A Relationship Perspective on IT Outsourcing

A longitudinal study at four companies provides valuable insights about the evolution of IT outsourcing relationships.

Outsourcing has been a key method for managing IT and systems (ITS) portfolios of companies since the early 1990s [2, 6, 8, 9]. It is generally believed that a firm's varied ITS portfolio including application systems (referred to as x) can be managed effectively by outsourcing service providers (referred hereafter as xSPs) without adversely affecting the firm's goals of organizational effectiveness.

Outsourcing is defined as "the contracting of various information systems functions such as managing of data centers, operations, hardware support, software maintenance, network, and even application development to outside service providers" [1]. A service provider in such a contractual relationship assumes responsibility, or ownership, for some aspects of the outsourced ITS portfolio. However, contractual relationships between client and service provider firms may vary considerably, because xSPs may not only assume different levels of responsibility or ownership of the client firm's ITS assets, there is usually a considerable degree of variation in the types of ITS functions, activities, and infrastructure outsourced by different firms at different times. For instance, if the outsourced ITS activity is routine and simple, such as the programming of a small and well-defined application system, a simple contracting approach to managing the outsourcing relationship might be the right choice. On the other hand, if large swaths of the ITS infrastructure of a firm involving several interdependencies and complexities are outsourced to an xSP, a strategic partnership approach to managing the outsourcing relationship may be the appropriate choice. This may be so because neither the formulation of an exhaustive contract nor precise measurement of performance on individual aspects of service delivery may be pos-

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sible when complex portfolios of ITS assets are outsourced.

Earlier research by the authors [9] developed a framework that classifies client-provider outsourcing relationships into Four Outsourcing Relationship Types, (a framework we call FORT). A client firm's relationship with an xSP firm can be classified into one of these four generic client-provider relationship types. However, outsourcing relationships between client firms and their service providers may change over time. Here, we discuss the four relationship types in terms of the competencies and monitoring mechanisms required for effectively managing them, and then trace the movement of client-vendor relationships within and across relationship cells over time. This discussion is based upon conceptual development from extant literature and case data longitudinally collected from four client sites during two different time periods.

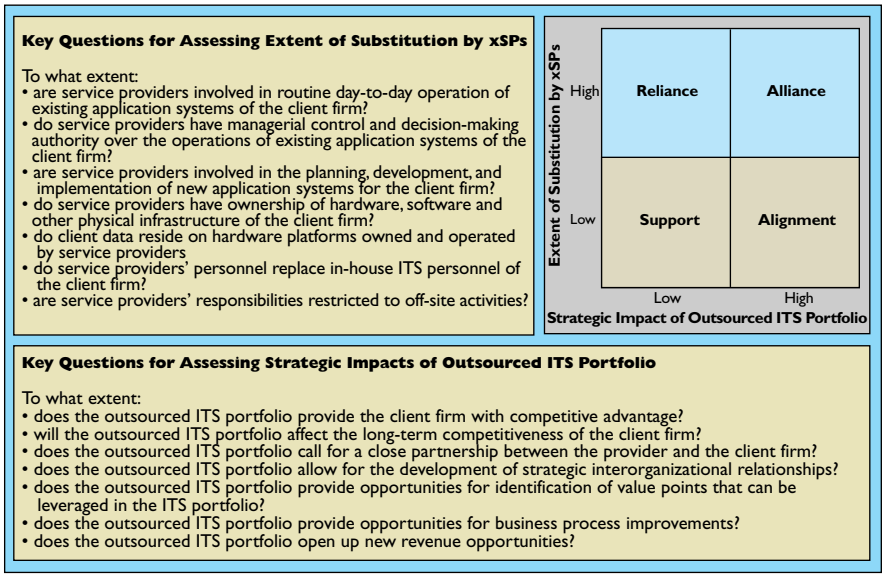

Figure 1. The FORT framework.

The FORT Framework

The FORT framework consists of two dimensions most germane to outsourcing relationships. The first dimension deals with the extent of ownership substitution by outsourcing service providers. Ownership substitution focuses on the aspect most important in an outsourcing relationship—the degree to which ownership and/or control of various ITS assets such as hardware, software, telecommunications infrastructure, and data center operations have been transferred to xSPs. The second dimension deals with the strategic impact of outsourced ITS portfolio. This dimension captures the influence the outsourced ITS portfolio has on a firm's competitive positioning and its long-term strategy. If the outsourced ITS portfolio adds value to a firm's competitive advantage (for example, by improving key business processes, or by enhancing its relationships with its customers or suppliers, and so on) the strategic impact of the outsourced portfolio will be deemed to be high. The four resulting types of outsourcing relationships are support, alignment, reliance, and alliance (Figure 1). The framework can be used to depict both static and dynamic aspects of client-provider relationships and then utilized to examine the movement of organizations' changing ITS outsourcing relationships over time within or across the four relationship cells.

In the support relationship, the role of the outside service providers is limited and insourcing is more prevalent than outsourcing. The alignment relationship enables firms to obtain service providers' technical expertise on a project basis. The reliance relationship requires more commitment to the relationship from vendor firms because significant portions of a client's in-house operations are transferred to external service providers. In contrast to other types of outsourcing relationships, clients and service providers work together in alliance types of relationships as strategic partners that have common goals.

These four outsourcing relationships require different types of competencies and monitoring mechanisms [2] as described in Table 1, and a client firm should consider these as they make choices concerning outsourcing relationships with service providers. For example, the support relationship involves low coordination costs and monitoring the relationship is easy because the extent of substitution by the vendors is low. In contrast, in the alignment and alliance relationships, coordination is much more complex and monitoring becomes more difficult in the alignment and alliance relationships because specifications for outsourced information services are difficult to specify completely a priori, and outcomes are generally ambiguous and uncertain.

Alliance relationships typically grow and build upon previous small, but successful, exchanges between organizations. The evolution of alliance relationships is thus preceded by interactions; and current

interactions form the basis for future interactions because of increased interorganizational coordination and communication. Thus the development of an alliance relationship is an interactive, dynamic process.

On the other hand, when the extent of substitution by service providers is high, service provider-specific investments by clients are also high. For example, clients become more committed to service providers' equipment, technology, systems, and skills in the reliance and alliance cells, and this results in a locked-in relationship and what Williamson [10, 12] refers to as "small numbers opportunism." Moreover, as provider-client relationships move from support to alignment or reliance relationships, and finally to alliance relationships, measuring service providers' contributions becomes progressively difficult because of the higher impact of providers' activities on clients' firms strategies. Similarly, monitoring of service providers' activities to ensure they are aligned with client firms' interests also becomes increasingly difficult. This requires for a detailed system of incentives and penalties.

In the case of an alliance type of relationship, trust [11] rather than incentives and penalties becomes an important mechanism to ensure that service providers' interests coincide with clients' interests. Building trust is essentially creating a zipper to bind the client and service provider organizations. This reduces uncertainty for clients and service providers, increases commitment of both parties to the relationship, and facilitates increased investment of resources in their relationship. Table 1 summarizes these characteristics.

Reliance	**Alliance**
Extent of substitution: high Strategic impact: low • Typically IBM-Kodak type of outsourcing. • Cost reduction is generally the major motivation for outsourcing. • Contract periods are usually longer term. ***Required Competency and Monitoring Mechanism*** • Ability to routinize rules and procedures is required for effective monitoring of the contractual outcomes. • Outcome-based controls are generally more effective than behavior-based controls in this relationship. • Effective incentive plans augment outcome-based controls as service providers are more highly involved in more facets of a firm's information services provisioning. • Ability to call and evaluate multiple bids is generally needed to ensure a cost-effective outsourcing deal. • Due to a high extent of substitution by service providers, prior planning is required to keep the "lights on" on existing application systems prior to expiration of current outsourcing contracts. ***Movement*** • Firms can move into the alliance cell when either the strategic impact of their portfolio goes up or when newer and more strategic ITS portfolio is outsourced • It is usually difficult to return to the support or alignments cells due to locked-in relationships with current service providers.	Extent of substitution: high Strategic impact: high • Most comprehensive type of outsourcing like the GM-EDS, American Airlines-Sabre, or Delta-Transquest types of outsourcing relationships. • This relationship involves management of a strategic partnership with the service provider. ***Required Competency and Monitoring Mechanism*** • Behavior-based performance measurement is usually effective as outcomes for outsourced information services are the most difficult to specify; they are generally most ambiguous, uncertain, and dynamic. • Effective monitoring mechanisms are high on mutual trust and low on contractual control. This requires conscious attention to the processes of development of mutual interorganizational trust between the client firm and service providers over time. • Profit sharing rules needs to be set up to incent the service providers to engage in mutually beneficial behaviors. • Common objectives and mission statements help achieve goal symmetry between client and provider firms. • Informal communication channels are important. ***Movement*** • Movement from this cell into other cells is the most arduous, and calls for extremely well thought out immigration plans • Switching from current to new service providers carries the highest set-up and switching costs.
Support	**Alignment**
Extent of substitution: low Strategic impact: low • Typically traditional IS services such as payroll processing. • Insourcing is usually the primary governance mode for the firms in this cell. • Outsourcing is only used on a selective basis to support information services of a firm. • This relationship imposes the lowest switching and set-up costs. ***Required Competency and Monitoring Mechanism*** • Ability to organize and manage a multiple bidding process is required to reduce outsourcing costs. • Monitoring the market on an ongoing basis helps create benchmarks that can be used to evaluate the costs and services of current service providers. • Outcome-based performance measurement is usually effective in this relationship. ***Movement*** • Firms can consider a movement into the reliance, alignment, or alliance cells. • However, a full-scale movement from this cell into the alliance cell may be a risky proposition due to a general lack of prior knowledge and experience in managing that type of a strategic relationship.	Extent of substitution: low Strategic impact: high • Generally consulting type high-impact IS services, such as Cisco-KPMG partnership for implementing Oracle Enterprise System. • Mostly project-based IS services, such as those required for new application systems development or implementation of package solutions. • Gaining access to world-class technical expertise is generally a major motivation for outsourcing. ***Required Competency and Monitoring Mechanism*** • Ability to integrate existing information systems with new information systems is usually required as service providers may have little technical knowledge about client's existing systems. • Technically competent in-house personnel are typically required to provide technical expertise about existing systems and for implementing new systems. • Behavior-based controls are generally more effective for monitoring service providers' performance here as specifications and outcomes are more uncertain, ambiguous, and dynamic. ***Movement*** • Firms wishing to move into an alliance relationship with their service providers usually find it helpful to migrate to that cell via this relationship. • Similarly, firms who wish to move back into the support cell, with insourcing as the primary governance mode, find it easier to migrate to that cell via this relationship in a selective manner.

Table 1. Characteristics of the four relationship cells.

When the extent of service provider involvement is low, as is the case in support and alignment relationships, clients make little investment in service provider-specific assets. Client-provider relationships in these two cells are usually short-term and are quite specific to outsourced projects and services. Clients generally control the specification, design, and implementation aspects of outsourced projects and services and these relationships, therefore, do not entail transfer of skills to the client firm or training of the client firm's personnel. Because clients' investments in service provider-specific assets are low, the likelihood of opportunistic behavior on the part of service providers is generally low. Hence, there is little need for incentives and penalties to be specified in detail in such contractual relationships.

Evolution of Outsourcing Relationships

Outsourcing relationships are not static; they are likely to change and evolve over time due to changes in the external environment and in clients' internal requirements. Figure 2 represents this evolution of outsourcing relationships in terms of possible movements of client firms across and within the four cells of the FORT framework.

Firms in the support cell may move into other cells.

Alternatively, they may decide to remain within the support cell. Movement from the support to the alignment cell is the least risky because it usually does not involve large investments. Instead, such a movement facilitates acquisition of service providers' expertise without long-term commitments. From the alignment cell, client firms may decide to move to reliance or alliance cells progressively increasing their commitment. On the other hand, they may revert back to the support cell once they have acquired the expertise from the service providers. Movements into the reliance and alliance cells require progressively more commitment to the relationship from client firms because of the increased level of involvement of service providers in client firms' IS activities. Therefore, outsourcing decisions become more irreversible as client firms get into reliance or alliance types of relationships with their service providers. As the outsourcing relationship moves from the support type to the alliance type, there is increased transfer of information; increased level and content of services that are transacted; and development of mutually shared expectations and evaluations of each other by service provider and client.

Industry / Firm Pseudonym	ITS Department Characteristics: Budget/Headcount	Key Informant — 1st Round of Interviews	ITS Portfolio Outsourced at the time of 1st Interview	Key Informant — 2nd Round of Interviews	ITS Portfolio Out—sourced at the time of 2nd Interview
PRPM (DDD)	$7 million/45 persons	Director of the IS department	Application development for non-strategic applications	Vice president of the IS department (the director interviewed earlier was promoted to this position)	Technology scanning, in-house IS staff mentoring, IS strategic planning, application development of some strategic ITS applications
MM (FFF)	Before Merger: $15 million/100 persons; After Merger: Separate budget for merged IS department not available/50 persons	CIO (Senior Vice President) IS Director	Adhoc IS projects, coding, disaster recovery	IS Director	Data center operations, PC maintenance, training of IS staff
CIRA (MMM)	$10 million (additional $40 million for systems upgrade)/40 persons	Vice President of IS Operations	Insourcing of the major Systems Upgrade Project; Some outsourcing	Vice President of IS Operations	Application development on a selective basis only for non-strategic IS applications
H (EEE)	IS budget not available/ 35 persons	Head of IS (reports to Finance Manager)	Training and support of IS staff (hired consulting staff from their xSP)	Head of IS (now reports to the CEO)	Data center, telecommunications, and enhancement and modernization of important application systems

Table 2. Description of the four cases in the longitudinal study.

Outsourcing of traditional types of IS services corresponds to a movement within the support cell we the "supportive movement." Movements from the support cell to the reliance or alignment cell are named "substitutional movement" because either strategic or operational in-house IS activities are taken over by outsourcing service providers. Movements to the alliance cell from other points in the matrix follow a trend accentuated by the fact that service providers are consistently striving to expand their offerings in the outsourcing market. We name this "strategic movement" because service providers become strategic partners of the client firms.

One of the current trends of outsourcing is the evolution from the supportive movement to the substitutional movement and in the long run to the strategic movement. However, strategic movement is less prevalent than substitutional movement due to the nature of commitment required on the part of both clients and service providers and the amount of time it takes to develop mutual trust between them. The low frequency of strategic movement may also be due to the recency of the alliance type of outsourcing relationship, or due to its slow diffusion in the marketplace.

The degree of locked-in relationships is the highest in the alliance cell. Since a successful locked-in relationship is built on mutual trust over a period of time, strategic movement generally needs to be based upon prior substitutional movements. Therefore, if client firms move into the alliance cell from the support cell directly without prior alignment or reliance relationships, both parties will suffer due to lack of built-in rules and procedures. Moreover, the impact of the alliance relationship on the organization and the degree of lock-in with the particular service provider is so large that it is usually difficult to reverse this relationship. In this sense, a direct movement from a support relationship to an alliance relationship is much more risky than a movement from either a reliance or an alignment type of relationship to an alliance type of relationship.

Case Studies

Data for this research was collected using the case study approach. We initially selected 15 firms of diverse sizes in different industry groups based in the northeastern U.S. and southern Ontario, Canada for our research study on sourcing practices. The industries represented in our sample include chemical manufacturing, plastics and rubber products manufacturing, computer and electronic product manufacturing, manufacturing, food and beverage stores, credit intermediation and related activities, insurance carriers and related activities, professional, scientific, and technical services, and hospitals. Of the 15 firms in our initial sample, we chose four for this particular research study for a variety of reasons. First, we needed only firms involved in outsourcing of some aspects of their ITS portfolio. We also wished to include firms from different industries in the longitudinal study to provide us with a broader

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sample. We wanted to have a sample of firms that covered different types of movements within the FORT framework; and it was important to gain top management commitment for repeated interviews. Details of these firms are provided in Table 2.

The longitudinal study was carried out over a period of three years. Data was gathered primarily through interviews of senior IS executives, and outsourcing experiences of the firms were analyzed by the following key topics and the questions shown in Figure 1:

- ITS competencies possessed by the firm
- Motivations for outsourcing
- Process for xSP selection
- Criteria for selecting the xSPs
- ITS portfolio outsourced
- Contract period and contract governance
- Recurring and ongoing operations costs and switching costs
- Trust with the xSP
- Future ITS strategic plan

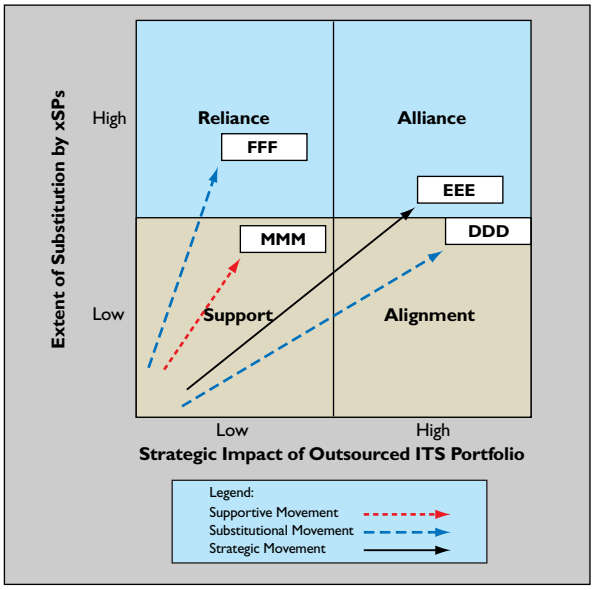

Figure 2. The evolution of outsourcing relationships—An illustration of four client firms' outsourcing relationships over time.

The experiences of these firms show that IS managers approach and implement outsourcing in different ways even though they may have similar motivations for outsourcing, such as cost reduction or acquisition of technical expertise [3, 6].

Figure 2 represents the movement within the FORT framework of each of the four firms that we examined. Firm MMM remained within the support cell. The firm decided to operate their strategic applications in-house and use external service providers only for non-strategic IS functions. Firm FFF's movement from the support to the reliance cell is similar to the IBM-Kodak type of outsourcing. Firm EEE's outsourcing became more strategic and so it moved to the alliance cell. Firm DDD's outsourcing decision corresponds to a movement from the support to the alignment cell.

Managerial Implications

Firms should consider the costs and difficulties of moving from one quadrant to another in determining the direction of movement. Not all firms choose the least expensive choice. Firms should clarify their decision criteria for outsourcing. The decision to outsource is a firm-specific problem. Even though many firms consider outsourcing in order to reduce costs, technical expertise for new IT is a major reason for outsourcing. For example, in the case of one firm the final service provider was not the least expensive service provider. Similarly, insourcing was not the cheapest option for another.

Another major reason for not choosing the least expensive outsourcing option is that the types of competencies and measurement and monitoring mechanisms differ across the four outsourcing relationships, and the level and type of skills available within a client firm may restrict the choices of client firms to only some outsourcing relationship types. Hence, firms should develop their own outsourcing strategies as dictated by their pool of managerial skills.

Firms can consider multiple movements from one cell to other cells in the matrix through selective outsourcing. For certain projects a firm can move from the support cell, to the reliance cell, and for others, the firm can move to the alliance cell through selective outsourcing. An advantage of selective outsourcing [7] is that several service providers can be used simultaneously by a client firm depending upon service providers' expertise and special offerings. In addition, it allows client firms to minimize costs and maximize business benefits simultaneously. How-

ever, this scenario creates coordination problems among multiple service providers, and client firms should pursue this strategy only if they are capable of coordinating activities of multiple service providers simultaneously. Selective outsourcing with multiple vendors can also be pursued when ITS activities outsourced to different providers are not interdependent on each other. Further, selective outsourcing with multiple vendors calls for managing a web of relationships that may be in different stages of evolution in our FORT classification. For example, one relationship may be of the support type while another may be of the reliance type, and yet another relationship may be of the alliance type. As discussed in Table 1, these relationships require different types of competencies and monitoring mechanisms, and firms should pursue this strategy only if they have the required competencies to manage different types of outsourcing relationships concurrently.

Outsourcing should be considered more as a management of relationship with service providers rather than as a simple subcontract for IS commodities. From our case studies, we observed the technical competency of service providers is an indispensable factor for success of client-vendor relationships. However, the most important factor affecting success of outsourcing appears to be a mutual understanding between clients and their service providers. Firms in our study developed a high degree of understanding through information sharing in regular meetings of their top management with their service providers. This understanding proves helpful when client firms extend their outsourcing relationships into higher-level relationships and it is, therefore, important to design relationships with adequate mechanisms for information sharing between the two partners from the very beginning.

Firms must have a clear plan for their future movement within the FORT framework. In our case studies, we found that some firms do not have a plan for what to do upon expiration of the outsourcing contract. Without a plan for future sourcing strategy and relationships in place, client firms will not be able to develop specific competencies in the interim to make a smooth transition from current relationships to the future ones.

This article developed a two-dimensional framework to analyze information system outsourcing relationships of client organizations with their service providers. Four types of relationships and three types of movements have been proposed to better understand dynamic outsourcing relationships. Future research may investigate a number of questions that have a bearing on the outsourcing decision. For example, our framework indicates the following list of issues, while not exhaustive, may be pertinent: the effect of the client competencies required for the four type of relationships on client's outsourcing performance; definitions and measures of service provider performance; factors that affect movements among the cells; and the stability of the outsourcing relationships. In general, dynamic features of outsourcing relationships and critical factors for the movements must be further examined in the future. C

References

1. Chaudhury, A., Nam, K. and Rao, H.R. Management of information systems outsourcing: A bidding perspective. *J. MIS 12*, 2 (1995), 131–159.
2. Choudhury, V. and Sabherwal, R. Portfolio of control in outsourced software development projects. *ISR 14*, 3 (2003), 291–314.
3. Goo, J., Kishore, R. and Rao, H.R. A content-analytic longitudinal study of the drivers for information technology and systems outsourcing. In *The 21st International Conference on Information Systems* (Brisbane, Australia, 2000), ICIS, 601–611.
4. Huber, R.L. How Continental Bank outsourced its "crown jewels." *Harvard Business Review 71,* 1 (1993) Cambridge, MA, 121–129.
5. Kishore, R. and McLean, E.R. The next generation enterprise: A CIO perspective on the vision, its impacts, and implementation challenges. *Information Systems Frontiers 4*, 1 (2002), 121–138.
6. Lacity, M.C. and Willcocks, L.P. An empirical investigation of information technology sourcing practices: Lessons from experience. *MISQ 22*, 3 (1998), 363–408.
7. Lacity, M.C., Willcocks, L.P. and Feeny, D.F. The value of selective IT sourcing. *Sloan Management Review 37,* 3 (1996), 13–25.
8. Loh, L. and Venkatraman, N. Diffusion of information technology outsourcing: influence sources and the Kodak effect. *ISR 3,* 4 (1992), 334–358.
9. Nam, K., Rajagopalan, S., Rao, H.R. and Chaudhury, A. A two-level investigation of information systems outsourcing. *Commun. ACM 39,* 7 (July 1996), 36–44.
10. Rindfleisch, A. and Heide, J.B. Transaction cost analysis: Past, present and future applications. *J. Marketing 61* (Oct. 1997), 30–54.
11. Sabherwal, R. The role of trust in outsourced IS development projects. *Commun. 42,* 2 (Feb. 1999), 80–86.
12. Williamson, O.E. The economics of organization: The transaction cost approach. *Amer. J. Sociology 87,* 3 (1981), 548–577.

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