Petra Turkama

Maximizing Benefits in Information Technology Outsourcing

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ABSTRACT

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Maximizing Benefits in Information Technology Outsourcing

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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
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This document contains sections on defining the research problem, selecting an optimal IT strategy, information technology strategies, and the empirical study. It also includes sections on data collection and the introduction to the case companies, focusing on specific aspects of IT outsourcing.
### THE LIST OF ABBREVIATIONS

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<tr>
<td>BPO</td>
<td>Business Process Outsourcing</td>
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<tr>
<td>E-commerce</td>
<td>Electronic commerce</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>ITO</td>
<td>Information Technology Outsourcing</td>
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<tr>
<td>MIS</td>
<td>Management Information System</td>
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<tr>
<td>NPV</td>
<td>Net Present Value</td>
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<td>ROA</td>
<td>Real Options Analysis</td>
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<td>ROI</td>
<td>Return On Investment</td>
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<td>SLA</td>
<td>Service Level Agreement</td>
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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 & Srirar, 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 & Srirar, 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 & Srirar, 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 & Srirar, 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 & Srirar, 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 (Williamson, 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 Hirschheim, 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.

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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.
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.
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

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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).
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 other 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.
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.
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 overling systems running in parallel, so rationalizing, commoditizing and simplifying
adjustments are made following changes in business strategies. The risks of the model include execution approach, business strategy is the main driving force behind IT system design. All technology are strategy execution approach and technology potential perspective. In strategy According to Johnson & Scholes (1999) the main approaches to managing information processes (Featuring Hawryszkiewycz, 2000)

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.

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
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.

New multilayered and interdependent industry structures, open technology standards and interoperability 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, Wilcock & 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; Wilcock, 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).

<table>
<thead>
<tr>
<th>Tangible Benefits</th>
<th>Intangible Benefits</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Lower operational cost</td>
<td>Improved resource control</td>
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<tr>
<td>Reduced workforce</td>
<td>Improved organizational planning</td>
</tr>
<tr>
<td>Lower computer expenses</td>
<td>Flexibility More timely information</td>
</tr>
<tr>
<td>Lower vendor cost</td>
<td>Increased organizational learning</td>
</tr>
<tr>
<td>Lower clerical &amp; facility costs</td>
<td>Legal requirements attained</td>
</tr>
<tr>
<td>Lower rate of growth in expenses</td>
<td>Enhances employee goodwill &amp; satisfaction</td>
</tr>
<tr>
<td>Rationalized software cost</td>
<td>Improved decision making</td>
</tr>
<tr>
<td>Improved cost control</td>
<td>Increased options in operations</td>
</tr>
<tr>
<td></td>
<td>Higher client satisfaction</td>
</tr>
<tr>
<td></td>
<td>Better corporate image</td>
</tr>
</tbody>
</table>

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

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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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Driver Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizationally</td>
<td>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.</td>
</tr>
<tr>
<td>Driven</td>
<td></td>
</tr>
<tr>
<td>Improvement-Driven</td>
<td>Improve technical services, gain access to new technologies &amp; innovations, focus internal IT staff on core technical activities, Improve credibility and image, operating performance, management, and control.</td>
</tr>
<tr>
<td>Financially Driven</td>
<td>Reduce investments in assets and free up these resources for other purposes, Generate cash by transferring assets to the provider. Improve cost controls &amp; ROI.</td>
</tr>
<tr>
<td>Revenue Driven</td>
<td>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.</td>
</tr>
<tr>
<td>Cost Driven</td>
<td>Reduce costs through superior provider performance and the provider’s lower cost structure, Turn fixed costs into variable costs</td>
</tr>
<tr>
<td>Employee Driven</td>
<td>Give employees a stronger career path, Increase commitment and energy in non-core areas, reduce uncertainty</td>
</tr>
</tbody>
</table>

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?
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.
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.

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 (Roehearmel 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’s 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 assess 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).

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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 (Wilcocks, 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 (Hochstrstrasses (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)](image)

### 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.

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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. Alrady 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.

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

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

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

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.

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, Bull 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.

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 al., 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).

<table>
<thead>
<tr>
<th>Ex-Ante Mechanism</th>
<th>Outcome Control</th>
<th>Behavioral Control</th>
<th>Structural Specifications like planning, processes, rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Setting</td>
<td>Incentive/reward systems</td>
<td>Partner selection, trust, interaction, reputation, social networks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ex-Post Mechanism</th>
<th>Outcome Control</th>
<th>Behavioral Control</th>
<th>Behavioral monitoring and rewarding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance monitoring and rewarding</td>
<td>Trust building, risk taking, partner development, joint decision-making</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 indirect 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.
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.

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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.
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 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.

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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 (2002), 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, Wilcocks & Feeny, 1994).

The IT outsourcer and service providers typically have a natural conflict of interests when entering the co-operation. Lewis et al. (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 builds 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, its competitive position, maturity, and approach to technology (Ballantine, 1994; Wilcocks & Lester, 1994 and Hochstrasser, 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 (Hochstrasse, 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 & Hirschheim, (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 intentions. 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.
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.

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.

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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

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5.2 Introduction to the Case Companies

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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 cooperation 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 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.

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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](image)

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 eCommerce 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

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- 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 its 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

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.

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
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.

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

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

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.

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.

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

<table>
<thead>
<tr>
<th>Company A</th>
<th>What’s at Stake In The Company</th>
<th>What’s Outsourced?</th>
<th>Targets in Outsourcing?</th>
<th>Strategic Incentives, Level of Commitment &amp; Outlining</th>
<th>Applicability of the Value Chain Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A1</td>
<td>Strategic, source of competitive advantage</td>
<td>Data computing Service Desk, service desk, computing, data desk</td>
<td>Flexibility, better use of assets, cost, focus on core competencies, &amp; improved service performance</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A2</td>
<td>Strategic, industry leader</td>
<td>Data computing Service Desk, project management</td>
<td>Flexibility, cost, focus on core competencies, &amp; improved service performance</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A3</td>
<td>Strategic, asset part of product/brand</td>
<td>Data computing Service Desk, single projects</td>
<td>Better use of assets, focus on income generation &amp; market penetration</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A4</td>
<td>Strategic, differentiating product/service, operational support</td>
<td>Data computing Service Desk, external consulting used for projects</td>
<td>Both short term &amp; long term, low</td>
<td>Applicable</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person A5</td>
<td>Strategic, ensures world-class performance and data desk</td>
<td>Data computing Service Desk, project management</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A6</td>
<td>Strategic, needs the support of top management &amp; executive, company value</td>
<td>Various service development activities, service desk, computing</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A7</td>
<td>Strategic, needs to be more detailed</td>
<td>Various service development activities, service desk</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A8</td>
<td>Strategic, built as a part of business model</td>
<td>Service desk, various project tasks</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A9</td>
<td>Strategic, built as operations, core &amp; competitive</td>
<td>Various service development activities, service desk</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A10</td>
<td>Strategic, leading edge</td>
<td>Various service development activities, service desk</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A11</td>
<td>Strategic, continuously</td>
<td>Service desk</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A12</td>
<td>Strategic, central to Computing, service desk</td>
<td>Various service development activities, service desk, computing</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A13</td>
<td>Strategic, presents in all</td>
<td>Various service development activities, service desk</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A14</td>
<td>Strategic, ensures market</td>
<td>Various service development activities, service desk</td>
<td>Depends on the case, some Apps fairly well</td>
<td>Applies fairly well</td>
<td>Applies fairly well</td>
</tr>
<tr>
<td>Person A15</td>
<td>Strategic, high end, bid in</td>
<td>Service desk, data computing</td>
<td>Flexibility, better use of assets, cost, focus on core competencies, &amp; improved service performance</td>
<td>Depends on the case, some Apps fairly well</td>
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<tr>
<td>Person A16</td>
<td>Strategic, source of product/service, competitive advantage</td>
<td>Service desk, various project tasks</td>
<td>Flexibility, better use of assets, cost, focus on core competencies, &amp; improved service performance</td>
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<tr>
<td>Person A17</td>
<td>Strategic, central to the success of the company</td>
<td>Various service development activities, service desk</td>
<td>Flexibility, better use of assets, cost, focus on core competencies, &amp; improved service performance</td>
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<tr>
<td>Person A18</td>
<td>Strategic, source of strategic advantage</td>
<td>Various service development activities, service desk</td>
<td>Flexibility, better use of assets, cost, focus on core competencies, &amp; improved service performance</td>
<td>Depends on the case, some Apps fairly well</td>
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<tr>
<td>Person A19</td>
<td>Strategic, source of competitive advantage</td>
<td>Various service development activities, service desk</td>
<td>Flexibility, better use of assets, cost, focus on core competencies, &amp; improved service performance</td>
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<td>Strategic, source of product/service, competitive advantage</td>
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</tr>
</tbody>
</table>

The same applies to case by case, high and low significance variations exist.
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
were considered central to successful collaboration. 

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 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
Organizational integrity determined by

Assumption 2:

Continuous development of the IT service portfolio and its' ability to respond to growing demand.

outsourcing cases. The employees understood the reasons for the changes and the service risk or challenge for the organization. Furthermore, the company had a long history of managing 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.

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.

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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 sought 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.
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.

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

Assumption:

IF consensus over IT exists:

THEN active user involvement in IT system planning & design

THEN fast, proactive decision making, communication & development

THEN common view on the priorities, processes, roles and cost

THEN user attitudes towards IT favorable (expectations managed, attitudes measured)

THEN resource efficiency, few disputes, clear focus in outsourcing and collaboration

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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 feedback. 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 forms bases for IT solution design and measuring.

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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 collaboration is 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.
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 its 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

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 THEN strategic fit, change readiness and compatibility assessed
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
know-how and experiences so as to create new learning methods, share skills and initiate joint regional business campus network, where the member organizations make use of each others’ intangible or indirect benefits have often led to a situation where these variables have been left

Question 2 is more concerned with control and measuring processes. Challenges in measuring 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

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.

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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

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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.

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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.

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<th>Success Criteria</th>
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<td>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</td>
<td>Data Storage, Server Functions, User Support, Service Desk, Application development (partly)</td>
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<tr>
<td>Company C</td>
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<td>Infrastructure services, Most of the supply chain management and development</td>
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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.

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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.
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.

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<th>Scope of IT strategy</th>
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<td>Company A</td>
<td>Business driven, Enterprise wide strategy, strong integration to business activities</td>
</tr>
<tr>
<td>Company B</td>
<td>Business driven, Business unit -wide strategy, Some adaptation to business activities</td>
</tr>
<tr>
<td>Company C</td>
<td>Strategy process first introduced, Business driven approach, Few competitive advantages through IT</td>
</tr>
</tbody>
</table>

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.
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 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.

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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Figure 6. Changing Landscape of Product and Service Creation (Kosonen, 2004)
Figure 7. Typical Targets for Information System Outsourcing (Laudon, 2000)
Figure 8. Benefits of business networking (Delporte-Vermeiren, 2003)
Figure 9. Profiles of the Different Strategic Levels of IT use (Featuring Rapp, 2002)
Figure 10. Recommended Outsourcing types and principal measures in various competitive environments (GapGemini, 2004)
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Figure 13. Formal and Informal Control Mechanisms for supplier relationships (Smith et al., 1995)
Figure 14. The theory-based propositions used as the basis for research propositions
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Figure 19. IT Outsourcing Projects Organized in a Value Chain
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Table 5. Company A: The applicability of the proposition 1
Table 6. Process Quality versus Model Quality (Company B, 2004)
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Table 8. Decision-making styles in the case companies

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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 consultants during the project?
  - Did you collect lessons learned?
**APPENDIX 2. AN EXAMPLE OF AN IT PORTFOLIO STREAMLINING PROJECT PLAN.**

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

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.

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### APPENDIX 3. THE LIST OF CASE COMPANY REPRESENTATIVES

#### Company A:

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

#### Company B:

<table>
<thead>
<tr>
<th>Person</th>
<th>Date</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>16th September 2003</td>
<td>The vice president of information technology; responsible for the overall IT operations in the company</td>
</tr>
<tr>
<td>B2</td>
<td>26th September 2003</td>
<td>The vice president of process development; responsible for (IT) process development, and harmonization globally</td>
</tr>
<tr>
<td>B3</td>
<td>4th October 2003</td>
<td>The local head of IT operations; countrywide responsibility over IT operations</td>
</tr>
<tr>
<td>B4</td>
<td>24th November 2003</td>
<td>Strategy and outsourcing consultant; planning and implementing global strategies</td>
</tr>
<tr>
<td>B5</td>
<td>4th December 2003</td>
<td>The head of strategy and operations; planning and implementing global strategies</td>
</tr>
</tbody>
</table>
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:

### Company A

<table>
<thead>
<tr>
<th>The role of IT in the company</th>
<th>What is in scope?</th>
<th>Targets in scope?</th>
<th>Strategic need to be defined more detailed</th>
<th>Applicability to the value chain approach to IT sourcing model depends mainly on the role of IT in the company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A</td>
<td>Strategic, source of competitive advantage</td>
<td>Data computing Service Desk, service desk, operations, applications</td>
<td>Flexibility, better use of assets, cost, focus on core assets &amp; competencies</td>
<td>None/no core match if case by case.</td>
</tr>
<tr>
<td>Person B</td>
<td>Strategic, industry leader</td>
<td>Data computing Service Desk, project, project, service desk, operations, applications</td>
<td>Flexibility, cost, focus on core assets &amp; competencies</td>
<td>Applies</td>
</tr>
<tr>
<td>Person C</td>
<td>Strategic, central part of products</td>
<td>Data computing Service Desk, project, applications</td>
<td>Flexibility, better use of assets, cost, focus on core assets</td>
<td>None/no core match if case by case.</td>
</tr>
<tr>
<td>Person D</td>
<td>Strategic, differentiating products, operational level</td>
<td>Data computing Service Desk, user base, consulting services, operations, applications</td>
<td>Flexibility, better use of assets, cost, focus on core assets &amp; competencies</td>
<td>Applies</td>
</tr>
<tr>
<td>Person E</td>
<td>Strategic, ensures world class performance</td>
<td>Data computing Service Desk, project description, processes</td>
<td>Flexibility, better use of assets, cost, focus on core assets</td>
<td>None/no core match if case by case.</td>
</tr>
</tbody>
</table>

### Company B

<table>
<thead>
<tr>
<th>The role of IT in the company</th>
<th>What is in scope?</th>
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</tr>
</thead>
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<tr>
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<td>Strategic, source of competitive advantage</td>
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<td>None/no core match if case by case.</td>
</tr>
<tr>
<td>Person B</td>
<td>Strategic, industry leader</td>
<td>Data computing Service Desk, project, project, service desk, operations, applications</td>
<td>Flexibility, cost, focus on core assets &amp; competencies</td>
<td>Applies</td>
</tr>
<tr>
<td>Person C</td>
<td>Strategic, central part of products</td>
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</tr>
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</table>

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<tr>
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<td></td>
</tr>
<tr>
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<td>Flexibility, better use of assets, cost, focus on core assets</td>
<td>None/no core match if case by case.</td>
<td></td>
</tr>
<tr>
<td>Person B1</td>
<td>Central</td>
<td>Infrastructure services, standard maintenance</td>
<td>Flexibility, cost, focus, follow industry</td>
<td>None, low to medium</td>
<td>Applicable in principle, core kept in house for risk management reasons</td>
</tr>
<tr>
<td>Person B2</td>
<td>Value adding, differentiating</td>
<td>Basic infrastructure services, service desk</td>
<td>Strongly cost related, organizational reasons</td>
<td>Low to medium</td>
<td>Applicable in principle</td>
</tr>
<tr>
<td>Person B3</td>
<td>Strategic</td>
<td>Service desk, standard services</td>
<td>Cost, focus on core</td>
<td>No strategic targets, low</td>
<td>Applicable if outsourced extensively</td>
</tr>
<tr>
<td>Person B4</td>
<td>Central, strategic</td>
<td>Infrastructure, varies some country by country</td>
<td>Cost, use of resources</td>
<td>Low to medium</td>
<td>Applicable in portfolio approach</td>
</tr>
<tr>
<td>Person B5</td>
<td>Central, becoming more in the future</td>
<td>Ser vice desk in some countries, basic services</td>
<td>Cost, country level focuses vary</td>
<td>Low, no strategic targets</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person B6</td>
<td>Central</td>
<td>Standard services</td>
<td>Cost, use of resources</td>
<td>Low to medium</td>
<td>Product related kept in house</td>
</tr>
<tr>
<td>Person B7</td>
<td>Strategic, source of competitive advantage</td>
<td>Infrastructure and standard services</td>
<td>Cost, organizational reasons</td>
<td>Low</td>
<td>Only standard services outsourced</td>
</tr>
<tr>
<td>Person B8</td>
<td>Strategic, source of competitive advantage</td>
<td>Non-core related services</td>
<td>Cost, better use of resources</td>
<td>None, Low</td>
<td>Model applicable, but not used</td>
</tr>
<tr>
<td>Person B9</td>
<td>Strategic</td>
<td>Standard maintenance tasks</td>
<td>Cost, resource usage</td>
<td>No strategic objectives, low commitment</td>
<td>Not used</td>
</tr>
<tr>
<td>Person B10</td>
<td>Strategic</td>
<td>All non-product related services</td>
<td>Cost, follow industry trend</td>
<td>Low commitment</td>
<td>Not used</td>
</tr>
<tr>
<td>Person B11</td>
<td>Higher, competitive barriers</td>
<td>Service development, maintenance</td>
<td>Flexibility, use of assets, cost, focus</td>
<td>Medium</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person B12</td>
<td>Improves competitiveness</td>
<td>Infrastructure services, development</td>
<td>Cost, focus, efficiency</td>
<td>Some, medium</td>
<td>Applicable, related to risk management</td>
</tr>
<tr>
<td>Person B13</td>
<td>Important</td>
<td>Infrastructure</td>
<td>Cost, follow industry trend</td>
<td>Low commitment</td>
<td>Not used</td>
</tr>
<tr>
<td>Person B14</td>
<td>Differentiating Factor</td>
<td>Depends on the country, infra</td>
<td>Cost, focus on core</td>
<td>Varies by country, some</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person B15</td>
<td>Strategic</td>
<td>All non-product related services</td>
<td>Cost, follow industry trend</td>
<td>Low commitment</td>
<td>Not used</td>
</tr>
</tbody>
</table>

**Conclusion:** Very important in product differentiation

| Person B16 | 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 B17 | Value adding, differentiating | Basic infrastructure services, service desk | Strongly cost related, organizational reasons | Low to medium | Applicable in principle |
| Person B18 | Strategic | Service desk, standard services | Cost, focus on core | No strategic targets, low | Applicable if outsourced extensively |
| Person B19 | Central, strategic | Infrastructure, varies some country by country | Cost, use of resources | Low to medium | Applicable in portfolio approach |
| Person B20 | 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 B21 | Central | Standard services | Cost, use of resources | Low to medium | Product related kept in house |
| Person B22 | Strategic, source of competitive advantage | Infrastructure and standard services | Cost, organizational reasons | Low | Only standard services outsourced |
| Person B23 | Strategic, source of competitive advantage | Non-core related services | Cost, better use of resources | None, Low | Model applicable, but not used |
| Person B24 | Strategic | Standard maintenance tasks | Cost, resource usage | No strategic objectives, low commitment | Not used |
| Person B25 | Strategic | All non-product related services | Cost, follow industry trend | No strategic objectives, low commitment | Not used |
| Person B26 | Higher, competitive barriers | Service development, maintenance | Flexibility, use of assets, cost, focus | Medium | Applicable |
| Person B27 | Improves competitiveness | Infrastructure services, development | Cost, focus, efficiency | Some, medium | Applicable, related to risk management |
| Person B28 | Important | Infrastructure | Cost, follow industry trend | Low commitment | Not used |
| Person B29 | Differentiating Factor | Depends on the country, infra | Cost, focus on core | Varies by country, some | Applicable |
| Person B30 | Strategic | All non-product related services | Cost, follow industry trend | Low commitment | Not used |

**Conclusion:** Very important in product differentiation

---

The data supports the assumption that value approach not applied.
### Cross case analysis:

<table>
<thead>
<tr>
<th>Company C</th>
<th>The role of IT in the company</th>
<th>What is Outsourced?</th>
<th>Targets in Outsourcing?</th>
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<th>Applicability of the value chain approach to sourcing model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person C1</td>
<td>Administrative, for communications, info shared</td>
<td>In process, infrastructure, mostly all</td>
<td>Flexibility, cost, focus</td>
<td>None, low to medium</td>
<td>Agreed to, not applied</td>
</tr>
<tr>
<td>Person C2</td>
<td>For standard operations, communication</td>
<td>Infrastructure, IT strategy, development</td>
<td>Bring in new competencies, resource usage, focus</td>
<td>None, low to medium</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person C3</td>
<td>Administrative</td>
<td>Most/all IT</td>
<td>New competencies, focus</td>
<td>Medium</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person C4</td>
<td>Administrative, standard packages</td>
<td>IT infrastructure</td>
<td>Focus on core, industry trend, flexibility</td>
<td>Medium</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person C5</td>
<td>Used for operational purposes</td>
<td>Most services, infrastructure</td>
<td>Focus on core, flexibility</td>
<td>Medium</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person C6</td>
<td>Used for communications and operations</td>
<td>All</td>
<td>Focus on core, new resources</td>
<td>None, medium</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person C7</td>
<td>Differentiating</td>
<td>Most IT</td>
<td>Use of resources, new resources</td>
<td>Cost related incentives, no strategic</td>
<td>Applicable and used</td>
</tr>
<tr>
<td>Person C8</td>
<td>Medium</td>
<td>Infrastructure, service development</td>
<td>Use of best in class resources, focus on core</td>
<td>None, medium to low</td>
<td>Applicable</td>
</tr>
<tr>
<td>Person C9</td>
<td>Medium, differentiating</td>
<td>Infrastructure</td>
<td>Cost, focus, use of resources</td>
<td>Medium to low</td>
<td>Applicable in principle</td>
</tr>
</tbody>
</table>

**Conclusion:** Becoming more central (product related) and embracing standard services & end product related – a mix

Economic, organisational

Single supplier, no strategic incentives medium

In company level, yes

The data DOES NOT support the assumption

---

### Cross case analysis:

<table>
<thead>
<tr>
<th>Company A</th>
<th>The role of IT in the company</th>
<th>What is Outsourced?</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Company B</td>
<td>Strategic</td>
<td>Data computing Service Desk</td>
<td>Flexibility, use of assets, cost, focus</td>
<td>Some, high/medium, case by case</td>
<td>Applies</td>
</tr>
<tr>
<td>Company C</td>
<td>Administration</td>
<td>Ongoing, User Support Service Desk, infrastructure</td>
<td>Increasing demand, better service, cost</td>
<td>None, medium</td>
<td>Applicable</td>
</tr>
</tbody>
</table>

**Conclusion:** No significant correlation between the role of IT in the company and the selected outsourcing model.

---

<table>
<thead>
<tr>
<th>Company C</th>
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<td>None, low to medium</td>
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<tr>
<td>Person C2</td>
<td>For standard operations, communication</td>
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<td>Bring in new competencies, resource usage, focus</td>
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</tr>
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<td>Used for communications and operations</td>
<td>All</td>
<td>Focus on core, new resources</td>
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**Conclusion:** Becoming more central (product related) and embracing standard services & end product related – a mix

Economic, organisational

Single supplier, no strategic incentives medium

In company level, yes

The data DOES NOT support the assumption

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<td>User Support Service Desk, infrastructure partly</td>
<td>Concentrate on core, cost</td>
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<td>Company C</td>
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**Conclusion:** Becoming more central (product related) and embracing standard services & end product related – a mix

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In company level, yes

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**Conclusion:** Becoming more central (product related) and embracing standard services & end product related – a mix

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Single supplier, no strategic incentives medium

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**Conclusion:** No significant correlation between the role of IT in the company and the selected outsourcing model.

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**Conclusion:** Becoming more central (product related) and embracing standard services & end product related – a mix

Economic, organisational

Single supplier, no strategic incentives medium

In company level, yes

The data DOES NOT support the assumption
**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**

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

**Conclusion:** Not in company level, yes in single services

**Measures for Improved contribution:** Over all cost, service level, new services

**Joint development, early/late technology adapter:** Yes

---

**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 fairness 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 and 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

**Measures for Improved contribution:** Over all cost, service level, new services

**Joint development, early/late technology adapter:** Yes
### Cross Case Analysis

**Shared profit and loss incentives?**  | **Plan 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: Improved cost savings & improved service levels  |  
**Company B**  | No  | Yes, some  | Not measured directly  |  
**Company C**  | N/A  | Yes  | Speed, improved operational efficiency  |  

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

### Proposition 3

The success of IT outsourcing projects largely depends on the organization's ability to adapt to changing situations and apply information technology into their business operations.

### Proposition 3.1

**Company A**

- Agility: Change used to continuous change  
- Organizational changes?  
- Systematic IT & business co-operation, joint planning?  
- Capability: Managerial, organizational changes  
- Perception of success of IT transition project, perceived benefits of collaboration, reasons  

**Person A1**

- Good, organizational change 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, retraining 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 competences  
- Partnership relation ship good and means are taken to develop further, transition projects all have common characteristics  

**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 continuous development, commitment and ownership granted  
- Collaboration good  

---

**Company B**

- Good, educational reasons used to continuous change  
- Strategic IT & business co-operation, joint planning?  
- Capability: Managerial, organizational changes  
- Perception of success of IT transition project, perceived benefits of collaboration, reasons  

**Person B1**

- Good, educational reasons 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 B2**

- 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  

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- Collaboration good  

---

**Company C**

- N/A  
- Yes  
- Speed, improved operational efficiency  
- Yes  

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

### Proposition 3.2

The success of IT outsourcing projects largely depends on the organization's ability to adapt to changing situations and apply information technology into their business operations.

### Proposition 3.2.1

**Company A**

- Agility: Change used to continuous change  
- Organizational changes?  
- Systematic IT & business co-operation, joint planning?  
- Capability: Managerial, organizational changes  
- Perception of success of IT transition project, perceived benefits of collaboration, reasons  

**Person A1**

- Good, organizational change used to continuous change  
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- Managerial capability good, processes adjusted with suppliers, self help tools promoted  
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**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, retraining not visible to users, processes clear  
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- Good, educated people, change not a threat  
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- 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 continuous development, commitment and ownership granted  
- Collaboration good  

---

**Company B**

- No  
- Yes, related to IT solution shared ownership  
- Speed to introduce new services  
- Yes, joined planning extensive, Average to late adapter  

**Person B1**

- Good, educational reasons 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 B2**

- 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 B3**

- 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 B4**

- Good, existing culture, open communication  
- Good communication, planning through joint processes and roles  
- IT capability good throughout the organization, retraining not visible to users, processes clear  
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**Person B7**

- 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 continuous development, commitment and ownership granted  
- Collaboration good  

---

**Company C**

- N/A  
- Yes  
- Speed, improved operational efficiency  
- Yes  

**Correlation found between performance related payment & responsibility for service development, and improved performance.**
Person A2: Good, planning careful, involvement
Joint processes, well defined interfaces
Continuous development promised 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 A8: Good, in the past changes successful
Partly 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 specialist deal with transition. Some delays in early projects, these days planning extensive.

Person A11: Good, strong strengths
Joint forecasting, STP, portfolio planning, timing
Balancing performance and cost not compromised in training and support, less new services made.
Asset management causing some issues, processes and roles were the 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 driven change, 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
Good and employees attitudes towards learning positive. New service deployment with training
Transition process perceived as 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 centrally, 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 continually developed
All projects are different, joint planning and close on-operation strength and performance in 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 in the past.
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 ensure competence development and favorable attitudes
Communication and training early. Main issues with unexpected changes.
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
Process focus ensures that quality remains the same throughout the promoted.

Person A21: Good, low change resistance
Outsourcing planned in several forums
Processes a major focus area, level of competence assessed regularly and developed continuously
Process focus ensures that quality remains the same throughout the transition.

Initial transition projects bought a lot for the planning of the future projects, dedicated team and processes for collaboration.
Person B1: Organizational changes are continuous, mainly smaller ones, reasons for change well accepted.


B3: Changes are accepted with good reasoning, no issues with change resistance.

B4: Organization able and willing to change. In the past several changes.

B5: Organizational ability to change good. Outsourcing reason accepted.

B6: Good. In the past several changes.

B7: Good. Culture of change exists.

B8: Good. Flexible employees and multileveling.

B9: Good. No major issues with change resistance. Hard times in the past have taught the need for changes.

B10: Good. Employees understand the reasons and need for changes.

Company A: Agility: Change readiness, continuous. In the past several changes.

Person A1: Good. No major projects planned or implemented, incremental improvements with some business involvement (timing).

Person A2: Good. Employees support the implementation of improvements.

Person A3: Good. E-mail is used to support the need for changes.

Person A4: Good. Float, ability to change.

Person A5: Good. Communication. Functional. IT strategy in global level.

Person A6: Good. Skilled. Support and other processes clear and well communicated. Good level of skills. Support and other processes clear and well communicated.

Person A7: Good. Communication. Functional. IT strategy in global level.

Person A8: Good. Skilled. Support and other processes clear and well communicated.


Person A10: Good. Employees support the implementation of improvements.


Company B: Agility: Change readiness, continuous. In the past several changes.

Person B1: Organizational changes are continuous, mainly smaller ones, reasons for change well accepted.

Person B2: Change readiness good, business driven changes continuous. Communication open.

Person B3: Changes are accepted with good reasoning, no issues with change resistance.

Person B4: Organization able and willing to change. In the past several changes.

Person B5: Organizational ability to change good. Outsourcing reason accepted.

Person B6: Good. In the past several changes.

Person B7: Good. Culture of change exists.

Person B8: Good. Flexible employees and multileveling.

Person B9: Good. No major issues with change resistance. Hard times in the past have taught the need for changes.

Person B10: Good. Employees understand the reasons and need for changes.

Company C: Agility: Change readiness, continuous. In the past several changes.

Person C1: Good. No major projects planned or implemented, incremental improvements with some business involvement (timing).


Person C3: Good. E-mail is used to support the need for changes.

Person C4: Good. Skilled. Support and other processes clear and well communicated. Good level of skills. Support and other processes clear and well communicated.

Person C5: Good. Communication. Functional. IT strategy in global level.

Person C6: Good. Skilled. Support and other processes clear and well communicated.
Person B11: Good. Many recent changes. Co-operation systematic to ensure good support and relevance. Strategy very agile. 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, trading partnership.

Person B13: Good. Open communication. Good. High level of involvement from business to IT development, less otherwise. Good supplier relationships and continuous improvements. Long experience in partner management. Good knowledge and awareness of both IT and business. Suppliers involved in training for new applications. Supplier relations good due to long history of co-operation. World class supplier and close co-operation.

Person B14: Changes well planned and communicated. Business managers involved in IT solution development and to some extent supplier interface. Supplier relations good due to long history of co-operation. World class supplier and close co-operation.


Person C1: Organization changing and growing heavily. Requirements for IT to fit in.

Person C2: Several changes in the past. With IT no issue as more matter resources than changing organization.

Person C3: Changes in IT do not affect most people. Irrelevant.

Person C4: People used to changes, need for more focus on IT understanding.

Person C5: Good. Many recent changes, strategy to expand.

Person C6: Changes are continuous, employees know and agree to new requirements.

Company C: Agility: Change readiness, communication, and culture of organizational changes?

Person C1: Organization changing and growing heavily. Requirements for IT to fit in. IT department under support function, Finance & control. Involvement in steering. Supplier brings in new processes. Too early to say.


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 understanding. Semi-systemic 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.

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<td>Company A</td>
<td>Yes, yes</td>
<td>Operational, systematic processes</td>
<td>Yes, used to be more; special processes for supplier interface</td>
<td>No, asset mgmt slow</td>
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<tr>
<td>Company B</td>
<td>Yes, semi-systematic, yes</td>
<td>Operational, tight control processes</td>
<td>Some; processes harmonized &amp; adjusted globally</td>
<td>Yes</td>
</tr>
<tr>
<td>Company C</td>
<td>N/A</td>
<td>N/A</td>
<td>No, yes, consultant redesign process</td>
<td>Good so far</td>
</tr>
</tbody>
</table>

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.

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<td>Person A8, Yes, extensively. Also reacted to.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
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<tr>
<td>Person A7, Yes, both separately concerning applications and about overall IT system.</td>
<td>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.</td>
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<td>Person A11, Yes. User involvement not so systematic as involvement of the key people in all units.</td>
<td>Top-down decision. IT department mainly executing. Decision-making channels and processes well known to everyone. Extensive use of consultants.</td>
</tr>
<tr>
<td>Person A10, Yes. Top-down decision. No major resistance.</td>
<td>Decision-making includes representatives from all affected groups, which ensures effective execution.</td>
</tr>
<tr>
<td>Person A9, Yes. User involvement through focus groups, feedback mail and business related application development.</td>
<td>User involvement in application level, not in solution development. No. Service levels remained the same and for users the process was invisible. Decision-making systematic and continuous practice. Fast implementation regarded important.</td>
</tr>
<tr>
<td>Person A8, Yes. User involvement extensive. Young organization, easy access to feedback mail.</td>
<td>No. Decision-making in cross-functional teams. Sometimes too many meetings.</td>
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<td>Person A5, Yes, with qualitative measures.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
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<td>Person A4, Yes, regarding services and general perception.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
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<td>Person A3, Yes, annual high level questioner reaches high levels of attendance.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
</tr>
<tr>
<td>Person A2, Yes. Involvement in service development is a must, as it involves significant resources and bi-annual planning.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
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<tr>
<td>Person A1, Yes. User involvement in application level, not in solution development.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
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<td>Person A7, Yes, both separately concerning applications and about overall IT system.</td>
<td>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.</td>
</tr>
<tr>
<td>Person A6, Yes, extensively. Also reacted to.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
</tr>
<tr>
<td>Person A5, Yes, with qualitative measures.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
</tr>
<tr>
<td>Person A4, Yes, regarding services and general perception.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
</tr>
<tr>
<td>Person A3, Yes, annual high level questioner reaches high levels of attendance.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
</tr>
<tr>
<td>Person A2, Yes. Involvement in service development is a must, as it involves significant resources and bi-annual planning.</td>
<td>Good. Could be better in process design and capacity planning. No. Decisions from up. Decision-making after initial process design and capacity planning.</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>surveys, user</th>
<th>decisions after referring to all considerations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A8, Yes. User involvement extensive. Young organization, easy access to feedback mail.</td>
<td>No. Decision-making in cross-functional teams. Sometimes too many meetings.</td>
</tr>
<tr>
<td>Person A7, Yes, both separately concerning applications and about overall IT system.</td>
<td>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.</td>
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<tr>
<td>Person A21</td>
<td>Yes</td>
</tr>
<tr>
<td>------------</td>
<td>-----</td>
</tr>
<tr>
<td>Person A20</td>
<td>Yes</td>
</tr>
<tr>
<td>Person B8</td>
<td>Yes</td>
</tr>
<tr>
<td>Person B6</td>
<td>Through key users and support organization</td>
</tr>
<tr>
<td>Person B5</td>
<td>Yes</td>
</tr>
<tr>
<td>Person B4</td>
<td>Yes</td>
</tr>
<tr>
<td>Person B3</td>
<td>Yes</td>
</tr>
<tr>
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<td>Yes</td>
</tr>
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<td>Yes</td>
</tr>
<tr>
<td>Person B15</td>
<td>Yes</td>
</tr>
<tr>
<td>Person B14</td>
<td>Yes</td>
</tr>
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<td>Person B13</td>
<td>Yes</td>
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<td>Person B12</td>
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<td>Person B10</td>
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<td>Yes</td>
</tr>
<tr>
<td>Company 2</td>
<td>User Attitudes measured</td>
</tr>
<tr>
<td>Person B1</td>
<td>Yes, annually</td>
</tr>
<tr>
<td>Person A20</td>
<td>Yes</td>
</tr>
<tr>
<td>Person A19</td>
<td>Yes</td>
</tr>
<tr>
<td>Person A18</td>
<td>Yes</td>
</tr>
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<td>Person A17</td>
<td>Yes</td>
</tr>
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<td>Person A16</td>
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<td>Person A3</td>
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</tr>
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<td>Person A1</td>
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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.

Company C

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

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<th>Company A</th>
<th>IT Strategy group structures</th>
<th>if integrated to business strategy</th>
<th>Measures for added value in outsourcing</th>
<th>Perceived added value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A1</td>
<td>Multifunctional, cross functional</td>
<td>Business strategy includes IT section</td>
<td>Cost, headcount, asset utilization</td>
<td>Manly organizational transformation, less fixed costs</td>
</tr>
<tr>
<td>Person A2</td>
<td>Representation from all affected groups and units, IT and communications</td>
<td>Yes, in high level</td>
<td>Improved cost efficiency (unit cost for services)</td>
<td>Accumulating learning from partnering, more money for other tasks</td>
</tr>
<tr>
<td>Person A3</td>
<td>All support and relevant business units and IT divisions represented</td>
<td>High level strategy includes IT elements</td>
<td>Headcount reduction, assess own personnel to more value adding tasks</td>
<td>Personal development, world class service with small co-ordination cost</td>
</tr>
<tr>
<td>Person A4</td>
<td>Cross-functional</td>
<td>Internally communicated strategy yes, not communicated corporate strategy</td>
<td>Improved cost for SLA, development initiatives</td>
<td>Joint development, exceeded savings targets</td>
</tr>
<tr>
<td>Person A5</td>
<td>All relevant groups involved</td>
<td>High level objectives and focuses listed</td>
<td>Organizational change, employee satisfaction</td>
<td>Reduced fixed cost</td>
</tr>
<tr>
<td>Person A6</td>
<td>All involved sub-units represented regularly</td>
<td>High level development directions yes</td>
<td>Quality and speed of service development and delivery</td>
<td>Ability to handle peaks in demand with less fixed cost</td>
</tr>
<tr>
<td>Person A7</td>
<td>Very diverse to ensure all affected units involved and all skills represented</td>
<td>In very high level yes, in operational planning also, but in business unit level</td>
<td>Headcount, total cost</td>
<td>Improved control, cost transparency</td>
</tr>
<tr>
<td>Person A8</td>
<td>All groups represented</td>
<td>Yes, high-level strategy includes IT, other was around more business strategies reflected in IT strategy</td>
<td>Unit cost, total cost, investments</td>
<td>Job transformation, reduced fixed cost</td>
</tr>
<tr>
<td>Person A9</td>
<td>Gross-functional</td>
<td>Yes, to some extent</td>
<td>Headcount, number of service requests</td>
<td>Access to new resources &amp; specialized knowledge, accelerated service introductions</td>
</tr>
<tr>
<td>Person A10</td>
<td>Gross-functional</td>
<td>Yes, Financial and improvement related targets listed</td>
<td>Organizational issues: employee development satisfaction, job stability, learning</td>
<td>Networking benefits, expertise in specific, non-core areas</td>
</tr>
<tr>
<td>Person A11</td>
<td>All affected units represented, as well as communications, IT and supplier</td>
<td>Yes, IT representation in strategy boards and STP planning strong</td>
<td>Fixed cost, service time to market, New roles to own personnel, improved consensus over IT exp</td>
<td>Reduced fixed cost</td>
</tr>
<tr>
<td>Person A12</td>
<td>All units represented</td>
<td>Yes, IT embedded in strategies as enabling. Also some separate targets for IT</td>
<td>Cost, number of incidents</td>
<td>Improved planning, visibility to cost and resource usage</td>
</tr>
<tr>
<td>Person A13</td>
<td>Everyone involved represented + support functions</td>
<td>Yes, joint planning, especially regarding capacity and budget</td>
<td>Reduced fixed cost, separate portfolio streaming</td>
<td>Improved control, assessment of own resources</td>
</tr>
<tr>
<td>Person A14</td>
<td>All units present</td>
<td>Yes, Awareness across organization good</td>
<td>Same measures used as before: Headcount changes.</td>
<td>Joint development, structured collaboration, access to additional resources</td>
</tr>
<tr>
<td>Person A15</td>
<td>All relevant business units and support functions</td>
<td>Operationally the measures are the same as before. Comparison define the added value in long term</td>
<td>Improved speed and cost of delivering new services, development ideas from experienced partner</td>
<td>Improved perception of IT efficiency</td>
</tr>
<tr>
<td>Person A16</td>
<td>All relevant units</td>
<td>Yes, More influence from business strategy to IT than vice versa</td>
<td>Project related measures, cost and organizational</td>
<td>Flexibility, Improved perception of IT efficiency</td>
</tr>
<tr>
<td>Company &amp;</td>
<td>IT Steering group structures</td>
<td>If integrated to Business strategy</td>
<td>Measures for added value in outsourcing</td>
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<td>----------------------</td>
</tr>
<tr>
<td>Person B1</td>
<td>IT manager reporting to highest management</td>
<td>Not so much, Business strategy guiding IT strategy</td>
<td>Strongly cost and headcount related.</td>
<td>Reduced headcount, improved image and perception</td>
</tr>
<tr>
<td>Person B2</td>
<td>Steering group for overall solution focuses annually with local top management, Project steering in smaller, focused groups</td>
<td>Not the whole overall strategy, other than budget wise. All business requirements fed back to IT strategy.</td>
<td>Added business value not expected</td>
<td>Headcount reduction, clear processes</td>
</tr>
<tr>
<td>Person B3</td>
<td>Cross-organizational representation in annual development meetings</td>
<td>Not in operational strategies.</td>
<td>Lower fixed cost</td>
<td>Clear reporting, asset management and responsibilities</td>
</tr>
<tr>
<td>Person B4</td>
<td>Representation in development projects from affected units and supplier</td>
<td>No</td>
<td>Cost, headcount</td>
<td>Flexibility, control over spending</td>
</tr>
<tr>
<td>Person B5</td>
<td>Reporting to finance and control</td>
<td>No, Considered a support function</td>
<td>Headcount, investment, fixed cost</td>
<td>Flexibility, lower control cost</td>
</tr>
<tr>
<td>Person B6</td>
<td>Reporting to country management team</td>
<td>No.</td>
<td>Headcount, cost. No Improvement to existing services targeted</td>
<td>Flexibility at peak times, control, employee job rotation</td>
</tr>
<tr>
<td>Person B7</td>
<td>IT strategy approved in country management board, Project level steering in relevant business units</td>
<td>No. IT strategy follows closely local business requirements, High level guidelines from global IT management.</td>
<td>Cost of delivering required services, investment</td>
<td>Resource efficiency, lower fixed cost</td>
</tr>
<tr>
<td>Person B8</td>
<td>IT personnel key users, service managers, supplier, &amp;c.</td>
<td>No, strategies local and agile</td>
<td>Headcount, cost visibility</td>
<td>Trusted partner provides flexibility and uncomplicated co-ordination</td>
</tr>
<tr>
<td>Person B9</td>
<td>IT manager, &amp;c., supplier, local management board in annual level</td>
<td>Strategies local with local business. Company level strategies communicated via global IT</td>
<td>SLA and usual financial measures</td>
<td>Lower fixed cost, organizational coherence</td>
</tr>
<tr>
<td>Person B10</td>
<td>Combined management team mainly, reporting high-level to global IT</td>
<td>Strategies separate but aligned</td>
<td>Quantitative measures, not specially for added value</td>
<td>Focus on core</td>
</tr>
</tbody>
</table>

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<tr>
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<td>Person A17</td>
<td>All relevant parties</td>
<td>Yes</td>
<td>Speed to introduce new services, innovative ideas that materialize in projects</td>
<td>Access to specialized knowledge, process excellence and compatibility of the services and cost</td>
</tr>
<tr>
<td>Person A18</td>
<td>All units affected, stakeholders</td>
<td>Yes, IT strategy planned with business experts.</td>
<td>Cost efficiency.</td>
<td>Fixed resources for other purposes, potential in long term</td>
</tr>
<tr>
<td>Person A19</td>
<td>All stakeholders, support functions and business representatives</td>
<td>Integration to ensure relevance and realize new opportunities</td>
<td>New resources combined expertise potential in the future</td>
<td>New resources, combined expertise potential in the future</td>
</tr>
<tr>
<td>Person A20</td>
<td>All functions and units</td>
<td>Yes, in some levels</td>
<td>Portfolio, headcount, unit cost</td>
<td>Flexibility, organizational transformation</td>
</tr>
<tr>
<td>Person A21</td>
<td>All units and suppliers represented</td>
<td>Yes, in high level</td>
<td>Headcount reduction, flexibility, agility</td>
<td>Scalability of operations</td>
</tr>
<tr>
<td>Person A22</td>
<td>All affected units, stakeholders, support functions</td>
<td>Yes, joint planning</td>
<td>Unit cost, headcount, speed to deliver services, fixed cost</td>
<td>Access to new resources, new opportunities for own personnel, improved cost control and efficiency</td>
</tr>
</tbody>
</table>
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.

### Cross-case analysis:

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<th>Company A</th>
<th>Relationship mgmt roles clear in-house</th>
<th>SOP defined in negotiation phase</th>
<th>Perceived success of the transition projects</th>
<th>State of the supplier relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A1</td>
<td>yes. A focus area for the company in general.</td>
<td>Yes. There are several supplier management procedures for different situations</td>
<td>The latest, good</td>
<td>Good</td>
</tr>
<tr>
<td>Person A2</td>
<td>Yes. Supplier management processes are world-class</td>
<td>Yes. Depending on the type of project suppliers' or A's processes</td>
<td>Improvements every time, overall good</td>
<td>In general, good</td>
</tr>
<tr>
<td>Person A3</td>
<td>yes. The responsibilities have not caused any special concerns</td>
<td>Yes. Existing processes used</td>
<td>Good overall</td>
<td>Good, always something going on</td>
</tr>
<tr>
<td>Person A4</td>
<td>Yes</td>
<td>Existing processes used with some adjustments.</td>
<td>Good communication and planning, in implementation some issues.</td>
<td>Good, both parties committed to cooperation</td>
</tr>
<tr>
<td>Person A5</td>
<td>Yes. Different functions work in close cooperation</td>
<td>Yes, or before.</td>
<td>Successful. Almost in time and budget.</td>
<td>Good, Supplier a long term partner</td>
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<tr>
<td>Person A6</td>
<td>Yes. all responsibilities well defined, documented and communicated.</td>
<td>Before negotiation.</td>
<td>Handover smooth and user impact minimal.</td>
<td>In general terms good</td>
</tr>
<tr>
<td>Person A7</td>
<td>Yes. All relevant units are involved in planning and implementing the changes.</td>
<td>Processes defined early in planning phase.</td>
<td>Successful with all suppliers. Yet there are differences in all relationships</td>
<td></td>
</tr>
<tr>
<td>Person A8</td>
<td>Yes. The relationship management works in several levels and they all communicate and cooperate continuously.</td>
<td>Yes</td>
<td>Good, Learnings from the past remembered in planning</td>
<td>Good</td>
</tr>
<tr>
<td>Person A9</td>
<td>yes. The responsibilities follow portfolio management categorizations.</td>
<td>Required adjustments done to the existing processes.</td>
<td>Thanks to good planning, successful</td>
<td>Good</td>
</tr>
<tr>
<td>Person A10</td>
<td>Yes. Both towards the business units, suppliers and support units.</td>
<td>The type of processes depends on the project.</td>
<td>Good communication, thorough planning.</td>
<td>During the transition some disputes, but operationally works very well.</td>
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<td>Yes. The relationship management works in several levels and they all communicate and cooperate continuously.</td>
<td>Yes</td>
<td>Good, Learnings from the past remembered in planning</td>
<td>Good</td>
</tr>
<tr>
<td>Person A9</td>
<td>yes. The responsibilities follow portfolio management categorizations.</td>
<td>Required adjustments done to the existing processes.</td>
<td>Thanks to good planning, successful</td>
<td>Good</td>
</tr>
<tr>
<td>Person A10</td>
<td>Yes. Both towards the business units, suppliers and support units.</td>
<td>The type of processes depends on the project.</td>
<td>Good communication, thorough planning.</td>
<td>During the transition some disputes, but operationally works very well.</td>
</tr>
<tr>
<td>Person A1</td>
<td>Yes. Roles defined in SOP's and other process documentation.</td>
<td>Good, partly incremental handover.</td>
<td>Good and continuously developed.</td>
<td></td>
</tr>
<tr>
<td>Person A2</td>
<td>Yes, for all stages of service life cycle.</td>
<td>Good because of experiences from the past.</td>
<td>Supplier relationship development is continuous practice.</td>
<td></td>
</tr>
<tr>
<td>Person A4</td>
<td>Yes. Yet there are some concerns about duplication of effort.</td>
<td>Depends on the scope of the project.</td>
<td>Well planned. Good and committed.</td>
<td></td>
</tr>
<tr>
<td>Person A5</td>
<td>Yes. Roles clear.</td>
<td>Yes. Supplier involved in process development work.</td>
<td>Good. Operational processes developed together.</td>
<td></td>
</tr>
<tr>
<td>Person A6</td>
<td>Yes. Defined and communicated to all interfacing groups and suppliers</td>
<td>SOP follows A's processes.</td>
<td>Good overall. Functional.</td>
<td></td>
</tr>
<tr>
<td>Person A7</td>
<td>Yes. Processes used depends on the project</td>
<td>Good. Clear areas of responsibility.</td>
<td>Good and professionally managed.</td>
<td></td>
</tr>
<tr>
<td>Person A8</td>
<td>Yes. A focus area</td>
<td>Yes. No new processes developed.</td>
<td>Good and automated process.</td>
<td></td>
</tr>
<tr>
<td>Person A9</td>
<td>Yes. Identified as important focus area</td>
<td>In-planning phase processes identified</td>
<td>Good. A trusted partner.</td>
<td></td>
</tr>
<tr>
<td>Person A10</td>
<td>Yes. Processes assessed and adjusted if need to</td>
<td>Good. In time and budget without major impacts on operations.</td>
<td>Good, flexibility proven.</td>
<td></td>
</tr>
<tr>
<td>Person A11</td>
<td>Yes. Supplier relationship developed.</td>
<td>Good.</td>
<td>Continuously developed.</td>
<td></td>
</tr>
<tr>
<td>Person A12</td>
<td>Yes, have an impact on cost.</td>
<td>Good of experiences. from the past.</td>
<td>Good, flexibility proven.</td>
<td></td>
</tr>
<tr>
<td>Person A14</td>
<td>Matrix interfacing groups and suppliers about duplication of effort.</td>
<td>Good and automated process.</td>
<td>Good and professionally managed.</td>
<td></td>
</tr>
<tr>
<td>Person A15</td>
<td>Yes. Defined and communicated to all interfacing groups and suppliers</td>
<td>SOP follows A's processes.</td>
<td>Good overall. Functional.</td>
<td></td>
</tr>
<tr>
<td>Person A16</td>
<td>Yes. Identified as important focus area</td>
<td>Yes. No new processes developed.</td>
<td>Good and automated process.</td>
<td></td>
</tr>
<tr>
<td>Person A17</td>
<td>Yes. Identified as important focus area</td>
<td>In-planning phase processes identified</td>
<td>Good. A trusted partner.</td>
<td></td>
</tr>
<tr>
<td>Person A18</td>
<td>Yes. Processes assessed and adjusted if need to</td>
<td>Good. In time and budget without major impacts on operations.</td>
<td>Good, flexibility proven.</td>
<td></td>
</tr>
<tr>
<td>Person A19</td>
<td>Yes. Supplier relationship developed.</td>
<td>Good.</td>
<td>Continuously developed.</td>
<td></td>
</tr>
<tr>
<td>Person A20</td>
<td>Yes.</td>
<td>Continuously developed and optimized.</td>
<td>Good, Cooperation planned for long term.</td>
<td></td>
</tr>
<tr>
<td>Person A21</td>
<td>Yes.</td>
<td>Good.</td>
<td>Good, long term partner.</td>
<td></td>
</tr>
</tbody>
</table>

| Company B | Relationship mgmt 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. | Local issues, global escalation if needed. |
| Person B3 | Yes. In country level. | Depends on the project | Very good. Good with all suppliers. | 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. | Good. There are several improvement projects ongoing. |
| 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 A1 | Yes. Roles defined in SOP's and other process documentation. | Good, partly incremental handover. | Good and continuously developed. |
| Person A2 | Yes, for all stages of service life cycle. | Good because of experiences from the past. | Supplier relationship development is continuous practice. |
| Person A4 | Yes. Yet there are some concerns about duplication of effort. | Depends on the scope of the project. | Well planned. Good and committed. |
| Person A5 | Yes. Roles clear. | Yes. Supplier involved in process development work. | Good. Operational processes developed together. |
| Person A6 | Yes. Defined and communicated to all interfacing groups and suppliers | SOP follows A's processes. | Good overall. Functional. |
| Person A7 | Yes. Processes used depends on the project | Good. Clear areas of responsibility. | Good and professionally managed. |
| Person A8 | Yes. A focus area | Yes. No new processes developed. | Good and automated process. |
| Person A9 | Yes. Identified as important focus area | In-planning phase processes identified | Good. A trusted partner. |
| Person A10 | Yes. Processes assessed and adjusted if need to | Good. In time and budget without major impacts on operations. | Good, flexibility proven. |
| Person A11 | Yes. Supplier relationship developed. | Good. | Continuously developed. |
| Person A12 | Yes, have an impact on cost. | Good of experiences from the past. | Good, flexibility proven. |
| Person A14 | Matrix interfacing groups and suppliers about duplication of effort. | Good and automated process. | Good and professionally managed. |
| Person A15 | Yes. Defined and communicated to all interfacing groups and suppliers | SOP follows A's processes. | Good overall. Functional. |
| Person A16 | Yes. Identified as important focus area | Yes. No new processes developed. | Good and automated process. |
| Person A17 | Yes. Identified as important focus area | In-planning phase processes identified | Good. A trusted partner. |
| Person A18 | Yes. Processes assessed and adjusted if need to | Good. In time and budget without major impacts on operations. | Good, flexibility proven. |
| Person A19 | Yes. Supplier relationship developed. | Good. | Continuously developed. |
| Person A20 | Yes. | Continuously developed and optimized. | Good, Cooperation planned for long term. |
| Person A21 | Yes. | Good. | Good, long term partner. |

| Company B | Relationship mgmt 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. | Local issues, global escalation if needed. |
| Person B3 | Yes. In country level. | Depends on the project | Very good. Good with all suppliers. | 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. | Good. There are several improvement projects ongoing. |
| 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 A: Yes, sometimes overlapping in matrix.

Person B: Yes. Listed in contract, but defined earlier.

Person C: Yes. Professional supplier management processes.

Person D: Yes. Planned earlier, together with the supplier.

Person E: Yes. Well-defined processes for supplier management.

Person F: Yes. Depending on the project rather suppliers own processes or B’s.

Person G: Yes. A focus area. Varies country by country.

Person H: Clear, following reporting structures. Defined along the way in long term cooperation.

Person I: Yes. Supplier uses their own processes.

Person J: Yes. No issues with unclear processes.

Person K: Yes. Suppliers use their own processes to develop applications.

Person L: Yes. Good.

Person M: Yes. Good.

Person N: Yes. Good.

Person O: Yes. Good.

Person P: Yes. Good.

Person Q: Yes. Good.

Person R: Yes. Good.

Person S: Yes. Good.

Person T: Yes. Good.

Person U: Yes. Good.

Person V: Yes. Good.

Person W: Yes. Good.

Person X: Yes. Good.

Person Y: Yes. Good.

Person Z: Yes. Good.

Company A: Relationship stages clear, in house.

Company B: Relationship stages clear, in house.

Company C: Relationship stages clear, in house.

Company D: Relationship stages clear, in house.

Company E: Relationship stages clear, in house.

Company F: Relationship stages clear, in house.

Company G: Relationship stages clear, in house.

Company H: Relationship stages clear, in house.

Company I: Relationship stages clear, in house.

Company J: Relationship stages clear, in house.

Company K: Relationship stages clear, in house.

Company L: Relationship stages clear, in house.

Company M: Relationship stages clear, in house.

Company N: Relationship stages clear, in house.

Company O: Relationship stages clear, in house.

Company P: Relationship stages clear, in house.

Company Q: Relationship stages clear, in house.

Company R: Relationship stages clear, in house.

Company S: Relationship stages clear, in house.

Company T: Relationship stages clear, in house.

Company U: Relationship stages clear, in house.

Company V: Relationship stages clear, in house.

Company W: Relationship stages clear, in house.

Company X: Relationship stages clear, in house.

Company Y: Relationship stages clear, in house.

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

| Person A1 | From the relevant parties, yes. | To the higher management | Central: Both towards IT personnel 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. | 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. | In operational issues. |
| Person A6 | Yes. | Yes. | Central, especially in planning and development capacities. | Yes, mainly. There are also other 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-needed. | Yes, the management’s. | Take responsibility over operations. | Yes, in operational level. |

Trust and good co-operation reduce risk of service obsolescence 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.
<table>
<thead>
<tr>
<th>Company B</th>
<th>The roles &amp; tasks of in-house IT personnel were redesigned</th>
<th>IT personnel incentives tied to business performance</th>
<th>The role of in-house IT personnel in collaboration</th>
<th>IT managers principally handling the supplier interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A1</td>
<td>Yes, where needed.</td>
<td>Yes, the management</td>
<td>Assume responsibility over the interface; Communicate changes and manage performance level</td>
<td>Management in several levels; Main contacts with IT</td>
</tr>
<tr>
<td>Person A2</td>
<td>Yes, but only those affected directly.</td>
<td>Only the higher managers.</td>
<td>Take responsibility over the operational issues.</td>
<td>Yes.</td>
</tr>
<tr>
<td>Person A3</td>
<td>Yes. A big part moved to the supplier organization</td>
<td>No.</td>
<td>Manage everyday operations.</td>
<td>IT department locally responsible for daily operations. Escalation to others.</td>
</tr>
<tr>
<td>Person A4</td>
<td>Yes, those whose job changed.</td>
<td>No.</td>
<td>Manage operations and changes.</td>
<td>IT management</td>
</tr>
<tr>
<td>Person A5</td>
<td>Yes, where needed.</td>
<td>Not typically.</td>
<td>Central in ensuring right capacity and services.</td>
<td>IT department responsible for the interface.</td>
</tr>
<tr>
<td>Person A6</td>
<td>Yes, the interfacing groups if needed</td>
<td>No.</td>
<td>Important both in planning and support processes.</td>
<td>Yes, local IT</td>
</tr>
<tr>
<td>Person A7</td>
<td>Yes, some changes needed</td>
<td>Some to country level performance</td>
<td>Manage and plan the supplier operations.</td>
<td>IT in operational issues, also others involved.</td>
</tr>
<tr>
<td>Person A8</td>
<td>Yes, as few as possible</td>
<td>No.</td>
<td>Main contact to suppliers. Ensure good performance.</td>
<td>It is a joint project for many units</td>
</tr>
<tr>
<td>Person A9</td>
<td>Yes, where necessary</td>
<td>No.</td>
<td>Important as a single contact point. Also other functions represented</td>
<td></td>
</tr>
<tr>
<td>Person A10</td>
<td>Yes, towards more managerial roles</td>
<td>No.</td>
<td>Central in planning.</td>
<td>Many units responsible for</td>
</tr>
</tbody>
</table>

| Person B1 | Yes, where needed. | Yes, the management | 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 |
The importance of in-house IT management and updating critical capabilities was agreed on.

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

<table>
<thead>
<tr>
<th>Cross case analysis:</th>
<th>Company C</th>
<th>The roles &amp; tasks of in-house IT personnel were redesigned</th>
<th>IT personnel incentives tied to business performance</th>
<th>The role of in-house IT personnel in collaboration</th>
<th>IT managers principally handling the supplier interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person C1</td>
<td>Yes, towards more co-ordinating roles</td>
<td>No</td>
<td>Technical expertise combined with experience from company needs</td>
<td>Together with partner management</td>
<td>Yes</td>
</tr>
<tr>
<td>Person C2</td>
<td>Yes</td>
<td>No</td>
<td>Communicate needs and participate in contract negotiations</td>
<td>Operationally, yes, contractual and relationship management tasks no.</td>
<td>No</td>
</tr>
<tr>
<td>Person C3</td>
<td>Yes, more resources brought in</td>
<td>No</td>
<td>Technical and company specific experts</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Person C4</td>
<td>Yes, changed significantly</td>
<td>No</td>
<td>Manage performance and communicate needs</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Person C5</td>
<td>Yes</td>
<td>No</td>
<td>Organize support and continuity of the system development</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Person C6</td>
<td>Yes, major changes</td>
<td>No</td>
<td>Co-ordinate operations</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Person C7</td>
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<tr>
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<td>Co-ordinating and providing technical expertise about company specific needs</td>
<td>Operationally, yes, in contractual level no.</td>
<td>Yes</td>
</tr>
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</table>

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

<table>
<thead>
<tr>
<th>Company A</th>
<th>Customized measurement</th>
<th>Project portfolio management</th>
<th>Prioritization process</th>
<th>Investment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person A1</td>
<td>Some, Continuous development for more relevant measures</td>
<td>Yes, strong focus area</td>
<td>Business &amp; strategy driven</td>
<td>Cost savings, new revenue, necessarily</td>
</tr>
<tr>
<td>Person A2</td>
<td>In some areas, Industry standards, technical emphasis</td>
<td>Yes, Following organizational structures</td>
<td>Prioritization in different processes: STP, short term planning and portfolio planning areas</td>
<td>Cost savings, user base, new business</td>
</tr>
<tr>
<td>Person A3</td>
<td>Mainly standard SLA and cost measures, Some company specific.</td>
<td>Yes, as well as life cycle management</td>
<td>Benefit and strategy driven</td>
<td>Cost savings, operational excellence or other benefits, usage, re-usability</td>
</tr>
<tr>
<td>Person A4</td>
<td>Measuring slightly customized for company specific purposes.</td>
<td>Yes, very structured portfolio</td>
<td>Prioritization in various levels, decisions in board meetings.</td>
<td>Business case, strategy</td>
</tr>
<tr>
<td>Person A5</td>
<td>Standard, mainly quantitative</td>
<td>Yes, both for development projects and services</td>
<td>Within budget limits business priorities are reflected in selection</td>
<td>Business case, strategy</td>
</tr>
<tr>
<td>Person A6</td>
<td>Quantitative standard, some qualitative company specific</td>
<td>Yes, quantitative and company specific</td>
<td>Business priorities within STP planning process</td>
<td>Cost savings, new revenue, necessarily</td>
</tr>
<tr>
<td>Person A7</td>
<td>Mainly standard, Company specific under continuous development.</td>
<td>Yes, several layers</td>
<td>Ultimate business priorities, expected cost savings in long term and reusability drive selection</td>
<td>Business case</td>
</tr>
<tr>
<td>Person A8</td>
<td>Focus on relevant and descriptive measures that requires some customization.</td>
<td>Yes, following business unit structure</td>
<td>All units represented in the process, reusability and connectivity important</td>
<td>Business case, strategy</td>
</tr>
<tr>
<td>Person A9</td>
<td>Not so much the measures but the way to use the results is company specific.</td>
<td>Yes, strong focus on the big picture</td>
<td>Business priorities overweight internal development in most cases. Business driven.</td>
<td>Business case</td>
</tr>
<tr>
<td>Person A10</td>
<td>Measures typical to the industry. Several tools to better gather reliable data and improve its usage.</td>
<td>Yes, all services linked together somehow</td>
<td>Business cases evaluated with various criteria in portfolio planning meetings.</td>
<td>Business case, strategy</td>
</tr>
<tr>
<td>Person A11</td>
<td>Measuring in a focus area, reliability and relevance ensured by efficient processes and tools.</td>
<td>Yes</td>
<td>Priorities set together with IT managers, business representatives and support functions from all regions.</td>
<td>Support to operations, savings, business needs</td>
</tr>
<tr>
<td>Person A12</td>
<td>Measuring automated processes with a mix of customized and standard measures.</td>
<td>Yes, following well defined categorization</td>
<td>Budget and business priorities define priorities of strategy. Aix IT strategy guides selection.</td>
<td>Several, decided case by case based on specific situation</td>
</tr>
<tr>
<td>Person A13</td>
<td>Measuring many aspects, SLA and cost with standard, quality, benefits and pay back partly with customized qualitative.</td>
<td>Yes</td>
<td>Priorities set after budget frame done in joint effort.</td>
<td>Business requirements, strategy focus, benefits</td>
</tr>
<tr>
<td>Person A14</td>
<td>During service development more relevant measures, service management standard.</td>
<td>Yes, following well defined categorization</td>
<td>Budget and business priorities define priorities of strategy. Aix IT strategy guides selection.</td>
<td>Several, decided case by case based on specific situation</td>
</tr>
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Proportion E. 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.
Person B8: Typically quantitative, Yes. All services. Priorities set based on business requirements and expected business benefit and savings potential.

Person B7: No, standard. Clear for business units and IT. Cost savings and new profit in case exceeded, decisions escalated to global board.


Person B5: No, Cost and SLA. Yes. Enforces professional life cycle management. Clear escalation within IT management and local business management. Global IT is responsible for high level guidelines and strategic decisions.

Person B4: Yes. Following business entities. Local IT management and business management make decisions within budget frame. In case exceeded, decisions escalated to global board.


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.

Person B1: No Harmonized as far as possible. Yes, essential to operations. Countries given high degree of business case, short pay back time.


Person A14: No, typically business driven. Projects set based on business requirements and expected business benefit and savings potential.

Person A13: Raw data is combined with company specific knowledge to describe service characteristics. Fact based solid business case.

Person A12: Varies from service to service. Majority standard SLA and financial. Joint planning cycles for most services. Typically business case and communicated need for the service.

Person A11: No, typical SLA. Yes. Business need, business benefits/ cost and synergies in connectivity.


Person A9: Some ratios linked to company specific measures. Yes, Following business organization. Priorities based on business need, cost savings, new business.

Person A8: Raw data is combined with company specific knowledge to describe service characteristics. Fact based solid business case.

Person A7: Varies from service to service. Majority standard SLA and financial. Joint planning cycles for most services. Typically business case and communicated need for the service.

Person A6: Measuring raw data and stakeholder communications with partly different terms. Yes. Joint planning cycles for most services. Usage, benefits and re-usability close selection in budget frame. Expected benefits, specific requirements, strategy, various criteria.


Person A4: No, typical SLA and cost. Local IT management and business management make decisions within budget frame. In case exceeded, decisions escalated to global board.

Person A3: Yes, in various levels. Business need and cost savings.

Person A2: No, standard. Yes, in country and global level. In local level IT board, global decisions in global management board.

Person A1: Yes, following business organization. Priorities based on business need, cost savings, new business.


Company B3: Customized measurement. Project portfolio management. Prioritization process. Investment criteria.


Company B8: Customized measurement. Project portfolio management. Prioritization process. Investment criteria.
<table>
<thead>
<tr>
<th>Person</th>
<th>No.</th>
<th>Yes.</th>
<th>Benefits</th>
<th>Innovativeness</th>
</tr>
</thead>
<tbody>
<tr>
<td>B10</td>
<td>No.</td>
<td>Yes.</td>
<td>Business driven process</td>
<td>Business needs and potential for new business</td>
</tr>
<tr>
<td>B13</td>
<td>No.</td>
<td>Yes.</td>
<td>All relevant units represented in the process.</td>
<td>Wide usage, strong business case or necessity.</td>
</tr>
<tr>
<td>B15</td>
<td>No.</td>
<td>Yes.</td>
<td>Business needs and their urgency drive the priority setting.</td>
<td>Requirements drive investments, from alternative solutions the most cost effective.</td>
</tr>
<tr>
<td>C9</td>
<td>No.</td>
<td>Yes.</td>
<td>Business needs drive the process. Local and global processes separated.</td>
<td>Business needs and potential for savings.</td>
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## Cross Case Analysis

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<tr>
<th>Proposition 5: Integrating and streamlining IT related decision-making processes improves efficiency and the quality of the decisions, and reduces cost</th>
</tr>
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<tbody>
<tr>
<td><strong>Person A</strong></td>
</tr>
<tr>
<td><strong>Person A1</strong></td>
</tr>
<tr>
<td><strong>Person A2</strong></td>
</tr>
<tr>
<td><strong>Person A3</strong></td>
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<tr>
<td><strong>Person A4</strong></td>
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<tr>
<td><strong>Person A5</strong></td>
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<tr>
<td><strong>Person A6</strong></td>
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<tr>
<td><strong>Person A7</strong></td>
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<tr>
<td><strong>Person A8</strong></td>
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<tr>
<td><strong>Person A9</strong></td>
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<tr>
<td><strong>Person A10</strong></td>
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<tr>
<td><strong>Person A11</strong></td>
</tr>
<tr>
<td><strong>Person A12</strong></td>
</tr>
<tr>
<td><strong>Person A13</strong></td>
</tr>
<tr>
<td><strong>Person A14</strong></td>
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<tr>
<td><strong>Person A3</strong></td>
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<tr>
<td><strong>Person A4</strong></td>
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<td><strong>Person A13</strong></td>
</tr>
<tr>
<td><strong>Person A14</strong></td>
</tr>
<tr>
<td>Company</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>B1</td>
</tr>
<tr>
<td>B2</td>
</tr>
<tr>
<td>B3</td>
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<tr>
<td>B4</td>
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<td>B8</td>
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<tr>
<td>B9</td>
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<tr>
<th>Company</th>
<th>Harmonized decision-making processes in house</th>
<th>Processes adjusted with the suppliers</th>
<th>Speed and quality improved with process redesign</th>
<th>Process efficiency strongly correlated with operational cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A15</td>
<td>Yes, if IT is needed</td>
<td>Yes, some adjustments</td>
<td>Some changes always required as reaction to ongoing changes. Yes, measurable changes.</td>
<td>Some changes always required as reaction to ongoing changes. Yes, measurable changes.</td>
</tr>
<tr>
<td>A16</td>
<td>Modify yes</td>
<td>In some cases, but not so that users would have an impact</td>
<td>Some improvement activities continuously ongoing</td>
<td>Some improvement activities continuously ongoing</td>
</tr>
<tr>
<td>A17</td>
<td>Yes</td>
<td>Should not be changed too rapidly as implementation is time consuming.</td>
<td>Should not be changed too rapidly as implementation is time consuming.</td>
<td>Yes. Especially in the area of support.</td>
</tr>
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<td>A18</td>
<td>Yes</td>
<td>Should not be changed too rapidly as implementation is time consuming.</td>
<td>Should not be changed too rapidly as implementation is time consuming.</td>
<td>Yes. Especially in the area of support.</td>
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<td>A19</td>
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<td>Should not be changed too rapidly as implementation is time consuming.</td>
<td>Some improvement activities continuously ongoing</td>
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</tr>
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<td>A21</td>
<td>Yes</td>
<td>Should not be changed too rapidly as implementation is time consuming.</td>
<td>Some improvement activities continuously ongoing</td>
<td>Some improvement activities continuously ongoing</td>
</tr>
<tr>
<td>Person B11</td>
<td>Not completely</td>
<td>The adjustment comes naturally over time. Incremental changes depend on the current state of the operations. In case processes outdated, yes.</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>Person B12</td>
<td>Varies by country and by unit</td>
<td>Typically processes change some, but not purposely tried to change. Yes, the new processes bring something new. Yes, the same savings are tried to implement in the customers through consultation.</td>
<td>Yes, where needed</td>
<td></td>
</tr>
<tr>
<td>Person C8</td>
<td>Not all processes</td>
<td>Some adjustments usually needed. Not per se, only if something new in the replacing processes. Yes, global harmonization efforts ongoing.</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>Person C7</td>
<td>Mostly unit level harmonization</td>
<td>The optimal processes investigated and tested together with the supplier. A focus area, potential for improvements. Yes. That is why global level harmonization ongoing.</td>
<td>Yes, but not if not necessary.</td>
<td></td>
</tr>
<tr>
<td>Person B15</td>
<td>Different for IT</td>
<td>There is always potential for savings in process improvements. Yes, both within the company and with external parties.</td>
<td>Yes, especially in global level.</td>
<td></td>
</tr>
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<td>Person B13</td>
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<td>Some adjustments usually needed. Not per se, only if something new in the replacing processes. Yes, global harmonization efforts ongoing.</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>Person B14</td>
<td>Varies by country and operational unit</td>
<td>The optimal processes investigated and tested together with the supplier. A focus area, potential for improvements. Yes. That is why global level harmonization ongoing.</td>
<td>Yes, but not if not necessary.</td>
<td></td>
</tr>
<tr>
<td>Person C9</td>
<td>Not in different partner companies</td>
<td>The ones that need changes. Yes, certain areas would benefit from that. Yes, believed so, even no measured results in company C.</td>
<td>Yes, in companies like C.</td>
<td></td>
</tr>
<tr>
<td>Person C8</td>
<td>Not all processes</td>
<td>Some, but not too many changes unless tangible positive impact. Yes, especially in global level.</td>
<td>Agree</td>
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</tbody>
</table>

| 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 | 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. | Agree |
| 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. | Agree |
| 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. | Agree |
| Person C4 | Not possible in different legal entities. | Best practices for the situations are found easily through experience. | In companies like C. | Agree |
| 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. | Agree |
| Person C6 | Only if viewed necessary | Yes, slight changes. Yes, to a certain extent. | Yes, to some extent. | Agree |
| Person C7 | Mostly unit level harmonization. | Some changes, typically not desired. Yes, an area of improvement and to focus with partners. | Yes, some correlation, difficult to measure. | Agree |
| Person C8 | Not all processes, coordinated processes like financial reporting yes. | Somewhat | Yes, where needed. | Agree |
| Person C9 | Not in different partner companies. | The ones that need changes. Yes, certain areas would benefit from that. Yes, believed so, even no measured results in company C. | Yes, in companies like C. | Agree |
| Person C8 | Not all processes | Some, but not too many changes unless tangible positive impact. Yes, especially in global level. | Agree |
Process efficiency strongly correlated with operational speed and quality improved with process redesign Agree 100% Agree 80% Agree 100% ongoing.

Processes adjusted with supplier Agree 30% in use.

Speed and quality improved with process redesign Agree 100% Agree 80% Agree 100% ongoing.

Process efficiency strongly correlated with operational cost Agree 80% Strong process focus Agree 80% Service pricing more Agree 80% Re-design ongoing.

Cross case analysis:

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.

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 managers up date that.
- Yes, there are templates 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, serving, guiding processes, databases and templates.
- Business case, business analysis.

Person A6: Cost savings, potential new revenue 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 cases.
- Yes, continuous trainings.
- 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 managers report.

Person A10: Cost savings, potential for revenue creation and increased sales volumes, profit.
- 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.

Company A: Benefit management focus
- Business benefits continuously assessed
- Tasks and processes for benefit management implemented
- How are business benefits measured?

Company A1: Focus on savings, potential new revenue, increased profit.
- Business case, scorecards.

Company A2: Cost savings, improved rotation days, increased sales, improved support.
- Business case, SLA financial reporting.

Company A3: Cost savings, process automation, increased sales and profit, new revenue and customer retention.
- Business case, reporting.

Company A4: Cost savings, improved profit, access to data.
- Business case, surveys, reports.

Company A5: Cost savings, new revenue from existing services, customer satisfaction.
- Business case, business analysis.

Company A6: Cost savings, potential new revenue and decision-making, new sales and services.
- Business case, impact analysis.

Company A7: Cost savings, new sales potential, profit and support.
- Business case, reporting, performance measuring.

Company A8: Cost savings, improved support for operations, can vary a lot depending on the service.
- Business case, SLA monitoring.

Company A9: Cost savings, improved access to data, speed of decision-making, quality of data.
- Business case, service managers report.

Company A10: Cost savings, potential for revenue creation and increased sales volumes, profit.
- Very process directed and systematic.

Company A11: Cost savings, user support and data sharing improved, new business.
- Business case, reporting, assessments.

Company A12: Cost savings, response time, easier access to data.
- Business case.
### Company B

#### Benefit management focus
- Cost savings, new revenue, profit margin, increased sales.
- Cost savings, identified and measured.
- Cost savings, improved profit margin, increased sales.
- Process automation, increased efficiency and productivity.
- Cost savings, improved quality of data and support for operations.
- Cost savings, potential for new revenue, profit and customers.

#### Business benefits continuously assessed and processes
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Tools and processes for benefit management implemented
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### How benefits are measured?
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

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### Person A

#### Cost savings, automated, profit margin, cost savings, profit margin, increased sales.
- Yes, both business managers and IT managers assess benefits regularly.
- Yes, several tools, data banks and processes.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Criteria varies, cost savings, profit margin, increased sales.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, new revenue, profit margin, increased sales.
- Yes, portfolio is assessed every 6 months, continuously.
- Business case, service manager reports.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, quality of data, user base and satisfaction.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, new revenue, profit and customers.
- Yes, relevant.
- Business case, SLA.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

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### Person B

#### Cost savings, automated, profit margin, cost savings, profit margin, increased sales.
- Person B6: Criteria varies, cost savings, increased sales.
- Person B5: Customer benefits, improved profit margin, several criteria.
- Person B4: Cost savings, quality of data, user base and satisfaction.
- Person B3: Process automation, improved customer service.
- Person B2: Cost savings, new revenue, profit margin, increased sales.
- Person B1: Cost savings, automated, profit margin, new features.

#### Criteria varies, cost savings, improved customer support, new sales.
- Yes, by both business and IT managers.
- Yes, local service management structure enables effective implementation.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, new revenue, profit margin, increased sales.
- Yes, several tools, data banks and processes.
- Business case, service manager reports.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, quality of data, user base and satisfaction.
- Yes, by both business and IT managers.
- Yes, local service management structure enables effective implementation.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, new revenue, profit margin, increased sales.
- Yes, portfolio is assessed every 6 months, continuously.
- Business case, service manager reports.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

#### Cost savings, quality of data, user base and satisfaction.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.
- Confidential.

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### Person A

#### Cost savings, automated, profit margin, cost savings, profit margin, increased sales.
- Person A21: Cost savings, improved profit margin.
- Person A20: Cost savings, increased profit margin, increased sales.
- Person A18: Cost savings, data quality, user base and satisfaction.
- Person A17: Cost savings, data quality, user base and satisfaction.
- Person A16: Cost savings, improved process automatization.
- Person A15: Cost savings, new revenue, profit margin, increased sales.

#### Cost savings, quality of data, user base and satisfaction.
- Person A14: Cost savings, diverse by service, usually improved support and increased proficiency.
- Person A13: Cost savings, varied by service, usually improved support and increased proficiency.
- Person A12: Cost savings, varied by service, usually improved support and increased proficiency.
- Person A11: Cost savings, varied by service, usually improved support and increased proficiency.
- Person A10: Cost savings, varied by service, usually improved support and increased proficiency.
- Person A9: Cost savings, varied by service, usually improved support and increased proficiency.

#### Cost savings, new revenue, profit margin, increased sales.
- Person A8: Cost savings, improved quality of operations.
- Person A7: Cost savings, improved quality of operations.
- Person A6: Cost savings, improved process automatization.
- Person A5: Cost savings, new revenue, profit margin, increased sales.
- Person A4: Cost savings, varied by service, usually improved support and increased proficiency.
- Person A3: Cost savings, varied by service, usually improved support and increased proficiency.

#### Cost savings, quality of data, user base and satisfaction.
- Person A2: Cost savings, quality of data, user base and satisfaction.
- Person A1: Cost savings, quality of data, user base and satisfaction.
- Person A0: Cost savings, quality of data, user base and satisfaction.
- Person A: Cost savings, quality of data, user base and satisfaction.
- Person B: Cost savings, quality of data, user base and satisfaction.
- Person C: Cost savings, quality of data, user base and satisfaction.
Person B10: Improved image, new services, increased revenue
Person C10: Improved quality of data, access to existing data and thus synergies
Person C9: Cost savings, increased efficiency
Person C8: Cost savings, increased user support
Person C7: Cost savings, increased sales
Person C6: Automated processes, better support
Person C5: Improved user support, better support
Person C4: Better user support, improved data sharing and harmonization
Person C3: Increased harmonization, new value adding services to customers, better efficiency
Person C2: Improved user support, data sharing and quality
Person C1: Improved data sharing, operational efficiency

- **Cost savings, increased user base and satisfaction**
- **Improved quality of data, access to existing data and thus synergies**
- **Automated processes, better support**
- **Improved user support, better support**
- **Increased harmonization, new value adding services to customers, better efficiency**
- **Improved user support, data sharing and quality**
- **Improved data sharing, operational efficiency**
- **Cost savings, increased efficiency**
- **Cost savings, increased user support**
- **Cost savings, increased sales**

### Reporting

- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**
- **Yes, by unit manager**

### Tools and Processes

- **Mainly SLA**
- **Mainly SLA**
- **SLA, reports**
- **SLA, reports**
- **SLA, reports**
- **SLA, reports**
- **SLA, reports**
- **SLA, reports**
- **SLA, reports**
- **SLA, reports**

### Business Benefits

- **Operational efficiency**
- **Operational efficiency**
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<table>
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<th>Cross case analysis:</th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
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</thead>
<tbody>
<tr>
<td>In outsourcing projects:</td>
<td>Yes, regularly by service managers</td>
<td>Yes, by steering group</td>
<td>Yes, by IT management</td>
</tr>
<tr>
<td>Benefits continuously assessed</td>
<td>Yes, systematically</td>
<td>Yes, well supported</td>
<td>Yes, for current scope</td>
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<td>Processes and tools for benefit management exist</td>
<td>Business case, financial reporting, SLA</td>
<td>Business case, measuring usage and satisfaction, financial reporting, SLA</td>
<td>Business case, SLA</td>
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<td>How benefits are measured</td>
<td>Cost savings, new revenue creation, increased sales</td>
<td>Cost savings, improved customer support and solutions</td>
<td>Improved data sharing and efficiency</td>
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<tr>
<td>What are the expected benefits</td>
<td>Cost savings, new revenue creation, increased sales</td>
<td>Cost savings, improved customer support and solutions</td>
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<td>Dynamic capabilities and firm performance.</td>
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<td>Analysis of the voltage source inverter with small DC-link capacitor.</td>
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<td>Fouling, prevention of fouling, and cleaning in filtration.</td>
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<td>Ductility and ultimate strength of cold-formed rectangular hollow section joints at subzero temperatures.</td>
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<td>Development of finite elements for large deformation analysis of multibody systems.</td>
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<td>RITVANEN, Jouko</td>
<td>Experimental insights into deformation dynamics and intermittency in rapid granular shear flows.</td>
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