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# Critical success factors from IT outsourcing theories: an empirical study

Critical success  
factors

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## Abstract

**Purpose** – This research paper aims to identify and rank critical issues in IT outsourcing relationships.

**Design/methodology/approach** – A total of 11 management theories were applied in this research: theory of core competencies, resource-based theory, neo-classical economic theory, transaction cost theory, contractual theory, agency theory, partnership and alliance theory, relational exchange theory, stakeholder theory, social exchange theory and theory of firm boundaries. The main method used is case studies and survey. Case studies were conducted in three IT outsourcing relationships: ABB-IBM, SAS-CSC, and RR-EDS.

**Findings** – Core competence management and stakeholder management were found to be the most critical success factors. Future research should focus on one or two theories, explicitly laying out expectations with respect to the theories, and organizing rich data to test expectations.

**Originality/value** – This paper demonstrates that a holistic approach to IT outsourcing is needed that recognizes and emphasizes the combination of several critical success factors. The theory-based factors have both divergent and convergent implications for management.

**Keywords** Critical success factor, Communication technologies, Outsourcing, Case studies, Research work

**Paper type** Research paper

## Introduction

Information technology (IT) outsourcing is the practice of turning over all or part of an organization's IT functions to an outside vendor. Although IT functions never have been more important to business success, outsourcing is developing in an unprecedented rate. To understand this trend, we have conducted an extensive literature review. We have identified a total of 11 theories that help explain why IT outsourcing is occurring worldwide. These theories are presented first in this paper. Based on these theories, we developed 11 critical success factors in IT outsourcing, one for each theory. These factors are presented next in this paper. We developed the following research question:

*RQ1.* How do practitioners rank critical success factors based on outsourcing theories?

To study this research question, we developed a survey instrument and conducted a survey among business organizations. Results from this survey and discussion of the results are presented in this paper.

## IT outsourcing theories

The 11 theoretical perspectives presented may help to understand IT outsourcing practices in different settings.



*Theory of core competencies*

Core competencies theory suggests activities should be performed either in house or by suppliers. Activities, which are not core competencies, should be considered for outsourcing with best-in-the-world suppliers. Some non-core activities may have to be retained in house if they are part of a defensive posture to protect competitive advantage. Although some authors indicate characteristics of core competencies, most of the literature on this subject seems tautological – core equals key or critical or fundamental. Employees in non-core functions (even if not facing outsourcing) may feel excluded by the organization because they are a non-dominant discipline. For example, information technology employees working on web based legal services in a law firm may feel excluded by lawyers in the firm. In the public sector, there may be particular uncertainty about what is core; and it has been suggested that government may aim to discover its core competencies via a residualisation process – outsourcing until and unless the shoe pinches, or a political backlash is triggered (Hancox and Hackney, 2000).

An organization may view IT itself as a core competence. It seems that most successful companies have a good understanding of IT's potential. However, some organizations outsource IT even though they see it as core and delivering competitive advantage. This may be because IT can be considered core at the corporate level, but some of its aspects, at lower levels, might be commodities. Thus, the complexity of IT, and it's (at least in part) core nature, may make the contracting out of IT a particularly challenging exercise. The ability to define IT requirements and to monitor their delivery by third parties may be some of the core IT competencies that any organization must have if it is to outsource IT successfully. It can even be argued that the very acts of specifying and managing supply contracts can themselves give competitive advantage (Hancox and Hackney, 2000). Outsourcing of non-core competencies will continue to be important, as such arrangements place responsibilities, e.g. for IT, logistics or production functions, in the hands of the constituent most capable of performing these successfully (Chandra and Kumar, 2000).

*Resource-based theory*

According to the resource-based theory of the firm, outsourcing is a strategic decision, which can be used to fill gaps in the firm's resources and capabilities (Grover *et al.*, 1998). Firms develop firm-specific resources and then renew these to respond to shifts in the business environment. Firms develop dynamic capabilities to adapt to changing environments. According to Pettus (2001), the term dynamic refers to the capacity to renew resource positions to achieve congruence with changing environmental conditions. A capability refers to the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional capabilities to match the requirements of a changing environment.

The essence of the resource-based theory of the firm lies in its emphasis on the internal resources available to the firm, rather than on the external opportunities and threats dictated by industry conditions. Firms are considered to be highly heterogeneous, and the bundles of resources available to each firm are different. This is both because firms have different initial resource endowments and because managerial decisions affect resource accumulation and the direction of firm growth as well as resource utilization (Løwendahl, 2000). The resource-based theory of the firm holds that, in order to generate sustainable competitive advantage, a resource must

provide economic value and must be presently scarce, difficult to imitate, non-substitutable, and not readily obtainable in factor markets. This theory rests on two key points. First, that resources are the determinants of firm performance and second, that resources must be rare, valuable, difficult to imitate and non-substitutable by other rare resources. When the latter occurs, a competitive advantage has been created (Priem and Butler, 2001).

### *Transaction cost theory*

Transaction costs arise because complete contracting is often impossible, and incomplete contracts give rise to subsequent renegotiations when the balance of power between the transacting parties shifts (Williamson, 1979). Five attributes of business exchange are positively associated with transaction costs:

- (1) the necessity of investments in durable, specific assets;
- (2) infrequency of transacting;
- (3) task complexity and uncertainty;
- (4) difficulty in measuring task performance; and
- (5) interdependencies with other transactions.

The necessity of early investments in durable, transactions-specific assets (e.g. human and physical capital) shifts the balance of power between transaction participants, because in later renegotiations these costs are sunk costs of the party that incurs them. Infrequent transactions increase the likelihood of opportunistic behavior in later periods by reducing the threat of retribution. In situations where broader market reputations are at stake, infrequent transactions may be sustainable. However, even long-term contracts often do not provide sufficient adaptation mechanisms, and inflexibility may actually induce holdup. The five transaction attributes indicate settings in which opportunistic behavior is likely. If transactions costs offset production cost advantages of the external supplier, the firm subsumes the activity – an outcome termed vertical integration or insourcing.

Drawing on transaction cost economics theory, the sourcing decision is often seen as a rational decision made by firms that have considered transaction related factors such as asset specificity, environmental uncertainty, and other types of transaction costs (Ang and Straub, 1998). Whenever an activity is conducted under conditions of high uncertainty, or whenever an activity requires specific assets, transaction costs, the costs of writing, monitoring and enforcing contracts, are likely to be high. When transaction costs are high, outsourcing is deemed to be relatively inefficient compared with internal, hierarchical administration.

### *Contractual theory*

An outsourcing contract provides a legally bound, institutional framework in which each party's rights, duties, and responsibilities are codified and the goals, policies, and strategies underlying the arrangement are specified. Every outsourcing contract has the purpose of facilitating exchange and preventing opportunism. Appropriate contractual arrangements can attenuate the leeway for opportunism, prohibit moral hazards in a cooperative relationship, and protect each party's proprietary knowledge. A complete contract reduces the uncertainty faced by organizational decision-makers

and the risks stemming from opportunism on the part of one or more contracting parties. It provides a safeguard against *ex post* performance problems by restraining each party's ability to pursue private goals at the expense of common benefits. An incomplete contract may bring about ambiguity, which creates a breeding ground for shirking responsibility and shifting blame, raises the likelihood of conflict, and hinders the ability to coordinate activities, utilize resources, and implement strategies Luo (2002).

Third-party legal experts have for quite some time emphasized the need for a comprehensive contract, not only because it is their livelihood, but also because it basically becomes a reference point specifying how the client and vendor relate (Kern and Willcocks, 2000). Key IT outsourcing contractual issues is such as service level, transfer of assets, staffing, pricing and payment, warranty and liability, dispute resolution mechanisms, termination, intellectual property matters, and information security (Lee, 1996).

#### *Neoclassical economic theory*

Neo classical economic theory posits that firms outsource IT to attain cost advantages from assumed economies of scale and scope possessed by vendors (Ang and Straub, 1998). This theory is attained more empirical support in studies of outsourcing decisions than transaction cost economics. Neo-classical economic theory regards every business organization as a production function (Williamson, 1981), and where their motivation is driven by profit maximization. This means that companies offer products and services to the market where they have a cost or production advantage. They rely on the marketplace where they have disadvantages. According to neo classical economic theory, companies will justify their sourcing strategy based on evaluating possibilities for production cost savings. Thus, the question of whether or not to outsource, is a question whether the marketplace can produce products and services at a lower price than internal production. In the context of IT outsourcing, a company will keep its IT-function internally if this has production cost advantages, and it will outsource when the marketplace can offer production cost savings.

IT outsourcing is not only a purchasing decision – all firms purchase elements of their operations. This is done to achieve economic, technological, and strategic advantages. However, the economies of scale and scope argument would predict that outsourcing has little to offer to larger firms, because they can generate economies of scale and scope internally by reproducing methods used by vendors. As documented by Levina and Ross (2003), there are other reasons for large firms to move into outsourcing (e.g. vendor's efficiency is based on the economic benefits derived from the ability to develop a complementary set of core competencies).

#### *Partnership and alliance theory*

Partnership, often referred to as an alliance, has frequently been noted as a major feature of IT outsourcing. Partnership can reduce the risk of inadequate contractual provision, which may be comforting for clients about to outsource a complex and high-cost activity such as IT. However, in the relationship between vendor and client the latter may be over dependent on the former, and goals are not necessarily shared. According to Lambe *et al.* (2002), alliances are broadly defined as collaborative efforts between two or more firms in which the firms pool their resources in an effort to

achieve mutually compatible goals that they could not achieve easily alone. Resources here are defined as any tangible or intangible entity available for use by a firm to compete in its marketplace. When interfirm business relationships are collaborative, rather than adversarial in nature, a variety of types of these relationships may be classified as alliances, for example outsourcing.

Hancox and Hackney (2000) interviewed IT managers to find support for the partnership theory in IT outsourcing. Despite assurances found in vendors' marketing literature, most clients were skeptical about partnership. If partnership did exist, it was usually as a collection of some of the intangibles mentioned earlier, rather than as a formalized arrangement. Partnership was more likely to be claimed in the area of systems development, where vendors needed to have a greater understanding of the organization, than in outsourcing of operations and IT infrastructure support.

#### *Relational exchange theory*

Relational exchange theory is based on relational norms. According to this theory, the key to determining how efficiently contract governance is carried out lies in the relational norms between the transactors. For example, the degree to which transactors engage in joint planning or their extent of interfirm information sharing, is process elements that determine the costs associated with periodically renegotiating contracts. Those transactors who have established behavioral norms that can simplify and smooth the renegotiation process can reasonably expect to incur lower *ex post* bargaining costs than those who have not (Artz and Brush, 2000).

Many classifications of norms have been proposed, but no one is regarded as dominant. It has been proposed that relational norms are a higher order construct consisting of three dimensions (Kern and Blois, 2002). First, is flexibility, which defines a bilateral expectation of the willingness to make adaptations as circumstances change. Second, is information exchange, which defines a bilateral expectation that parties will proactively provide information useful to the partner. And third, is solidarity, which defines a bilateral expectation that a high value is placed on the relationship. It prescribes behaviors directed specifically towards relationship maintenance.

#### *Social exchange theory*

Social exchange theory was initially developed to examine interpersonal exchanges that are not purely economic. Several sociologists are responsible for the early development of this theory. These theorists view people's social behavior in terms of exchanges of resources. The need for social exchange is created by the scarcity of resources, prompting actors to engage one another to obtain valuable inputs. Social exchange can be defined as voluntary actions of individuals that are motivated by return they are expected to bring and typically in fact bring from others. Social exchange can be viewed as an ongoing reciprocal process in which actions are contingent on rewarding reactions from others (Das and Teng, 2002).

An exchange perspective places the study of international relations, such as global outsourcing, in a framework of negotiations. Central to this perspective are issues of equivalence (fairness) and contingency (responsiveness). The challenge for international actors is to define a precise medium for exchange. The more precise the medium, the less likely actors will misperceive one another's move. But, the more precise the medium the less likely will actors explore their relationships (Druckman, 1998). This is also a

dilemma for IT outsourcing relationships. The more precise, the easier it is to follow-up service levels. And thus, value-added benefits will be difficult to achieve.

#### *Agency theory*

According to Eisenhardt (1985), agency theory is concerned with resolving two problems that can occur in agency relationships. The first is the agency problem that arises when the desires or goals of the principal and agent conflict and it is difficult or expensive for the principal to verify what the agent is actually doing. The second is the problem of risk sharing that arises when the principal and agent have different risk preferences. These problems are well known in IT outsourcing. An example might be that the client organization wants to reduce its IT costs, while the vendor organization wants to maximize profits. The agency problem arises when the two parties do not share productivity gains. The risk-sharing problem might be the result of different attitudes towards the use of new technologies.

The technological and business complexity of IT means that there may be major problems for the principal in choosing a suitable agent and in monitoring the agent's work. Only the agent knows how hard he is working, and that can be especially important in multilateral contracting where one agent acts for several principals. This is often the case in IT outsourcing because of the market dominance of one large firm. Given the difficulties of behavior-based contracts suggested by agency theory, it is reasonable to assume that the overwhelming majority of clients would insist on outcome-based contracts when acquiring IT products and services. Such a strategy can only succeed if the client can confidently specify current and future requirements. But accurate predictions by the client may not always be in the vendor's interests; since vendor account managers often are rewarded according to contract profitability, which is principally achieved through charging the client extra for anything which is not in the contract (Hancox and Hackney, 2000).

#### *Theory of firm boundaries*

Some theorists have proposed that firms' boundaries reflect the division of labor across individuals (Garicano and Hubbard, 2003). Whether a set of tasks is organized within one or multiple firms depends on the extent to which individuals specialize. While the particular trade-offs these theories emphasize differ from one another, together they represent a departure from the earlier literature: there is far less emphasis on specificity and far greater emphasis on issues related to the division of labor such as specialization and job design. This class of theories is important because it has the potential to explain firms' boundaries in a wide range of contexts where specificity is unlikely to have an important effect on individuals' incentives. Firm boundaries – defined as the scope of revenue-sharing arrangements across individuals – reflect trade-offs associated with referral problems, which are problems of matching economic opportunities to individuals' efficiency. The idea is that individuals with specialized skills sometimes have private information about economic opportunities for which others have a comparative advantage in exploiting. This can happen, for example, when a client with a legal problem involving corporate law approaches a tax lawyer. Incentive problems arise because private information about such opportunities is valuable, and transferring them involves adverse selection problems (Garicano and Hubbard, 2003).



Lonsdale and Cox (2000) notes that outsourcing is just one of the means by which the boundary of the firm can be adjusted. There are a number of dimensions to the boundary of the firm issue. These dimensions include conglomeration, horizontal integration, vertical integration, and the internal integration of supporting activities. It is important to consider these dimensions when considering outsourcing. Not only should it be part of a wider picture concerning the boundary of the firm, but it should also be part of a wider concern over the corporate strategies (Lonsdale and Cox, 2000).

### *Stakeholder theory*

Stakeholder theory is justified on the basis that firms have responsibilities to stakeholders for moral reasons, and that there is no priority of one set of interests over another. Upholding four principles:

- (1) honoring agreements;
- (2) avoiding lying;
- (3) respecting the autonomy of others; and
- (4) avoiding harm to other, are necessary precondition for efficient working.

And thus, stakeholder theories of the firm establish economic relationships within a general context of moral management. Contrary to the traditional understanding of the principal-agent relationship, used in several IT outsourcing studies, a stakeholder orientation will include at least two new dimensions:

- (1) a number of stakeholder groups; and
- (2) the interpretation of the four moral principles that underlie stakeholder theory.

Neglecting these dimensions, firms will have less satisfied stakeholders, and will show financial performance that is consistently below industry average (Shankman, 1999).

Stakeholders as a group of people with aligned interests (Lacity and Willcocks, 2000). The term is widely used and accepted by IT outsourcing practitioners and researchers. However, as indicated by some of the reviewed literature above, stakeholder is defined and used differently in finance (issue of CEO responsibility to shareholders or stakeholders), law (requires ownership), and gaming (person who holds the bets). According to Lacity (2000), there is four distinct client IT stakeholder groups and three distinct supplier IT stakeholder groups. The groups identified are customer senior business managers, customer senior IT managers, customer IT staff, customer IT users, and supplier senior managers, supplier account managers, supplier IT staff. An additional group is the subcontractors. All stakeholder groups are presumed to have significant differences in expectations and goals regarding IT outsourcing. Thus, it is reasonable to propose that upholding the interest of these different stakeholder groups with the principles of moral management will affect the success of IT outsourcing.

### *Comparison of theories*

We have introduced 11 theories concerned with outsourcing. In Table I, these theories are compared in terms of what they recommend for outsourcing. We find that some theories indicate possibilities for outsourcing (theory of core competencies, resource-based theory, transaction cost theory, neoclassical economic theory and



Theory	What should be outsourced?
Theory of core competencies	All IT functions, which are peripheral to the company's production of goods and services for the market
Resource-based theory	All IT functions where the company does not have sufficient strategic resources to perform in a competitive way. Strategic resources are unique, valuable, difficult to imitate, exploitable and difficult to substitute
Transaction cost theory	All IT functions where benefits for the company are greater than the transaction costs. Benefits include increased revenues and reduced costs
Contractual theory	Only IT functions where the company can expect and secure that vendor and customer will have the same contractual behavior. Common contract behavioral patterns include role integrity, reciprocity, implementation of planning, effectuation of consent, flexibility, contractual solidarity, reliance, restraint of power, proprietary of means and harmonization with the social environment
Neoclassical economic theory	All IT functions which an external vendor can operate at lower costs than the company
Partnership and alliance theory	Only IT functions where the company can expect and secure a partnership and alliance with the vendor that imply interdependence between the partners based on trust, comfort, understanding, flexibility, co-operation, shared values, goals and problem solving, interpersonal relations and regular communication
Relational exchange theory	Only IT functions where the company can easily develop and secure common norms with the vendor. Norms determine behavior in three main dimensions: flexibility, information exchange, and solidarity
Social exchange theory	Only IT functions where each of the parties can follow their own self-interest when transacting with the other self-interested actor to accomplish individual goals that they cannot achieve alone and without causing hazards to the other party
Agency theory	Only IT functions where the agent (vendor) and the principal (client) have common goals and the same degree of risk willingness and aversion
Theory of firm boundaries	All IT functions that satisfy several of the other theories, mainly resource-based theory and transaction cost theory
Stakeholder theory	Only IT functions where a balance can be achieved between stakeholders. Stakeholders relevant in IT outsourcing include business management, IT management, user management and key IT personnel at the client, and business management, customer account management and key service providers at the vendor

**Table I.**  
Possibilities and  
limitations in IT  
outsourcing based on  
theories

theory of firm boundaries), while others indicate limitations (contractual theory, partnership and alliance theory, relational exchange theory, social exchange theory, agency theory and stakeholder theory).

Table II lists a comparison of the theories when it comes to the next stage. The next stage is when outsourcing has occurred and both client and vendor want the outsourcing arrangement to be successful. What do the theories tell us? As is visible in Table II, the theories tell us a lot about what to do to be successful. Each theory provides recommendations for actions that will contribute to managing successful IT outsourcing relationships. From different theoretical perspectives, recommendations are made. Taken together, the list in table represents critical success factors for an outsourcing arrangement.

Theory	How to succeed in an outsourcing arrangement
Theory of core competencies	Capability to define IT needs and ability to manage IT services from the vendor represent the core competence within IT needed in the client organization to succeed in an IT outsourcing arrangement
Resource-based theory	Capability to integrate and exploit strategic IT resources from the vendor together with own resources to produce competitive goods and services. An example of such a resource is the vendor's competence in an IT application area where the client has limited experience
Transaction cost theory	Minimize transaction costs by reducing the need for lasting specific IT assets; increase transaction frequency; reduce complexity and uncertainty in IT tasks; improve performance measurements; and reduce dependence on other transactions
Contractual theory	A complete IT contract based on information symmetry in a predictable environment with occurrence adaptation that prevents opportunistic behavior in an efficient collaborative environment with balance of power between client and vendor, where the contract is a management instrument that grants decision rights and action duties
Neoclassical economic theory	Capability to integrate and exploit IT services from the vendor together with own services to produce competitive goods and services. An example of such a service is the vendor's operation of the client's communication network
Partnership and alliance theory	Develop experience with alliances, develop alliance managers and develop the ability to identify potential partners
Relational exchange theory	Develop and secure common norms that are relevant to both parties. Norms determine behavior and are mainly concerned with flexibility, information exchange and solidarity. Norms will secure integration in the relationship, which takes place through involvement. Involvement occurs by coordination of activities, adaptation of resources and interaction between individuals. The degree of involvement in these three dimensions is called activity link, resource link and actor link
Social exchange theory	Enable social and economic outcomes in the exchange between client and vendor such that these outcomes outperform those obtainable in alternative exchanges. Positive economic and social outcomes over time increase the partners' trust of each other and commitment to maintaining the exchange relationship. Commitment is important, as it is an exchange partner's belief that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it
Agency theory	It must be easy and inexpensive for the principal (client) to find out what the agent (vendor) is actually doing. In addition, both outcome-based and behavior-based incentives can be used to reduce and prevent opportunistic behavior
Theory of firm boundaries	The supply of IT services from the organization's environment should change firm boundaries between the firm that desires the competence (sourcing firm) and the firm having the technology (source firm) in a clear and unambiguous manner. This can be achieved in a strict and rigid division of labor between client and vendor
Stakeholder theory	Create efficient and effective communication with and between stakeholders to secure continued support from all stakeholders, to balance their interests and to make the IT outsourcing arrangement so that all stakeholders achieve their goals

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**Table II.**  
Recommendations for managing successful IT outsourcing relationships based on theories

### **Critical success factors**

Based on this extensive literature review of outsourcing theories, we identified the following 11 critical success factors in IT outsourcing:

- (1) *Core competence management.* The organization has to define its IT needs and manage IT services from the vendor.
- (2) *Vendor resource exploitation.* The organization has to integrate and exploit strategic IT resources from the vendor together with its own resources to produce competitive goods and services.
- (3) *Transaction cost reduction.* The organization has to minimize transaction costs by reducing the need for lasting specific IT assets, increase transaction frequency, reduce complexity and uncertainty in IT tasks, improve performance measurements, and reduce dependence on other transactions.
- (4) *Contract completeness.* The organization must have a complete IT outsourcing contract. The contract should prevent opportunistic behavior in an efficient collaborative environment with balance of power between client and vendor.
- (5) *Production cost reduction.* The organization has to integrate and exploit IT services from the vendor in a cost effective way to produce competitive goods and services.
- (6) *Alliance exploitation.* The organization has to develop experience with alliances, develop alliance managers and develop the ability to identify potential vendors.
- (7) *Relationship exploitation.* The organization has to develop and secure common norms that are relevant to both parties.
- (8) *Social exchange exploitation.* The organization has to enable social and economic outcomes in the exchange between the vendor and itself such that these outcomes outperform those obtainable in alternative exchanges.
- (9) *Vendor behavior control.* The organization has to make it easy and inexpensive for itself to find out what the vendor is actually doing. In addition, both outcome-based and behavior-based incentives can be used to reduce and prevent opportunistic vendor behavior.
- (10) *Demarcation of labor.* The organization has to implement a strict and rigid division of labor between the vendor and itself.
- (11) *Stakeholder management.* The organization must create efficient and effective communication with and between stakeholders to secure continued support from all stakeholders, to balance their interests and to make the IT outsourcing arrangement so that all stakeholders achieve their goals.

### **Research methodology**

In order to understand the inherent complexities and the underlying constructs of managing successful IT outsourcing relationships empirical research was need. The exploratory case studies, conducted through July – September 2004, had the following guiding research question: “How do client and vendor organizations manage their IT outsourcing relationships?”

The selection of cases was based on an instrumental approach, which means that the case study was carried out to provide insight into issue or refinement of theory.

"The case is of secondary interest; it plays a supportive role, facilitating our understanding of something else. The choice of case is made because it is expected to advance our understanding of that other interest" (Stake, 1994, p. 237). Three cases were selected for their paradigmatic characteristics in terms of their outsourcing undertaking. In other words, the cases were selected because, the ABB – IBM was a global one; the SAS – CSC contract belonged to the largest buy-outs in Europe; the Rolls-Royce – EDS contract was a mature one. All cases were unique with global client companies from different industries, and all vendor companies were global service providers. In all three international based cases more than a thousand employees were transferred from client to vendor organizations. They provided a broad base of relationship practice, suggesting that a case in each company would be of interest and value to this research study. Table III shows some characteristics of the IT outsourcing relationships studied.

Data collection was done through a total of 16 interviews, with questions addressing: enter and exit strategies, phases and activities, contract development, personnel issues, governance structures and relationship management, and knowledge management, with a strong emphasis on what characteristics influenced successful IT outsourcing relationship. For each client-vendor outsourcing relationship, two-three interviewees were selected from each organization. All interviewees were assured anonymity to promote openness. Interviews were either personal meetings or telephone conferences, and lasted from 60 minutes to 95 minutes. Transcript of each interview was sent to respondent for approval. An abbreviation of each case was written and analyzed according to the theoretical perspectives. The individual cases served only as the evidentiary base for the study and were then used in a cross-case analysis. The purpose was not to portray any single one of the relationships. Rather, it was to synthesize the lessons learned from all of them, dispersed throughout separate cross-case issues.

In addition, a survey instrument was developed. In the survey instrument, each of the critical success factors was defined and a five-point Likert-scale was applied. All interviewees in the three international based case studies were asked to rate from 1 (low) to 5 (high) the importance of 11 individual factors.

## Research results

In this part of the paper, we first present survey results. Then we present findings from the case studies to illustrate the most critical success factors. On a scale from 1 (low) to 5 (high), core competence management was found to be the most critical success factors in IT outsourcing relationships, as indicated with the score of 4.67 in Table IV. The score is based on the response from 16 interviews.

In all three cases, one important driver of outsourcing was cost reduction. According to neoclassical economic theory, companies will justify their sourcing strategy based on evaluating possibilities for production cost savings. Thus, the question of whether or not to outsource, is a question whether the marketplace can produce product and services at a lower price than internal production. Client companies reported reduction of costs, better cost-performance, and economies of scale, compared to internal IT function.

But costs were not the only reasons for none of the client companies. New business strategies and restructuring of client companies was also important drivers. ABB were

Table III.  
Three internationally  
based case studies

Client company and interviewee	Industry	Origin	Outsourced	Start of deal	Length of deal	Size of deal (\$bn)	No. of people transferred	Customer of vendor company
Rolls-Royce	Power for civil aerospace, defense aerospace, marine and energy markets	UK	Infrastructure, application support and development	2000 (1996)	144 months	2.1	1,220	EDS
ABB	Power and automation technologies	Switzerland	Data centre, infrastructure, desktop	28/7/2003	120 months	1.1	1,200	IBM
Scandinavian Airlines	Air travel and airline-related businesses	Nordic	Infrastructure management, application development and support	18/12/2003	60 months	1.47	1,150	CSC

Rank	Critical success factors	Score	Theory
1	Core competence management	4.67	Theory of core competencies
2	Stakeholder management	4.58	Stakeholder theory
3	Production cost reduction	3.92	Neoclassical economic theory
4	Social exchange exploitation	3.82	Social exchange theory
5	Transaction cost reduction	3.80	Transaction cost theory
6	Vendor resource exploitation	3.75	Resource-based theory
7	Contract completeness	3.75	Contractual theory
8	Relationship exploitation	3.50	Relational exchange theory
9	Vendor behavior control	3.33	Agency theory
10	Demarcation of labor	3.17	Theory of firm boundaries
11	Alliance exploitation	2.83	Partnership and alliance theory

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**Table IV.**  
Ranking of critical success factors in IT outsourcing relationships

restructuring around two core business areas, and SAS admitted that IT was not at the core of an airliner. Core competencies theory suggests that activities, which are not core competencies, should be considered for outsourcing with best-in-the-world suppliers. Their outsourcing vendors, IBM and CSC respectively, had IT as their core competence.

The ability to handle technological change was also reported as a major issue for outsourcing. Both Rolls-Royce and SAS had a challenge, handling both cost reduction and new technologies at the same time. According to the resource-based perspective, outsourcing is a strategic decision that can be used to fill gaps in the firm's IS resources and capabilities. In the case of Rolls-Royce and SAS, it was a difference between desired capabilities and actual capabilities. Interesting to notice, the transforming of Rolls-Royce from a manufacturing oriented company to a service oriented company, seemed to be a part of the plan. Vendor resources can produce innovation, which might be important for long-term survival of the client. In this specific case, the vendor's ability to do change agency was an important criterion for vendor selection.

In the following, we will present the case studies for the three most critical success factors in Table IV.

#### *Core competence management*

Rolls-Royce's initial IT outsourcing back in 1996 outsourced all IT functions, and very little IT competence were kept in-house. What Rolls-Royce emphasized was a very strong business process skills, solution architecture skills, and contract management skills. The ability to define IT requirements and to monitor their delivery by third parties may be some of the core IT competencies that Rolls-Royce retained in-house to outsource IT successfully.

For SAS, most business applications, e.g. booking and travel planning, had become a commodity. What really gave competitive edge were electronic tickets and mobile solutions. As the CIO of SAS stated: "[...] it is appropriate for the employees of Scandinavian IT Group (SIG) to get employed by an outsourcer. CSC has got IT as their core competence." Although outsourcing IT to CSC, SAS consider IT as important and delivering competitive advantage. Beside the CIO function, SAS got a common function called Airline IT that served as a competence centre for the airline companies in SAS Group. SAS built core competencies to define IT requirements and to monitor their delivery.

ABB had done significant organizational changes, focusing on two core areas of business. They were selling away none-core business areas and internal support functions. Operating IT infrastructure was outsourced to reap cost savings from suppliers with clear comparative advantages. IBM had IT as a core competence, and people redeployed were given an opportunity to focus on their profession. ABB had been aware, the ability to define IT requirements and to monitor their delivery from IBM, was regarded as important competencies for them to outsource IT successfully. ABB had kept necessary resources to follow-up both operational and commercial side of outsourcing.

Core competence management was found to be the most critical success factor in IT outsourcing relationships. Activities, which are not core competencies, should be considered for outsourcing with best-in-the-world suppliers. An organization may view IT itself as a core competence. It seems that most successful companies have a good understanding of IT's potential. However, some organizations outsource IT even though they see it as core and delivering competitive advantage. This may be because IT can be considered core at the corporate level, but some of its aspects, at lower levels, might be commodities. Thus, the complexity of IT and it's (at least in part) core nature, may make the contracting out of IT a particularly challenging exercise. Core competencies are the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies.

#### *Stakeholder management*

Following stakeholder theory recommendations for successful IT outsourcing relationships are to create efficient and effective communication with and between stakeholders to secure continued support from all stakeholders, to balance their interests and to make the IT outsourcing arrangement so that all stakeholders achieve their goals. During the case studies several stakeholder groups were identified – client senior managers, client business managers, client retained IT managers, transferred IT employees (transplants), vendor senior managers, vendor account managers, and vendor supplier IT staff – each group with their own expectations and goals. These findings are not very different from stakeholder groups defined by Lacity (2000). An interesting observation was that the interviewees seemed to be aware of other stakeholders' expectations and goals. What was emphasized in the case studies was the unique position of the transplants. Respecting and balancing stakeholders' interests were ranked as an important factor for successful relationship.

Next to the theory of core competencies, stakeholder theory was found important. A stakeholder is any group or individual who can affect, or is affected by, the achievement of a corporation's purpose. Stakeholders include employees, customers, suppliers, stockholders, banks, environmentalists, government and other groups who can help or hurt the corporation. Stakeholder theory is justified on the basis that firms have responsibilities to stakeholders for moral reasons, and that there is no priority of one set of interests over another. Upholding four principles:

- (1) honoring agreements;
- (2) avoiding lying;



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- (3) respecting the autonomy of others; and
  - (4) avoiding harm to other, are necessary precondition for efficient working.

Critical success  
factors

And thus, stakeholder theories of the firm establish economic relationships within a general context of moral management. Contrary to the traditional understanding of the principal-agent relationship, used in several IT outsourcing studies, a stakeholder orientation will include at least two new dimensions:

- (1) a number of stakeholder groups; and
- (2) the interpretation of the four moral principles that underlie stakeholder theory.

The term stakeholders is widely used and accepted by IT outsourcing practitioners and researchers.

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#### *Production cost reduction*

Due to their financial conditions, Rolls-Royce was looking for a 10 per cent reduction of IT costs. But, the strategic issues underlying the outsourcing decision were also internal IT capabilities, and the need for a change agent. Due to fact that the decision was taken several years ago, and none of the interviewees were involved in the decision-making process of that time, it is difficult to state what criteria's were the most important. A large company as Rolls-Royce can generate economies of scale and scope internally by reproducing methods of vendors. And thus, defining outsourcing simply in terms of procurements activities seemed not to capture the true strategic discussion of the Rolls-Royce IT outsourcing.

In the SAS – CSC case it was obvious that IT costs was an important issue. Benchmarking showed that costs and efficiency of SIG were far too high. Enquiring the market, bidders showed that SAS could benefit from economies of scale outsourcing IT to an external service provider. In neoclassical economic theories outsourcing may be regard as the substitution of external purchase for internal activities and an initiation of procurement from outside suppliers. Selling SIG and buying services back, the outsourcing reduced SAS' involvement in successive stages of production, and thus the outsourcing could be viewed as vertical disintegration.

There was no doubt ABB had a very strong focus on reducing IT costs. They invited the largest outsourcers in the world to bid for their IT infrastructure. The scope was defined and the goal was to obtain economies of scale. As stated by ABB's CFO: "This long-term deal allows us to significantly take down costs, while benefiting from IBM's global expertise" (source: press release of July 2003). Neo-classical economic theory suggests that all IT functions which an external vendor can operate at lower costs than the company should be outsourced. Selecting IBM as vendor, ABB would obtain better cost-performance of their IT infrastructure. Whatever service IBM provided under the contract, they were committed to provide competitiveness compared to the market.

Because production costs are objectively calculated by the accounting system, while transaction costs are assessed subjectively through indirect indicators, functional managers are likely to differ in the importance that they assign to reducing transaction costs. Consequently, the effect transaction costs have on a make-or-buy choice can partly reflect the influence exerted by the purchasing manager. Production cost differences seems more influential in sourcing decisions than transaction cost

differences, and experience of the decision-maker is related to assessments of technological uncertainty. Perrons and Platts (2004) highlights the importance of industry clock speed and supplier relationships in make-or-buy decisions for new technologies. They suggest the “make” prescription may be more suited to either extremely fast or extremely slow rates of technological change, while the “buy” strategy might be more appropriate in market sectors where technologies evolve at a medium pace.

### Conclusion

Based on our interpretation of relevant theories, critical success factors for IT outsourcing relationships were developed. These factors were empirically tested and investigated in three outsourcing relationships. Although cost savings still seem to be the overriding cause of IT outsourcing, the success of outsourcing relationships depends on other factors. Both core competence management and stakeholder management, as identified in this research, are primarily non-cost factors.

In this research we have addressed the question of how to successfully manage IT outsourcing relationships. Using well-established theoretical perspectives and our own experiences earned from case studies, our ambition has been to identify critical issues in the complex IT outsourcing process and emerging relationships.

Based on the findings three managerial implications are suggested. First, we argue that a holistic approach to IT outsourcing is needed, that recognizes and emphasizes the combination of several critical success factors. These factors have both divergent and convergent implications for management. Being aware of these factors, managers are enabled to recognize relationship problems as they occur and to handle them before they scrutinize the IT outsourcing success. Second, we emphasize the importance of both client and vendor success in an effective IT outsourcing relationship, as the two parties is mutually dependent on one another. Finally, we recognize the complexity of IT outsourcing. When contracts expire there is a need to have an exit strategy focusing not only on the economic success of the IT outsourcing, but also to question issues such as core competence management, access to resources, and the maturity of the relationship.

The current research has several shortcomings that should be addressed in future research. Future research should:

- more carefully develop the motivation for such studies, elaborate on the specific research questions it addresses, and why these questions are important for research or practice;
- more carefully develop and explain how critical success factors can be identified from the various theories; and
- clarify the theoretical and empirical contributions this kind of research makes over and above the prior literature in the area.

Perhaps future research should focus on one or two theories, explicitly laying out expectations with respect to the theories, and organizing rich data to test expectations. Furthermore, it would be interesting to observe theories where the predictions contradict one another, and using observational data to study conditions for one theory or another to dominate.

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