JITTA

JOURNAL OF INFORMATION TECHNOLOGY THEORY AND APPLICATION

A Publication of the Association for Information Systems

How Do Critical Success Factors Contribute to a Successful IT Outsourcing: A Study of Large Multinational Companies

Georg Hodosi
Department of Computer and Systems Sciences
Stockholm University, Kista, Sweden
georg_hodosi@hotmail.com

Lazar Rusu
Department of Computer and Systems Sciences
Stockholm University, Kista, Sweden
lrusu@dsv.su.se

Abstract:

The increasing competition on the market means that multinational companies (MNCs) as well as many other organizations must take advantage of business improvements. This research addresses the critical success factors (CSFs) for the service receiver of IT outsourcing (ITO). It delivers a limited number CSFs that, with a correct implementation, can deliver favorable results that are necessary for an efficient ITO. These 11 CSFs, are described in detail, and a critical study is performed to identify the value they could create. In addition, the way the implementation of the provided CSF could mitigate the ITO risk has been analyzed using transaction cost theory. A priority list describing the order in which the CSFs should be implemented has been developed and enhanced with a recommendation as to when in the ITO life cycle each CSF should be implemented. A case study research with two MNCs with more than 20 years' experience in ITO has been used to prove the results.

Keywords: Information Technology Outsourcing, Critical Success Factors, Key Success Factors, IT Decision Makers, Large Multinational Companies, Transaction Cost Theory.

Volume 14, Issue 1, pp 17-43, March 2013

Balaji Rajagopalan, Christer Magnusson, and Gustaf Juell-Skielse were the special issue editors for this paper.

JOURNAL OF INFORMATION TECHNOLOGY THEORY AND APPLICATION

How Do Critical Success Factors Contribute to a Successful IT Outsourcing: A Study of Large Multinational Companies

INTRODUCTION

IT outsourcing (ITO) is defined as a "decision conducted by an organization to delegate various IT functions and activities such as operations, support, development or maintenance to suppliers, who in exchange provide those services for revenues within an agreed period of time" (Lacity and Hirscheim 1993). The ITO should support an efficient use of IT in all business areas for the service buyer organization, which is the focus of this study.

Within the European Union today, ITO is widely used—about 58% of the companies in Sweden have outsourced some of their IT, and about 76% have done so in Denmark (Ohnemus 2007). According to a report from Gartner presented by Rådmark (2010), in the next several years there will be an increase of ITO in European countries, and smaller companies are expected to increase their ITO at a rate three times higher than before. In addition, cloud computing, which is a form of ITO, is expected to increase quickly. This research looks at IT services and excludes large IT application development but includes smaller adaptations of IT applications and infrastructure.

Bullon and Rockart (1981) propose the following definition: "Critical Success Factors (CSFs) - CSFs are the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization. CSFs are the few key areas where 'things must go right' for the business to flourish and for the manager's goals to be attained" (Bullon and Rockart 1981, p. 7). Additionally, "Like goals and objectives, CSFs appear at various levels in the management hierarchy," as explained by (Bullon and Rockart 1981, p. 6). This definition is used in this paper; however, some synonyms are presented. In strategic management, key success factors (KSFs) are used, which are closely related to CSFs (Amberg et al., 2005, p. 1). As noticed by Amberg et al. (2005), "the terms CSF and KSF are often alternately used" (p. 2). Sutherland et al. (2009) define best practices (BPs) as "a specific process or group of processes which have been recognized as the best method for conducting an action" which corresponds highly with the proposal by Wagner et al. (2006): "routine uses of knowledge that are judged to be superior to others" (p. 2). The selected CSFs in this paper are those that belong to *things must go right* for a successful ITO and for the manager's goals to be attained and will ensure both successful competitive performance and minimal risk exposure. Therefore, in this described context, the terms KSF and CSF could be used synonymously. This paper refers to researchers who used different terms for CSF, and we want to use their result in the terms they have presented. The focused areas of the CSFs in this paper are business success and risk mitigation for the ITO.

RESEARCH BACKGROUND

Many researchers have described ITO and many companies have outsourced or insourced IT. Together they deliver a large knowledge base of good and less-good CSFs. This research tries to use this knowledge. Whether a company should outsource IT or not, ITO is an important business change, and for this purpose, different ITO models have been discussed by Ang and Straub (1998), Grover et al., (1998), Hui and Beath (2001), Kern and Willocks (2002), Lacity and Hirsheim (1995), Loh and Venkatraman (1992), and others. Concerning the CSFs in ITO that are mentioned in the research literature, the followings authors have been selected: Méndez et al. (2006),

Amberg and Wiener (2006), Reifer (2004), Simmonds and Gilmour (2005), Dominguez (2005), Schuman (2004), Hite (2003), Embleton and Wright (1998), and Cullen and Willcocks (2004). It has been noted that the topic of CSFs and KSFs in ITO are not well represented in the research literature (Hodosi and Rusu 2008). We have also found

CONTRIBUTION

This paper contributes to research and practice in IT Outsourcing (ITO) management for the service buyer organization. For the IT decision makers who plan to outsource their IT, or for those who have outsourced their IT, it provides a limited number of critical success factors (CSFs) that positively affects the ITO success. Eleven CSFs have been extracted from the research literature, their value for the business has been analyzed and described, along with how the implementation of the CSFs could mitigate the ITO risks has been studied. The paper also rank the CSFs in a priority list based on their importance, and describes when in the ITO life cycle the CSFs should be implemented. IT decision makers from two large European multinational companies, with more than twenty years' experiences in ITO, verified our work and helped us to develop the priority list. This paper provides broad information about the found CSFs and shows several options for the ITO decision makers for improving their IT outsourcing and business.

that the research literature is overrepresented by companies that work professionally with ITO and significantly underrepresented by research papers and reports from the perspective of the IT outsourcers.

This aspect is quite natural; after all, a company that has outsourced probably has other priorities than giving advice to other companies. By contrast, the ITO providers are a whole industry with good revenues where marketing success stories are enthusiastically well spread. However, this bias in the literature may create problems because the buyer's and the seller's targets are different and the research literature is mostly based on the seller's premises. In addition, experts who have been involved with multiple ITOs are mostly associated with the selling organizations, as the service buyer organizations outsource IT only once. The differences in targets are the "buyer/seller dilemma"; as, for example, the service provider wants a long contract, whilst the service buyer a shorter one to be able to swap and select the best provider in the market. Another example is that the service provider wishes a high price and the buyer a low price.

The complexity and the multidisciplinary nature of the ITO affect the collaboration between the involved companies and could create unexpected inefficiencies. Knowledge of IT is not enough in making the decision to outsource IT; successful ITO also requires knowledge of strategic procurement, contracting, quality assurance, and project management. (Rusu and Hodosi 2011).

The unsuccessful ITOs are frequently mentioned in the ITO research literature; for example Frauenheim (2003) believes that half of the ITO projects in 2003 did not deliver the expected value. Lacity and Hirschheim (1993) describe that ITO is not always a money saving option. Bahli and Rivard (2005) report several outsourcing cases with undesirable consequences for the service buyers. Thurfjell (2008) relates to a report from an ITO advisor company that states that the CIO or IT Manager sometimes is not even involved in the outsourcing process, which means that some key information held by these managers is unavailable when the decision is made on whether or not to outsource. According to Lacity et al. (2008), the prognosis for the next years shows that about 30% of the ITO will not reach the intended goals.

RESEARCH METHODOLOGY

In this research, the main objective is to identify the CSFs for the service buyer organization, showing the values that the factors create. For this reason, a better understanding is needed of the CSFs and how they are used, or are planned to be used, by large MNCs who have outsourced their IT. Therefore, the following research questions have been raised:

Q1: What are the CSFs in ITO and how do those contribute to a successful ITO?
Q2: In which order should the found CSFs (in Q1) be implemented for achieving the best results?

Additionally, an analysis of the CSFs with transaction cost theory (TCT) (Williamson 1975, 1985) for finding the risks will be performed, along with a guideline about how to use the result from Q2 and an analyses of when in the ITO life cycle the CSFs should be implemented. The next section presents a description of the activities used to answer the research questions.

Figure 1 illustrates the research process.

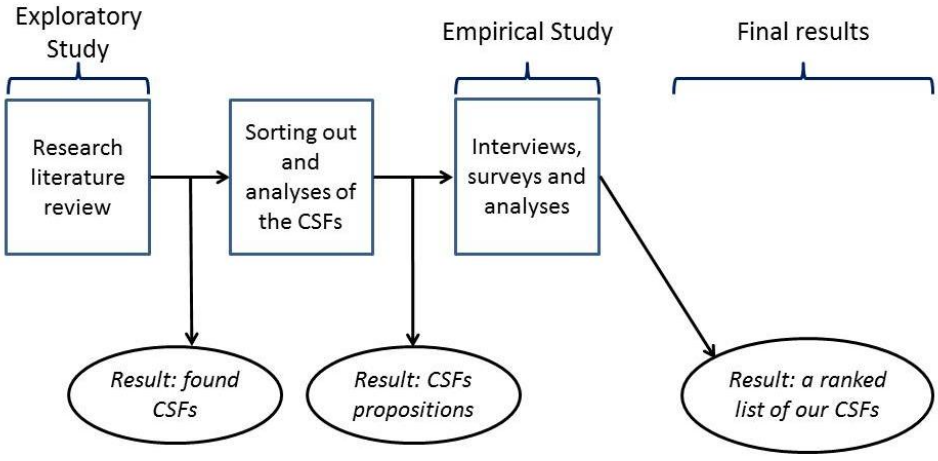

Figure 1: Research Process

JOURNAL OF INFORMATION TECHNOLOGY THEORY AND APPLICATION

The different activities (the rectangles) and the results (the ovals) are described below.

Research literature review

An exploratory review of the research literature, using the knowledge and experiences from other researchers, reveals the recommended CSFs.

Sorting out and analyses of the CSFs

The found CSFs in the review of the literature must be sorted out by eliminating not only duplicates but also CSFs that are not ITO specific, CSFs that do not help the service buyer organization, and those studies that found only a single source for a CSF. The remaining CSFs have been analyzed to understand the values that these CSFs could create. The result of this process is a reduced list of CSFs, which are proposals to be tested empirically. The process is described in the section Sorting Out and Analyses of the CSFS.

Interviews, surveys, and analyses

The selected multinational companies and the interviewees are described in the next chapter. To get a better understanding for how the ITO decision makers think, a semi-structured, face-to-face interview was performed, and the CSFs were discussed. The surveys were conducted again 6 months later with the same interviewees to get a priority list based on the order in which the CSFs should be implemented.

Used method and theory

In order to understand the operational, tactical, and strategic efficiency of ITO, this research used a qualitative case study methodology proposed by Yin (2003) to explore the actual CSFs used in ITO by two large MNCs in Europe. The methodological triangulation used in the case study facilitates the validity between the findings in the literature review and the results of the interviews and surveys. TCT has been used to analyze the risks or risk mitigations for the different CSFs. This theory, developed by Williamson (1975, 1985), covers the whole ITO life cycle. The selected CSFs cover the following areas: (1) IT and business strategy, (2) quality of service, and (3) cost savings, which have been recommended by Bullon and Rockart (1981, p. 47). The CSFs, together with TCT, cover the opportunities and risks for the service buyer company.

SORTING OUT AND ANALYSES OF THE CSFS

In the literature review, CSFs for ITO were identified and the different researchers' argumentations were studied. The found CSFs are listed in Table 4. The following discussion describes the next steps.

Sorting Out CSFs

Ninety-one CSFs were found in the literature review (listed in Table 4). First, duplicates must be deleted, similar CSFs merged, and overlapping CSFs rephrased and deleted.

The criteria used for grouping of the CSFs are:
General Filter (GF)
The group GF is for the CSFs that are not specific for ITO. For example, "Right competence is necessary for all involved in ITO" is a universal prerequisite for any processes, or "Measure performance as qualitatively as possible" is a generic process not having any specific characteristics to ITO. This research should give ITO-specific support for the decision makers.
Not supporting the service buyer's organization (NF)
It was determined that some CSFs support the ITO providers and not the service buyer. As mentioned before, the focus is the service buying organizations.
Unsupported or poorly supported in the research literature (NS)
It was found that a few CSFs were mentioned by only one researcher. The comments and explanations, along with the value that they could create, were poor.

All the CSFs in these three groups were removed from further study. The remaining CSFs were grouped in 19 CSFs for further study. This is presented in Table 5, which shows that the CSF "Measure contract fulfillment" was mentioned in 12 different studies, and that "Determine what to outsource and what to keep inside the organization" was mentioned in only four studies.

Analysis of the CSFs

This section provides an analysis of the remaining CSFs shown in Table 5 regarding their importance and how they should be used in ITO.

CSF 1: Outsource only when it makes good business sense

This CSF is based on Reifer's (2004) experiences when he worked for the Pentagon. He identified seven practices that a company should follow when outsourcing IT. Reifer (2004) explains: "Cheaper isn't necessarily better" (p. 15), and he urges that ITO should deliver something more than cost reduction—it should create improvements in the outsourced services. The author mentioned efficiency and customer services as examples, and in his opinion, without creating additional value with ITO, cost reduction by itself makes the decision to outsource IT doubtful (it is supposed that the cost reduction is marginal).

How can business value be created with this CSF? One of the disadvantages with ITO is the loss of valuable knowledge. This means that the cost savings must cover the transition project as well as the knowledge, which is intangible and difficult to replace. This CSF encourages the decision makers to accurately study to find many positive and negative factors. By following this CSF, the service buyer can avoid transition costs, loss of time, inconveniences, and can limit the risk exposure with contract and the criticism for not fulfilling the expectations. TCT is a conservative theory, it proposes that companies should avoid taking risks, and if it is unavoidable, then the ITO should bring clear advantages to the business.

CSF 2: Treat outsourcing as a technology transfer opportunity that creates strategic improvements

The second CSF is also from Reifer (2004), who argues from a situation in which the outsourcing supplier has significantly better knowledge about using IT efficiently. In this case, the outsourcing company shall learn from the supplier "to work efficiently, cut costs, or handle tasks that you've hired others to perform" (Reifer 2004, p.16). In other words, the outsourcing company can learn how to conduct a specific process better and can then choose to retain the consultant or not. This CSF is not recommended for large MNCs, which normally have their own extensive IT departments.

CSF 3: Determine what to outsource and what to keep inside the organization

This CSF is from Simmonds and Gilmour (2005), who have presented 15 CSFs that focus on governance about which they stated: "Proper control and management of these initiatives through established governance is the key to success in outsourcing" (p. 21). In their work, the client and supplier roles are analyzed, including the different ITO learning curves and cycles. The paper was published by the IT Governance Institute, which is primarily an educational resource for chief information officers, senior management, and IT management. This CSF is in accordance with IT Governance Institute's statement: "While there is no single set of activities that will ensure governance success during an outsourcing initiative…". The original recommendation of Simmonds and Gilmour (2005, p. 20) was: "Ensure that outsourcing is both acceptable and feasible through understanding the organization's business and operations strategy. This will highlight those activities that are core and provide differentiated advantage to the organization. These are usually not candidates for outsourcing" (p. 20). This statement was rephrased according to their recommendations to the following: "Determine what to outsource and what to keep inside the organization." This CSF is about core versus non-core business that is decided by the business strategy that is influenced by external factors like future technology or customer trends, which are impossible to estimate. Applications belonging to core business are continuously tuned, further developed by partners or owners, and are related to the competitive advantage for the company.

How can business value be created with this CSF? Theoretically, keep core business inside and, if it makes sense, outsource the rest of it. Practically, this is much more complex, and an exhaustive analysis of all dependencies would need to be performed. The business strategy for the next years would decide how ITO should be treated on a long-term basis. To take IT back would be very expensive; therefore, this CSF must be in place early in the evaluation. This CSF addresses directly the CIO, who has to decide what could be purchased from a competitive market and what should be performed internally.

CSF 4: Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract

This CSF also comes from Simmonds and Gilmour (2005), who state: "Establish the outsourcing governance processes and framework before the contract is signed. This provides contractual reference for governance and allows all parties to the contract visibility of the objectives, expectations, and roles and responsibilities of the governance initiative. Formalizing this through a governance schedule ensures the proper contractual foundation" (p. 20). The authors also state: "Set up companion agreements for each country and carefully research the business case for each. Where the contract is global and provides services to multiple parts of the organization (especially

Journal of Information Technology Theory and Application

those spread geographically), this is imperative" (p. 20). From these two quotations, we have reduced the text to better focus on a single action: having a plan for the next years is assumed normal; however, in this ever-changing world, such a plan is not easy to develop or keep updated. Both provider and service buyer are affected by this uncertainty. On the other hand, contracts that are too flexible could unlock other uncertainties like opportunistic behavior by both parties (Williamson 1975, 1985), or the flexibility of the contract could simply remove the intended safeguards.

How can business value be created with this CSF? The preparation is similar to CSF 1, except that the focus here is in the details of forecasting of all resources, competencies costs, changing business goals, and so on. In this case, a well-prepared feasibility study can reduce the number of surprises or at least enable the business to better cope with those that might occur.

CSF 5: Prepare the personnel of the outsourcing company for the new role

This CSF is from Embleton and Wright (1998, p.104) that we have rephrased. The authors describe three decision areas that are necessary for successful ITO: strategic analyses, supplier selection, and relationship management. From their CSFs, we have selected the one related to the tragic situation that can arise with ITO when employees lose their work and argue that management should work proactively to make sure that employees are aware of what is important to the firm after ITO. In fact, a total outsourcing of IT or any other business process transforms the remaining personnel to a buyer and contract measurement organization.

How can business value be created by this CSF? For all business changes, preparation of the personnel is a key factor for success. Prepared staffs have higher performance and are more willing to solve the problems in order to optimize the work; therefore preparation is an important task for the CIO.

CSF 6: Use flexible contracts and update regularly

We have rephrased and composed this CSF; many researchers recommend it with different formulations. For example, Cullen and Willcocks (2004) state: "Have an accurate contract" (p. 151). Amberg and Wiener (2006, p.4) state: "Have an accurate contract",Simmonds and Gilmour (2005) state: "Plan for regular renegotiations, especially after approximately 12 to 14 months into the contract" (p. 20). Hite (2003) notes: "Review and update performance requirements periodically in the contract" (p. 52). This CSF is also supported by TCT (Williamson 1985). As long as an opportunistic behavior can contractually be disclosed, then flexibility can be used. However, when flexibility increases, the risk for opportunistic behavior increases, and that should definitively be avoided. Flexibility enables adapting the contracts to the fast changes of the ITO needs, as for example the number of users and new applications. However, do not reveal too much due to the risk for opportunistic behavior from your service provider.

How can this CSF add value to the business? IT is one of the industries in which changes are a part of the regular business agenda. When business change, than IT also changes, as well as ITO. The contracts must follow the business dynamics, but it has to be done in an ordered way by continuously updating the contracts. This process involves management efforts and commitment, which will positively influence the ITO. Strategic procurement and legal should be involved in all contract changes above service-level agreement.

CSF 7: Measure contract fulfillment

We rephrased this CSF, recommended by Schuman (2004) who notes, "Clarify in the contract what to measure, how to measure and how to act on divergence" (p. 5), as well by Hite (2003) who says with our rephrasing, "The contract shall include measures that reflect end-user satisfaction as well as technical IT performance" (p. 49), and "Review and update performance requirements periodically in the contract". Embleton and Wright (1998) specify with our rephrasing: "Monitor the contract" (p. 102). From the TCT point of view, this is the cost of monitoring.

How can business value be created with this CSF? The service buyer company is paying for the service, and it is its duty to measure what it gets (Williamson 1975). For a CIO, it is necessary to know the quality of the delivery, which is measured by the contract fulfillment. There are high expectations on the CIO for not paying for something that is not delivered according to the contract. The contract fulfillment measurement describes the delivered service quality.

CSF 8: Select and nurture relationship depending on the service complexity, market situation, and new request for quotation

We rephrased this CSF and combined with other ones. It is recommended by (Reifer 2004): "Nurture your relationship with your supplier" (p. 16), by Amberg and Wiener (2006): "Creation of a partnership-like relationship" (p. 4), but also by Simmonds and Gilmour (2005) we rephrased it to: "Select right relationship to the supplier depending on the service complexity, market situation and new request for quotation" (p. 20), by Embleton and Wright (1998): "Manage the relationship" (p. 102), and by Cullen and Willcocks (2004) that we rephrased it to: "Nurture your

relationship with your supplier" (p. 196). From the TCT point of view there are several aspects related to this CSF. An inflexible contract makes at least one partner unhappy—in this case the service buyer companies. Doubtless the problem is about payment (sharing the surplus), which, according to our companies, is not fair. Therefore, we cannot apply opportunism because the conditions have been mutually agreed on when signing the contract. It is difficult to analyze the effects of unbounded rationality at contract writing for some companies (such as one of the two MNCs we discuss later) because the critical situation reduces their negotiation power combined with lack of time. Temporary asset specificity and market failure are other uncertainties that influence the situation. The contract safeguards a successful ITO and not a relationship or an event; therefore, this CSF is not recommended.

CSF 9: Establish win-win situations

This CSF is recommended by Méndez et al. (2006, p. 3273) we rephrased it to: "Equally risk sharing for all projects and activities", Amberg and Wiener (2006, p. 4): "Creation of a partnership-like relationship", by Reifer (2004, p. 16): "Establish win-win situations" (p. 16), and by Embleton and Wright (1998): "Negotiate a mutually beneficial deal" (p. 102). Division of surplus is always problematic and creates concerns. We assume that there is no hidden information between the suppliers and our interviewed companies because both companies measure the contract fulfillments on a regular basis and both companies are experienced in both in- and outsourcing. Price levels are formally not known, but informally there is enough information compiled by companies working with different benchmarks. Therefore, we are convinced that the prices are well known by our companies and there is no win-win situation. This CSF is not recommended.

CSF 10: Establish a long-term relationship

The originator of this CSF is Méndez et al (2006, p. 3270). We have shortened and rephrased their statement: Both the client and the provider shall try to establish a long-term relationship so that a common vision and strategy as well as the cooperation and confidence required for the success of the project can be developed.

A long-term relationship can be built only when there is a mutual interest. If one party refuses to change a situation and the counterpart is at a disadvantage, then the only solution is to bridge the contract, which which can be very expensive . This situation reminds us about the early large ITO, which has been proclaimed as a strategic partnership by the ITO providing companies (Hirscheim et al. 2006, p. 544). In reality they were win/lose business, with excellent revenues for the suppliers and very high switching costs for the buyers (switching costs are the costs to replace the partner with a new one). Other research papers have also pointed out this issue, and the lessons learned have not been adapted while the complexity of ITO has increased. This CSF is not recommended.

CSF 11: Maintain good communication between organizations

This is a CSF that we have rephrased and composed. It is recommended by Méndez et al. (2006): "Natural cooperation between the organizations to improve processes and information exchange for all activities" (p. 3272), Amberg and Wiener (2006): "Ensuring of a continuous communication flow" (p. 4). And by, Simmonds and Gilmour (2005): "Good communication between the organizations is necessary on all working and coordination levels" (p. 21), Hite (2003): "Continually communicate/clarify outsourcing objectives, while correcting misinformation that affects the organization" (p. 38) and "Schedule periodic working-level meetings with both the end-user groups and the provider to review the provider's performance" (p. 78). Finally, it is also recommended by Cullen and Willcocks (2004): "Ensure of a continuous communication flow" (p. 196).

How can business value be created by this CSF? There should be clear rules for meeting, information spreading, socializing, and so on for all levels involved in the ITO. This CSF is efficient for catching deviations and problems at an early stage. For a successful ITO, all communication channels have to be open between the parties; in this way the information can without filtering flow and be spread both systematically and on an ad hoc basis.

CSF 12: Consider incentives to motivate to exceeding performance and use penalties to motivate when performance is low

This CSF we have rephrased and composed. It is recommended by Reifer (2004): "Make exceptional performance financially worthwhile" (p. 16), and Hite (2003): "Consider incentives to motivate provider(s) to exceed performance requirements and use penalties to motivate provider(s) to meet performance requirements (p. 77)" and we rephrased it to: "Encourage the transition of staff to the provider and develop employee-retention programs, where appropriate, using bonuses, stock options, and other appropriate methods" (p. 67). The pricing should be based on the market conditions, and fixed prices are preferable. This CSF is not recommended.

CSF 13: Share risk equally among all projects and activities

This CSF we have rephrased. The originator of this CSF is Méndez et al. (2006, p. 3273). It is not possible for risk to be shared equally among all projects and activities. For the service buyer, an ineffective ITO means bankruptcy, loss

of customers, and so on. The impact on the provider with a limited service delivery is not as critical for survival. This CSF is not recommended.

CSF 14: The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with request for information

This is a CSF we have rephrased and composed and it is recommended by Simmonds and Gilmour (2005), we have rephrased and combined (CSF#3 and CSF#8)) to: "Before signing contract have a detailed plan including all resources, competencies and costs for the next years and also Service Level Agreement and Operating Level Agreement", Dominguez (2005): "Assess your own performance on the functions you consider for outsourcing. This is the base for comparison" (pp. 57-58), and by Hite (2003), we rephrased it to: "Baseline and benchmark the IT process before outsourcing" (p. 19).

How can this CSF create business value? A good overview of the owner's IT operation and development enables a higher accuracy regarding the needs, internal costs, and quality of the delivered IT service and enables to write a correct IT service requirement for making the decision to outsource IT or not. It is the CIO's responsibility to know in detail what the needs are.

CSF 15: Select a supplier that fits your business culture and size

This is a CSF we have rephrased and composed. It is recommended by Méndez et al. (2006, p. 3272) and we have composed with Méndez' CSFs 17, 18, 19 and 20 to "Natural cooperation between the organizations to improve processes and information exchange for all activities". Dominguez (2005) suggests: "Select supplier based on: Compatible corporate culture in a broad sense as organization type, conflict resolution, short-long term view, treating of personnel etc.; Outsourcing partner's capability regarding capacity, track record; Avoidance of conflicts of interest regarding your competitors or other political issues" (pp. 65–66). Domingues refers to an imperfect market, where the competition is limited and a few big players dominate the market for large global companies, set the price levels and the de-facto "standards." Moreover, the entry barriers are high for newcomers to this arena, so a "lock-in" of customers is possible.

How can this CSF create business value? First, business culture "compatibility" is an important factor for any business relationship, internally and externally. Misunderstandings do not have to occur (based on culture) or could be caught early in the process. Retaining a good business culture is important to maintain best performance from the employees. Second, the size of the company can influence the power equilibrium in the ITO business, which could create real problems. By contacting the potential supplier's customers, the CIO can get information about their culture, their flexibility, and their negotiating power. A company of similar size could be a good first attempt for your evaluation.

CSF 16: Use the best industrial practices and improve and develop the practices

This is a CSF we have rephrased. It is recommended by Méndez et al., (2006, p. 3271) and we rephrased it to: "Use the best industrial practices, improve and develop the practices", Dominguez (2005): "Measure the whole process and report the result" (pp. 168-169), and by Hite (2003): "Use provider performance data to continuously improve processes" (p. 91), Hite (2003, p. 86), "Make sure that the provider uses the standard tools and processes defined as part of the operational model". No research has been found that supports this statement; therefore, this CSF will not be further investigated.

CSF 17: Make sure that the provider uses the standard tools and processes defined as part of the operational model

This is a CSF we have rephrased and it is recommended by Méndez et al. (2006) and we rephrased it to: "Use the best industrial practices, improve and develop the practices" (p. 3271), and by Hite (2003): "Make sure that the provider uses the standard tools and processes defined as part of the operational model" (p. 86). It is in any company's best interest to use standards and apply benchmarks used in the industry. From a TCT point of view, using non-standard solutions increases the asset specificity, which increases the risk for lock-in. Therefore when selecting a new supplier, a non-standard method obstructs the use of market competition.

How can this CSF create business value? Because standard tools are used by many companies, there is a great deal of competency in the area. Thus the economies of scale should allow for a lower price and make it easy to swap the supplier, for example in case the risk for lock-in decreases. The competition in the area drives the development of the standard tools to reach the "state of the art."

CSF 18: Do not outsource broken processes; improve them first

This is a CSF we have rephrased and it is recommended by Simmonds and Gilmour (2005, p. 20): "Do not outsource broken processes. Improve the process first", Dominguez (2005): "Don't outsource broken processes or

functions" (p. 57–58), and by Cullen and Willcocks (2004) "Do not outsource broken processes. Improve the process first" (p. 11). The specific business-related competency is in the company that plans to outsource their IT. If there are IT-related issues to solve, and the company lacks knowledge in that area, the company can purchase that resource. When the improvement is done, then it is easier to specify the service for an ITO case.

How can this CSF create business value? First, this issue can be considered as the intersection between business and IT, and the CIO is responsible to explain the situation to all stakeholders. Then, such a broken process could jeopardize the whole ITO because the unclear situation for the service provider will force them to take unknown risks. To outsource IT in order to improve the processes can be costly for both parties, which will more seriously affect the service buyer. IT outsourcing is a challenge that creates a larger problem both practically and contractually. It is easier to improve broken processes internally and then bring them into ITO. To start a new business event with a clear prerequisite will facilitate a successful ITO.

CSF 19: Identify and evaluate various sourcing solutions as such as single vendor, multi-vendor, and alliance

This is a CSF we have composed and it is recommended by Simmonds and Gilmour (2005) that we have rephrased to: "Select right relationship to the supplier depending on the service complexity, market situation and new request for quotation" (p. 20), and by Hite (2003): "Identify and evaluate various sourcing solutions (e.g., single vendor, multivendor, and alliance)" (p. 59). Evaluation of the different possible ITO configurations is a part of the evaluation work but it is not a CSF as defined above.

INTERVIEWS, SURVEYS, AND ANALYSES

This section first presents the selected MNCs and then describes the data collection and analyses.

The Selected Multinational Companies and the Interviewees

Two large MNCs were selected for evaluating the proposals. Due to the companies' requests for confidentiality, it is not possible to mention names, type of business, or company size. Therefore, only a short presentation of these companies is presented. The interviewees have been IT decision makers, both strategically involved in the ITO, from the original decision to renegotiation.

Large MNCs

Both companies are long-time global businesses and are among the 50 largest companies in Europe in the number of employees and turnover. They have offices in more than 100 countries and are involved in global research, development, and production. Their global revenue is much larger than their national one, and their brands are well known in most of the countries. Their headquarters are in two different European countries.

Public limited companies: Both are public limited companies with shares represented in several stock exchange markets. They are diversified companies and have a broad range of products and services with heavy representation around the globe.

Experience with in- and outsourcing: Both MNCs have experience with buying and selling companies, and one of them provided insourcing of IT. At that time, insourcing was a growing core business. By early 1990 the other company had already started offshoring software development, which was near to the company´s core business. Both companies have more than 20 years of experience with IT outsourcing.

Different market segments: One of the companies' products and services are delivered only to enterprises; the other company sells products to the consumer market. Research and development, product volumes, and life cycle differ significantly between the companies. Our intention was to select companies that have different profiles in order to explore the differences in ITO strategy and practices.

Interviewees' profiles: Both interviewees were Chief Information Officers (CIO) or corresponding titles, one with global responsibilities in addition to other corporate positions outside the IT organization.

Education: One of the interviewees has bachelor's degree in economics; the other has a bachelor's degree in management. Neither interviewee has a degree in IT.

Employment: Both of the interviewees have been employed in their companies for more than 8 years and both have been or are actively involved in managing ITO.

Other qualifications: Both of the interviewers have 7 to 15 years of experience in working with other companies.

IT organization in the studied MNC's

Both companies have a centralized IT with all corporate databases and enterprise systems placed in two European sites. A network connects all locations with data and voice. Application development of the core business software is separated from the IT unit. The outsourced IT is divided into applications and IT infrastructure hardware, with different suppliers. The coordination between the two areas is coordinated by the suppliers. There is a mixture of IT infrastructure, with client server and large mainframes and old legacy systems, along with the newest research and development tools, large national adaptations, and an always-increasing budget for the IT. Both MNCs regularly measure the users' (employees') satisfaction with IT. Both companies participate in different third-party benchmarking areas and belong to the mature organizations in Europe.

Interviews

The questionnaires were sent in advance to the interviewees. The analyses of the CSFs showed that eight of them were not relevant, but, to get the decision makers opinions about those CSFs also these questions have been discussed. The result of the interviews is shown in Table 1.

Table 1: Summary of The Interview Answers

CSF No.	Summary of Result from the interviews
1	CSF 1: Outsource only when it makes good business sense Both interviewees recommended this CSF and they practice it.
2	CSF 2: Treat outsourcing as a technology transfer opportunity that creates strategic improvements Our interviewees rejected this CSF. In fact, these companies, when they planned to outsource, had a well-developed IT with high competence and their own R&D, and they were used to solving any technical issues. To support the core competency it was necessary for them to have their own development. The knowledge transfer was especially difficult for one of the companies because they expected higher skills or competence from the supplier than was delivered. Thus, both companies feel that they "educated" and developed their partner rather than the other way around.
3	CSF 3: Determine what to outsource and what to keep inside the organization Both interviewees recommended this CSF. Moreover, both companies have updated, swapped, and adjusted both core and non-core applications to better serve the actual business needs.
4, 5, 6, 7	CSF 4: Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract CSF 5: Prepare the personnel of the outsourcing company for the new role CSF 6: Use flexible contracts and update regularly CSF 7: Measure contract fulfillment Both interviewees accepted these CSFs and they practice them.
8	CSF 8: Select and nurture relationship depending on the service complexity, market situation, and new request for quotation Both interviewees partially agreed with this CSF. Company A outsourced IT when it was near bankruptcy and had to close a long-term contract with limited flexibility. The IT decision maker from this company mentioned in the interview: "We get what we have in the contract, but this is not what we need." As we can see, there is no interest for the supplier to modify the current contract. Company B had a 5-year contract; after that they swapped to one of the global suppliers for the European region.
9	CSF 9: Establish win-win situations Both companies have partially agreed with this CSF. Company A has an expensive long-term contract that is still in force. The interviewee is convinced that their supplier does not deserve as much. Therefore, this is not a win-win situation. Company B has partially swapped one supplier, which also shows that price/performance was not the best. Therefore, a win-win situation was not established.
10	CSF 10: Establish a long-term relationship This CSF has been rejected by both companies. As mentioned above, both companies were locked in by the long-term contracts.
11	CSF 11: Maintain good communication between organizations Both companies recommended this CSF. They are putting a lot of effort into maintaining good communication. On the other hand, they mentioned that in their case the supplier's hierarchical organization is obstructing flexible communication.

12	CSF 12: Consider incentives to motivate to exceeding performance and use penalties to motivate when performance is low Both companies partially agreed with this CSF. Both companies think that they overpaid and they did not want to pay even more. The regular contract measurements are prerequisites for being able to raise penalties, but we did not discuss whether the interviewed companies used penalties.
13	CSF 13: Share risk equally among all projects and activities Both interviewees rejected this CSF. They argue that all the risks are on their side and they cannot identify any risks taken by the suppliers. Both companies have a very mature IT organization and a higher technical level than their suppliers do.
14	CSF 14: The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with request for information Both companies agreed with this CSF. For example, Company B took back IT from the supplier and the company needed several years to figure out how they wanted to handle ITO before they continued with the original plan.
15	CSF 15: Select a supplier that fits your business culture and size Both companies agreed with this CSF. However, the companies noted that the cultural difference is a problem that is hard to handle. However, this is not new to them as they face similar issues due to their global presence and consequent challenge to review IT regularly. As mentioned earlier, the interviewed companies have more than 100 sites around the world with the need of IT, so the service providers need to have personnel on all these sites.However, the ITO supplier is much larger than both companies and the negotiation power has been shown to be mostly on the supplier's side. For example, Company B has owned shares in the supplier's company, but in spite of the efforts to advance to the steering board, they were unsuccessful and the shares were sold. Company A, after the ending of one of the contracts with this supplier, selected a smaller company and the collaboration improved. As we can see, such situations present one of the largest concerns with TCT.
16	CSF 16: Use the best industrial practices and improve and develop the practices Both companies rejected this CSF. As mentioned above, IT knowledge had a high priority before and now after ITO. Therefore, the companies kept their IT architects and other IT technical staff, and the IT tools to be used were decided based on price performance. Both of the companies have used their old applications that they developed and adapted in-house and as long as there is no reasonable argument for swapping the IT tools, they will keep them.
17, 18	CSF 17: Make sure that the provider uses the standard tools and processes defined as part of the operational model CSF 18: Do not outsource broken processes; improve them first Both interviewees recommended these CSFs and they practice them.
19	CSF 19: Identify and evaluate various sourcing solutions as such as single vendor, multi-vendor, and alliance Both companies rejected this CSF. In our interviews, we discussed the joint-venture strategy, which is highly recommended by Williamson (1985) when the transaction costs are high so both parties have high incentives for success. Our interviewees told us that they would definitely not enter a long-term relationship; they wanted to swap suppliers every two years and in this way select the best one. Regarding ownership, as well, both companies rejected the joint-venture solution. They have outsourced because they do not want to own that business part. This is in contrary to TCT. Furthermore, both companies use multivendor solutions that are divided geographically. Compared to a single-source solution, multi-vendors create coordination problems, increase the risk in the division of the surplus, and increase the transaction costs with increased number of contracts. However, the advantage is competition and less risk for getting locked in.

"Partially agreed" is a Swedish way of saying no and therefore is not strong enough for an acceptance. Putting together the results from the analyses and the answers from the interviewee, a list of 11 CSFs are recommended and will be further researched.

Priority-ranked list of the 11 CSFs

To help the IT decision makers in determining in which order to implement these 11 CSFs, a ranking list has been developed. This has been done by: i) developing a survey for the 11 MNCs with the options of high (H), medium (M), and low (L) importance for each CSF, ii) asking the interviewees to rank the CSFs, with the categories described in i) in the order they consider most important to implement. The results of this survey are shown in Table 2.

Table 2: The list of the CSFs ranked upon their Importance

CSF No.	Critical Success Factors	Priority		
		Company		Average
		A	B	-
1	Outsource only when it makes good business sense.	H	H	H
2	Determine what to outsource and what to keep inside the organization.	M	H	MH
3	Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract.	H	H	H
4	Prepare the personnel of the outsourcing company for the new role.	M	M	M
5	Use flexible contracts and update regularly.	H	L	M
6	Measure the contract fulfillment.	M	H	MH
7	Maintain good communication between the organizations.	M	H	MH
8	The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with request for information.	L	M	ML
9	Select a supplier that fits to your business culture and size.	M	H	MH
10	Make sure that the provider uses the standard tools and processes defined as part of the operational model.	M	M	M
11	Do not outsource broken processes; improve them first.	L	H	M

Table 2 shows that CSF1 and CSF3 are ranked highest; CSF4 and CSF10 are medium. About the rest, the companies are in disagreement. CSF5 and CSF11 are contradictory and need an explanation. In fact, in this case "Use flexible contracts and update regularly" is caused by different experiences and attitudes to supplier relationships. In case of Company A this was a very strong strategic procurement activity with frequently used Request for Information (RFI), Request for Quotation (RFQ), and so on, and they swapped the IT application provider twice in less than three years. Therefore, they want to maintain a greater distance from the supplier. Company B had a more moderate attitude; however, they have also partly (in a specific geographical area) swapped the infrastructure supplier. CSF11 also has a natural explanation. In fact, Company A does not allow broken processes independent of organization form. For this reason, Company A will act immediately to improve the IT processes; therefore, this question has a lower importance for them.

Both MNCs commented that the judgments were very difficult. Still, we cannot explain the reason for the 64% disagreement. It could be one of two possibilities or a combination of them: i) it is the CIO personally who has this behavior, knowledge, risk aversion "style," or ii) it is company knowhow—that is, an institutionalized knowledge. We have not found any research in this particular area, so we cannot explain it in more detail. We also believe that "one size fits all" is not relevant; even institutionalized decisions vary, according to the New Institutional Economics (Williamson, 1975).
The ranked list of the recommended CSFs in this research is shown in Table 3.

Table 3: The ranked List of the Critical Success Factors according to their Importance

Priority	Critical Success Factors
1	Outsource only when it makes good business sense. Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract.
2	Determine what to outsource and what to keep inside the organization. Measure the contract fulfillment. Maintain good communication between the organizations. Select a supplier that fits to your business culture and size.
3	Use flexible contracts and update regularly. Prepare the personnel of the outsourcing company for the new role. Make sure that the provider uses the standard tools and processes defined as part of the operational model. Do not outsource broken processes; improve them first.
4	The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with request for information.
Highest priority is 1. All items with the same priority number are not further ranked within that priority.	

In Table 3, the CSFs within each priority level are equally ranked.

In the next section provides a detailed analysis of the recommended CSFs together with a guideline for how to use the ranking list.

Guidelines for Using the Ranked List of the CSFs to Improve ITO

We have noticed that MNCs have different maturity regarding ITO. Some are just starting in ITO, others are taking back parts of IT, and others adjust current ITO business. The ranking list should be taken as a guide for IT decision makers about which CSFs to focus on in the first step, and then in the next step, and so on.

The first CSF from the highest priority level is *Outsource only when it makes good business sense*, and is a strong indicator for those who plan to outsource IT. If improvements in costs, technology support, and other elements are not apparent, the company should not outsource. This is also important for those companies that have outsourced and find that the cost savings are not substantial enough. They have to determine whether their IT is efficient or even evaluate another business solution like Application Service Provider (ASP). This CSF, being the most important, should always be evaluated and preferably be used as the first CSF to improve ITO.

The second CSF from the highest priority level is: *Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract.* This CSF focuses on the preparation phase for ITO or for swapping the supplier, renegotiations, and so on. The IT complexity and short lead times to executing outsourcing are obstacles in performing a complete requirements specification. Even worse is that when the strategic plan for the company is not settled, or even if it is but the market is dynamic, fast technology change makes IT planning difficult. However, this is not an excuse to ignore long-term planning. Most problems that arise after signing the contract are the result of an incomplete working model that causes problems for both the outsourcing company and the supplier. The lesson learned using this CSF is to take the time and resources to develop different ITO scenarios before signing the contract. That is why this CSF, being the most important, should always be evaluated and preferably be used as one of the first CSFs to improve ITO.

The first CSF in the second priority level is *Determine what to outsource and what to keep inside the organization.* The continuous change of business is forcing companies to reconsider which parts of the IT to keep inside or to outsource. When, for example, the economies of scale with ITO cannot deliver competitive prices or outsourced parts of the core business do not have enough flexibility, other business solutions have to be evaluated. For example, this could mean to take IT back, use ASP, cloud computing, joint venture, and so on. This CSF, being ranked in the second priority level, should always be evaluated and preferably used when no CSF within the first category is present.

The second CSF in the second priority level is *Measure contract fulfillment.* To rely on the delivery is one strategy, to know what has been delivered by measuring the service is a superior way of governance, which forces the supplier to deliver according to the contract. In case of disagreement and going to court, such a measurement is necessary. We do not want to go deeper in sourcing management, but we urge that contract fulfillment be measured on a regular basis. This CSF, being ranked within the second most important category, should always be evaluated and preferably used when no CSF within the first category is present.

The third CSF in the second priority level is *Maintain good communication between the organizations.* Today we have a wide variety of tools that support communication, like e-mail, instant messaging tools, and videoconferencing. However, hierarchical organizations in companies, along with the cultural differences between the companies, can disturb the communication. Therefore, we recommend that large companies use a multi-level communication approach. This means not only having, for instance, quarterly meetings between the outsourcing company's responsible CIO and the project manager responsible from the supplier company, but also between top management partners, and perhaps frequent meetings at operational level as well. In the quarterly meetings between project-responsible personnel, project managers, and contract responsible from both companies are also invited to be able to take immediate actions with the contract. Moreover, project managers from both companies meet monthly and document the results of the meeting. On the lower level, it should be possible at any time to arrange ad hoc meetings. In addition, planned short weekly meetings should be performed. This CSF, falling within the second priority category, should always be evaluated and preferably be used when no CSF with the first category is present.

The fourth CSF in the second priority level is *Select a supplier that fits to your business culture and size.* This is a very important issue with two goals. The first one, having the same business culture, does not need further

explanations. Different business cultures have been the main reason for terminating many ITO contracts. However, the size of companies is important. A company like IBM with more than 400,000 employees worldwide has a completely different negotiating power than does a semi-large sized company in Sweden with 10,000 employees. The experience from strategic sourcing recommends selecting partners smaller or, worst case, the same size as oneself.

The first CSF in the third priority level is *Use flexible contracts and update regularly*. About 7 to 10 years ago, long contracts were used. Now, the trend is clearly that the outsourcing companies request shorter-term contracts of three years or less. This is an important message to those who plan ITO but also for those who plan to re-negotiate. Flexible contracts are necessary to catch the different needs—for instance when, like today, the economic crisis has reduced the needed ITO capacity. However, the danger with the flexible contract is the risk for opportunistic behavior by the supplier. To cover this we recommend a contract with enough safeguards but open for changes, such as the number of users and prices within certain negotiated limits, to reduce the risk for opportunism.

The second CSF in the third priority level is *Prepare the personnel of the outsourcing company for the new role*. Change management is always hard for the involved personnel, both for those who will change employers and for those who will remain. The first ones might be happy to move to a company where IT is core business, but this movement also brings an unknown future. Top management should be aware of this dramatic change, prepare the personnel, and select those who are willing to change their current work and have the needed skills for performing the new job.

The third CSF in the third priority level is *Make sure that the provider uses the standard tools and processes defined as part of the operational model*. This CSF clarifies the role of ITO. This part of IT is not core business, or else it would not have been outsourced. Therefore, the usage of standards brings the flexibility of being able to swap suppliers as well as tools to get the best from the market. Suppliers may have their own processes that look more efficient than the standardized ones, however this locks in the service buyer company. This CSF, being included in the third priority category, should always be evaluated and preferably used when no CSF within the first or second category is present.

The fourth CSF in the third priority level is *Do not outsource broken processes;, improve them first*. This is an important message for IT decision makers because problems are not solved by adding a new external organization. The external costs will increase, which is not always visible when performing the task internally. It is cheaper, faster, and more efficient to solve the actual problem first. There is no “silver bullet” for problem solving, but there is a high possibility that if management prioritizes addressing the problem, and the involved personnel are under management control within the company, the process can be improved.

The first CSF in the fourth priority level is The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with request for information. This is partially covered in the first and the second CSF in the highest priority category. However, the IT decision makers in any situation need to know their own performance on a broad basis, covering all activities and market intelligence. Performing a due diligence on all IT activities provides an objective perspective of the current IT. If these tasks are performed well, the next steps—requesting information and quotation—will give the IT decision makers a realistic perspective.

Implementing these 11 CSFs in the ITO life cycle phases is shown in What Is the Best Time in the IT Outsourcing Life Cycle to Implement the Recommended Critical Success Factors??

CONCLUSION

In the literature review, 91 CSFs were found. Forty-two out of 91 were duplicates (after rephrasing), 25 out of 91 were generic; that is, were not ITO specific, 4 out of 91 did not have a contribution to the service buying organization, and 1 out of 91 was mentioned by only one researcher. These CSFs have been removed, and the remaining 19 were analyzed; it was determined 11 of these were appropriate. The decision makers from two service buyer organizations (MNCs), with more than 20 years’ experiences in ITO, were interviewed to discuss the CSFs. The 11 CSFs that the analyses found to be important were confirmed by the interviewees. Next, interviewees were contacted and asked to rank the CSFs in the order they should be implemented. The lesson learned from this analysis is that not all the recommended CSFs found in the ITO research literature can be accepted without a critical review because some of them can, in the worst case, lead to a negative business impact. Finally, as shown in Appendix 5, for each CSF there is a recommended point in the ITO life cycle phase to implement for the best advantage.

In summary, this research provides for the service buyer organization on all management levels: (1) a prioritized list of 11 CSFs that should definitely be considered, (2) the demonstrated value and risks for the CSFs, and (3) a description of the guideline on how to use the CSFs.

LIMITATIONS AND FURTHER RESEARCH

This study looked at IT outsourcing and excludes larger software development; only adaptations are included.

Two large MNCs were involved in the empirical part of the study. This could be seen as a limitation; however, the target of this research was to get an understanding of how the CSFs create value and how the decision makers in ITO think and judge the importance of the CSFs.

It is recommended that future research further evaluate these 11 CSFs among large MNCs and study different configurations like geographical and cultural differences and contract types. Because some of the CSFs could be time dependent, a longitudinal study is recommended.

REFERENCES

Alborz, S., P. B. Seddon, and R. Scheepers, A model for studying IT outsourcing relationships, *Proceedings of the 7th Pacific Asia Conference on Information Systems*, Adelaide, Australia, 10–11 July, 2003, pp. 1297-1313.

Amberg M., F. Fischl, and M. Wiener, Background of critical success factor research, Friedrich-Alexander-Universität Erlangen-Nürnberg, Lehrstuhl für Betriebswirtschaftslehre, insb. Wirtschaftsinformatik III, Working Paper No. 2, 2005.

Amberg, M. and M. Wiener, Analysis of critical success factors for offshore software development projects: A German perspective, *Proceedings of ISOneWorld 2006*, Las Vegas, Nevada, 2006.

Ang, S. and D. Straub, Production and transaction economies and IS outsourcing: A study of the US banking industry, *MIS Quarterly*, 22:4, 1998, pp. 535-552.

Bahli, B. and S. Rivard, Validating measures of information technology outsourcing risk factors, *Omega,* 33:2, 2005, pp. 175-187.

Bullon C. and J. Rockart, A primer on critical success, *Working Paper,* Center for Information Systems Research, Sloan School of Management, M.I.T., 69, June, 1981.

Cullen, S. and L. Willcocks, *Intelligent IT Outsourcing: Eight Building Blocks to Success*, Oxford, UK, Elsevier Butterworth-Heinemann, 2004.

Dominguez, L. R., *The Manager's Step-by-Step Guide to Outsourcing*, Boston, MA, McGraw-Hill, 2005.

Embleton, P. and P. Wright, A practical guide to successful outsourcing*, Empowerment in Organizations*, 6:1, 1998, pp. 94-106.

Frauenheim, E., IT outsourcing will disappoint, 2003. Available at: http: //news.com.com, last accessed 21 November, 2008.

Grover, V., J. Teng, and M. Cheon, Towards a theoretically-based contingency model of information systems outsourcing. In: *Strategic Sourcing of Information System*, L. Willcocks and M. Lacity (eds.), Chichester, UK, John Wiley and Sons, 1998, pp. 79-102.

Hirscheim, R., A. Heinzl, and J. Dibbern, *Information Systems Outsourcing, Enduring Themes, New Perspectives and Global Challenges*, 2nd ed., Berlin Heidelbert, Springer-Verlag, 2006.

Hite, R., *Information technology: DOD needs to leverage lessons learned from its outsourcing projects*, GAO-03-371, Report to the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate, April, 2003.

Hodosi, G. and L. Rusu, Information technology outsourcing: A case study of best practices in two Swedish global companies, *Proceedings of the Mediterranean Conference on Information Systems* (MCIS 2008), Hammamet, Tunisia, 2008.

Hui, P. and C. Beath, *The IT sourcing process: A framework for research*, Working Paper, University of Austin, 2001. Available at: http://bauer.uh.edu, last accessed 12 June, 2008.

Kern, T. and L. Willcocks, The relationship advantage: Information technologies, sourcing, and management, Chicester UK, Oxford University Press, 2002.

Lacity M., L. Willcocks, and D. Feeny, IS outsourcing: Maximize flexibility and control, *Harvard Business Review*, May-June 1995, pp. 85–93.

Lacity, M. and R. Hirscheim, *Information Systems Outsourcing: Myths, Metaphors, and Realities*, New York, John Wiley and Sons, 1993.
Lacity M., Willcocks L. and Rottman J., Global outsourcing of back office services: lessons, trends, and enduring challenges, *Strategic Outsourcing: An International Journal*, 1(1), pp: 13-34, 2008.
Lacity M. and Hirschheim R., *Beyond the Information Systems Outsourcing Bandwagon: The Insourcing Response*, John Wiley & Sons Ltd., 1993, ISBN-10: 0471958220, 1995.

Loh, L. and N. Venkatraman, Determinants of information technology: A cross-sectional analysis, *Journal Management Information Systems,* 9:1**,** pp. 7-24, 1992.

Méndez, E., L. Mendoza, and M. Pérez, Critical success factors as a strategy for risk mitigation in ITO projects, *Proceedings of the Twelfth Americas Conference on Information Systems*, Acapulco, Mexico, August 4-6, 2006, pp. 3268-3280.

Ohnemus, J., *Does IT outsourcing increase firm success? An empirical assessment using firm-level data*. Centre for European Economic Research, Discussion Paper 07-087, 2007, pp. 1-56. Available at: http://opus.zbw-kiel.de, last accessed 23 May, 2009.

Reifer, D., Seven hot outsourcing practices, *IEEE Software*, 21:1, January-February 2004, pp. 14-16.

Rusu, L. and G. Hodosi, Assessing the risk exposure in IT outsourcing for large companies, *International Journal of Information Technology and Management*, 10:1, 2001, pp. 24-44.

Rådmark, H., Trefaldig ökning av outsourcing, IDG, 2010. Available at: http://www.idg.se, last accessed 28 October, 2010.

Schuman, C., Best-Practice Gestaltung von IT-Outsourcing-Verträgen, *IT-Management*, 5:4, 2004. Available at: http://www.plenum.dc, last accessed 23 May, 2009.

Simmonds, A. and D. Gilmour, *IT governance domain practices and competencies: Governance of outsourcing*, The IT Governance Institute, 2005. Available at: http://www.isaca.org, last accessed 20 May, 2008.

Sutherland J., M. Santoro, and L. Snyder, (2009) Supply chain logistics terms and glossary. IN RESEARCH, C. F. V. C. (Ed.), Lehigh University, Accessed 2009.06.10 at http://www.lehigh.edu/~inchain/supplyChainGlossary/b.html.
Thurfjell, K., IT körs över i outsourcingbeslut, CIO - Sweden, 2008. Available at: http://cio.idg.se, last accessed 10 May, 2008.

Wagner, E., S. Scott, and R. Galliers, The creation of 'best practice' software: Myth, reality and ethics, *Information and Organization,* 16:3, 2006, pp. 251-275. Available at: http://www.elsevier.com, last accessed 14 March, 2011.

Williamson O., Markets and Hierarchies: Analysis and Antitrust Implications, New York, The Free Press, 1975.

Williamson, O., The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting, New York, Free Press, 1985.

Yin, R. K., *Case Study Research: Design and Methods*, 3rd Ed., Thousand Oaks, CA: Sage Publications, 2003.

APPENDIX 1: CRITICAL SUCCESS FACTORS, SOURCES, AND GROUP CLASSIFICATIONS

Table 4 lists the CSFs we found in our ITO literature review, the sources of the CSFs, and how we grouped them. The grouping criteria used are 1) GF, which means that the CSF is not specific for ITO, 2) NF, which means that the CSF is not supported by the service buyers' organization, and 3) NS, which means that we have not found any further support for them in the research literature. Those CSFs that do not fit to these three criteria have been grouped into the 19 CSFs described in Table 5 for further studies. The CSFs in these three groups will not be further studied in this paper.

Table 4: Critical Success Factors Found in the Literature, Sources, and Selection Criteria

No.	Critical Success Factors (CSFs)	Sources	Selection	
			Groups	Options
1	The vision for ITO plan shall cover outsourcer's goals. (CSF1)	Méndez et al. (2006, p. 3270)		CSF1
2	The vision for ITO plan shall cover supplier's goals. (CSF1)	Méndez et al. (2006, p. 3270)	GF	-
3	ITO shall be seen as a tool for strategic improvement for the outsourcer's business processes (CSF3)	Méndez et al. (2006, p. 3270)		CSF1
4	Work with both short-term and long-term goals from the beginning of ITO (CSF4)	Méndez et al. (2006, p. 3270)		CSF10
5	Good project management and right competence for all involved is necessary, including executives of both organizations (CSF6, CSF22, CSF24)	Méndez et al. (2006, p. 3270)	GF	-
6	Proper promotion and information about benefits are necessary to minimize the resistance for change (CSF7)	Méndez et al. (2006, p. 3270)	GF	-
7	Measurement of all activities regarding delivery precision, quality, performance, and costs (CSF9, CSF10 and CSF11, CSF13, CSF14)	Méndez et al. (2006, p. 3271-3273)		CSF7
8	Use the best industrial practices, improve and develop the practices (CSF12)	Méndez et al. (2006, p. 3271)		CSF16
9	Regular contract update to cover all services, prices and unexpected outcomes (CSF14, CSF15, CSF16)	Méndez et al. (2006, p. 3271)		CSF2
10	Natural cooperation between the organizations to improve processes and information exchange for all activities (CSF17, CSF18, CSF19, CSF20)	Méndez et al (2006, p. 3271)	GF	-
11	Equal risk sharing for all projects and activities (CSF26)	Méndez et al (2006, p. 3271)	NF	-
12	Both the client and the provider shall try to establish a long-term relationship so that a common vision and strategy as well as the cooperation and confidence required for the success of the project can be developed (CSF2).	Méndez et al (2006, p. 3272)	NF	-
13	Creation of a partnership-like relationship (#4)	Amberg and Wiener (2006, p. 4)	NF	-
14	Continuous controlling of project results (#9)	Amberg and Wiener (2006, p. 4)		CSF7
15	Ensuring of a continuous communication flow (#21)	Amberg and Wiener (2006, p. 4)		CSF11
16	Have an accurate contract (#9)	Amberg and Wiener (2006, p. 4)	GF	
17	Outsource only when it makes good business sense	Reifer (2004, p. 15)		CSF1
18	Never outsource core competence	Reifer (2004, p. 16)		CSF3
19	Establish win-win situations	Reifer (2004, p. 16)		CSF9

JOURNAL OF INFORMATION TECHNOLOGY THEORY AND APPLICATION

Table 4: Critical Success Factors Found in the Literature, Sources, and Selection Criteria

No.	Critical Success Factors (CSFs)	Sources	Selection	
			Groups	Options
20	Nurture your relationship with your supplier	Reifer (2004, p. 16)		CSF8
21	Measure performance as qualitatively as it is possible	Reifer (2004, p. 16)	GF	-
22	Make exceptional performance financially worthwhile	Reifer (2004, p. 16)		CSF12
23	Treat outsourcing as a technology transfer opportunity	Reifer (2004, p. 16)		CSF1
24	Determine what to outsource and what to keep inside the organization. (#1)	Simmonds and Gilmour (2005, p. 20)		CSF3
25	The planned ITO must be acceptable and feasible (#1)	Simmonds and Gilmour (2005, p. 20)	GF	-
26	Select right relationship to the supplier depending on the service complexity, market situation, and new request for quotation (#2)	Simmonds and Gilmour (2005, p. 20)		CSF8
27	Before signing contract, have a detailed plan including all resources, competencies, and costs for the next several years and also Service Level Agreement (SLA) and Operating Level Agreement (OLA) (#3, #8)	Simmonds and Gilmour (2005, p. 20)		CSF4
28	Do not outsource broken processes. Improve the process first (#4)	Simmonds and Gilmour (2005, p. 20)		CSF18
29	The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before for Request For Information (RFI) (#5)	Simmonds and Gilmour (2005, p. 20)		CSF14
30	Plan for regular renegotiations, especially after approximately 12 to 14 months into the contract (#6)	Simmonds and Gilmour (2005, p. 20)		CSF2
31	Good communication between the organizations is necessary on all working and coordination levels (#9)	Simmonds and Gilmour (2005, p. 20)		CSF11
32	Measure the contract fulfillment (#13)	Simmonds and Gilmour (2005, p. 21)		CSF7
33	Proper control and management of all activities is key to success (#16)	Simmonds and Gilmour (2005, p. 21)	GF	-
34	Don't outsource broken processes or functions	Dominguez (2005, pp. 57-58)		CSF18
35	Cost saving should not be the only decision driver to outsource	Dominguez (2005, pp. 57-58)	NS	-
36	Don't outsource any decision making; outsource the performance for the function	Dominguez (2005, pp. 57-58)	GF	-
37	Take the time you need for planning and transformation	Dominguez (2005, pp. 57-58)	GF	-
38	Assess your own performance on the functions you consider for outsourcing. This is the basis for comparison	Dominguez (2005, pp. 57-58)		CSF14
39	Select supplier based on: Compatible corporate culture in a broad sense as organization type, conflict resolution, short-long term view, treating of personnel etc. Outsourcing partner's capability regarding capacity, track record Avoidance of conflicts of interest regarding your competitors or other political issues	Dominguez (2005, pp. 65-66)		CSF15

Table 4: Critical Success Factors Found in the Literature, Sources, and Selection Criteria

No.	Critical Success Factors (CSFs)	Sources	Selection	
			Groups	Options
40	Avoid brain drain	Dominguez (2005, pp. 138-140)	GF	
41	Measure continuously contract fulfilment	Dominguez (2005, p. 169)		CSF7
42	Measure the whole process and report the result	Dominguez (2005, p. 168-169)		CSF7
43	Build and maintain strong relationship	Dominguez (2005, p. 190-191)		CSF8
44	Clarify in the contract what to measure, how to measure, and how to act on divergence (& 3,3, translated)	Schuman (2004, p. 5)		CSF4
45	Baseline and benchmark the IT process before outsourcing (phase I, rephrased)	Hite (2003, p. 18)		CSF14
46	Define operational model to be able to the organization's plans to meet the customer's expectations (phase II, rephrased)	Hite (2003, p. 19)		CSF14
47	Develop the contract to cover the expectations (phase III, rephrased)	Hite (2003, p. 20)	GF	-
48	Manage provider(s)'s performance (phase VI, rephrased)	Hite (2003, p. 22)		CSF7
49	Determine the business reasons for outsourcing IT	Hite (2003, p. 33)		CSF1
50	Continually communicate/clarify outsourcing objectives, while correcting misinformation that affects the organization	Hite (2003, p. 38)		CSF11
51	Create and define a contract management structure with operational points of contact and managers	Hite (2003, p. 39)		CSF7
52	Ensure that the provider management team has prior experience in the client's field of business	Hite (2003, p. 39)	GF	-
53	Contracts should include base performance requirements on business outcomes (rephrased)	Hite (2003, p. 49)	GF	-
54	The contract shall include measures that reflect end-user satisfaction as well as technical IT performance (rephrased)	Hite (2003, p. 49)		CSF7
55	Review and update performance requirements periodically in the contract (rephrased)	Hite (2003, p. 49)		CSF7
56	Incorporate sufficient flexibility in the contract page (rephrased)	Hite (2003, p. 48)		CSF6
57	Use service-level agreements (SLA) to clearly articulate all aspects of performance, including management, processes, and requirements	Hite (2003, p. 49)	GF	-
58	Identify and evaluate various sourcing solutions (e.g., single vendor, multivendor, and alliance)	Hite (2003, p. 59)		CSF19
59	Conduct due diligence activities to verify vendor capabilities before signing the contract	Hite (2003, p. 60)	GF	-
60	Communicate a clear transition process to all key players from both client and provider organizations	Hite (2003, p. 66)	GF	-
61	Recognize that it takes time to effect transition and plan accordingly	Hite (2003, p. 66)	GF	-
62	Encourage the transition of staff to the provider and develop employee-retention programs, where appropriate, using bonuses, stock options, and other appropriate methods	Hite (2003, p. 67)		CSF13
63	Consider incentives to motivate provider(s) to exceed performance requirements.	Hite (2003, p. 77)		CSF12
64	Consider to use penalties to motivate provider(s) to meet performance requirements (rephrased)	Hite (2003, p. 78)		CSF12
65	Schedule periodic working-level meetings with both the end-user groups and the provider to review the provider's performance	Hite (2003, p. 78)	GF	-
66	Reserve audit rights on performance data supplied by the provider	Hite (2003, p. 78)	NF	-

Table 4: Critical Success Factors Found in the Literature, Sources, and Selection Criteria

No.	Critical Success Factors (CSFs)	Sources	Selection	
			Groups	Options
67	Allow employees and possibly stakeholders to rate the provider on a regular basis	Hite (2003, p. 78)	GF	-
68	Monitor the provider's work to anticipate issues for resolution	Hite (2003, p. 86)		CSF8
69	Make sure that the provider uses the standard tools and processes defined as part of the operational model	Hite (2003, p. 86)		CSF17
70	Use provider performance data to continuously improve processes	Hite (2003, p. 86)		CSF7
71	Set realistic time frames that are agreed to by the provider	Hite (2003, p. 86).	GF	-
72	Outsource only non-core (rephrased)	Embleton and Wright (1998, pp. 100-101)		CSF3
73	Outsource no complex services (rephrased)	Embleton and Wright (1998, p. 100)		CSF3
74	The services should be measurable (rephrased)	Embleton and Wright (1998, p. 100)		CSF7
75	Outsource only on competitive market (rephrased)	Embleton and Wright (1998, p. 101)		CSF1
76	Know the cost of providing the service. This means a clear understanding of the Total Cost of Ownership (rephrased)	Embleton and Wright (1998, p. 101)	GF	-
77	Know the impact of corporate culture (rephrased)	Embleton and Wright (1998, p. 100)		CSF14
78	Look at long and short term (rephrased)	Embleton and Wright (1998, p. 100)	GF	-
79	Have a thorough provider selection process (rephrased)	Embleton and Wright (1998, p. 101)		CSF14
80	Negotiate a mutually beneficial deal	Embleton and Wright (1998, p. 102)		CSF9
81	Manage the relationship	Embleton and Wright (1998, p. 102)		CSF9
82	Monitor the contract (rephrased)	Embleton and Wright (1998, p. 102)		CSF8
83	Prepare the personnel from the outsourcing company on the new role (rephrased)	Embleton and Wright (1998, p. 104).		CSF5
84	The planned ITO must be acceptable and feasible (rephrased)	Cullen and Willcocks (2004, p. 29)	GF	-
85	Have an accurate contract (rephrased)	Cullen and Willcocks (2004, p. 151)		CSF6
86	Measure contract fulfillment (rephrased)	Cullen and Willcocks (2004, p. 172)		CSF7

Table 4: Critical Success Factors Found in the Literature, Sources, and Selection Criteria				
No.	Critical Success Factors (CSFs)	Sources	Selection	
			Groups	Options
87	Nurture your relationship with your supplier (rephrased)	Cullen and Willcocks (2004, p. 196)		CSF8
88	Ensure a continuous communication flow (rephrased)	Cullen and Willcocks (2004, p. 196)		CSF11
89	Make exceptional performance financially worthwhile (rephrased)	Cullen and Willcocks (2004, p. 84)		CSF12
90	Take the time you need for planning and transformation (rephrased)	Cullen and Willcocks (2004, p. 24)	GF	-
91	Do not outsource broken processes. Improve the process first (rephrased)	Cullen and Willcocks (2004, p. 11)		CSF17

APPENDIX 2: CRITICAL SUCCESS FACTORS FOUND IN THE ITO LITERATURE

Table 5 shows the CSFs found in the ITO research literature, the sources of these CSFs, and the number of papers that mention them.

Table 5: Critical Success Factors Found in the Research Literature and Sources			
No.	Critical Success Factors	Mentioned as CSF according to Table 4	Total CSFs
1	Outsource only when it makes good business sense	1, 3, 17, 23, 49, 75	6
2	Treat outsourcing as a technology transfer opportunity that creates strategic improvements	9, 30	2
3	Determine what to outsource and what to keep inside the organization	18, 24, 72, 73	4
4	Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract	27, 44	2
5	Prepare the personnel of the outsourcing company for the new role	83	1
6	Use flexible contracts and update regularly	56, 85	2
7	Measure contract fulfillment	7, 14, 32, 41, 48, 51, 54, 55, 70, 74, 86	12
8	Select and nurture relationships depending on the service complexity, market situation, and new request for quotation	20, 26, 43, 68, 82, 87	6
9	Establish win-win situations	19, 80, 81	3
10	Establish a long-term relationship	4	1
11	Maintain good communication between the organizations	15, 31, 50, 88	4
12	Consider incentives to motivate to exceeding performance and use penalties to motivate when performance is low	22, 63, 64, 89	4
13	Equal risk sharing for all projects and activities	62	1
14	The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with RFI	29, 38, 45, 77, 79	5
15	Select a supplier that fits to your business culture and size	39	1
16	Use the best industrial practices and improve and develop the practices	8	1
17	Make sure that the provider uses the standard tools and processes defined as part of the operational model	17, 91	2
18	Do not outsource broken processes; improve them first	28, 34	2
19	Identify and evaluate various sourcing solutions such as single vendor, multi-vendor, and alliance	58	1

APPENDIX 3: QUESTIONNAIRE USED FOR EVALUATION OF THE 19 CRITICAL SUCCESS FACTORS IN IT OUTSOURCING IN LARGE MNCS

Table 6: Questionnaire Used for the Evaluation of Critical Success Factors for ITO in Large MNCs

1	Have you outsourced IT when the business value was not quite visible?		
	☐ Yes	☐ No	
	Comments:		
2	If yes, what was the result?		
	☐ Result was OK	☐ Result was not as good as we expected	
	Comments:		
3	Do you treat IT outsourcing as a technology transfer opportunity?		
	☐ Yes	☐ No	
	Comments:		
4	Do you have a process for determining what to outsource or not within IT?		
	☐ Yes	☐ No	
	Comments:		
5	If you do not have a process, do you use economics for the argumentation?		
	☐ Yes	☐ No	
	Comments:		
6	Do you have a plan for the regular IT outsourcing negotiations?		
	☐ Yes	☐ No	
	Comments:		
7	Do you regularly measure your outsourcing supplier's performance?		
	☐ Yes	☐ No	
	Comments:		
8	Do you have some activities to improve your relationship with your outsourcing suppliers?		
	☐ Yes	☐ No	
	Comments:		
9	Do you work in parallel with short-term and long-term projects?		
	☐ Yes	☐ No	
	Comments:		
10	What type of communication do you use on all working level?		
	☐ Mostly informal, except formal meetings according to contract		
	☐ In some areas we use formal meetings and in others informal meetings.		
	☐ Only formal meetings		
	Comments:		
11	Do you consider that you and your supplier use equal risk sharing for your undertakings?		
	☐ Definitely not	☐ A little bit	☐ Almost equally
	Comments:		
12	How good were your own assessments of your costs and processes before you outsourced IT?		
	☐ Good	☐ Partly good	☐ Not quite good
	Comments:		
13	How important has it been to have a similar culture between the companies at the selection of supplier?		
	☐ Not important	☐ A little bit	☐ Rather important
	Comments:		
14	How does your IT applications portfolio match the state of the art??		
	☐ New < 3 years	☐ New with some exceptions	☐ Mixed with old and new
	Comments:		
15	Have you outsourced any bad processes?		
	☐ Yes	☐ No	
	Comments:		
16	If yes, what was the result?		
	☐ Good result	☐ No difference	☐ Bad result
	Comments:		

17	What do you consider your IT responsibilities to be?		
	☐ We have outsourced the functionality but not the responsibility.	☐ We have outsourced the functionality and the responsibility	
	Comments:		
18	If you have outsourced responsibility, how does that process work?		
	☐ Works ok	☐ Sometimes we would like to take back responsibility	
	Comments:		
19	How is the distribution between fixed and variable costs?		
	☐ Mostly fixed prices	☐ Mixed	☐ Mostly variable costs
	Comments:		

APPENDIX 4: QUESTIONNAIRE USED FOR RANKING OF CSFS IN IT OUTSOURCING IN LARGE MULTINATIONAL COMPANIES

Please allocate priorities: **H** for high, **M** for medium, **L** for low.
Each priority level should be used no more than 5 times (i.e. no more than 5 H, 5 M…).

Table 7: Questionnaire Used for Ranking of Critical Success Factors in ITO in Large MNCs

No.	Critical Success Factors	Priority		
		H	M	L
1	Outsource only when it makes good business sense			
2	Determine what to outsource and what to keep inside the organization			
3	Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract			
4	Prepare the personnel of the outsourcing company for the new role			
5	Use flexible contracts and update regularly			
6	Measure contract fulfillment			
7	Maintain good communication between organizations			
8	The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with RFI			
9	Select a supplier that fits to your business culture and size			
10	Make sure that the provider uses the standard tools and processes defined as part of the operational model			
11	Do not outsource broken processes; improve them first			
Comments:				

APPENDIX 5: WHAT IS THE BEST TIME IN THE IT OUTSOURCING LIFE CYCLE TO IMPLEMENT THE RECOMMENDED CRITICAL SUCCESS FACTORS?

The research literature describes different phases of the ITO's life cycle, depending on the different aspects. For example, TCT uses ex-ante for describing the activities before making the decision to outsource, and ex-post for the activities after the decision for outsourcing (Williamson 1975, 1985). Alborz et al. (2003) uses three main phases: pre-contract, contract, and post-contract for describing his ITO relationship model. In this research, we used the model developed by Cullen and Willcocks (2004) consisting of the three main phases: architect, engage, and govern, each of which is divided in several sub-phases. The architect phase contains: discard myths, prepare strategy, target services, and design future; the engage phase consist of: select supplier and make transition; the govern phase consists of: manage the ITO and reconsider options. These phases are shown in Table 8.

Table 8: The Phases in the IT Outsourcing Life Cycle (Cullen and Willcocks 2004)

Architect				Engage		Govern	
Phase1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Discard Myth	Prepare strategy	Target services	Design future	Select supplier	Make the transition	Manage the ITO	Reconsider options

Discard Myth is the phase in which knowledge and acumen are accumulated. Cullen and Willcocks (2004) recommend that organizations evaluate themselves rather than relying on myths. They are to do this by investigating benefits and expectations for a hypothetical ITO, performing market intelligence research to gain knowledge of the IT industry, and knowing the types of suppliers that are available on the market. *Prepare Strategy* is the next phase, containing the vision of how to use ITO in the organization and work with the preferences on its potential ITO. Furthermore, the development of a time schedule with the right competencies is needed. The program that will run is defined by the strategy. *Target the Services* is the third phase, which results in a requirement specification about what to outsource and what to keep inside the organization, including an evaluation based on costs, resources, further development, and so on, mapped to the core/non-core strategic plan. Every IT service that could be outsourced should be evaluated. *Design Future* is the last phase in the architect main phase, with the goal of enunciating commercially and clearly the ITO expectations by defining the potential services to outsource in a Service Level Agreement (SLA). The SLA includes a price model that enables a comparison with the ongoing operational costs and also gives a good overview of the price/service development in the future, and provides a contract that protects the owner's interests including a good control of the service delivery and detailed plans for the remaining IT organization.

Select Supplier is the first phase in the main phase Engage, which should result in the selection of the supplier that gives the best value for money, assuming that, among other things, the relationship, culture, political, and financial status of the supplier are also acceptable. The result of this phase is the signed agreement. The next phase is *Make the Transition*, which means to check the transition plans that have been developed in the previous phases and then perform the takeover of the IT services. This involves at least two projects: one for the service buying organization and one from the service supplier, which have to be coordinated with high precision to avoid IT disturbances, since the rest of the organization's business operation carries on as usual. As this transition project is very critical, planning of it, communication, relationship building, and competence transmission has to be done in time with both parties.

The next phase is *Manage the ITO*. In this phase, the ITO improvements are planned and processed, including updating of the SLAs, continuously measuring the costs and delivered performance (even internally), nurturing the ITO relationship, and adapting the communication plan to the needs. Both parties need to check their "new" organization and tune the performance. The last phase in the life cycle is *Reconsider Options*. In this phase, before the contract ends, the service buyer organization should evaluate the whole ITO and, based on that, develop a new strategy. Cost-inefficient services, poor service performance or other operational complications are in focus for the new contract with perhaps a new supplier, new service portfolio, in-sourcing, cloud computing, and so on. We assume that in the previous life-cycle phase the service buyer organization has performed a benchmarking, which is a strong indicator for how other organizations have solved similar problems in order to gain knowledge about the market as, for example, prices, performance, and trends. For formulating the "new" ITO strategy, the result of benchmarking must be known.

The CSFs can be implemented any time, but to get an optimal solution, some rules have to be considered. Implementing a best practice too late might not give full efficiency; perhaps the phase that needs that result has already passed. Also doing something too early could be a sub-optimization; for example, implementing a CSF in the *Reconsider options* phase when the project is in the *Make the Transition* phase. Another example is shown in Figure 2, where we can see that in the Design and Select phases the procurement power is highest.

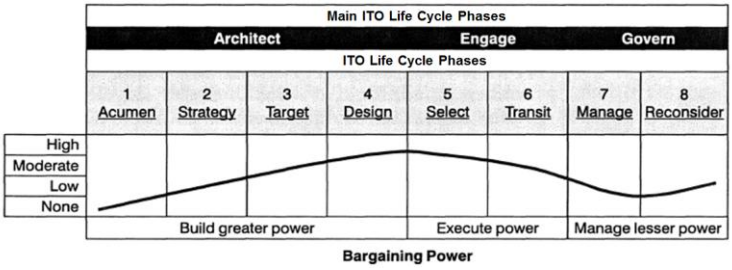

Figure 2: Service buyer's bargaining power in the ITO life cycle (Cullen and Willcocks 2004, p. 119)

In the first phase, (Acumen) the buyer's bargaining power is low, but it increases and in the Design and Select phases, reaching the maximum value and then decreasing, with a small increase in the last phase where the contract time ends. This explains why some issues have to be performed in the right life-cycle phase. Here, it is recommended to have the strategy settled earlier, which means collecting all necessary information earlier, involving the buyer in time to get the market conditions for the potential ITO, and begining the supplier evaluation in time.

Concerning how to implement these 11 CSF in the ITO life-cycle phases and their priority will be discussed in the next section.

Implementation of the CSFs using the ITO Life-Cycle Phases

As has been discussed in the previous sections, the intention is to provide the ITO decision makers a ranked list (based on priority) of CSFs, but also guidelines about when in the ITO life cycle the CSFs should be implemented to get best ITO improvement. Table 9 shows how these recommended CSFs are matched to the different ITO life cycle phases and their priority.

Table 9: Our Recommended Critical Success Factors Matched to the ITO Life Cycle Phases and Their Priority

Priority	Implementation Phase	Critical Success Factors	Continue
1	Design Future	Outsource only when it makes good business sense.	
	Select the Supplier	Have a detailed plan including all resources, competencies, and costs for the next several years before signing the contract.	
2	Target the Services	Determine what to outsource and what to keep inside the organization.	x
	Manage the ITO	Measure the contract fulfillment.	x
	Make the Transition	Maintain good communication between organizations.	x
	Select the Supplier	Select a supplier that fits to your business culture and size.	
3	Select the Supplier	Use flexible contracts and update regularly.	x
	Select the Supplier	Prepare the personnel of the outsourcing company for the new role.	
	Target the Services	Make sure that the provider uses the standard tools and processes defined as part of the operational model.	
	Target the Services	Do not outsource broken processes; improve them first.	
4	Target the Services	The outsourcer shall undertake a due diligence on itself to understand, quantify, and qualify its outsourcing needs before starting with request for information.	

CSF 1 in Table 9 should be implemented in the Design Future phase because that is the earliest opportunity and because the required information may not be available before. In addition, doing this CSF later may result in unnecessary work if the ITO project might be terminated.
CSF 2 in Table 9 should be implemented in the Select the Supplier phase. The implementation of this CSF before this phase it is difficult because not all facts are known, and later it is not possible because the contract might not cover all the needs.
CSF 3 in Table 9 should be implemented in the Target the Services phase. It is not possible to implement this CSF earlier because top management has normally not expressed the detailed plan, and implementing it later means that the service lists are incomplete and the next phases like SLA development and pricing model cannot be produced efficiently. Additionally, we have marked this CSF with Continue, which means that it should be a continuous process. It is also recommended to evaluate regularly what parts of IT to keep in-house and what IT parts not.

CSF 4 in Table 9 should be implemented in the Manage the ITO phase because here the performance measurement is most efficient—doing it earlier is not possible because the transition is not finalized, or if it is, then it might not be stable enough. Starting to measure later could encourage the service provider not to deliver what has been contracted. It is marked Continue, which means it should be performed regularly.

CSF 5 in Table 9 should be implemented in the Make the Transition phase and must to continue to the end of the life cycle.

CSF 6 in Table 9 should be implemented in the Select the Supplier phase. As we described before, the strongest negotiation power is in this phase. If it is done earlier, probably not all facts will have been collected.

CSF 7 in Table 9 should be implemented in the Select the Supplier phase. In this phase, it is necessary to have good knowledge about the supplier to decide how flexible contracts should be to avoid opportunistic behavior. The second part of this CSF is about updating the contract regularly.

CSF 8 in Table 9 should be implemented at the latest in the Select the Supplier phase because the employees need time to accept the new situation as well as to receive training for the new tasks.

CSF 9 in Table 9 should be implemented in the Target the Services phase. This is because it is not possible to do so earlier because there is no list of services. It is necessary to specify the standards in time. Those are necessary for the phase Design the Future, for the development of the SLA and price model.

CSF 10 in Table 9 should be implemented in the Target the Services phase because only mature services should come in the list of ITO services. The other ones must be improved first. To implement this CSF later on could create extra work and result in incorrect internal resource planning.
CSF 11 in Table 9 should start in the first phase and continue the whole life cycle. Continuous benchmarking and getting advice from colleagues is helpful at any time.

ABOUT THE AUTHORS

Georg Hodosi has been a lecturer at the Department of Computer and Systems Sciences from Stockholm University. He holds an MSc in Engineering from Faculty of Engineering at Lund University, an MSc in Education in Technology and Mathematics from Stockholm Institute of Education and a Ph. Lic. in Computer and Systems Sciences from Stockholm University. He has more than 25 years of professional experience in companies like Ericsson and Mannesmann within different areas as strategic sourcing, project management, quality assurance, line management and software development. His research interest is in IT outsourcing and he has about 15 years' experience within outsourcing and insourcing.

Lazar Rusu is Associate Professor and Leader of Research Group in IT Management within Information Systems Laboratory from the Department of Computer and Systems Sciences at Stockholm University, Sweden. He holds a M.Sc. degree in Electrical Engineering from Cluj-Napoca Polytechnic Institute, a M.Sc. degree in Management from Babes-Bolyai University Cluj-Napoca, a Ph.D. in Management from West University of Timisoara, Romania, and is a Docent in Information Systems from Royal Institute of Technology (KTH) Stockholm, Sweden. Over his career he has focused mainly in doing research on the management of information systems/information technology and has more than 25 years of professional experience in both industrial and academic areas of information technology.

JITTA

JOURNAL OF INFORMATION TECHNOLOGY THEORY AND APPLICATION

JITTA IS A PUBLICATION OF THE ASSOCIATION FOR INFORMATION SYSTEMS
ISSN: 1532-3416