transform organization, Facilitate mergers and acquisitions, Turn fixed costs into variable costs	Infrastructure services, Most of the supply chain management and development	Reduced unit cost, Improved services and reliability, Harmonization, New services
Industry Trend	Accelerate reengineering benefits, Access to world class capabilities, Cash infusion, Free resources for other purposes, Function difficult to manage or out of control, Improve company focus, Make capital funds available, Reduce operating costs, Reduce risk, Resources not available internally	*Executives are currently outsourcing:* maintenance/repair training, applications development, consulting and reengineering, mainframe data centers *Considering to outsource:* client/server, networks, desktop systems, end-user support, full IT outsourcing	Source: Survey of Current and Potential Outsourcing End-Users The Outsourcing Institute Membership, 1999

Table 7. Drivers for Outsourcing in the Case Companies and Industry in General

In order to complete the weak market test, the Author studied project specific control variables in outsourcing cases. The initial assumption that selected outsourcing model depends on the outsourcing company's maturity in using IT was modified as it became apparent that all case companies used several different outsourcing strategies for various solutions and situations. Following this realization, the related control variables were studied further. Based on that analysis it was then proposed that value chain model for classifying IT services and management approach to outsourcing would apply to the studied case companies in macro-level.

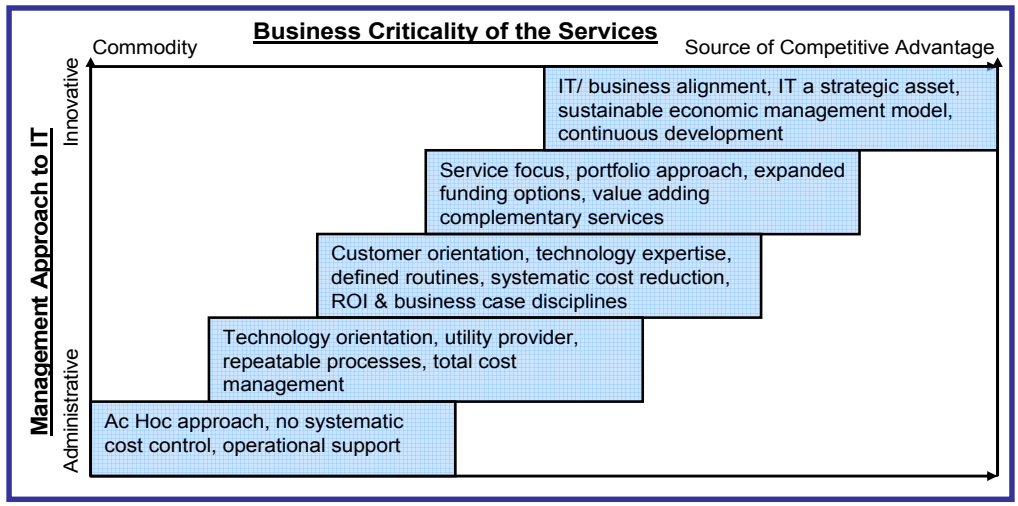

Figure 22. Positioning IT Applications in Company's Value Chain (following Carnegie Mellon University, 2003)

The model once again emphasizes the alignment of IT and business strategies, as well as the development of sustainable case specific management models. As information technology was regarded as a business critical function in the case companies, serious efforts had been taken to develop related control processes and tools. The market test validated the proposition on the link between organizational integrity and efficiency. The informants agreed that company wide goals, planning processes and open communication improved IT systems' ability to support business processes and optimize resource usage.

In project level the companies conducted a detailed analysis of both the potential benefits of outsourcing and the associated risks. The methods used in the process included scorecards, six sigma, business cases, standard templates and check lists. The interviewees supported the proposition to use business related qualitative measures like system relevance, strategic potential, business benefits. However, they also argued that implementing such measures in supplier interface can be too time-consuming and risky.

The case companies' approach to IT management followed the proposed maturity process (Earl, 1998) on macro level. The strategy process in Company A was very systematic. Technology leadership was considered to be of essence, and strategy was dynamic and continuously fine tuned to adapt to changing market conditions. In Company B a senior figure or a group determined the strategy based on experience and strong vision. Objectives and plans were precise from top to bottom, and user involvement in the strategy process was limited. In

Company C, decision-making was influenced by organizational diversity. Continuous growth set limits on the strategy process, and thus decisions concerning IT were made reactively based on emerging needs.

	Scope of IT strategy	Characteristics
Company A	Business driven, Enterprise wide strategy, strong integration to business activities	Logical Incremental: Tentative commitment to strategy, step-by-step adjustment of strategy
Company B	Business driven, Business unit -wide strategy, Some adaptation to business activities	Rational Command: Senior figure or group determines strategy, strong vision
Company C	Strategy process first introduced, Business driven approach, Few competitive advantages through IT	Muddling Through: Compromises with conflicting interest groups, gradual adjustment of strategy

Table 8. Decision-making styles in the case companies

The data from the case companies suggested that they all had implemented carefully planned, advanced supplier management processes and tools, which ensured that all aspects of the relationship were addressed already in the planning phase. This could be accounted for lengthy experience in working with external suppliers, and the strategic importance of developing these competences.

The case companies had developed and implemented detailed supplier management processes over the years, and chosen trusted market leaders as their outsourcing partners. In supplier interface, strategic compatibility and complementary resources were considered important, along with symmetry of power between the actors. Roles and responsibilities with the supplier had been defined in the beginning of the project as the best practices suggest. According to the interviewees, a longer planning period would not have improved the outsourcing project outcome significantly, as the identified challenges were mainly caused by the reliability of baseline data and past investments in IT.

The proposed value-chain approach to sourcing was widely supported. This way, supplier risks were considered more manageable and appropriate focus on business critical solutions was ensured. The time and effort invested in planning were justified by the increased speed of new service creation and vertical integration after the handover. The interviewees also expressed interest in having more strategic co-operation and performance-based payment models with the

suppliers. This proposition, however, was perceived very differently among the interviewees: while part of the informants agreed with the thesis, the others were entirely against it.

In two of the case companies the supplier selection and management was driven by business units, whereas in one of them the interface was managed by information technology representatives. According to the pre-understanding, both models have their strengths and weaknesses: the business-driven approach emphasizes the strategic fit of the supplier, while the IT driven approach ensures technical compatibility and better cost control over the interface (Lacity & Hirschheim, 1999).

6.4 Summary

This chapter collects the findings of the empirical enquiry into a model describing the critical success factors in outsourcing. It also describes causality between the different success factors and underlying management processes and domains. The explanatory power of the model was validated with the selected case companies, but proving its' wider applicability would need further study and practice.

The initial assumption:

1.) A company's internal organizational climate, processes, and competences are ultimately the critical success factors in IT outsourcing,

was successfully validated with the case companies.

The empirical enquiry suggested that benefits in outsourcing are maximized, when companies select right outsourcing model and are able to successfully manage also the unexpected aspects of the projects. The optimal outsourcing model is determined by the organization's targets in outsourcing, the business criticality of the outsourced systems, and organizational maturity in using information technology. Also business critical systems can easily be outsourced when the right sourcing model is applied, and adequate management attention is ensured. The case companies could be categorized using these variables as suggested by Rapp's model on IT maturity's correlation to optimal outsourcing model (2004).

Providing the optimal partner and outsourcing model are selected, according to the interviewees also business critical systems can be outsourced as long as companies have established organization-wide management and strategy processes, documented clear roles and communication procedures, as well as have visionary, IT competent management.

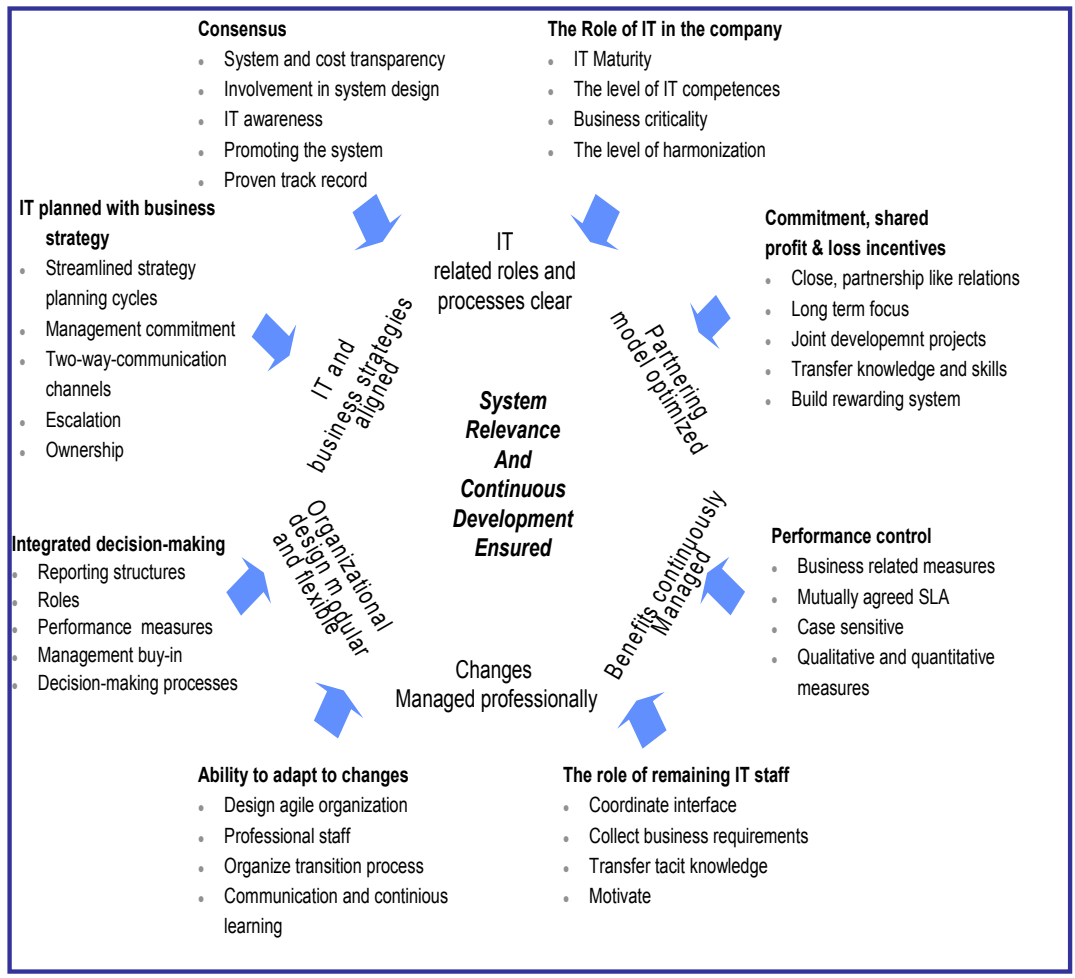

Figure 23. The main factors influencing the success of a strategic IT outsourcing project

The model presents eight focus areas that need to be managed in order for strategic outsourcing to be successful. These include change management, process and performance control, planning and decision making processes, organizational consent and task planning. This model is best used as background material for periodical assessment of a company's IT related attitudes, competencies and management models, as well as for the identification of potential development areas in the company's IT management model.

The main theoretical contribution of this dissertation is the re-validation of theory based proposals regarding outsourcing of business critical IT systems. The study re-establishes that in certain situations it is beneficial for a company to outsource also strategic systems. Such terms and conditions are presented in form of a model for critical success factors together with normative recommendations for outsourcing project management.

The dissertation proposes that the critical success factors in strategic outsourcing can mainly be found from within the outsourcing organization itself. Critical is the level of managerial and organizational IT competency, process-focus as well as selecting the right partner. The Author considers the empirical findings to validate the assumptions regarding the selection of optimal outsourcing model.

As for the second initial assumption:

2.) Long-term supplier relationships between IT mature companies should focus more on adding value to business operations and the relationship than on cost savings,

the empirical findings provided grounds for only partial validation of the proposition. According to the empirical enquiry the drivers and targets for outsourcing were typically cost related regardless of the level of in-house IT competency or the length of the agreement. However, the companies expressed interest for increased co-operation and joint planning with the partners. Value adding collaboration was commonly seen as the next step forward in outsourcing. Furthermore, the most IT mature of the case companies, Company A, had already started projects in this 'open books' mode. The company had implemented incentives and created environment for this type of value adding collaboration, and projected increase in these jointly managed projects in the future.

7. DISCUSSION

This chapter discusses the reliability, credibility and authenticity of the empirical findings, and evaluates their usability in a wider context. The value of the findings is also addressed and recommendations for further research are provided. The dissertation concludes with a reference to an ongoing wider discussion on networked business environments.

7.1 The Validity, Reliability and Relevance of the Findings

Validity of the propositions was ensured in the research-planning phase by reviewing existing literature on the subject and developing discussions with case company representatives and other professionals in the field. In these discussions, it became apparent that most companies and researchers tackle similar concepts and concerns in outsourcing, namely agility, asset management and control. The data from various sources pointed to the same direction and supported pre-understanding, and thus the data sources were considered valid and relevant in regards to the scope of the study.

Internal validity of the study was ensured by starting the data collection phase early in the research project. In retrospect this benefited the study, as some of the initial assumptions proved to be wrong. In further analysis, it became evident that the interviewees presented a somewhat different picture of the outsourcing processes, dependent upon which company and organizational unit they represented. The most relevant data sources proved to be IT department representatives who had been closely involved in the recent outsourcing projects. Furthermore, the data from the case companies was compared to the pre-understanding, and thus ensured the external validity of the findings.

The bias stemming from the researcher was minimized, as the interviewees mainly referred either to outsourcing cases that took place in recent years, or to ongoing developments. The interviewees had been personally involved in the projects and the reason for the interviews was made clear to them. Biases towards the researcher were avoided by collecting and triangulating the data from multiple sources. The reliability of the research was further enhanced through continuous discussions with and feedback from a selected group of informants.

7.2 The Theoretical and Empirical Contribution of the Dissertation

The theoretical contribution of constructive research is demonstrated by its' ability to present a new innovative model or a theory building on existing knowledge on the field (Jarvinen, 2001). The model on critical success factors in IT outsourcing stating that the point of value creation in IT outsourcing lies within the outsourcing company rather than being created by the external service provider, is the main theoretical contribution of this dissertation. The model was exposed to a weak market test that validated its' real life applicability in the studied companies' case. The research proposes new insights into IT management and planning, and thus aims to increase management awareness of and focus on IT. The innovativeness of the approach will be determined further by research community.

The differences in the ways the case companies approached IT management and outsourcing were explained by certain control variables such as the business strategy, past investments to IT, and their position in IT maturity process. As the challenges, milestones and targets for outsourcing in contemporary industrial manufacturing companies are similar, the proposed high-level framework on critical success factors in IT outsourcing could be considered to have analogies also with other industrial corporations.

7.3 Limitations of the Study

In retrospect, the Author perceives the wide scope of the research problem as the main limitation to the study. Information technology management consists of countless sub-processes and interfaces. Within the current scope and design, this dissertation addressed several aspects of IT management on general level, whereas it might have been more beneficial to concentrate on fewer variables and bring the analysis in more detailed level.

The empirical research was conducted with a tight schedule in only nine months. A longer observation period or series of observations would have enabled more thorough analysis on the development of the studied outsourcing deals. Regardless of the time constraints, the sample was considered representative, as the interviewees represented the decision-making bodies within their organizations, and expressed very similar views on outsourcing. Furthermore, as the informants and published literature emphasized the same issues and considerations, the author feels that for the current scope of the research project sufficient data has been gathered.

An apparent weakness in the data collection was the lack of personal face-to-face meetings with the informants. Most interviews were conducted over the phone and the data was transferred electronically, so the possibility of informal information-exchange and spontaneous comments was lost. Also, the Author considers the manner of interview as one of the reasons that most informants presented the outsourcing projects in a very positive light. The study would also have benefited from better-defined measures for validating the propositions; the qualitative nature of the data inherently left more room for interpretations and personal judgment.

Due to the limited sample and scope of the study, the results and the presented model can only be considered valid in the studied case companies. The performed weak market test validated the model fully only in Case company A's white box design projects. In order to generalize the findings in a wider context, further research and empirical enquiries would be needed.

However, the Author is pleased with the overall outcome of the research project. The target to better understand contemporary outsourcing projects through theoretical and empirical enquiries was met, and the created model on critical success factors in outsourcing is considered to partially answer the research questions and shed light to the research problem.

7.4 Suggestions for Further Research

The theoretical preview and the findings from the three companies provided a rich insight into different ways of organizing information technology management in multinational companies. While building on the existing knowledge in the field, the dissertation also identified areas that would need further research.

As the focus in the empirical research was on interviews and document reviews, the case companies were analyzed in a rather static way. A logical extension to this would be collecting data over a longer period of time, and studying how the relationships and systems evolve over time.

As mentioned in the limitations of the study, more research on IT outsourcing and its relation to corporate value would be needed in order to further clarify the elements of the value creation process. This study emphasized the role of company's internal processes, tools and capabilities as critical success factors in outsourcing rather than supplier operations and technology leadership. Thusly, further research on IT management concepts with a focus on supplier management in an extended enterprise environment would be another natural continuation of this dissertation. The noted complex network of relationships, processes and technologies would require more focus in the future.

Another interesting subject for further research would be the effects of increasing market centralization and globalization, as well as increasingly open proprietary standards and interoperability. Ever-increasing mobility requirements offer new collaboration and coopetition structures, and thus are likely to have a strong impact on today's ITO markets. Joint ventures are an example of this type of consolidation and increased transparency in companies' quest for increasing their competitiveness and raise industry standards.

Identifying the right mix of quantitative and qualitative metrics for capital IT investments remains a challenge. However, finding the correct measures for evaluating the projects throughout their lifetime is crucial for resource planning. The possible applicability of a real options analysis model so as to evaluate information technology related projects is another interesting concept for further research. The lessons learned from the recent IT outsourcing-boom would also deserve more attention. As world economies are starting to grow again and ITO markets are recovering, it would be important not to repeat the same mistakes.

The interviewees also shared their views on the future trends in IT outsourcing. The mutual opinion was that as the strategic importance and business criticality of IT is increasing, more resources and efforts should be spent on creating and developing supplier relationships and tools. Regarding the commercial side, the informants estimated that consumers' ability to absorb new IT enabled features in products and services will remain the limiting factor in introducing these features. Such inhibitors and possible ways to overcome them also open interesting avenues for further research.

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Appendices

Appendix 1. The Interview Questions for the Case Company Representatives

1. IT Mode of Governance?

- How extensive & strategically important is IT function in your company?
- Which parties are involved in maintaining & developing the operating environment?
- What is the level of standardization worldwide?
- Evolution of the IT infrastructure & plans for the future?
- How are product/ service related IT solutions developed?
- Which parties are involved in IT related decision making in your company?
- Do you have a clear process for decision-making and responsibilities for IT investment projects?
- How have you organized IT cost division for the business units?
- Do you have clear visibility for the IT cost structure?

2. Senior management and IT managers have consensus concerning IT function and operating environment ?

3. How are IT issues embedded in the overall long-term business strategy?

- Is there a fixed budget & directions for IT development in long term?
- Are there regular stakeholder meetings concerning IT services?
- How is the reporting organized?
- Is there a relationship management type of role for collecting user/ customer requirements & feedback?

4. IT strategy is a part of overall business strategy?

5. IT governance model (out/ in/ selective sourcing)?

- How extensive is sourcing/ purchasing function's role in the IT investment projects?
- Who is responsible for defining IT related processes and tools?
- How are users/ partners/ customers involved in development/ IT support?

A. If IT Function is Outsourced:

6.What was outsourced?

- All
- Development
- Support
- Process
- Standard Services

7. Functions object to outsourcing depend on the level of IT used strategically in the company?

8. Why outsourcing (results under the following categories)?

- Organization Driven Reasons
- Improvement Driven Reasons
- Financially Driven Reasons
- Cost Driven Reasons
- Employee Driven Reasons

9.How was the decision making process?

- is there a standard, documented and easily repeatable process & tools in place for outsourcing cases?
- Who were involved?
- What was the schedule for the project?
- What were the basis for the business case?
- Did you benchmark existing services?
- How was IT outsourcing value-add perceived & measured?
- How were the released resources used?
- What were the targets in the outsourcing project?

10. Resources and business case should be calculated with real options -resource flexibility and replaceability noted?

11. Suitable metrics (qualitative & quantitative) should be developed in each case for evaluating IT operating environment?

12. How have you organized collaboration and supplier management with outsourcing companies?

- Do you have a preferred vendor policy?
- Do you have several competing vendors for price competition and risk management?
- How often do you review the contracts?
- Have you applied performance-based payment?
- How have you shared the responsibility for the quality/ performance/ cost control?
- Do you have clauses or penalties in case of poor performance?
- Do you have regular review meetings?
- Do you use the same processes and develop them together further?
- Have you implemented change management processes?
- Do you organize training on company policies for the vendors?
- How do you handle security issues in vendor interface? Nondisclosure agreements?
- Do you have joint development efforts?

- Shared profit and loss interest?

13. IT development and support is done in close co-operation with the company?

14. Time scale for the decisions together with periodical reviews should be established in the beginning of the project?

15. How was the transition project?
- Did you manage to keep the budget & schedule?
- Were there surprises on the way?
- Did you use external consults during the project?
- Did you collect lessons learned?

APPENDIX 2. AN EXAMPLE OF AN IT PORTFOLIO STREAMLINING PROJECT PLAN.

Portfolio Component	Baseline count	Three-year target	Five year target	Source of Savings/ Leverage
e-mail system	8	4	2	Reduced number of staff, productivity
WANs	8	3	1	Build vs. buy, WAN consolidation
Major data centres	15	9	3	Lower real estate cost, reduced staff
Mainframe platforms	24	4	6	Reduced number of staff and HW/SW cost
Desktop SW images	56	8	3	Reduced complexity, lower support cost
Desktop HW platforms	5	9	4	Volume purchasing, reduced staff
Operating systems	24	8	3	Reduced licensing and support costs
Programming languages	32	15	1	Reduced complexity

The example emphasizes the heuristic nature of the process. It also point out the importance of linking the targets to business performance in long term.

APPENDIX 3. THE LIST OF CASE COMPANY REPRESENTATIVES

Company A:

Person A1	13th September 2003	Development Manager, IT operations
Person A2	20th September 2003	Process Development Manager, IT operations
Person A3	30th September 2003	Outsourcing Manager, IT operations
Person A4	30th September 2003	The Head of Regional IT operations
Person A5	4th October 2003	Regional Communications & HR manager
Person A6	20th October 2003	Outsourcing concept manager for IT
Person A7	23th October 2003	Manager, internal IT process development, STP planning & portfolio management
Person A8	24th October 2003	Outsourcing concept development, relationship management
Person A9	24th October 2003	Operational manager of extended enterprise concept for IT
Person A10	5th October 2003	Development manager for outsourcing processes
Person A11	11th March 2004	Regional Development Manager for IT
Person A12	11th March 2004	Relationship manager
Person A13	12th March 2004	Service Manager, extended enterprise applications
Person A14	20th March 2004	Service Manager, IT Service Delivery
Person A15	20th March 2004	Development manager, processes (business line)
Person A16	27th March 2004	Product Manager, a Business Line
Person A17	30th March 2004	Manager of a Product Line
Person A18	30th March 2004	The head of a department (business)
Person A19	2nd April 2004	The head of development, internal processes
Person A20	14th August 2004	The head of regional IT operations
Person A21	April 2004	The head of service development processes

Company B:

Person B1	16th September 2003	The vice president of information technology; responsible for the overall IT operations in the company
Person B2	28th September 2003	The vice president of process development; responsible for (IT) process development, and harmonization globally
Person B3	4th October 2003	The local head of IT operations; countrywide responsibility over IT operations
Person B4	24th November 2003	Strategy and outsourcing consultant; planning and implementing global strategies
Person B5	4th December 2003	The head of strategy and operations; planning and implementing global strategies

Person B6	6th January 2004	The head of a business line; responsible for overall performance of a non core business operations
Person B7	14th January 2004	Manager of local business operations; responsible over local business operations
Person B8	20th January 2004	Development Manager, processes and leadership
Person B9	12th February 2004	Training Manager, countrywide responsibility over training & learning activities
Person B10	12th February 2004	Manager of local business operations; responsible over local business operations
Person B11	February 2004	Development manager, IT operations
Person B12	February 2004	Service manager, platforms
Person B13	April 2004	Local relationship manager, IT
Person B14	April 2004	Financial Controller, a business area
Person B15	April 2004	Product Manager, IT application

Company C

Person C1	March 2004	The director of IT
Person C2	March 2004	Service manager, IT
Person C3	March 2004	Manager of marketing and sales
Person C4	March 2004	General Manager (business
Person C5	March 2004	Local responsibility over IT
Person C6	March 2004	Project manager, IT development
Person C7	12th April 2004	The head of business operations, a major business line
Person C8	12th April 2004	Relationship manager
Person C9	April 2004	Production manager

APPENDIX 4. OPERATIONALIZING THE PROPOSITIONS

Summaries of the Interviews with the Case Company Representatives:

Proposition 1. Optimized IT sourcing model depends mainly on the role of IT in the company.

Company A	The role of IT in the company	What is Outsourced ?	Targets in Outsourcing ?	Strategic Incentives, level of commitment in	Applicability of the value chain approach to
Person A1	Strategic, source of competitive advantage	Data computing Service Desk, several application development projects	Flexibility, better use of assets, cost, focus on core	None, high/ medium, case by case	Better than proposed division based on maturity
Person A2	Strategic, industry leader	Data computing Service Desk, project management	Flexibility, cost, focus on core activities	Depends on the case, target towards closer, long term partnering	Applies
Person A3	Strategic, central part of products	Data computing Service Desk, single projects	Better use of assets, focus on more value adding tasks	Depends on the service, some high commitment, some none	Applies fairly well
Person A4	Strategic, differentiating products, operational must	Data computing Service Desk, external consulting used for projects	Flexibility, better use of assets, cost	Both black box and white box, depending on the service	Applicable
Person A5	Strategic, ensures world class performance	Data computing Service Desk, process description tasks	Better use of assets, total cost	Depends on the service, some high commitment, some none	Applies
Person A6	Strategic, increases company value	Various service development activities, service desk, computing	Better use of assets, cost, organizational reasons	Depends on the service, some high commitment, some none	Principle applies
Person A7	There would be no company A without advanced use of IT	Computing, service desk	Better use of assets, focus on core competencies & advanced technologies	Depends on the service, some high commitment, some none	Applies both high level and single cases
Person A8	Strategic, needs to be defined more detailed	Various service development activities, service desk	Flexibility, better use of resources	Depends on the service, some high commitment, some none	Applies
Person A9	Strategic both as a part of product and services and supply chain	Service desk, various project tasks	Better use of assets, outsource standard tasks	Depends on the service, some high commitment, some none	Applies in principle
Person A10	Strategic, both to operations, products and innovation	Various service development activities, service desk	Flexibility, better use of assets, focus on value adding	Depends on the service, some high commitment, some none	Applies
Person A11	Strategic, leading edge applications used	Service desk	Efficiency, resources allocated to more complex tasks	Depends on the service, some high commitment, some none	Applies
Person A12	Strategic, continuously developed	Service desk	Accommodate peaks, better use of assets	Depends on the service, some high commitment, some none	Applies
Person A13	Strategic, central to everything	Computing, service desk	Better use of assets, standard services do not add value	Depends on the service, some high commitment, some none	Applies
Person A14	Strategic, present in all operations	Various service development tasks, service desk, computing	Focus on core competencies, competence profile & learning focues	Varies	Applies
Person A15	Strategic, ensures market leadership	Various service development activities, service desk	Core competence focus	Depends on the service, some high commitment, some none	Applies
Person A16	Strategic, high end, best in class	Service desk, data computing	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A17	Strategic, source of competitive advantage	Service desk, consultants used extensively in projects	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A18	Central to efficiency both externally and internally	Various service development activities, service desk	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A19	Strategic, source of competitive advantage	Various service development activities, service desk	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A20	Strategic, source of competitive advantage	Service desk	Flexibility, better use of assets, cost, focus on core	Depends on the service, some high commitment, some none	Applies
Person A21	Very Important	Infrastructure, both standard and product related services	Cost, new competencies, organizational reasons	Improvement related incentives, medium	Applicable, used
Conclusion:	**Strategic, a central to product offering and future competitiveness**	**Standard services & end product related, development tasks – a mix**	**Economic, organizational, strategic benefits, stay at competitive edge**	**Varies case by case: high and low**	**Significant correlation**

Company B	The role of IT in the company	What is Outsourced ?	Targets in Outsourcing ?	Strategic Incentives, level of commitment ?	Applicability of the value chain approach to sourcing model
Person B1	Central	Infrastructure services, standard maintenance	Flexibility, cost, focus, follow industry	None, low to medium	Applicable in principle, core kept in house for risk management reasons
Person B2	Value adding, differentiating	Basic infrastructure services, service desk	Strongly cost related, organizational reasons	Low to medium	Applicable in principle
Person B3	Strategic	Service desk, standard services	Cost, focus on core	No strategic targets, low	Applicable if outsourced extensively
Person B4	Central, strategic	Infrastructure, varies some country by country	Cost, use of resources	Low to medium	Applicable in portfolio approach
Person B5	Central, becoming more in the future	Ser vice desk in some countries, basic services	Cost, country level focuses vary	Low, no strategic targets	Applicable
Person B6	Central	Standard services	Cost, use of resources	Low to medium	Product related kept in house
Person B7	Strategic, source of competitive advantage	Infrastructure and standard services	Cost, organizational reasons	Low	Only standard services outsourced
Person B8	Strategic, source of competitive advantage	Non-core related services	Cost, better use of resources	None, Low	Model applicable, but not used
Person B9	Strategic	Standard maintenance tasks	Cost, resource usage	No strategic objectives, low commitment	Not used
Person B10	Strategic	All non-product related services	Cost, follow industry trend	Low commitment	Not used
Person B11	Highers competitive barriers	Service development, maintenance	Flexibility, use of assets, cost, focus	Medium	Applicable
Person B12	Improves competitiveness	Infrastructure services, development	Cost, focus, efficiency	Some, medium	Applicable, related to risk management
Person B13	Important	Infrastructure	Cost, follow industry trend	Low commitment	Not used
Person B14	Differentiating Factor	Depends on the country, infra	Cost, focus on core	Varies by country, some	Applicable
Person B15	Strategic	All non-product related services	Cost, follow industry trend	Low commitment	Not used
Conclusion : **The data supports the assumption 1, value approach not applied**	**Very important in product differentiation**	**Standard services, infrastructure related**	**Strongly economic, organizational**	**Low commitment**	**Agreed in principle, not used by the company**

Company C	The role of IT in the company	What is Outsourced ?	Targets in Outsourcing ?	Strategic Incentives, level of commitment ?	Applicability of the value chain approach to sourcing model
Person C1	Administrative, for communications, info sharind	In process, infrastructure, mostly all	Flexibility, cost, focus	None, low to medium	Agreed to, not applied
Person C2	For standard operations, communication	Infrastructure, IT strategy, development	Bring in new competencies, resource usage, focus	None, low to medium	Applicable
Person C3	Administrative	Most/ all IT	New competencies, focus	Medium	Applicable
Person C4	Administrative, standard packages	IT infrastructure	Focus on core, industry trend, flexibility	Medium	
Person C5	Used for operational purposes	Most services, infrastructure	Focus on core, flexibility	Medium	
Person C6	Used for communications and operations	All	Focus on core, new resources	None, medium	Applicable
Person C7	Differentiating solutions	Most IT	Use of resources, new resources	Cost related incentives, no strategic	Applicable and used
Person C8	Medium	Infrastructure, service development	Use of best in class resources, focus on core	None, medium to low	Applicable
Person C9	Medium, differentiating	Infrastructure	Cost, focus, use of resources	Medium to low	Applicable in principle
Conclusion: **The data DOES NOT support the assumption**	**Becoming more central (product related)**	**Standard services & end product related – a mix**	**Economic, organizational**	**Single supplier, No strategic incentives medium**	**In company level, yes**

Cross case analysis:

	The role of IT in the company	What is Outsourced ?	Targets in Outsourcing ?	Strategic Incentives, level of commitment ?	Applicability of the value chain approach to sourcing model
Company A	Strategic	Data computing Service Desk	Flexibility, use of assets, cost, focus	Some, high/ medium, case by case	Applies
Company B	Central	User Support Service Desk, infrastructure partly	Concentrate on core, cost	None, medium	Applicable
Company C	Administrative	Ongoing, User Support Service Desk, infrastructure	Increasing demand, better service, cost	None, medium	Applicable
Conclusion :	No significant correlation between the role of IT in the company and the selected outsourcing model (targets, the level of contractual commitment and strategic incentives with the partners) found.				

Proposition 2. IT Outsourcing's contribution to company's business performance will be improved if the service provider and the outsourcer have shared profit and loss interests

Company A	Shared profit and loss incentives ?	Plans to implement in the future	Measures for Improved contribution	Joint development, early/ late technology adapter
Person A1	In project level yes, linked to cost	Possibly	Use cost, overall cost, use of services, satisfaction	Yes, early adapter
Person A2	Cost related	Not in near future	Use cost, user satisfaction, number of incidents	Yes, early adapter
Person A3	Achieved cost savings shared, not in regards to company result	Yes, some	Number of incidents and user satisfaction, cost, planning accuracy	Yes, early adapter
Person A4	In project level, not in group level	Yes, more than today	Cost reductions, improved level of harmonization and standardization	Yes, early adapter
Person A5	Only in projects	Yes, in projects, depends on what will be outsourced	Cost related, improvement	Yes, early adapter
Person A6	Cost related savings shared	Hard to implement and judge contribution	Cost, improved service levels	Yes, early adapter
Person A7	Related to cost in projects	Impossible to establish fair ones in group level	Service levels, overall cost, innovative services	Yes, early adapter
Person A8	Not regarding end products	Too complicated	Use cost, new service concepts	Yes, early adapter
Person A9	Hard to implement, no	Not likely	Cost, new ideas & service products	Yes, early adapter
Person A10	Regarding purely IT, yes	Possibly	Strongly cost related	Yes, early adapter
Person A11	Only directly related to services	Definitely in project level	Number of incidents, automatic processes, resource efficiency	Yes, early adapter
Person A12	No	In single services, yes, not regarding end products	Resource efficiency, improved services, cost	Yes, early adapter
Person A13				Yes, early adapter
Person A14				Yes, early adapter
Person A15	In projects but not related to customers	Possibly	Depends on the service, cost	Yes, early adapter
Person A16	Cost related incentives	More in the future	Cost reductions, re-use of services	Yes, early adapter
Person A17	Cost saving targets in contracts as incentives	Increasingly	Service life cycle improvements, cost	Yes, early adapter
Person A18	Only directly related to suppliers contribution	Increasingly	Automated services, service level	Yes, early adapter
Person A19	Only IT service related	Not likely	Service level, resource usage	Yes, early adapter
Person A20			Cost	Yes, early adapter
Person A21	Yes, a must in IT	The same	Flexibility, use of assets, cost, focus	Yes, average to early
Conclusion:	Not in company level, yes in single services	Not sure, interest exists, hard to implement in practice	Over all cost, service level, new services	Yes

Company B	Shared profit and loss incentives ?	Plans to implement in the future	Measures for Improved contribution	Joint development, early/ late adapter
Person B1	No	Possibly cost related, shared savings	Cost and SLA measured	No, could be more, early to moderate adaptor
Person B2	No	Not in company level	SLA, cost	No, becoming more conservative in IT spending
Person B3	No	In country level, improvement related	Cost, not relevant	Could be more, in the future yes, average, follower
Person B4	No	Yes for improved services	Not measured	No, early adapter
Person B5	No	No, contract can define bonus for good performance	Not measured directly	No, use proven technologies
Person B6	No	No	Outsourced standard services, cost driver	No
Person B7	No	Not likely, some cost related	Cost	Commercial packages used
Person B8	No	No	Overall cost, reduced headcount	No, management strongly in hands
Person B9	No	Not for current scope	Cost, organizational changes	No, moderate
Person B10	No	Not likely	Cost, service level	Moderate, not joining trends
Person B11	Yes, a must in IT	The same	Flexibility, use of assets, cost, focus	Yes, average to early
Person B12	Yes	Yes	SLA, cost, improvement	Yes
Person B13	Yes, not to end product	Yes	Improved services, satisfaction	Yes, partner-like
Person B14	Yes, depends on ownership	Yes, continuous development	Improvement related	Yes
Person B15	Yes, in service & IT solution level	Yes	SLA, faster service introduction	Yes, early to average
Conclusion:	**No**	**No**	**Strongly cost driven**	**Becoming more moderate adapter**

Company C	Shared profit and loss incentives ?	Plans to implement in the future	Measures for Improved contribution	Joint development, early/ late adapter
Person C1	Not yet	Yes, IT related	Flexibility, cost, harmonization	Yes, average
Person C2	No	In IT	New services, improved operations	Yes, standard but latest services introduced
Person C3	Too early to say	-	Improved data sharing, reliability	Yes
Person C4	No	No	Speed of change, harmonization	Yes, keeping up with development
Person C5	No	Yes, not to company performance	Level of consolidation, speed	Follower rather than inventor
Person C6	No	Yes, but only operational	Flexibility, new services	Average
Person C7	Yes, depends on ownership	Yes, continuous development	Improvement related	Yes
Person C8	Yes, in service & IT solution level	Yes	SLA, faster service introduction	Yes, early to average

Person C9	Yes		SLA	Yes, joint planning and management
	No	**Yes, related to IT solution shared ownership**	**Speed to introduce new services**	**Yes, joined planning extensive, Average to late adapter**

Cross case analysis:

	Shared profit and loss incentives ?	Plans to implement in the future	Measures for Improved contribution	Joint development, early/ late adapter
Company A	Yes, cost savings & quality of services	Yes, increasingly	Financial, operational Achieved cost savings & improved service levels	yes
Company B	No	Yes, some	Not measured directly	-
Company C	N/A	Yes	Speed, improved operational efficiency	Yes

Correlation found between performance related payment & responsibility for service development, and improved performance.

Proposition 3. The success of IT outsourcing projects largely depends on organizations ability to adapt to changing situations and apply information technology into their business operations.

Company A	Agility: Change readiness, communication, and culture of organizational changes?	Integrity: Systematic IT & business co-operation, joint planning?	Capability: Managerial competencies, continuous IT competence development, process adjustment?	Perceived success of IT transition project, Perceived success of collaboration, reasons
Person A1	Good, organization used to continuous change	Co-operation systematic, continuous joint planning	New services introduced with training program, awareness continuously improved	Several transition projects, learning from the early ones is more detailed planning, collaboration good
Person A2	Good, org. change used to build competitive advantage	Systematic co-operation, partly common processes	Managerial capability good, processes adjusted with suppliers, self help tools promoted	Transition ok, slight delays, collaboration good
Person A3	Good, agility enables new business concept and change in scope	Systematic planning in high and medium level	IT promoted and given good visibility, communication and training well planned, processes adjusted where needed	Transition could have been planned in more detail, collaboration good
Person A4	Good, existing culture, open communication	Good communication, planning through joint processes and roles	IT capability good throughout the organization, outsourcing not visible to users, processes clear	Partnership relation ship good and means are taken to develop further, transition projects all have common characteristics
Person A5	Good, educated people, change not a threat	Organizations built to reflect each other, roles correspond, operational	Strong process focus, continuous development of tools and competencies	Transition process re-written based on experiences from early projects, more focus on planning and asset management
Person A6	Good, reasons for change communicated, reasoned and accepted	Joint planning STP, solution and portfolio levels	Work automated, employees used to solving their issues proactively, overall competence good, processes defined	Transition project concerning assets had some issues, collaboration good thanks to clear roles
Person A7	Good, used to changes, reasons clear	Joint planning in various parts of organization, could be more in process and tool management	Managerial capacity good and continuously development, commitment and ownership granted	Transition projects follow same process, but every time new challenges that cumulate learning. Collaboration good

Person A8	Good, planning careful, involvement	Joint processes, well defined interfaces	Continuous development promoted heavily, processes automated and apply to most cases	Trust and joint planning established in the beginning, issues during transition projects were easy to solve.
Person A9	Good, in the past changes successful	Party the same processes, steering joint, high level involvement in IT planning	User satisfaction achieved by clear processes, awareness and training. Good support organization	Transition projects becoming more professional, a lot of focus and dedicated collaboration team.
Person A10	Good, long history of changes for the better	Due to importance of IT, high level involvement, joint planning	Service support and training good, even costs are under pressure	Dedicated outsourcing specialists deal with transition. Some delays in early projects, these days planning extensive.
Person A11	Good, among strengths	Joint forecasting, STP, portfolio planning, timing	Balancing performance and cost not compromised in training and support, less new services maybe	Asset management causing some issues, processes and roles were fine all along.
Person A12	Good, used as means to execute new strategies	All planning done together	Good competence level and perception, young employees	Well managed, process steered change projects, well documented handover and no major issues along the way.
Person A13	Good, changes every year	Joint planning, systematic feedback, special roles for relationship management internally	Good and employees attitudes towards learning positive, New service deployment with training	Transition project perceived a success generally. It is a learning curve, and all emerged issues are studied for future projects.
Person A14	Good, organization dynamic and in constant change	Both in global and regional planning done together	Training provided for services and processes, good support organization and capability	Transition good, minimal user impact. Some criticism for asset management.
Person A15	Always changing somewhat, not too extensively	Joint planning and change management	Well trained employees, management process driven	First major transition project considered fairly good. The later much better.
Person A16	Good, history of good change management	Relevance ensured by joint planning and cost control	Processes in key role, capability continuously developed	All projects are different, joint planning and close co-operation helps in building co-operative environment
Person A17	Focus on good change management	Budgeting and capacity planning done together, more focus in common processes	Managerial capability considered good, overall awareness and attitudes good	Change management done with several groups and layers, which ensured minimal downtime and user impact. Good planning key to success.
Person A18	Good, automated change management processes	Tools and processes are in place, consolidation required	Communication and training ensure competence development and favorable attitudes	Transition planning started very early. Main issues with unexpected changes.
Person A19	Good, a means to stay on top	Joint planning in high level, service level planning semi-systematic	Good	Minimal user impact. Collaboration transparent.
Person A20	Good, dynamic, readiness exist	Outsourcing planned jointly	Processes well defined and communicated, self help promoted	Process focus ensures that quality remains the same throughout the transition.
Person A21	Good, low change resistance	Outsourcing planned in several forums	Processes a major focus area, level of competences assessed regularly and developed continuously	Process focus ensures that quality remains the same throughout the transition.
	Good	Joint planning	Good level of IT capability and continuous development	Initial transition projects taught a lot for the planning of the future projects, dedicated team and processes for collaboration.

	Perceived successful.

Company B	Agility: Change readiness, communication, and culture of organizational changes?	Integrity: Systematic IT & business co-operation, joint planning?	Capability: Managerial competencies, continuous IT competence development, process adjustment?	Perceived success of IT transition project, Perceived success of collaboration, reasons
Person B1	Organizational changes are continuous, mainly smaller ones, reasons for change well accepted	Budgets and major projects reported to high management, otherwise given high degree of independency.	Experienced managers, have good sense of business operations, processes remain the same in outsourcing. Suppliers trained.	Transition projects separate in countries. Overall very good. Advantages (cost, speed, relevance) of having several small and local projects rather than one large.
Person B2	Change readiness good, business driven changes continuous. Communication open.	Co-operation involves the key people, not more. Co-operation semi-annual in high level, in operational level involvement as needed.	Managers very hands on, processes according to local needs, harmonization ongoing. Training provided regularly.	Outsourcing overall good, collaboration good with local presence and specific services.
Person B3	Changes are accepted with good reasoning, no issues with change resistance	Development and annual planning reported to business management, otherwise independent country and IT operations.	Managers motivated and involved in planning. Competence development used to be better. Processes remain the same.	Good. Suppliers flexible for changes following trusting relations.
Person B4	Organization able and willing to change. In the past several changes.	Business driven system development, which requires close interaction with local business. In global level not so much.	County IT manager in key position. Multilayer support organization ensures learning. Employees know the support process.	Transition successful so far. More development ideas from suppliers could be welcome.
Person B5	Organizational ability to change good. Outsourcing reasons understood.	Budgeting and strategy together with global business for guidelines. Other than that local business driven.	IT managers have vast responsibility and their own organization. Operational issues and development in local level, high level strategy from global.	Transition projects successful. No major issues. Good two-way communication and clear roles.
Person B6	Good. In the past several changes.	Very diverse needs, local business. General guidelines planned together.	Each implementation with training. Support organization provides additional help where needed. Local presence.	Good. Services similar with lower cost. Standard packages, no special needs.
Person B7	Good. Culture of organizational changes exists.	Local business and suppliers in the forefront, global IT department head organization.	IT training by application owners. Can also be the supplier. Competence level good.	Good. Co-operation began before outsourcing, so trusted and well known partner.
Person B8	Good. Flexible employees and multitasking.	Co-operation mainly at global end. Countries do not discuss that much. Diverse needs.	IT personnel's skills updated regularly, processes defined by us.	Good. Local need driving supplier selection. Different ones used in different places. Gives flexibility
Person B9	Good. No major issues with change resistance. Hard times in the past have taught the need for changes.	No major projects planned or implemented, incremental improvements with some business involvement (timing).	Solution ownership with us, partner supplies according to specifications. Development responsibility in-house.	Clear roles and well defined areas of responsibility and cost.
Person B10	Good. Employees understand the reasons and need for changes.	Separated in infrastructure management and product related. Organization support the co-operation. Functional. IT strategy in global level.	Good level of skills. Support and other processes clear and well communicated.	No major issues during the change. Contract will remain much the same for the next period.

Person B11	Good. Many ongoing changes.	Co-operation systematic to ensure good support and relevance. Strategy very agile.	IT competencies are updated as needed bases. Processes planned together with suppliers.	Transition ok, collaboration good.
Person B12	Good. Several changes in the past.	Very close. Dedicated IT development manager in all business lines.	IT competences are developed incrementally. Suppliers bring knowledge of process excellence.	Good change management, operational, trusting partnership.
Person B13	Good. Open communication.	Good. High level of involvement from business to IT development, less otherwise.	Good knowledge and awareness of both IT and business. Suppliers involved in training for new applications.	Good supplier relationships and continuous improvements. Long experience in partner management.
Person B14	Changes well planned and communicated. More changes these days than in the past.	Business managers involved in IT solution development and to some extent supplier interface.	Close co-operation ensures awareness and development. Processes jointly planned with suppliers, adjusted.	Supplier relations good due to long history of co-operation. World class supplier and close co-operation.
Person B15	Good. No issues emerging with outsourcing.	Systematic co-operation and defined processes	Managers well aware of driving business needs. Suppliers bring in new competencies and capacity.	No burden of history, co-operation starting good, clear tasks and roles.
	Good. Organizational changes frequent, flexible workforce	Co-operation in two levels: global IT-business, and local IT & business. Functional.	Managerial skill level considered good. Local business drives development more than global strategies.	Transition successful. Clear supplier-buyer relationship.

Company C	**Agility: Change readiness, communication, and culture of organizational changes?**	**Integrity: Systematic IT & business co-operation, joint planning?**	**Capability: Managerial competencies, continuous IT competence development, process adjustment?**	**Perceived success of IT transition project, Perceived success of collaboration, reasons**
Person C1	Organization changing and growing heavily. Requirements for IT with it.	IT department under support function, finance & control. Involvement in steering.	Supplier brings in new processes.	Too early to say
Person C2	Several changes in the past. With IT no issue as more matter of getting more resources than changing organization.	Business involvement in high-level, operationally independent.	Supplier brings in new processes. Current processes as needed based.	Good for current scope
Person C3	Changes in IT do not affect most people. Irrelevant.	Increasing involvement following harmonization requirements.	Supplier brings in new processes. Current processes as needed based.	Good so far
Person C4	People used to changes, need for more focus on IT understood.	Semi-systematic co-operation	Supplier given responsibility for training	Close and complementing
Person C5	Good. Many recent changes, strategy to expand.	No operational reporting to business steering, changes and budget approved in management.	Supplier heavily involved in process and strategy development.	Good
Person C6	Changes are continuous, employees know and agree to new requirements.	Co-operation sufficient and reactive.	Supplier brings in new processes. Training provided for IT personnel.	Good experiences so far

Person C7	Good. Communication and transition manager in key roles.	Close co-operation, especially at time of changes.	Good knowledge of company operations. Proactive development together with the supplier.	Experiences good
Person C8	Good, organizational changes are constant	Close and casual cooperation	Own competences concentrate on support and coordination. Supplier brings in new competences	Close and functional
Person C9	Company history full of changes	Good communication and involvement	Outsourcing enables wider competence base.	Good
	Organizational changes frequent and readiness and willingness to change exist	Co-operation semi-structured.	Supplier brings in new processes and helps in building long term focus for IT operations.	Good experiences

Cross case analysis:

	Agility: Change readiness, communication, and culture of organizational changes?	**Integrity: Systematic IT & business co-operation, joint planning?**	**Capability: Managerial competencies, continuous IT competence development, process adjustment?**	**Perceived success of IT transition project, Perceived success of collaboration, reasons**
Company A	Yes, yes	Operational, systematic processes	Yes, used to be more; special processes for supplier interface	No, asset mngt slow
Company B	Yes, semi-systematic, yes	Operational, tight control processes	Some; processes harmonized & adjusted globally	Yes
Company C	Ad hoc, no need for more, no	N/A	No, yes, consultant redesign process	Good so far

Data suggests that well defined co-operation processes between IT and business functions improve (perception of) supplier collaboration.

Proposition 4. IT Outsourcing benefits are maximized if senior management and IT managers have consensus concerning IT function and operating environment

Company A	**User Attitudes measured**	**User Involvement in design**	**Disputes over outsourcing**	**Fast decision-making & implementation of the change**
Person A1	Yes, regular focus groups and annually a large research	High to medium. Depends on the service.	Outsourcing has been well received. Even more outsourcing (IT) has been suggested	Yes, once the decision is done, process kicks off
Person A2	Yes, regularly. Results communicated to wide audience.	High in application level. Some in process development. Overall responsibility within IT management	No	Decision-making systematic in regular meetings. Advisors used extensively for informed decisions.
Person A3	Yes.	Mainly through official processes	No. Reasons well understood and planned with relevant parties	Decision-making in high level, implementation with dedicated team. Own separate processes
Person A4	Yes, annually with a wide survey, and during changes with affected groups	Yes, focus groups for users. In application side the business owners.	The needs for outsourcing well understood and accepted. Most people re-assigned to new jobs	Decision-making and planning process driven. Sometimes too large groups making decisions.
Person A5	Yes, with several	Fairly good. There are channels for ideas for any	Nothing special	Cross-functional teams and steering committees make

	surveys.	user		decisions after listening to all considerations.
Person A6	Yes, extensively. Also reacted to.	Good. Could be better in process design and capacity planning	No. Decisions from up	Decision-making after initial decision mostly responsibility of the project team, who involves required parties.
Person A7	Yes, both separately concerning applications and about overall IT system	User involvement in application level, not in solution development	No. Clear communication and reasoning.	Decision-making process driven. No ad hoc decisions. Tools and templates in place
Person A8	Yes.	User involvement extensive. Young organization, easy access to feedback channels	No.	Decision-making in cross-functional teams. Sometimes too many meetings
Person A9	Yes.	User involvement through focus groups, feedback mail and business related application development	No. Service levels remained the same and for users the process was invisible.	Decision-making systematic and continuous practice. Fast implementation regarded important
Person A10	Yes.	Good	Top-down decision. No major resistance.	Decision-making includes representatives from all affected groups, which ensures effective execution.
Person A11	Yes.	User involvement not so systematic as involvement of the key people in all units.	Top-level decision. IT department mainly executing	Decision-making channels and processes well known to everyone. Extensive use of consultants.
Person A12	Yes, annual high level questioner reaches high levels of attendance.	Yes, there is involvement both in process and service developments	No resistance, outsourcing had been done in other pats of organization with good success	People are expected to prepare for meetings and bring assistants if needed. This ensures maximal benefit in minimal time.
Person A13	Yes. Both in general employee satisfaction enquiries and in special research	Involvement in service development a must, as well as for annual and bi-annual planning.	No	Decision-making in cross-functional teams in regular meetings. Follows clear processes and templates, well documented
Person A14	Yes, regarding services and general perception.	Not all users involved, people who have interest of work close to IT	No major resistance, decision well planned and reasoned	Decision making fast and includes implementation plans and feedback/ learnings to close the loop
Person A15	Yes, with qualitative measures	Yes, increasingly	No, company outsourcing extensively	Process oriented, systematic
Person A16	Yes. A service requests are also followed up with opinion poll.	Yes, in certain level	No. Outsourcing ongoing and reported also in other parts of the organization.	Would describe it fast, reactive, fact based
Person A17	Yes, often enough	In application level concerning their business unit.	No. Business as usual	Decisions based on business cases, expert reports and extensive background work
Person A18	Yes. Surely enough.	Users not involved in strategy process, but in application level development	No. Well understood and perceived.	Decision-making reactive, team effort
Person A19	Yes. The system is coordinated throughout the organization	There are channels to get involved	No, expected for some time	Decisions made in various levels with clear reporting structure

Person A20	Yes	Yes, especially in high level planning.	No. Everybody does it	Functional
Person A21	Yes	Varies from unit to unit	No.	Well coordinated
	Yes.	User involvement mainly through application and process development	No issues or disputes	Decision-making perceived fast, reactive, process driven and cross-functional

Company B	User Attitudes measured	User Involvement in design	Disputes over outsourcing	Fast decision-making & implementation of the change
Person B1	Yes, annually	Through key user network	No, top down decision	IT department has high level of autonomy and makes most decisions itself. Fast, local and well prioritized
Person B2	Yes	Through local in-house IT personnel	No, everybody outsourcers	Decisions made in regular board meetings and experts called in if needed
Person B3	Yes, mostly in local level	Improvement ideas to service desk	No, expected news	IT related decisions discussed in development board bi-annually, operational decisions within IT department. Fast implementation
Person B4	Yes, regular smaller polls	Very close in product related IT (in-house), not so much regarding infrastructure services	No, in line with company policy	Implementation planned as a part of change process. Focus on high level of usage. Decision-making and reporting structures clear.
Person B5	Yes, in country level	-	No, expected	Decision-making process follows escalation and reporting structures. Structured, hierarchical model.
Person B6	-	Through key users and support organization	No.	Hierarchical decision-making. The size of the project defines who will decide about it.
Person B7	-	Some	No, global decision, local implementation	Decision-making hierarchical, local and global levels separated and for different topics
Person B8	Yes	In operational level, not in higher level	Nothing major	Priorities and division of authority follows business priorities and focuses
Person B9	Yes, in connection with changes	-	Not about the decision, some about the implementation	Decision-making autonomy with IT department within budget limits.
Person B10	Yes, especially important after changes	No user involvement with suppliers, through local own people	No.	IT related investment decisions based on business priorities, fast implementation
Person B11	Yes, annually	In solution related	None, improvement driven	Yes, decisions made with business representatives, in-house IT and supplier. Ensures fast implementation
Person B12	Yes	Not in general services, in relation to products	No, services and perception improved	Close supplier relations a must. Changes planned together
Person B13	Yes, in country level	Through the IT development people in the business units	No, strategic decision	Decision-making authority with the business units in the last hand. Escalation clear
Person B14	Yes	Yes	No, expected	Decisions made in global level to a great extent to meet harmonization targets and fit
Person B15	Yes	Ideas through development network	No	Decision-making regulated, systematic process

	Yes	Involvement through in-house IT personnel, mainly related to product related IT	No	Hierarchical decision-making structures strongly reflecting business priorities

Company C	User Attitudes measured	User Involvement in design	Disputes over outsourcing	Fast decision-making & implementation of the change
Person C1	Randomly	Some	No, new requirements made it clear new capacity needed	Decision-making for IT following business priorities
Person C2	Through open feedback	Little, due to the role of IT	No	Very much business driven to ensure fit
Person C3	In small scale	-	No	High level of business and financial involvement
Person C4	Some	Little so far	No, top down, clear decision	Supplier involved in planning
Person C5	Recently yes	Little, does not affect workers everyday jobs	No	In budget frame autonomy to IT department
Person C6	Not systematically	Little	No, common practice	Within budget limits technology driven
Person C7	Recently started	Little due to competence profiles	None,	Decision-making fast and based on sound business reasons
Person C8	Yes	-	No. Recognized as the best way to manage IT	Decision-making fast and reactive. Changes implemented fast.
Person C9	Yes but not systematically	Some	No	Time to user acceptance critical and therefore fast implementation of changes.
	Random	Little	No, supported	Yes, commitment and mandate given by high level management

Cross case analysis:

	Company A	Company B	Company C
Role of IT	High	Medium	Low
User Attitudes measured	Yes, quite favorable, decreased	Yes, quite favorable, decreased	No
User Involvement in design	Medium, a lot of feedback given	Medium to low	Low
Disputes over outsourcing	Few	Few	Few
Fast decision-making & implementation of the change	Yes	Yes	medium

Favorable attitudes and consensus over IT issues improved speed of making outsourcing decision and implementing the change.

The data also suggests that organizational consensus speeds up decision-making and planning processes and improves user involvement and attitudes about IT systems.

Proposition 5. IT Outsourcing adds the most value to the company if IT strategy is a part of overall business strategy

Company A	IT Steering group structures	IT integrated to business strategy	Measures for added value in outsourcing	Perceived added value
Person A1	Multifaceted, cross functional	Business strategy includes IT section	Cost, headcount, asset utilization	Mainly organizational transformation, less fixed costs
Person A2	Representation from all affected groups and units, hr and communications	Yes, in high level	Improved cost efficiency (unit cost for services)	Accumulating learning from partnering, more money for other tasks
Person A3	All support and relevant business units and IT divisions represented	High level strategy includes IT elements	Headcount reduction, assets, own personnel to more value adding tasks	Personnel development, world class service with small co-ordination cost
Person A4	Cross-functional	Internally communicated strategy yes, not communicated corporate strategy	Improved cost for SLA, development initiatives	Joint development, exceeded savings targets
Person A5	All relevant groups involved	High level objectives and focuses listed	Organizational change, employee satisfaction	Reduced fixed cost
Person A6	All involved sub-units represented regularly	High level development directions yes.	Quality and speed of service development and delivery	Ability to handle peaks in demand with less fixed cost
Person A7	Very diverse to ensure all affected units involved and all skills represented	In very high level yes. In operational planning also, but in business unit level	Headcount, total cost	Improved control, cost transparency
Person A8	All groups represented	Yes, high-level strategy includes IT, other way around more: business strategies reflected in IT strategy	Unit cost, total cost, investments	Job transformation, reduced fixed cost
Person A9	Gross-functional	Yes, to some extent	Headcount, number of service requests	Access to new resources & specialized knowledge, accelerated service introductions
Person A10	Gross-functional	Yes. Financial and improvement related targets listed	Organizational issues: employee development, satisfaction, job stability, learning	Networking benefits, expertise in specific, non-core areas
Person A11	All affected units represented, as well as communications, hr and supplier	Yes. IT representation in strategy boards and STP planning strong	Fixed cost, service time to market,	New roles to own personnel, improved consensus over IT expense
Person A12	All units represented	Yes. IT embedded in strategies as enabler. Also some separate targets for IT	Cost, number of incidents	Improved planning, visibility to cost and resource usage
Person A13	Everyone involved represented + support functions	Yes. Joint planning, especially regarding capacity and budget.	Reduced fixed cost, service portfolio streamlining	Improved control, assessment of own resources
Person A14	All units present	Yes. Awareness across organization good	Same measures used as before. Headcount changes.	Join development, structured collaboration, access to additional resources
Person A15	All relevant business units and support functions	Yes, in various levels	Operationally the measures are the same as before. Comparisons define the added value in long term	Improved speed and cost of delivering new services, development ideas from experienced partner
Person A16	All relevant units	Yes. More influence from business strategy to IT than vice versa	Project related measures, cost and organizational	Flexibility, improved perception of IT efficiency

			quantitative measures	
Person A17	All relevant parties	Yes	Speed to introduce new services, innovative ideas that materialize in projects	Access to specialized knowledge, process excellence and comparability of the services and cost
Person A18	All units affected, stakeholders	Yes. IT strategy planned with business experts.	Cost efficiency,	Freed resources for other purposes, potential in long term
Person A19	All stakeholders, support functions and business representatives	Integration to ensure relevance and realize new opportunities	Cost, headcount, investment	New resources, combined expertise potential in the future
Person A20	All functions and units	Yes, in some levels	Portfolio, headcount, unit cost	Flexibility, organizational transformation
Person A21	All units and suppliers represented	Yes, in high level	Headcount reduction, flexibility, agility	Scalability of operations
	All affected units, stakeholders, support functions	Yes, joint planning	Unit cost, headcount, speed to deliver services, fixed cost	Access to new resources, new opportunities for own personnel, improved cost control and efficiency

Company B	**IT Steering group structures**	**IT integrated to Business strategy**	**Measures for added value in outsourcing**	**Perceived added value**
Person B1	IT manager reporting to highest management	Not so much. Business strategy guiding IT strategy	Strongly cost and headcount related.	Reduced headcount, improved image and perception
Person B2	Steering group for overall solution bi-annually with local top management. Project steering in smaller focused groups	Not the whole overall strategy, other than budget wise. All business requirements fed back to IT strategy.	Added business value not expected	Headcount reduction., clear processes
Person B3	Gross-organizational representation in annual development meetings.	Not in operational strategies.	Lower foxed cost	Clear reporting, asset management and responsibilities
Person B4	Representation in development projects from affected units and supplier	No	Cost, headcount	Flexibility, control over spending
Person B5	Reporting to finance and control	No. Considered a support function	Headcount, investment, fixed cost	Flexibility, lower control cost
Person B6	Reporting to country management team	No.	Headcount, cost. No improvement to existing services targeted	Flexibility at peak times, control, employee job rotation
Person B7	IT strategy approved in country management board. Project level steering with relevant business units	No. IT strategy follows closely local business requirements. High level guidelines from global IT management.	Cost of delivering required services, investment	Resource efficiency, lower fixed cost
Person B8	IT personnel: key users, service managers, supplier, f&c	No, strategies local and agile	Headcount, cost visibility	Trusted partner provides flexibility and uncomplicated co-ordination
Person B9	IT managers, f&c, supplier, local management board in annual level	Strategies local with local business. Company level strategies communicated via global IT	SLA and usual financial measures	Lower fixed cost, organizational coherence
Person B10	Country management team mainly, reporting high level to global IT	Strategies separate but aligned	Quantitative measures, not specially for added value	Focus on core

Person B11	Cross-functional	Yes, joint planning a pre-request for successful strategy	Speed of development, improved SL	Speed, flexibility, quality, organizational reasons, access to new skills
Person B12	Involving top management annually, operationally support functions, relevant business heads and supplier	Yes, there are common and separate targets		Speed, new skills, image
Person B13	IT spending and performance of high-level interest	Yes, in high level	Service levels	Improved services and perception
Person B14	Reporting to management board	-	Service introductions, number of incidents	User satisfaction, new opportunities
Person B15	Steering core group IT and supplier (partner management), extended all units	Yes. Planned partly with the same groups and approved by the same management	Service time to market, user satisfaction, number of new services	New features, operational excellence
	Local management, supplier	Not integrated but streamlined	Cost, headcount, usual financial and performance related measures	Reduced fixed cost, flexibility, co-ordination

Company C	**IT Steering group structures**	**IT integrated to B strategy**	**Measures for added value in outsourcing**	**Perceived added value**
Person C1	All units represented	The first thorough IT strategy is in making, will be integrated	New services, average time to solve incidents, introduce new services	Improved operational efficiency and proficiency
Person C2	Reporting to finance and control & management group	IT Strategy will be developed with the partner, links to business strategy	New resources, new services and solutions	Harmonization, user satisfaction
Person C3	Cross-functional	No need so far	New IT enabled opportunities in business and internal operations	Improved reliability of the records, efficiency
Person C4	Cross-functional	No. IT strategy reflects business priorities	New resources, cost in long term	Improved information sharing, reliability
Person C5	Cross-functional	No, but business strategies will be integrated to IT	Long term focus: new business harmonized solutions	Speed to react to changes, new resources
Person C6	Cross-functional, can vary	No	New services, cost, headcount	Speed, user satisfaction
Person C7	All parties represented	No need for that	Improved communication, profile and focus on core competences (headcount)	Improved reliability of the records, efficiency
Person C8	All partners represented	Only concerning core product related applications	New IT competences	Professional IT management for improved quality of data
Person C9	Even a customer could be represented	Applications supporting customer solutions included	Improved reliability of data, real time info and communications	Ability to better support growing operations
	Cross-functional	Not yet, will be in the future	New opportunities	User satisfaction, efficiency

Cross case analysis:

	Company A	Company B	Company C
IT Steering group structures	Cross-functional	Cross-functional	Cross-functional
IT CSFs	Flexibility, modularity, re-usability	Flexibility, platform, relevant	Relevance, cost
IT integrated to B strategy	Yes, in various levels	Yes, in some level	Will be in the future
Measures for added value in outsourcing	Cost, SLA, asset utilization	Cost, SLA, headcount reduction	New services
Perceived added value	Significant: automatization, products	Significant: adding value to products	Indifferent, efficiency
Missed business opportunities due to the absence of IT network	Not directly measured	Not directly measured	Not directly measured

Solutions' benefits to business operations increase with strategic importance given to the systems.

Proposition 6. Clear division of roles and well-defined areas of responsibilities in the beginning of the outsourcing project improve efficiency and ensure that co-operation begins in good terms. The early phases of outsourcing project determine the course it is going to take in long-term.

Company A	Relationship mngt roles clear in-house	SOP defined in negotiation phase	Perceived success of the transition projects	State of the supplier relationship
Person A1	yes. A focus area for the company in general.	Yes. There are several supplier management procedures for different situations	The latest, good	Good
Person A2	Yes. Supplier management processes are world-classes	Yes. Depending on the type of project supplier's or A's processes.	Improvements every time, overall good	In general, good
Person A3	yes. The responsibilities have not caused any special concerns.	Yes. Existing processes used	Good overall	Good, always something going on
Person A4	Yes	Existing processes used with some adjustments.	Good communication and planning, in implementation some issues.	Good, both parties committed to cooperation
Person A5	Yes. Different functions work in close cooperation.	Yes, or before.	Successful. Almost in time and budget.	Good. Supplier a long term partner.
Person A6	Yes. all responsibilities well defined, documented and communicated.	Before negotiation.	Handover smooth and user impact minimal.	In general terms good.
Person A7	Yes. All relevant units are involved in planning and implementing the changes.	Processes defined early in planning phase.	Good by all measures.	Successful with all suppliers. Yet there are differences in all relationships
Person A8	Yes. The relationship management works in several levels and they all communicate and cooperate continuously.	Yes	Good. Learnings from the past remembered in planning.	Good
Person A9	yes. The responsibilities follow portfolio management categorizations.	Required adjustments done to the existing processes.	Thanks to good planning, successful.	Good
Person A10	Yes. Both towards the business units, suppliers and support units.	The type of processes depends on the project.	Good communication, thorough planning.	During the transition some disputes, but operationally works very well.

Person A11	Yes. Roles defined in SOPs and other process documentation.	Suppliers are trained on A's processes	Good partly incremental handover.	Good and continuously developed
Person A12	Yes. for all stages of service life cycle.	Yes. Have an impact on cost.	Good because of experiences from the past.	Supplier relationship development a continuous practice
Person A13	Yes	Continuously developed and optimized.	Good thanks to proven processes and cross-functional involvement.	Good. Cooperation planned for long term.
Person A14	Yes. Yet there are some concerns about duplication of effort.	Depends on the scope of the project	Well planned.	Good and committed
Person A15	yes. Roles clear.	Yes. Supplier involved in process development work.	Good despite some issues with asset management.	Good. Operational processes developed together.
Person A16	Yes. Defined and communicated to all interfacing groups and suppliers	SOP follows A's processes	Good overall	Functional
Person A17	Nominated contacts given for suppliers	Yes. Processes used depends on the project	Good. Clear areas of responsibility.	Good and professionally managed
Person A18	Yes. A focus area	Yes. No new processes developed.	Good and automated process	Good
Person A19	Yes. Identified as important focus area	In planning phase processes identified	Good	Good. A trusted partner
Person A20	Yes	Yes. Processes assessed and adjusted if need to	Good. In time and budget without major impacts on operations.	Good, flexibility proven.
Person A21	Yes	Yes	Very professional	Good, long term partner.
	Yes	yes	Good	Good

Company B	Relationship mngt roles clear in-house	SOP defined in negotiation phase	Perceived success of the transition projects	State of the supplier relationship
Person B1	Yes. Matrix organization	Yes, or earlier	All countries have their own experiences, in general good	Local issues, global escalation if needed.
Person B2	Yes. Both during transition and after.	Earlier	Good in general.	In general good.
Person B3	Yes in country level.	Depends on the project	Very good.	Good with all suppliers.
Person B4	Yes. Multiple levels of roles.	Every project different.	Local implementation keeps the projects smaller and easier to manage.	Good. There are several improvement projects ongoing.
Person B5	Yes, both in local level and global projects	Yes. User related processes do not use	Varies by project and country.	Good and developed further.
Person B6	Some issues with reporting	Yes, gradually in planning phase	Good experience, smooth handover	Good. Committed and trusted partners.
Person B7	Yes. Reporting clear.	Cooperation has been ongoing before, and the same processes continue.	Good, cooperative process	Good long term partners
Person B8	Yes, roles and responsibilities clear.	Continued with the same processes	Good, well participated planning and implementation.	Good world class partners.

Person B9	Yes. Sometimes overlapping in matrix.	Processes adjusted with the supplier in planning phase	Good. Focus n implementation and communication.	Good due to local knowledge
Person B10	Yes.	Listed in contract, but defined earlier.	Good, including training and communications.	Good as the local, trusted partner knows the requirements.
Person B11	Yes. Professional supplier management processes.	Planned earlier, together with the supplier	Good overall.	Good due to open communication and proximity.
Person B12	Yes. Well defined processes for supplier management.	Planned together	Various considerations, but overall good.	Good and developed together.
Person B13	Yes.	Depending on the project rather suppliers own processes or B's	Good, easier with close local supplier.	Good.
Person B14	Yes. A focus area.	Varies country by country.	Good, locally managed process.	Good trusting.
Person B15	Clear, following reporting structures.	Defined along the way in long term cooperation.	Good.	Good from the beginning.
	yes	yes	Good	Good with joint planning

Company C	**Relationship mngt roles clear in-house**	**SOP defined in negotiation phase**	**Perceived success of the transition projects**	**State of the supplier relationship**
Person C1	Yes. Depending on the application area	Interfaces defined. Supplier can use own processes	Good so far.	Good
Person C2	Yes. In many levels.	Yes. Definitions developed gradually during the cooperation.	Professional	Good and planned for long term
Person C3	Yes. Different roles for different tasks.	The initial processes are developed in the planning phases. Others will follow later.	Good, new ideas and competences	Good and trusting
Person C4	Yes. Come naturally with areas of responsibility.	Most processes are established. Some adjustments are made in these early stages.	Good, scaling operations upwards	Good
Person C5	Yes.	Supplier uses own processes	Good, successful	Good
Person C6	Yes. Operational, lean organization.	Processes suggested by supplier	Good. Experiences long term supplier	Good
Person C7	Depending on the issue at hand. Small supplier management team for IT	Process development driven by the supplier	Good. Experienced supplier	Good and flexible
Person C8	Yes. No issues with unclear processes	Supplier introduces best practices.	Good, as supplier understands requirements	Good
Person C9	Yes	Suppliers use their own processes to develop applications.	Good and addressing right issues	Good
	yes	yes	good	Good

Cross case analysis:

	Company A	Company B	Company C
Relationship mngt roles clear in-house	Yes, a focus area	Yes. In matrix	Yes. Few interfaces
Dispute management operational	Yes, clear escalation path	Yes, in local level, few needs global	-
SOP defined in negotiation phase	Yes, or before	Yes.	Supplier driven
Transition project management	Joint forces, representation from all	Joint planning with trusted partner	-
Contract negotiations	Standard process	Local deals	Consultancy and new competences
Perceived success of the transition projects	Good, some delays and issues with definitions of responsibilities	Good. Handled locally by local people	Good
State of the supplier relationship	Good	Good	Good

Trust and good co-operation reduce risk of service obsolesce during transition project. All case companies had invested in process development and planning. Current relationships after a few years in the contract considered good.

Proposition 7. In-house IT personnel plays a critical role in solution management even if the function or parts of it are outsourced

Company A	The roles & tasks of in-house IT personnel were redesigned	IT personnel incentives tied to business performance	The role of in-house IT personnel in collaboration	IT managers principally handling the supplier interface
Person A1	From the relevant parts, yes.	To the higher management	Central. Both towards supplier and own organization.	Relationship managers, collaboration teams, purchasing, management
Person A2	Yes, to some extent.	A small part.	Plan and manage the interface operations. Central in regards to relevance.	The ownership for the interface with IT. Escalation and contractual issues handled in other departments.
Person A3	Yes, those who are directly influenced by the change.	Yes.	Central.	A dedicated collaboration team.
Person A4	Yes. During transition process.	Depending on the requirements of the job.	A dedicated team of professionals handle the interface.	Yes. In contract phase more involvement from other departments.
Person A5	Yes, where relevant.	Yes, there is a link.	Central. Suppliers use company processes and tools.	Yes, in operational issues.
Person A6	Yes.	Yes.	Central especially in planning and development capacities.	Yes, mainly. There are also others involved, but the responsibility is with IT
Person A7	Only where required.	Yes, especially the higher managers'.	Central as the main point of contact.	Yes. Master planning done in IT department.
Person A8	The suppliers treated like internals in processes	Yes, partly.	Ensure operational excellence, communications.	Yes. IT department has the first hand information about the operations and supplier performance.
Person A9	Yes, those affected.	Yes, a part	Manages the "big picture", system level	Yes, operationally. Contracts and prices negotiated by others
Person A10	Yes, where need	Yes, the management's.	Take responsibility over operations.	Yes, in operational level.

Person A11	Yes, toward coordinating roles or changing jobs	Yes partly.	Manage and develop collaboration and internal processes.	Yes technically and project wise
Person A12	Yes, all roles reviewed	Yes for relevant people	Act as the point of contact for internal employees and supplier.	Operations and development initiatives, yes. Others for finance and supplier management issues.
Person A13	Yes. The organization was re-designed	Yes, for some level	Central.	Yes
Person A14	Yes. All roles and their relevance assessed.	Yes, for management	Central in linking individual services to others in portfolio.	Yes, operationally
Person A15	Yes. If needed	Yes, a part	Manage the system as a whole	Yes, as far as possible
Person A16	Yes, for most people	Yes, partly	Critical.	Yes, operational issues
Person A17	Yes	Yes, depending on the job	Outsourcing team critical	Joint responsibility
Person A18	Yes, the whole organization redesigned	Yes, some	Outsourcing team handles interface	Various departments responsible for different aspects.
Person A19	Yes	Yes, for managers	Depends on the project. Important	Yes.
Person A20	Yes. Mostly	Yes, for the most part	Combining business requirements and communicating to supplier	Yes, mainly day to day operations
Person A21	Yes	Yes	Ensuring business relevance	Operationally yes. Contract and management by other units
	Yes	Yes	Central	Yes

Company B	**The roles & tasks of in-house IT personnel were redesigned**	**IT personnel incentives tied to business performance**	**The role of in-house IT personnel in collaboration**	**IT managers principally handling the supplier interface**
Person B1	Yes, where needed.	Yes, the managers'	Assume responsibility over the interface; Communicate changes and manage performance level	Management in several levels. Main contacts with IT.
Person B2	Yes, but only those affected directly.	Only the higher managers.	Take responsibility over the operational issues.	Yes.
Person B3	Yes. A big part moved to the supplier organization	No.	Manage everyday operations.	IT department locally responsible for daily operations. Escalation to others
Person B4	Yes, those whose job changed.	No.	Manage operations and changes.	IT management
Person B5	Yes, where needed.	Not typically.	Central in ensuring right capacity and services.	IT department responsible for the interface.
Person B6	Yes, the interfacing groups if needed	No.	Important both in planning and support processes.	Yes, local IT
Person B7	Yes, some changes needed	Some to country level performance	Manage and plan the supplier operations.	IT in operational issues, also others involved
Person B8	Yes, as few as possible	No.	Main contact to suppliers. Ensure good performance.	It is a joint project for many units
Person B9	Yes, where necessary	No.	Important as a single contact point.	Also other functions represented
Person B10	Yes. Towards more managerial roles	No.	Central in planning.	Many units responsible for

				different aspects
Person B11	Yes, processes and roles adjusted	Only the managers	Responsible for the interface and operations	Yes
Person B12	Yes, major re-organizing the roles	No	Total accountability with IT department	Business and support functions mainly
Person B13	Yes, most roles changed	No	Co-ordinating role	Yes, operationally
Person B14	Yes	Not typically	Manage and develop the operations	Yes, in daily operations and process development
Person B15	Yes, affected all IT personals' work	No	Manage and communicate over the company limits	Mainly supplier management group
	Yes, where needed.	Only for few top IT professionals	Central.	No

Company C	**The roles & tasks of in-house IT personnel were redesigned**	**IT personnel incentives tied to business performance**	**The role of in-house IT personnel in collaboration**	**IT managers principally handling the supplier interface**
Person C1	Yes, towards more co-ordinating roles	No	Technical expertise combined with experience from company needs	Together with partner management
Person C2	Yes	No	Communicate needs and participate in contract negotiations	Operationally yes, contractual and relationship management tasks no.
Person C3	Yes, more resources brought in	No	Technical and company specific experts	Yes
Person C4	Yes, changed significantly	No	Manage performance and communicate needs	Yes, in daily operations
Person C5	Yes	No	Organize support and continuity of the system development Yes	Yes
Person C6	Yes, major changes	No	Co-ordinate operations	Yes
Person C7	Yes	No	Communicate needs, monitor performance	Yes
Person C8	In house group only for minimal coordination	No	Monitor and manage	Operationally, not in management level
Person C9	Yes. More structured	No	Develop and monitor performance.	Together with other units
	Yes	No	Co-ordinating and providing technical expertise about company specific needs	Operationally yes, in contractual level no.

Cross case analysis:

In outsourcing projects:	**Company A**	**Company B**	**Company C**
The roles & tasks of in-house IT personnel were redesigned	Agree 80 %	Agree 40 %	Agree 100%
IT personnel incentives tied to business performance	Agree 80%	Agree 80%	Agree 30%
Cross functional collaboration model	Agree 100%	Agree 80%	Agree 30%
IT managers principally handling the supplier interface	Agree 80%	Agree 50%	Agree 80%
	operationally	operationally	autonomy

The importance of in-house IT management and updating critical capabilities was agreed on.

Proposition 8. Measures for evaluating optional IT investment projects should be developed separately in each individual case. The measures should emphasize the IT investments' strategic potential rather than financial incentives.

Company A	Customized measurement	Project portfolio management?	Priorization process	Investment criteria
Person A1	Some. Continuous development for more relevant measures	Yes, strong focus area	Business & strategy driven	Cost savings, new revenue, necessity
Person A2	In some areas. Mainly industry standards, technical emphasis	Yes. Following organizational structures	Priorization in different processes: STP, short term planning and portfolio planning areas	Cost savings, user base, new business
Person A3	Mainly standard SLA and cost measures. Some company specific.	Yes, as well as life cycle management	Benefit and strategy driven	Cost savings, operational excellence or other benefits, usage, re-usability
Person A4	Measures slightly customized for company specific purposes.	Yes, very structured portfolios	Priorization in various levels, decisions in board meetings.	Business case, strategy
Person A5	Standard, mainly quantitative	Yes, both for development projects and services	Within budget limits business priorities are reflected in selection	Business case, synergies
Person A6	Quantitative standard, some qualitative company specific	Yes	Priorities set within STP planning process	Expected benefits both short and long term, cost savings, organizational benefits
Person A7	Mainly standard. Company specific under continuous development.	Yes, several layers	Ultimately business priorities, expected cost savings in long term and reusability drive selection	Business case
Person A8	Focus on relevant and descriptive measures that requires some customization.	Yes, following business unit structure	All units represented in the process, reusability and connectivity important	Business benefits, usage, vary case by case
Person A9	Not so much the measures but the way to use the results is company specific.	Yes, strong focus on the big picture	Business priorities overweight internal development in most cases. Business driven.	Business case
Person A10	Measures typical to the industry. Several tools have been developed to better gather reliable data and improve its usage	Yes, all services linked together somehow	Business cases evaluated with various criteria in portfolio planning meetings.	Vary some case by case, benefits, savings potential
Person A11	Measuring is a focus area, reliability and relevance ensured by efficient processes and tools.	Yes	Priorities set together with IT managers, business representatives and support functions from all regions.	Support to operations, savings, business needs
Person A12	Measuring automated process with a mix of customized and standard measures.	Yes	Priorities set after budget frame done in joint effort.	Business requirements, strategy focus, benefits
Person A13	Measuring many aspects. SLA and cost with standard quantitative, benefits and pay back partly with customized qualitative.	Yes.	Priorities during short term planning process with all units. Priorities based on business and budget.	Business case
Person A14	During service development more company specific measures, service management standard,	Yes. Following well defined categorization	Budget and business priorities define priorities ultimately. Also IT strategy guides selection.	Several, decided case by case based on specific situation

	partly done by supplier.			
Person A15	Measuring mainly standard, communicating results combines data with company specific knowledge for stakeholder communications.	Yes. Common processes as far as possible	Business and benefit driven. Business case and continuous follow up performance.	Benefits and savings potential
Person A16	Measuring raw data and stakeholder communications with partly different terms.	Yes. Joint planning cycles for most services.	Usage, benefits and re-usability drive selection in budget frame.	Expected benefits, specific requirements, strategy, various criteria.
Person A17	Varies from service to service. Mainly standard SLA and financial.	Yes. Portfolio focus	Joint planning with F&C, business units and IT worldwide.	Typically business case and communicated need for the service/ hw.
Person A18	Raw data is combined with company specific knowledge to describe service characteristics	Yes	Priorities based on usage, business benefits/ cost and synergies in connectivity.	Fact based solid business case
Person A19	Some ratios linked to company specific measures	Yes. Following business organization.	Priorities based on business priorities and focuses	Business need, business case
Person A20	Mostly standard	Yes. Hierarchical structure	Business, benefit and necessity driven.	Business case
Person A21	Some variances, mainly the same	Yes	Priorities based on business needs and expected benefits	Business case
	Some company specific measures, mainly standard SLA & F&C	Strong portfolio focus.	Strongly business driven priorization process.	Business case, specific need, cost savings, new business

Company B	Customized measurement	Project portfolio management	Priorization process	Investment criteria
Person B1	No. Harmonized as far as possible	Yes, essential to operations	Countries given high degree of independence	Business case, short pay back time
Person B2	No. Standard better for clarity and comparability	Yes, in country and global level.	In local level IT board, global decisions in global management board	Cost savings and new profit in short term
Person B3	No, standard	Yes, in various levels	Based on business priorities, local decisions to great extent.	No big projects initiated, short pay back time and wide user base targeted
Person B4	No, typical SLA and cost	Yes. Following business entities.	Local IT management and business management make decisions within budget frame. In case exceeded, decisions escalated to global board	Business case. Clear business benefits or potential for savings.
Person B5	No. Cost and SLA	Yes. Ensures professional life cycle management	Clear escalation within IT management and local business management. Global IT responsible for high level guidelines and strategic decisions.	Business needs are responded to.
Person B6	No, standard clear for reporting	Yes. Support processes build around the structures	Business driven process. IT management board locally decides based on propositions from IT.	Business need and cost savings
Person B7	No, Typical SLA	Yes.	Local decisions to great extent. Business needs direct the process	Business case
Person B8	Typically quantitative,	Yes. All services	Priorities set based on business requirements and expected	Business needs, compliance,

	standard measured	linked where possible.	benefits.	innovativeness
Person B9	No.	Yes.	IT board decides within budget frame based on propositions from various parts of organization as a part of continuous planning process	Business case
Person B10	No	Yes.	Business driven process	Business needs and potential for new business
Person B11	No. Typical quantitative and qualitative for better comparability	Yes, strong focus area.	Together with business representatives. Budget and strategy driven.	Fulfilling the communicated need cost effectively, innovativeness.
Person B12	No. In reporting ratios linked to company specific data.	Yes.	Strong involvement from the business units.	Business case, short pay back time.
Person B13	No.	Yes.	All relevant units represented in the process.	Wide usage, strong business case or necessity.
Person B14	No.	Yes, following business units and divisions	Continuous process with business representatives and supplier.	Business case.
Person B15	No. Measures developed together with the supplier.	Yes.	Business needs and their urgency drive the priority setting.	Requirements drive investments, from alternative solutions the most cost effective.
	No, standard measures used.	Yes.	Business needs drive the process. Local and global processes separated.	Business needs and potential for savings

Company C	**Customized measurement**	**Project portfolio management**	**Priorization process**	**Investment criteria**
Person C1	No.	No real need as the services are few.	Within budget limits IT and management board.	Business or operational need.
Person C2	No, typical performance monitoring.	Yes. The services mainly standard infrastructure	IT reports to management board, which has the final authority over decisions	Need based, budget limited.
Person C3	No.	No real synergies between the services.	Following reporting structures.	Real need and cost assessed.
Person C4	No.	Not yet.	No real issues with priorization so far, as the growing budget has been flexible.	Supporting business operations cost effectively.
Person C5	No.	No.	Authority with management board	Reliable performance, cost.
Person C6	No.	Yes.	Escalation following reporting structures	Potential to support expanding operations
Person C7	No	Yes.	Budget fairly flexible, but cost control tight nevertheless	Potential for fast ROI
Person C8	Typical SLA	Yes, cost view emphasized in reporting	Management board assesses the need of new service propositions	ROI, pay back time
Person C9	Typical SLA	Yes, the number of services not too great yet.	Project ideas screened carefully and initiated in there is a real need.	Adjusted ROI, potential cost savings.
	No.	In some level	Following reporting lines. Flexible IT budget within certain limits	Potential for reliable, cost effective support for growing operations.

Cross case analysis:

	Company A	Company B	Company C
Customized measurement	Some, few	90% standard	Customized locally
Project portfolio management	Continuous life cycle planning	Cont STP planning, fixed annual budget	IT responsible with F & C
Priorization process	Structured	Structured	Structured
Investment criteria	BC	BC / strategic	Business need
Bases for business case	Financial, long term usability	Financial, short term pay back	Business drivers

Proposition 9. Integrating and streamlining IT related decision-making processes improves efficiency and the quality of the decisions, and reduces cost

Company A	Harmonized decision-making processes IN house	Processes adjusted with the suppliers	Speed and quality improved with process redesign	Process efficiency strongly correlated with operational cost
Person A1	In unit level, not completely in company level	Sometimes	Yes, that is the target	Yes, especially in the area of resource planning
Person A2	For IT, yes	Some, not usually	Yes, believed so, can not be measured	In resource planning, speed to react to changes
Person A3	For IT and business separate	Sometimes, mostly not	Most quality improvements from compliance of processes	Yes, in many critical business areas
Person A4	Same principles for all, but vary some from unit to unit	Sometimes joint planning	No hard data about that	Yes, in many
Person A5	Some variance, similar tools	Jointly adjusted	Processes continuously re-defined to reflect business requirements	Yes, in IT especially
Person A6	Compatible processes	Depends on the project	In most cases yes.	In addition to cost also quality
Person A7	Principally the same	Typically no	Within certain limits yes	Yes, with productivity and effectiveness
Person A8	Yes, in general level	Some adjustments always needed	Yes, unless it takes too long to adjust	Yes
Person A9	Yes, same players and processes	Usually not	In longer projects yes, not in small ones	Yes, especially in multinational companies
Person A10	Mostly yes	Depending on the project	No proof of that	Yes. Process focus a must in fast changing environment
Person A11	Some differences by unit	Usually interfaces defined separately	Targeted in redesign processes, no hard evidence of that	Yes, especially in this industry
Person A12	For most part	Usually own A's processes	Yes, if other factors optimized already	Yes. Measurable savings can be realized by good processes
Person A13	Yes	Not usually	Yes	Yes. Not only for efficiency and quality, but also for legal considerations
Person A14	For IT and business different, due to different	No	Some limited improvement potential.	Yes, increases customer value too

	focuses			
Person A15	For IT yes	Yes, some adjustments	If the processes are outdated	Yes, for IT definitely
Person A16	Mostly yes	Yes, in interface	In certain situations, yes	Yes, for complex organizations
Person A17	Yes	Adjusted, not changed	Yes	Yes, a must in big organizations
Person A18	Yes	Yes, where necessary	Real potential for quality improvements	Yes.
Person A19	Yes mostly	Very little	Yes	Yes. Measurable, tangible benefits
Person A20	Yes	Usually the supplier fills a roe in A's processes	Yes	Yes, a continuous focus area
Person A21	Yes	Yes	Yes	Yes, especially in big companies
	Yes, in high level, some differences	Yes, some, where needed.	Yes, in most situations.	Yes, agree.

Company B	**Harmonized decision-making processes IN house**	**Processes adjusted with the suppliers**	**Speed and quality improved with process redesign**	**Process efficiency strongly correlated with operational cost**
Person B1	Yes, in division level	Yes, where needed	Yes, if processes outdated	Yes. Debate about global/local process excellence ongoing.
Person B2	Yes, in unit level	Yes, planned together in the beginning of the project	Some improvement activities continuously ongoing	Yes. Currently trying to find balance between global and local processes
Person B3	Yes, unit level	Yes, mostly following B's processes	A dedicated team works with the process continuously.	Yes. Yet should not be too complicated, tools to support.
Person B4	Yes, in business groups	Yes, some.	Basic processes remain the same, but some changes always required as reaction to ongoing changes Yes, measurable changes.	Yes. In forms of synergies, reusability and improved quality
Person B5	Yes	Yes, if necessary, typically not much	Should not be changed too rapidly as implementation is time consuming	Yes. Especially in the area of support.
Person B6	Yes as far as possible	Yes, some, but not so that users would have an impact	Depends on the processes. User processes are not changed unless really have to.	Yes. Cost savings through reusability and automation
Person B7	In country level varies	In some levels yes.	Incremental additions to existing processes	Yes, in addition to improved quality, also speed and reusability.
Person B8	Varies from country to country	Not typically	Not re-design, but gradual changes	Yes. Especially in global level.
Person B9	Varies by country	Possible but not desirable.	Re-design only in case major organizational changes, typically only minor changes	Yes, in multinational company there are risks to become inefficient
Person B10	Harmonization ongoing, not yet	The optimal way to work will be found together	Some changes continuously. Implementation in global	Agree

			scale time consuming.	
Person B11	Not completely	The adjustment comes naturally over time. Incremental changes	Depends on the current state of the operations. In case processes outdated, yes.	Agree
Person B12	Varies by country and by unit	Typically processes change some, but not purposely tried to change	Yes, if the new processes bring something new.	Yes, the same savings are tried to implement to the customers through consultation.
Person B13	Varies by unit	Some adjustments usually needed	Not per se, only if something new in the replacing processes.	Yes, global harmonization efforts ongoing
Person B14	Varies by country and operational unit	The optimal processes investigated and tested together with the supplier.	A focus area, potential for improvements	Yes. That in why global level harmonization ongoing.
Person B15	Different for IT	Yes, incrementally	There is always potential for savings in process improvements.	Yes. Both within the company and with external parties.
	Varies by country	Some, but not if not necessary.	Yes, but not too many changes unless tangible positive impact	Yes, especially in global level.

Company C	**Harmonized decision-making processes IN house**	**Processes adjusted with the suppliers**	**Speed and quality improved with process redesign**	**Process efficiency strongly correlated with operational cost**
Person C1	Not in all group's partner companies	In the interface possible.	No measured results of such, but in principle yes	Yes, especially in manufacturing
Person C2	Yes, within each unit	Not typically. Some new processes may be needed	Yes, in merger and acquisition cases	Yes, processes automated especially in manufacturing and supply chain area
Person C3	Yes, as far as feasible and necessary.	Together developed new processes if needed.	Yes, in current operating environment opportunities for that	Yes, challenging tasks with the partners
Person C4	Not possible in different legal entities.	Best practices for the situations are found easily through experience	Yes, in companies like C	Yes. Ongoing projects with the partners
Person C5	Where necessary.	Agreed together on best practices. Some adjustment may be needed.	Yes, as there are several entities with their own processes	Correlated, but there are also many other things affecting the cost.
Person C6	Only if viewed necessary	Yes, slight changes	Yes, to a certain extent	Yes, to some extent.
Person C7	Mostly unit level harmonization	Some changes, typically not desired.	Yes, some potential exists	Yes, an area of improvement and to focus with partners.
Person C8	Not all processes, coordinated processes like financial reporting yes.	Yes, where needed	Somewhat	Yes, some correlation, difficult to measure
Person C9	Not in different partner companies.	Yes, the ones that need changes.	Yes, certain areas would benefit from that	Yes, believed so, even no measured results in company C.
	Not all processes	Yes, the supplier processes	Yes, some	Yes, that is the perception

Cross case analysis:

In outsourcing projects:	Company A	Company B	Company C
Harmonized decision-making processes IN house	Agree 100 % For IT, not with business	Agree 70 % In process	Agree 10% In process
Processes adjusted with supplier	Agree 30% In use our processes (modified)	Agree 70% Separate supplier process	Agree 80% Planned together
Speed and quality improved with process redesign	Agree 100%	Agree 80%	Agree 100% on-going
Process efficiency strongly correlated with operational cost	Agree 80% Strong process focus	Agree 80% Service pricing more	Agree 80% Re-design ongoing

Common processes were considered a pre-request for successful collaboration.

Proposition 10. IT-enabled business benefits need to be systematically managed. A benefit management system consists of a business oriented mindset, motivation, methodology and tools.

Company A	Benefit management focus	Business benefits continuously assessed	Tools and processes for benefit management implemented	How benefits are measured?
Person A1	Focus on savings, potential new revenue, increased profit	Yes, in the business case and during the project	Yes, there are databases and teamrooms	Business case, scorecards
Person A2	Cost savings, improved rotation days, increased sales, improved support	Yes, in the business case. During the development project not so systematically.	Yes, each project has a teamroom with all data and an open web site where anyone can go and comment the potential and feasibility of the expected benefits.	Business case, SLA, financial reporting
Person A3	Cost savings, process automation, increased sales and profit, new revenue and customer retention	Yes, projects based on solid business case. Existing services also evaluated regularly.	Yes, there are project libraries, where all project data for ongoing and previous as well as planned projects can be found.	Business case, reporting
Person A4	Cost savings, improved profit, access to data	Yes, service mangers up date that	Yes, there are temples and data bases	Business case, surveys, reports
Person A5	Cost savings, new revenue from existing services, customer satisfaction	Yes, service managers and business representatives both monitor that.	Yes, several guiding processes, databases and templates	Business case, business analysis
Person A6	Cost savings, improved planning and decision-making, new sales and services	Yes, project benefit assessed in the business case. During the project reporting mainly on progress.	Yes, enough tools, trainings and processes	Business case, impact analysis
Person A7	Cost savings, new sales potential, profit and support.	Yes, continuously, starting from the planning phase when the business case is created.	Yes, very well	Business case, reporting, performance measuring
Person A8	Cost savings, improved support for operations, can vary a lot depending on the service	Yes All project decisions based on business case.	Yes, continuous trainings and introduction of new tools	Business case, SLA monitoring
Person A9	Cost savings, improved access to data, speed of decision-making, quality of data	Yes, Business case updated regularly also for mature services.	Yes. Templates, check lists and databases are good	Business case, service manager reports
Person A10	Cost savings, potential for revenue creation and increased sales volumes.	Yes. Service life managed so that services without profit potential terminated.	Very process directed and systematic.	Business case, reporting
Person A11	Cost savings, user support and data sharing improved, new business	Yes, all projects have a business case that is updated continuously.	Yes, several processes to help project manager	Business case, reporting, assessments
Person A12	Cost savings, response time, easier access to data	Yes, a business case exists and service	Yes. Trainings good on tools	Business case

		mangers monitor benefits.	and processes	
Person A13	Cost savings, automatization, profit margin, reduced headcount.	Yes, both business managers and IT service manager assess the benefits regularly.	Yes, even too much and new features all the time	Business case, SLA
Person A14	Cost savings, varies by service, usually improved support and increased profitability	Yes, the services that are not bringing expected benefits are terminated or updated.	Yes, several tools, data banks and processes	Business case, reporting
Person A15	Cost savings, new revenue, profit margin, increased sales.	Yes, portfolio is assessed every 6 months thoroughly, continuous screening in service level.	Yes, very systematic and professional processes	Business case, service manager reports
Person A16	Cost savings, improved speed and quality of decision-making, improved user support	Yes, all services assessed in monthly level	Yes, management processes very good	Business case, financial control reports
Person A17	Cost savings, data quality, user base and satisfaction	Yes, all services based on business case.	Yes, many tools and meetings	Business case, business impact analysis
Person A18	Cost savings, improved support, speed and quality of operations	Yes, Business cases are updated continuously.	Yes, benefits are discussed continuously	Business case, reporting
Person A19	Cost savings, increased profit, improved quality	Yes, all services have a business case that is monitored by service managers	Yes, processes implemented thoroughly and trainings are available all the time	Business case, control reports
Person A20	Cost savings, increased automation, efficiency and productivity.	Yes, the whole portfolio assessed monthly.	Yes. Processes are detailed and relevant.	Business case, reporting, SLA
Person A21	Cost savings, improved quality of data and support for operations.	Yes, in various planning cycles.	Yes, a dedicated group works on these	Business case, SLA
	Cost savings, potential for new revenue, profit and customers	Yes, regularly	Yes, very good tools and trainings	Business case, SLA

Company B	Benefit management focus	Business benefits continuously assessed	Tools and processes for benefit management implemented	How benefits are measured?
Person B1	Cost savings, new revenue, profit margin, increased sales.	Yes, in steering group	Yes, steering structures and reporting	Scorecards and business cases in the beginning of the project
Person B2	Cost savings, data quality, user base and satisfaction	Yes, steering group and service managers	Yes, following reporting structures. Several processes and templates	SLA, business case
Person B3	Process automatization, improved customer service	Yes, service managers and project managers	Yes, professional templates and processes	SLA, financial and unit reports
Person B4	Cost savings, profit margin, increased sales.	Yes, business cases updated by service managers	Yes, development and maintenance processes are well implemented	Reporting (F&C, projects and service managers)
Person B5	Customer benefits, improved profit margin, several criteria	Yes, by both business and IT managers	Yes, local service management structure ensures effective implementation	Reporting, mainly quantitative measures
Person B6	Criteria varies, cost savings, improved customer support, new sales	Yes.	Yes, trainings continuous on processes and key users and other support exist	Reporting, business analysis
Person B7	Improved synergies, access to data	Yes, regular reviews	Yes, implementation a focus area	Reporting, SLA monitoring
Person B8	Improved support for operations, integration and	Yes, service owners assess and update	Yes. In addition to trainings support available over the net	SLA control, unit reporting, business

	harmonization	services		reporting
Person B9	Cost savings, data quality, user base and satisfaction	Yes. All services have a business case	Yes. Processes and support persons available	Service manager reporting
Person B10	Improved image, new services, new revenue	Yes, by the steering group in country level	Yes. A contact easy to find and processes well planned	SLA, F&C reporting
Person B11	Improved quality of data, access to existing data and thus synergies	Yes. By service manager and steering group	Yes, tools and templates and methodologies for everything	SLA, unit analysis
Person B12	Automated processes, better support	Yes, by unit manager	Yes. Trainings are available regularly	SLA, some qualitative measures
Person B13	Improved data quality, new services spin offs	Yes. Services are constantly assessed	Yes. Implementation is effective and updates regular.	Mainly SLA
Person B14	New services, improved profit, new customer segments	Yes. Updating a service is expensive and cost must be justified	Yes. Processes are continuously developed, and so are the templates.	Some Qualitative, mainly quantitative SLA
Person B15	Cost savings, new revenue, profit margin, increased sales.	Yes, monthly	Yes. Very good support	SLA, reports
	Cost savings, new revenue, profit margin, increased sales, improved support	Yes, regular practice	Yes, good implementation	SLA, reporting

Company C	Benefit management focus	Business benefits continuously assessed	Tools and processes for benefit management implemented	How benefits are measured?
Person C1	Improved data sharing, operational efficiency	Yes, especially in the initial phases	For current scope, yes	SLA, business case
Person C2	Better user support, improved data sharing and harmonization	Yes, owner for each service responsible for that	Where necessary	SLA, business case
Person C3	Increased harmonization, new value adding services to customers, better efficiency	Yes, together with business and suppliers	Processes are mostly introduced by the suppliers	SLA
Person C4	Improved efficiency and supply chain operations	Yes, several times s year	Supplier responsible for that	Discussions with responsible business people, performance measuring
Person C5	Improved user support, data sharing and quality	Yes, at least during the planning periods	Supplier must assess the benefit together with IT manager	User base, SLA
Person C6	Automated processes, profitability increase	Yes, by IT managers	Business case exists for all applications	SLA mainly, some qualitative measures
Person C7	Cost savings, increased automatization	IT manager's responsibility	Usually business need drives decisions	User satisfaction, smooth operation as reported by users
Person C8	Improved data sharing and harmonization, cost savings	Yes, together with business and IT manager	Yes, where needed	User base, SLA
Person C9	Cost savings, increased harmonization	Yes, sometimes	Yes, necessary processes are	User base, SLA, headcount
	Cost savings, increased harmonization	Yes, by IT manager during annual planning rounds	Yes, certain level	Mainly SLA

Cross case analysis:

In outsourcing projects:	Company A	Company B	Company C
Benefits continuously assessed	Yes, regularly by service managers	Yes, by steering group	Yes, by IT management
Processes and tools for benefit management exist	Yes, systematic processes	Yes, well supported	Yes, for current scope
How benefits are measured	Business case, financial reporting, SLA	Business case, measuring usage and satisfaction, financial reporting, SLA	Business case, SLA
What are the expected benefits	Cost savings, new revenue creation, increased sales	Cost savings, improved customer support and solutions	Improved data sharing and efficiency

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