Achieving Success Through the Fit Among Strategies of IT Outsourcing: An Empirical Investigation

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Outsourcing has emerged as a major strategic alternative in information systems management. However, the decision to outsource IT functions is not an easy task since outsourcing not only has a profound and far-reaching impact on an organization's market share and its technical leadership, but it also helps the organization to be either agile and proactive or sluggish and reactive in responding to customer needs and market opportunities. Therefore, outsourcing is not just an operational decision but a strategic one with far-reaching consequences. The success of outsourcing requires a set of processes for effectively formulating outsourcing strategies in the early stage of outsourcing decision-making. Deciding the degree of outsourcing, seeking a contractual or partnership relationship, entering into long-term or short-term outsourcing, or selecting a single or many vendors are not simplistic strategic options. This is because these factors must be considered in conjunction with one another and other organizational factors. Although a few researchers have begun to examine effective outsourcing strategies, most of their studies have focused mainly on each dimension of outsourcing strategies without consideration of their combined effects. Furthermore, there has been little development in the appropriate theoretical models to aid in understanding the combined effects among outsourcing strategies. In short, adequate guidelines for organizing effective outsourcing strategies do not exist.

The objective of this study is to examine how the concept of fit can be applied to complex outsourcing strategies. More specifically, this study focuses on the nature of interrelationships among four outsourcing strategies and their impact on outsourcing success. These four outsourcing strategies are; ***degree of outsourcing*** - total insourcing, selective outsourcing or total outsourcing; ***relationship type*** - buy-in contract, fee-for-service contract or partnership; ***period of outsourcing*** - short-, mid-, or long-term outsourcing; and ***the number of vendors*** - single or multiple. This study proposes five congruent combinations of these four outsourcing strategies based on three typical theoretical perspectives that have been applied to outsourcing research: (1) a congruent pattern from a strategic management perspective (a total insourcing, buy-in-contract, short-term, and single vendor strategy) (2) two congruent patterns (a selective outsourcing, fee-for-service, mid-term, and single vendor strategy; a selective outsourcing, fee-for-service, mid-term, and multiple vendors strategy) from an economic perspective; and (3) two congruent patterns (a total outsourcing, partnership, long-term, and single vendor strategy; a total outsourcing, partnership, long-term, and multiple vendors strategy) from a social perspective. Finally, this study investigates if these internally congruent patterns of outsourcing strategies could be found in practice to enable organizations to reap greater outsourcing benefits and which pattern of outsourcing strategies allows organizations to achieve the greatest outsourcing success using a sample of 311 organizations in Korea that have outsourced their IT functions. The results show that five congruent patterns were found to be popular among the companies studied. Organizations with congruent strategic patterns appeared to realize greater outsourcing success than those with non-congruent patterns. A total outsourcing, partnership, long-term, and multi-vendor strategy with social exchange theory displayed the highest outsourcing achievement among the five congruent patterns studied.

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I. INTRODUCTION

IT outsourcing, which is defined as the process of commissioning part or all of an organization's IT assets, people, and/or activities to one or more external service providers, has emerged as a viable and powerful option in information systems management. The decision to outsource IT functions is not an easy one, since outsourcing not only has a profound and far-reaching impact on an organization's market share and its technical leadership, but it also helps the organization to be either agile and proactive or sluggish and reactive in responding to customer needs and market opportunities (Hu, Saunders and Gebelt, 1997). Therefore, outsourcing is not just an operational decision, but a strategic one with far-reaching consequences.

When a company decides whether to outsource, it has to consider both its own internal IT environment and the external service provider's environment. At this stage, the company identifies the risks and benefits of outsourcing, while carrying out managerial and technical assessments of its existing IT resources and capabilities (Lee and Kim, 1997). Then, if the company decides to outsource, the strategic dimensions of the outsourcing must be decided such as the degree of outsourcing (Ang and Straub, 1998; Lacity, Willcocks and Feeny, 1996; Quinn and Hilmer, 1994), the period of outsourcing (Chalos, 1995; Lacity and Willcocks, 1998; Pinnington and Woolcock, 1995), the number of vendors (Klotz and Chatterjee, 1995; Ngwenyama and Bryson, 1999; Saunders, Gebelt and Hu, 1997), the type of relationship involved (Fitzgerald and Willcocks, 1994; Klepper, 1995; Nam, et al., 1996), and the type of outsourcing (Bunker, 1989; Loh and Venkatraman, 1991, 1992).

How do managers design an effective outsourcing strategy that is the most appropriate for their firms? While some firms have achieved varying degrees of outsourcing success with any of these strategies, many have encountered significant difficulties. An incorrect outsourcing decision with insufficient thought as to strategy can result in loss of competencies and capabilities, exposure to unexpected risks, and even business failures. However, the literature provides no guide as to what effective combinations exist among outsourcing strategies. Although a few researchers have begun to examine effective outsourcing strategies (Lacity and Willcocks, 1998; Saunders, Gebelt and Hu, 1997), their studies have focused mainly on individual dimensions of outsourcing strategy without considering their combined effects. Furthermore, there has been little development of theoretical models to aid in understanding the effects of combing outsourcing strategies. In short, adequate guidelines for organizing effective outsourcing strategies do not exist.

No large-scale empirical study has been published in the outsourcing literature that explores the relationship between congruence among outsourcing strategies and the success of outsourcing.

Against this backdrop, the objective of this study is to provide a better understanding of outsourcing strategies by identifying combinations that are empirically associated with success in IT outsourcing. To do so, the concept of fit is first introduced and defined as a gestalt in the context of this study. Four major dimensions of outsourcing strategy are then defined - *degree of outsourcing (total insourcing, selective outsourcing or total outsourcing), relationship type (buy-in contract, fee-for-service contract or partnership), period of outsourcing (short-, medium, or long-term outsourcing),* and *the number of vendors (single or multiple).* This study proposes five congruent combinations of these four outsourcing strategies based on three typical theoretical perspectives that have been applied to outsourcing research (Cheon, Grover and Teng, 1995; Lee an Kim, 1999): (1) a congruent pattern from a strategic management perspective (a total insourcing, buy-in-contract, short-term, and single vendor strategy) (2) two congruent patterns (a selective outsourcing, fee-for-service, mid-term, and single vendor strategy; a selective outsourcing, fee-for-service, mid-term, and multiple vendors strategy) from an economic perspective; and (3) two congruent patterns (a total outsourcing, partnership, long-term, and single vendor strategy; a total outsourcing, partnership, long-term, and multiple vendors strategy) from a social perspective. Finally, this study investigates if these internally congruent patterns of outsourcing strategies could be found in practice to enable organizations to reap greater outsourcing benefits and which pattern of outsourcing strategies allows organizations to achieve the greatest outsourcing success using a sample of 311 organizations in Korea that have outsourced their IT functions.

This paper is organized in six sections. The next section presents the theoretical framework for the study. Section three describes the research methodology while section four reports the results of the study. Discussions of the findings, implications, limitations, and future research directions are presented in section five, and finally conclusions follow in section six.

II. THEORETICAL FRAMEWORK

The success of outsourcing can be manifested in several different ways. Generally, success may be reflected by the degree to which predefined objectives are realized. In most outsourcing cases, outsourcing objectives relate to the strategic, economic and technological benefits (Loh and Venkatraman, 1992), which

means that the success of outsourcing should be assessed in terms of the attainment of these benefits. Such objectives include an outsourced system's efficiency, user and business satisfaction in the outsourced systems, service quality, cost reduction, and so on (Arnett and Jones, 1994; Benko, 1993; Grover, Cheon and Teng, 1996; Lacity and Hirschhein, 1993; Lee and Kim, 1999).

As the scope and complexity of outsourcing projects expand, the importance of a well-organized outsourcing strategy developed in the initial stage is rising. The limited amount of research in this area suggests that typical outsourcing strategies that could affect outsourcing success include degree of outsourcing, relationship type, period of outsourcing, and the number of vendors (Klotz and Chatterjee, 1995; Lacity and Hirschhein, 1993; Ngwengyama and Bryson, 1999; Pinnington and Woolcock, 1995; Willcocks, Lacity and Fitzgerald, 1995). The following subsections will explain the concept of both fit and each outsourcing strategy, and then propose five major patterns among outsourcing strategies from the three typical theoretical perspectives that have been used to explain outsourcing phenomena.

2.1 Types of Fit

The concept of fit between strategy and structure has often applied in strategic management research (e.g., Miles and Snow, 1978). However, precise guidelines are seldom provided, despite the widespread use of various related terms such as match, congruence, consistency, co-alignment, and so on. A pioneering study by Drazin and Van de Ven (1985) identified three different approaches to fit, such as fit as congruence, fit as interaction, and fit as internal consistency, to explain context-structure-performance relationships in contingency theory. These idea were extended by Venkatraman (1989) to identify six distinct perspectives on fit - fit as moderation, fit as mediation, fit as matching, fit as gestalts, fit as profile deviation, and fit as covariation. Venkatraman focused on explicit links between theoretical propositions and operational tests.

These perspectives can be classified based on three dimensions: the specificity of the theoretical relationship between variables (low vs. high); the extent to which the concept of fit is anchored to a particular criterion (criterion-specific vs. criterion-free); and the number of variables in the fit relationship (few vs. many). According to this classification, both fit as gestalts and fit as profile deviation involve lower specificity of the theoretical relationship, while greater specificity is required for both the fit as moderation and fit as matching perspectives. Three perspectives - fit as gestalts, fit as covariation, and fit as matching - adopt a criterion-free specification

which has universal applicability. The rest of fit perspectives are intrinsically connected to specific criteria variables (e.g., effectiveness). Finally, both fit as moderation and fit as matching are limited in the number of variables considered, whereas both fit as profile deviation and fit as gestalts support multiple variables.

As the scope and complexity of outsourcing projects expand, the importance of a well-organized outsourcing strategy developed in the initial stages is rising. This study assumes that an outsourcing strategy has its own dimensions, that situational variables influence the outsourcing strategy decision, and that fit or congruence among the dimensions of outsourcing strategy is related to outsourcing success. The existing literature does not explicitly distinguish the dimensions of outsourcing strategy from the factors that affect outsourcing decisions. For example, top management support is considered as an important factor for achieving success in outsourcing (e.g., Lee and Kim, 1999). But it should be considered as an antecedent that influences decisions on outsourcing strategy rather than a dimension of outsourcing strategy itself.

This study focuses mainly on strategy decisions in the early stages of the outsourcing process which provide overall guidelines throughout the process of outsourcing. According to the general process model of outsourcing (Chaudhury, Nam and Rao, 1995; Lee and Kim, 1997), the selection of an outsourcing strategy is the very next stage of outsourcing decision-making. Other stages such as service provider evaluation and selection, contract negotiation, outsourcing implementation, contract management, and performance feedback then follow. As an example, the actual size of the contract, often perceived as a matter of outsourcing strategy (e.g., Bryson and Ngwenyama, 2000), cannot be a dimension of outsourcing strategy in the context of this study because it should be fixed at a later stage of outsourcing process under the guidance of the outsourcing strategy defined at an earlier stage.

Applying the above principles in selecting relevant dimensions of outsourcing strategy, this study considers four main dimensions of outsourcing strategy treated in the literature: degree of outsourcing; relationship type; period of outsourcing; and the number of vendors. Many organizational theories have been applied to establish a theoretical foundation for outsourcing strategies, but three theoretical perspectives - strategic management perspective, economic perspective, and social perspective - are strongly associated with the four dimensions. 〈Table 1〉 summarizes four dimensions of outsourcing strategy by describing their different criteria, classifications, applied theories, and typical past studies.

〈Table 1〉 Typical studies of strategic dimensions in outsourcing decisions

Strategic Dimensions	Criteria	Classification	Theories	Typical Studies
Degree of outsourcing	Decision scope (Percentage of total IT budget)	Total insourcing; Selective outsourcing; Total outsourcing	None	Lacity and Willcocks (1998); Lacity, Willcocks and Feeny (1996); Willcock, Lacity, and Fitzgerald (1995);
	Core vs. non-core function	Core function outsourcing; Commodity function outsourcing	Core competencies theory	Quinn and Hilmer (1994); Slaughter and Ang (1996)
	Extent of outsourcing	Systems planning and management; System development and maintenance; Systems (data center) operations; Telecommunication management; End-user support	Transaction cost theory; Resource dependence theory	Ang and Straub (1998); Grover, Cheon and Teng (1996)
	Type of outsourcing	Service outsourcing; Asset outsourcing	Transaction cost theory	Bunker (1989); Loh and Venkatraman (1991, 1992)
Relationship type	Contract type	Buy-in contract; Fee-for-service contract; Partnership	None	Lacity and Willcocks (1998, 2001)
	Contracting relationship	Contractual relationship; Partnership relationship	Social exchange theory	Klepper (1995)
	Type of contracts	Time and materials; Fixed fee; Fixed fee plus variable element; Cost plus management fee; Fee plus incentive scheme; Share of risk and reward	None	Fitzgerald and Willcocks (1994); Looff (1995)
	Type of relationship	Support; Alignment; Reliance; Alliance	Transaction cost theory	Nam, Rajagopalan, Rao and Chaudhury (1996)
Period of outsourcing	Contract duration	Short-, Medium, Long-term	None	Lacity and Willcocks (1998, 2001); Pinnington and Woolcock, (1995)
		Short-term; Long-term	Transaction cost theory; Social exchange theory	Chalos (1995); Klepper (1994)
Number of vendors	# of service providers	Single-vendor; Multi-vendor	Transaction cost theory	Lacity and Willcocks (2001); Ngwenyama and Bryson (1999); Pinnington and Woolcock, (1995); Saunders, Gebelt and Hu (1997)

2.2 Four Dimensions of Outsourcing Strategy

2.2.1 Degree of Outsourcing

What is the optimal degree of outsourcing for an organization? Companies make their outsourcing decisions for many reasons, ranging from a simple focus on cost reduction to the improvement of business performance. Broadly, an outsourcing decision can be viewed as being either efficiency-based or politically-driven (Aubert, Rivard and Patry, 1996; Smith, Mitra, and Narasimhan, 1998). The driving force behind the efficiency-based perspective is to maximize profits or to minimize costs when choosing outsourcing options. For the political motivation, outsourcing decisions are motivated by difficulties in managing IT functions such as the lack of efficiency in the IT department, the low quality of services, the difficulty of improving business performance using current IT functions, and so on.

Based on the motivation or the objective of outsourcing, organizations may choose their possible candidates and decide on the suitable amount of outsourcing. Some IT activities are critical contributors to business operations (core functions), whereas others merely provide necessary functions (commodity functions). Both the core and commodity functions can be evaluated for organizational outsourcing potential (Ang and Straub, 1998; Quinn and Hilmer, 1994). The identification of the functions that organizations wish to outsource can be done by considering if a particular activity is critical to a company's value chain or to its desired competitive focus.

For instance, some companies concentrate their resources on a set of core functions and strategically outsource other functions (Quinn and Hilmer, 1994), while some may outsource their core functions because they lack the talent and skills to develop potential core differentiating applications (McFarlan and Nolan, 1995). Specifically, organizations may choose a total insourcing strategy (outsourcing less than 20 percent of the total IT budget), a selective outsourcing strategy (outsourcing 20 to 80 percent of the total IT budget), or a total outsourcing strategy (outsourcing more than 80 percent of the total IT budget) (Lacity, Willcocks and Feeny, 1996). However, there is no exact answer about which functions are appropriate for outsourcing and to what extent the outsourcing is optimal for an organization. By understanding the outsourcing motivation coupled with business and IT strategies, organizations should decide upon the optimal outsourcing scope leading to outsourcing success.

2.2.2 Relationship Type

What kind of outsourcing relationship is appropriate for an organization? Many different types of contracts are used to govern IT outsourcing relationships between the service

receiver and provider. According to Lacity and Willcocks (1998), outsourcing relationships can be categorized into three major types: fee-for-service contract; partnership; and buy-in contract. The fee-for-service contract means that a service receiver pays a fee to a service provider in exchange for the management and delivery of specified IT products or services. A partnership is a collaborative interorganizational relationship involving significant resources of two or more organizations to create, add to, or maximize their joint value, while a buy-in contract indicates that a service receiver purchases vendor resources to supplement in-house capabilities but the vendor resources are managed by in-house business and IT management.

For instance, some companies are opting to establish partnerships with their service providers based on long-term commitments that allow firms to share risks and benefits and to better manage complex outsourcing relationships (Diromualdo and Gurbaxani, 1998; McFarlan and Nolan, 1995). Some studies, however, insist that outsourcing providers cannot be strategic partners because they do not share profits (Lacity and Hirschheim, 1993; Lacity, Willcocks and Feeny, 1996). Further, the nature of an outsourcing partnership is something different because the outsourcing relationship itself includes a hierarchical relationship based on the contract (Saunders, Gebelt and Hu, 1997). Thus, partnerships might only be appropriate under conditions of high uncertainty when flexible contracts and a good working relationship become important (Fitzgerald and Willcocks, 1994).

However, we should keep in mind that the achievement of outsourcing is not assured and all relationships between the service receiver and provider are always subject to dissolution. Thus, a relationship with a service provider must be aligned with the strategic intent underlying the outsourcing initiative. The best way to minimize the risk of outsourcing failure is to develop an appropriate outsourcing relationship with the service provider. That is, managers must choose the proper relationship type and successfully implement and sustain it if outsourcing is to succeed.

2.2.3 Period of Outsourcing

Which outsourcing period is better for an organization - short-, mid-, or long-term outsourcing? The results of previous studies and practices indicate that there are conflicting answers to this question. Some companies prefer long-term outsourcing whereas others pursue short-term outsourcing. A long-term contract improves financial predictability and reduces the risk and uncertainties associated with the important business functions (McFarlan and Nolan, 1995; Martinsons, 1993). This in turn reduces the superfluous complexity and bureaucracy of the service receiver and reassigns

internal staff from routine operational tasks to value-added functions. On the contrary, a short-term contract allows companies to analyze adequately the cost implications of their outsourcing decisions, to motivate vendor performance because vendors realize the service receiver could switch vendors when the contract expires, and to recover more quickly from mistakes (Lacity and Willcocks, 1998).

In the past, outsourcing duration was associated with both the outsourcing type and its scope. When an organization decided on contractual and selective outsourcing, the most common form of IT outsourcing was a short- or mid-term contract rather than a long-term one (Lacity, Willcocks, and Feeny, 1996). On the other hand, long-term outsourcing contracts resulted from partnership relationships between the service receiver and provider (Lee and Kim, 1999; McFarlan and Nolan, 1995).

However, this assumption is gradually changing. For instance, a recent study predicts that long-term relationships with short-term contracts will be an emerging practice in the field of outsourcing (Lacity and Willcocks, 1998). Even if each party wants a long-term relationship, the original commitment could be a short-term contract with renewable options. This is because a short-term, fee-for-service contract is the best way to achieve expected cost savings and there is no guarantee for the future (Lacity and Willcocks, 1998). For a long-term contract to be effective, there must be the mechanisms to allow adjustment for circumstances that cannot be fully foreseen at the time the contract is written. Consequently, organizations should carefully select a reasonable duration of outsourcing coupled with their outsourcing objectives in order to assure the success of the outsourcing.

2.2.4 The Number of Vendor

Should a company adopt a single vendor or a multi-vendor approach to minimize risks and to maximize value through outsourcing? As in the Kodak outsourcing case (Loh and Venkatraman, 1992), it is possible to adopt a multi-vendor strategy. However, most outsourcing companies choose a single vendor approach (Ngwenyama and Bryson, 1999).

What are the reasons that some companies contract with a single vendor while others contract with several? The use of a multi-vendor strategy could promote low costs and high vendor performance and increased bargaining power for the service receiver (Porter, 1985). The basic assumption of the multi-vendor outsourcing strategy is that each vendor is induced to provide a high level of performance because the service receiver holds a credible threat of switching vendors. Having established a relationship with more than one vendor, the service receiver can switch or shift business between the vendors without incurring switching costs.

In the single vendor outsourcing strategy, the service receiver can develop a strong relationship with one vendor. Although the single vendor strategy leaves a firm open to opportunistic bargaining and performance failure vulnerability, such a strategy can be effective in developing a highly integrated long-term relationship with a single vendor (Ngwenyama and Bryson, 1999). Since poor vendor performance is the result of poor communication and coordination, it is more costly to monitor and coordinate the activities of multiple vendors than of a single vendor.

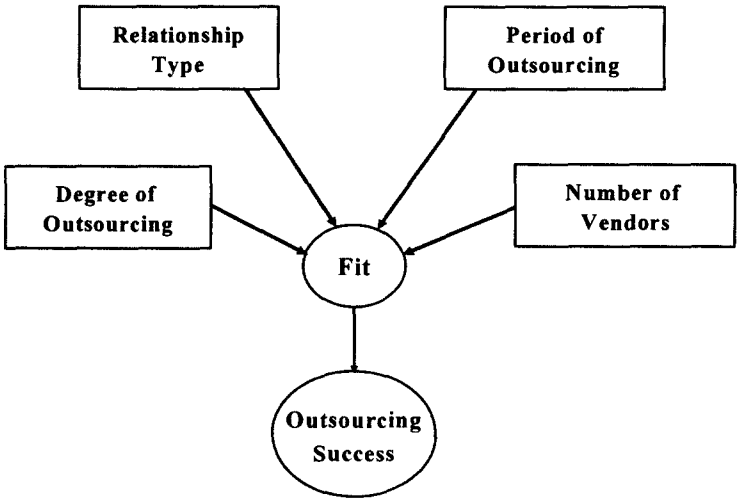
In short, the single vendor approach minimizes performance assurance costs and the total cost and maximizes switching costs, whereas the multi-vendor strategy minimizes switching costs but maximizes the difficulty of communication with vendors. Even though the number of vendors is considered important in an outsourcing decision, few have investigated this issue in the outsourcing context.

2.3 Congruent Patterns of Outsourcing Strategies

While some firms have achieved varying degrees of outsourcing success with any of these strategies, many have encountered significant difficulties. An empirical study found that in 53 out of 61 outsourcing cases, managers reported unsatisfactory outcomes (Lacity and Hirschheim, 1993). One explanation for some of the failure is the complexity of outsourcing transactions because outsourcing decisions involve many factors such as balancing the needs of different organizational functions, establishing and managing a relationship, and making a decision with incomplete information (Loh and Venkatraman, 1992). Another explanation that has been given for outsourcing failures is the limited selection of models to help managers systematically analyze outsourcing decisions and decide upon a set of effective outsourcing strategies (Ngwenyama and Bryson, 1999).

How do managers develop well-defined strategic outsourcing dimensions that are most appropriate for their firms? A wrong outsourcing decision and its strategy can result in loss of competencies and capabilities, exposure to unexpected risks, and even business failures. However, no studies have been done to guide what effective combinations exist among relevant outsourcing strategies. In this study, based on the expectation that the success of outsourcing depends on the proper fit among outsourcing strategies, five congruent combinations of the four dimensions of outsourcing strategies are proposed from the strategic management, economic, and social perspectives that are typical classifications of outsourcing theoretical models (Cheon, Grover and Teng, 1995; Lee and Kim, 1999). A model describing such fit is shown in 〈Figure 1〉.

〈Figure 1〉 A fit model between outsourcing strategies and outsourcing success



2.3.1 First Pattern from the Strategic Management Perspective

Strategic management is concerned with how firms formulate and implement strategies to accomplish a desired performance goal based on such theories as the resource-based theory, the resource-dependency theory, and core competencies theory (Barney, 1991; Pfeffer and Salancik, 1978). These theories argue that a firm's resources are the foundation of a firm's strategy. The resource-dependency theory focuses on resources in the external environment while the resource-based theory concentrates on an internal resources and capabilities. The objective of these theories is to seek and sustain a competitive advantage by acquiring the scarce and valued resources essential to organizational survival internally and externally (Conner, 1991). To cope with the differences between desired capabilities and actual capabilities, organizations are compelled to depend on other organizations (Thompson, 1967). Hence, this perspective interprets the relationship with other organizations as a dependency (Daft, 1992). Organizations are vulnerable if vital resources are controlled by other organizations and they should seek to be as independent as possible (Daft, 1992).

If we apply this perspective to outsourcing decision, we see that organizations want to retain most of the management and provision of IT services internally to minimize their dependency (total insourcing) on others and maximize other's dependency on them (buy-in contract). In such a context, the need for

coordination and control of outsourcing relationships is almost not necessary because the scope of outsourcing is small and the period of outsourcing is based on a short-term contract. Also, organizations do not want to have dependency relationships with several vendors. In sum, from the strategic management perspective, the optimal strategy is *a total insourcing, buy-in contract, short-term, and single vendor strategy.*

2.3.2 Second Pattern from the Economic Perspective

Typical economic theories such as transaction-cost and agency-cost theories assume that goods and services are most efficiently produced in specialized organizations that are able to achieve economies of scale (Williamson, 1979; Jensen and Meckling, 1976). These theories seek to explain the characteristics of a structure such as governance or contracts (Lacity and Hirschhein, 1993). Transaction-cost theory provides an excellent framework for analyzing the outsourcing option and for formulating an action plan to reduce transaction costs, while agency theory is useful in determining the most efficient contract depending on the agency cost as a result of discrepancies between the objectives of the principal and those of agents (Cheon, Grover and Teng, 1995). Thus, in terms of the economic theories, the objective of an outsourcing relationship is to minimize relationship-related costs and to maximize cost efficiency.

Previous studies insist that the best way to achieve economies of scale is to choose a selective outsourcing option rather than total outsourcing or total insourcing (Lacity, Willcocks, and Feeny, 1996). From the economic perspective, if the selective outsourcing strategy is chosen, then the need for coordination and control of outsourcing relationships is low relative to total outsourcing, while the need for detailed fee-for-service contracts including service levels, measures of performance, penalties for non-performance, decreases in the IT budget after the given period, or business requirements is much higher.

In such an environment, organizations pursue a middle-of-the-road approach by contracting some selected IT activities during the mid-term period (Lacity and Willcocks, 1998). The reason is that a short-term period is not long enough to achieve economies of scale and the company may not realize its long-term technology and business requirements, making it difficult to determine what should be contracted in the long term. In this situation, some companies desire developing strong relationships with one vendor in order to minimize performance assurance costs and communication costs (Cronk and Sharp, 1995), whereas some desire establishing relationships with more than one vendor to minimize switching costs (Venkatraman and Loh, 1994). Accordingly, the second

pattern of outsourcing strategy from the economic perspective is *a selective outsourcing, fee-for-service contract, mid-term, and single vendor strategy* while the third pattern indicates *a selective outsourcing, fee-for-service contract, mid-term, and multi-vendor strategy*.

2.3.3 Four and Fifth Patterns from the Social Perspective

Other researchers, especially in the marketing area, have suggested social theories such as social exchange and power-political theories as appropriate tools for analyzing the continuation of relationships between consuming groups and supplying groups (Dwyer, Schurr and Oh, 1987; Hallen et al., 1991). Theories from the social perspective assume that processes evolve over time through specific sequential interactions in which two participants carry out activities toward one another and exchange valuable resources. While the social exchange theory uses the concept of trust to explain interactions between participants, the power-political theory identifies the power derived from offering valuable resources that few other sources can provide. Thus, from the social perspective, relationships are seen as dynamic as the actors mutually demonstrate their trustworthiness, whereas from the economic perspective, exchange activities by organizations are enforceable (Emerson, 1962; Thibaut and Kelley, 1959). Social theories allow us to understand why organizations enter into close relationships.

Following this perspective, organizations strategically pursue a total outsourcing and partnership relationship with preferred service providers since this strategy allows an organization to leverage a key part of the value chain by bringing in a strong partner that complements its skill (Klepper, 1994; Lee and Kim, 1999). Also, the partnership implies forming a mutually beneficial relationship with competent vendors based on mutual trust, while being considered in the context of long-range planning. In such an environment, organizations could pursue outsourcing relationships in two different ways (Willcocks and Choi, 1995): one is to adopt a single vendor approach that is effective in developing a highly integrated strong relationship; and the other one is to use multiple vendors in order to increase market opportunities by utilizing each vendor's expertise. In sum, the fourth outsourcing pattern represents *a total outsourcing, partnership, long-term, and single vendor strategy*, while the fifth pattern is *a total outsourcing, partnership, long-term, and multi-vendor strategy*.

The above five congruent patterns of outsourcing strategies from the strategic management, economic, and social perspectives are summarized in 〈Table 2〉. However, not all organizations achieve such congruence among outsourcing strategies. For instance, consider an organization

〈Table 2〉 Five congruent patterns of outsourcing strategies

Outsourcing Strategic Dimensions	Strategic Mgt. Perspective	Economic Perspective		Social Perspective	
	1st pattern	2nd pattern	3rd pattern	4th pattern	5th pattern
Degree of Outsourcing	Total insourcing	Selective outsourcing	Selective outsourcing	Total outsourcing	Total outsourcing
Relationship Type	Buy-in contract	Fee-for-service	Fee-for-service	Partnership	Partnership
Period of Outsourcing	Short-term	Mid-term	Mid-term	Long-term	Long-term
Number of Vendors	Single vendor	Single vendor	Multi vendors	Single vendor	Multi vendors

with a total outsourcing, buy-in contract, and long-term period with several vendors. While there is congruency among three options (e.g., total outsourcing, long-term, and multi-vendor), the pattern of outsourcing strategy is non-congruent with partnership relationship according to the social perspective on which the third pattern is derived. Although this firm will be able to function, it is easy that the non-congruence will lead to considerable inefficiencies in responding to outsourcing initiatives for maximizing the joint value between the service receiver and provider.

With the three congruent patterns of outsourcing strategies, there may be other congruent combinations, while various types of non-congruence may also exist which can hamper the success of outsourcing. Thus, this study posits that the congruent combinations of four outsourcing strategies are expected to be associated with the success of outsourcing. Such a view is in accordance with the notion of fit as a gestalt, which is defined in terms of the degree of internal coherence among a set of theoretical attributes (Venkatraman, 1989). The following hypothesis is proposed:

Organizations with congruent combinations of the four outsourcing strategies - degree of outsourcing, relationship type, period of outsourcing, and the number of vendor - will show greater outsourcing success than those without such congruence.

III. RESEARCH METHODOLOGY

In this study, a field survey method was adopted. The unit of analysis was the outsourcing relationship between a customer and a service provider, focusing on the customer's viewpoint

of the relationship. Since an organization can have multiple outsourcing projects with one or more than one vendors, respondents were first asked to choose a major outsourcing project in terms of IT budget and then answer the questions based on the selected outsourcing project (refer to Appendix B).

3.1 Measures

A survey instrument were designed to measure the degree of outsourcing, the relationship type, the period of outsourcing, the number of vendors, and outsourcing success (see Appendix B). It employed objective measures for the four outsourcing strategies and perceptual measures for outsourcing success. The survey instrument was based on constructs that have previously been used and validated by other researchers. Degree of outsourcing was measured by the actual amount of outsourcing as a percentage of the total IT budget - total outsourcing (more than 80%), selective outsourcing (10 to 80%), or total insourcing (less than 10%) (Lacity, Willcocks and Feeny, 1996). This was the most objective and quantitative of the criteria so it was not necessary to consider each organization's specific situation and IT outsourcing intentions. Although this classification scheme has been used in several studies, this study modified the definition of total insourcing from "outsourcing less than 20 percent of the total IT budget" to "outsourcing less than 10 percent of the total IT budget." The reason is that 10 to 20 percent of the total IT budget for multi-national companies, the target population, is extremely high. Expenditures in this range were thus considered selective outsourcing rather than total insourcing.

Factual data were required for the period of outsourcing and the number of vendors. The period of outsourcing was classified into three categories: less than 4 years for a short term contract, between 4 and 7 years for a medium term contract; and more than 7 years for a long term contract (Lacity and Willcocks, 1998). The relationships were classified into three categories: fee-for-service contracts (1 to 4), partnerships (5), and buy-in contracts (6) (Lacity and Willcocks, 1998). Fee-for service contracts were further divided into four contract types: standard contracts (1), detailed contracts (2), loose contracts (3), and mixed contracts (4). For the relationship type, respondents were asked to select a number from 1 to 6 as a nominal categorization of their outsourcing contracts. Finally, to examine the impact of fit among the four outsourcing strategies, Grover, Cheon and Teng's (1996) instrument was adopted to assess the degree of achieving the strategic, economic, and technological benefits of outsourcing, which consist of 9 items. Detailed explanation of each construct is given in Appendix B.

A series of personal interviews were conducted with seven academics who have significant expertise in the study of outsourcing. The instrument was further pilot tested with fifteen organizations in Korea that have outsourced their IT functions to external service providers. The CIO and a representative in charge of the firm's IT operations in each organization was interviewed in Seoul, Korea. The interviews with IT professionals and representatives of each organization confirmed that the adopted questionnaire was suitable for studying real world outsourcing phenomena.

3.2 Data Collection

Data were collected from organizations in Korea through the survey instrument. Since larger organizations are more likely to have outsourcing experience, 1,000 companies covered by Maeil Business Newspaper's Annual Corporation Reports served as the target population. These firms were checked against the Book of Listed Firms published by the Korea Stock Exchange to obtain the name of the CIO in each firm. The survey questionnaire was then personally addressed to the 1,000 CIOs.

Following the Total Design Method of Dillman (1991), to increase the response rate, a post-card follow-up was conducted one week after the original mailing, and the same questionnaire was mailed again four and seven weeks after the original mailing. After the three rounds of solicitation, a total of 390 responses were received, providing a response rate of 39%. Among them, 54 responses that did not have an IT outsourcing arrangement were discarded, and 25 responses were removed from the analysis due to incomplete data, which left 311 responses for the final analysis. This high response rate might be due to the shortness and simplicity of the instrument, the elaborate measures to elicit the participation of the respondents individually, and the importance of IT outsourcing in Korea.

Although the high response rate implicitly indicates good external validity, the respondents and non-respondents were compared with regard to two key organization features: total sales volume and number of employees (Babbie, 1990). 50 companies were selected at random from among the non-respondents and compared in terms of their total sales and number of employees with those of all respondents, respondents to the first mailing, and respondents to the second mailing. The respondents to the first mailing and the second were similarly compared. A t-test showed no difference in any of four comparisons at the significance level of 0.05.

3.3 Measurement Reliability and Sample Characteristics

The content validity of the survey instrument was established through the adoption of

standard instruments (Grover, Cheon and Teng, 1996; Lacity and Willcocks, 1998), suggestions in the literature, and pretesting with experts in the field of outsourcing (Kerlinger, 1986). Reliability and validity tests on the four measures of outsourcing strategies were not needed because only one question was used to gather strictly factual data, as shown in Appendix B. On the other hand, outsourcing success was measured by the perception of CIOs about their outsourcing projects using multi-item measures. Hence, a confirmatory factor analysis was conducted using a PLS-Graph to check the unidimensionality of the items. There were no items with a factor loading lower than 0.8 for outsourcing success. The factor loadings ranged from 0.829 to 0.887. Internal consistency for outsourcing success was obtained by calculating the composite reliability, 0.960, and variance extracted measure, 0.728, which indicate an acceptable level of reliability (Chin, 1994).

The respondent characteristics in terms of industry type, number of employees, total sales revenue, and type of outsourcing are summarized in Appendix A (a). The industry representation of the respondent organizations shows that large proportions of these organizations were either manufacturers or firms in the banking/finance/insurance industry. Of the 311 companies, 88 firms had total sales of 1 billion dollars or more. Similarly, variance in the number of employees and type of outsourcing can be seen in Appendix A (a-2). The mean and standard deviation of each item and the correlation among outsourcing strategies are also shown in Appendix A (b).

IV. ANALYSIS AND FINDINGS

4.1 Method of Analysis

Instead of inductive approaches like cluster analysis, which is useful for examining fit as gestalts among a number of variables (Venkatraman, 1989), a confirmatory approach was selected because this study began by deducing outsourcing patterns from existing theories. Also, the objectives of this study, (1) to examine whether the proposed congruent patterns of outsourcing strategies could be found in practice; (2) whether these congruent patterns of outsourcing strategies are associated with success in outsourcing; and (3) which pattern of outsourcing strategies allows organizations to reap the greatest outsourcing benefits, can be more effectively achieved through the confirmatory approach. For the first objective, frequencies for each pattern of outsourcing strategies in responses with chi-square test, while one-way ANOVA was used to assess the differences in performance among outsourcing strategic patterns for the second and third objectives.

4.2 Testing Results

〈Table 3〉 shows frequencies and percentages for each pattern of outsourcing strategies with their means and standard deviations. Totally, 19 patterns were found: 5 congruent patterns and 14 non-congruent patterns (see 〈Table 3〉 and 〈Table 4〉). As we expected, there are 5 dominant patterns of outsourcing strategies in practice that are proposed in this study as internally congruent patterns from strategic, economic, and social perspectives, as in 〈Table 3〉. The first congruent pattern from the strategic management perspective accounted for 15.1 percent (n=47) of total responses. The results show 63 responses (20.3 percent) and 48 responses (15.4 percent) for the second and third patterns from the economic perspective. The fourth and fifth congruent patterns of outsourcing strategies, derived from the social theory, accounted for 12.6 percent (n=39) and 17.0 percent (n=53) of total responses, respectively.

Further, 〈Table 3〉 shows that some firms chose non-congruent patterns of outsourcing strategies. This group included 61 firms, representing 19.6 percent of total responses. As shown in 〈Table 4〉, there were 14 totally different patterns of non-congruent outsourcing strategies. For instance, the second non-congruent pattern indicates a selective outsourcing, mid-term, and single vendor approach, which fit with the fee-for-service contract, as the second pattern from the economic perspective. However, these firms exhibit the buy-in outsourcing contract leading to a fair degree of non-congruence. No statistical difference test need be conducted between the largest frequency minor patterns (n=10, first pattern in 〈Table 4〉) and the smallest frequency dominant congruent patterns (n=39, fourth pattern in 〈Table 3〉), as the gap is very large. Instead, a chi-square test assessed whether or not there was any difference in the preference among dominant patterns of outsourcing strategies. The result shows that organizations had no specific preference in their selection of outsourcing strategy ($X^2_{(5)}=7.96$, $p=0.16$).

As shown in Tables 4 and 5, five congruent patterns of outsourcing strategies proposed in this study from strategic, economic, and social perspectives mostly match with practical patterns used in the real world. The next step was to find if these congruent patterns of outsourcing strategies are associated with the success of outsourcing, and which pattern of outsourcing strategies allows organizations to reap the greatest outsourcing benefits. To do so, one-way ANOVA was used to assess the differences of outsourcing performance among six groups, including five congruent groups and one non-congruent group. Because this study used a commercial mailing list and sent surveys to individuals in different organizations, two basic assumptions of ANOVA - randomness and independence were easily

〈Table 3〉 The frequency and percentage of outsourcing strategic patterns

Variables	All Patterns of Outsourcing Strategies (Mean; S.D)					
	Congruent Patterns of Outsourcing Strategies					Non-congruent Patterns of Outsourcing Strategies
	1st pattern	2nd pattern	3rd pattern	4th pattern	5th pattern	Others (14 Types)
Degree of Outsourcing	Total insourcing (8.13; 3.32)	Selective outsourcing (45.14; 14.25)	Selective outsourcing (55.21; 13.06)	Total outsourcing (83.08; 5.45)	Total outsourcing (92.90; 5.77)	- (47.15; 27.54)
Relationship Type+	Buy-in contract	Fee-for-service	Fee-for-service	Partnership	Partnership	-
Period of Outsourcing	Short-term (1.91; 0.85)	Medium term (4 44; 0.84)	Medium term (4.98; 0.93)	Long-term (7.79; 1.95)	Long-term (8.39; 1.95)	- (4.03; 1.53)
Number of Vendors	Single vendor (1.00; 0.00)	Single vendor (1.00; 0.00)	Multiple vendors (2.50; 0.58)	Single vendor (1.00; 0.00)	Multiple vendors (2.57; 0.64)	- (1.29; 0.53)
Frequency (Total n=311)	**n=47**	**n=63**	**n=48**	**n=39**	**n=53**	**n=61**
Percentage (100%)	**15.1%**	**20.3%**	**15.4%**	**12.6%**	**17.0%**	**19.6%**

+: Nominal scale

〈Table 4〉 Minor patterns of outsourcing strategies: 14 types (n=61)

Variables	Non-Congruent Patterns													
	1(n=10)	2(n=9)	3(n=3)	4(n=1)	5(n=4)	6(n=1)	7(n=1)	8(n=8)	9(n=4)	10(n=6)	11(n=2)	12(n=6)	13(n=2)	14(n=4)
Degree of Outsourcing	*Selective outsourcing*	Selective outsourcing	*Selective outsourcing*	*Selective outsourcing*	*Total outsourcing*	Total insourcing	*Selective outsourcing*	Selective outsourcing	Selective outsourcing	Selective outsourcing	Selective outsourcing	*Total outsourcing*	Total outsourcing	Total outsourcing
Relationship Type	Buy-in contract	*Buy-in contract*	*Partner-ship*	Partner-ship	Fee-for-service	*Fee-for-service*	Buy-in contract	Fee-for-service	Fee-for-service	*Partner-ship*	*Partner-ship*	Fee-for-service	*Fee-for-service*	Partner-ship
Period of Outsourcing	Short-term	Medium term	Short-term	Long-term	Medium term	Short-term	Short-term	*Short-term*	*Short-term*	Medium term	Medium term	Medium term	Long-term	*Medium term*
Number of Vendors	Single vendor	Single vendor	Single vendor	Single vendor	Multiple vendors	Single vendor	*Multiple vendors*	Single vendor	Multiple vendor	Single vendor	Multiple vendors	Single vendor	Single Vendor	Multiple Vendor

.Italic Font shows non-congruent outsourcing strategies

met. The results from the normal probability plot and K-S test indicated no violation of normality (statistic=1.008~4.264, p>0.150) for components of the dependent variable. The Levene test, which tests for equal variance of the error term, showed that the hypothesis of equal variances was not rejected for most dependent variables (statistic=0.724~2.023, p=0.631~0.062), but rejected for the first, fifth, and ninth items of the dependent variable (statistic=2.170~2.764, p=0.046~0.012) at the 0.05 level.

The results of the analysis of both the nine items - items 1~3 for strategic benefits; items 4~6 for economic benefits; and items 7-8 for technological benefits - to measure outsourcing benefits and their summated variable (overall outsourcing success) are shown in 〈Table 5〉. Columns 2 to 7 display the mean values and the standard deviations of each outsourcing success measure for the six groups. Column 8 exhibits the F-values, degree of freedom, and significance levels. In column 9, groups where the mean values are significantly different from each other are identified and shown tested by Dunnett's T3 with equal variance not assumed. The objective of this column is to test the significance of differences between the means of paired groups. Although ANOVA allows us to know if the groups means are all equal or not, it does not pinpoint where the significant differences lie (Hair et al., 1995).

As shown in 〈Table 5〉, the results appear to give clear answers to the questions raised above. The F-tests indicate that the group means of these six patterns are not the same on all composite measures of outsourcing benefits and overall outsourcing success. Dominant patterns one, two, three, four, and five, which display congruence among the four outsourcing strategies, appear to have high levels of outsourcing success. In contrast, firms represented by the non-congruent pattern (sixth group) generally exhibit lower levels of outsourcing benefits. In other words, firms in the congruent patterns show higher mean ratings on all measures of outsourcing benefits, as well as overall outsourcing success, compared with those with the non-congruent patterns. Specifically, the values of significant contrast disclose that patterns three, four, and five show significantly higher levels of outsourcing success than others. More interestingly, although there are no significant differences among the three patterns, pattern five, which is a group of firms following a total outsourcing, partnership, long-term, and multi-vendor strategy, displays the highest mean ratings on the measures of outsourcing benefits and overall outsourcing success, except when focusing on the economies of scale in human and technical resources and the control of IT expenses (highest in pattern three).

〈Table 5〉 One-way ANOVA across seven groups for outsourcing success

Dependent Variables	All Patterns of Outsourcing Strategies (Mean: S.D.)						F (df, sig.)	Significant Contrast Values
	Congruent Patterns of Outsourcing Strategies (n=250)					Non-Congruent Patterns (n=61)		
	1st pattern (n=47)	2nd pattern (n=63)	3rd pattern (n=48)	4th pattern (n=39)	5th pattern (n=53)	Others (n=61)		
Outsourcing Success								
1. Focus on core business	**4.46 (0.80)**	**4.73 (0.99)**	**5.04 (0.87)**	5.13 (0.86)	**5.17 (0.67)**	4.33 (0.71)	8.23 (6, 0.00)****	1-3** 1-4*** 1-5**** 2-6* 3-6**** 4-6**** 5-6****
2. IT competence	**4.47 (0.86)**	**4.92 (0.97)**	**5.15 (0.85)**	5.13 (0.83)	**5.19 (0.59)**	4.35 (0.86)	8.71 (6, 0.00)****	1-3*** 1-4** 1-5**** 2-6*** 3-6**** 4-6**** 5-6****
3. Skilled personnel	**4.40 (0.77)**	**4.87 (0.94)**	**5.12 (0.98)**	5.05 (0.89)	**5.21 (0.77)**	4.31 (0.76)	8.22 (6, 0.00)****	1-2* 1-3*** 1-4** 1-5**** 2-6** 3-6**** 4-6*** 5-6****
4. Economies of scale in human resources	**4.62 (0.79)**	**4.81 (1.01)**	**5.10 (0.97)**	5.08 (1.08)	5.09 (0.74)	4.55 (0.78)	6.67 (6, 0.00)****	1-5* 1-6* 2-6*** 3-6**** 4-6**** 5-6****
5. Economies of scale in technical resources	**4.47 (0.72)**	**5.09 (0.89)**	**5.27 (0.92)**	5.02 (0.93)	5.06 (0.77)	4.42 (0.72)	7.08 (6, 0.00)****	1-2*** 1-3**** 1-4* 1-5*** 1-6** 2-6*** 3-6**** 4-6** 5-6****
6. Control of IT expenses	**4.42 (0.90)**	**5.14 (0.84)**	**5.17 (0.95)**	5.07 (0.93)	5.09 (0.74)	4.35 (0.88)	6.18 (6, 0.00)****	1-2**** 1-3*** 1-4** 1-5*** 2-6*** 3-6** 4-6* 5-6**
7. Avoidance of obsolescence risk	**4.53 (0.74)**	**4.84 (0.99)**	**4.98 (0.96)**	5.02 (0.90)	**5.13 (0.90)**	4.42 (0.69)	5.61 (6, 0.00)****	1-5*** 2-6** 3-6*** 4-6*** 5-6****
8. Access to key IT	**4.55 (0.90)**	**4.78 (1.02)**	**5.02 (0.84)**	5.05 (0.82)	**5.11 (0.87)**	4.40 (0.81)	5.28 (6, 0.00)****	1-5** 3-6*** 4-6*** 5-6****
9. Overall satisfaction	**4.47 (0.78)**	**4.74 (0.98)**	**5.00 (0.77)**	5.10 (0.75)	**5.26 (0.74)**	4.35 (0.71)	8.46(6, 0.00)****	1-3** 1-4*** 1-5**** 2-5** 3-6**** 4-6**** 5-6****
Overall Outsourcing Success	**4.49 (0.71)**	**4.88 (0.84)**	**5.09 (0.77)**	5.07 (0.79)	5.15 (0.60)	4.39 (0.66)	9.08(6, 0.00)****	1-3*** 1-4** 1-5**** 2-6*** 3-6**** 4-6**** 5-6****

****p<0.001; ***p<0.01; **p<0.05; *p<0.10.

. Bold Fonts in the columns of pattern shows the highest outsourcing benefits for each item.

V. DISCUSSION AND IMPLICATIONS

5.1 Discussion of Findings

According to the results of both frequency analysis and the chi-square test and ANOVA, there are five dominant patterns of outsourcing strategy, and organizations with congruent combinations of four outsourcing strategies show greater outsourcing success than those without such congruence, which strongly supports the proposed hypothesis. Furthermore, firms that practice a total outsourcing, partnership, long-term, and multi-vendor approach claim the highest outsourcing achievement in terms of focusing on core business and IT competence, getting skilled personal, avoiding obsolescence risk, accessing key technologies, and overall satisfaction. Firms practicing selective outsourcing on a fee-for-service basis with a medium term and multi-vendor approach claimed the highest economic benefits in terms of economies of scale in human and technical resources and control of IT expenses.

Pattern one explained by resource dependency theory works for firms with low-range IT outsourcing. Companies in this group seek to retain most of the management responsibility for IT services. Since they buy resources from a vendor to supplement in-house capabilities, the resources are managed by in-house business and IT managers. They thus need the more clear and obvious outsourcing control offered by a short-term, buy-in contract, and single vendor approach. Firms in patterns two and three pursue mid-range IT outsourcing, following the economic rationale of transaction cost theory. In this case, they simply want to pay a fee in exchange for delivery of specified IT services. Such fee-for-service is best in controllable outsourcing contract periods (4 to 7 years). Depending on organizational purpose, firms choosing this strategy could adopt a single vendor approach to reduce coordination cost by developing a strong relationship, or a multi-vendor approach to reduce switching costs. Also, core competencies theory upholds the third pattern. Firms may outsource a variety of IT functions, resulting in selective outsourcing, to focus mainly on internal core businesses and to be leaner to more effectively respond to market needs. Such firms may adopt the fee-for-service contract and multi-vendor approach in the medium term in the expectation that it will free management attention and investment capital by leveraging the vendors expertise. It also increases flexibility by adopting more than one vendor, and can effectively generate economies of scale in the medium term. Organizations focusing on relationship trust and win-win situations in patterns four and five based on social exchange theory have outsourcing strategies opposite to those organizations following pattern one. These firms may transfer assets,

people and management responsibility for IT services to their service providers. This encourages a long-term beneficial relationship between the service receiver and provider. In this situation, organizations could select a single vendor strategy for a strongly integrated relationship or a multi-vendor strategy to increase market opportunities by applying each vendor's expertise.

Overall, patterns one, two, three, four, and five appear to be highly congruent and yet strategically different from each other, as indicated in 〈Table 3〉. The results further indicate that organizations choosing these patterns have achieved higher levels of outsourcing success than those choosing non-congruent patterns as shown in 〈Table 5〉. The results appear to reinforce the concept that fit or congruence among a set of outsourcing strategies results in more successful outsourcing.

An interesting result is that the fifth pattern (total outsourcing, partnership, long-term, and multi-vendor) exhibits the highest outsourcing achievement among the five congruent patterns. This outcome is inconsistent with results from a recent study conducted by Lacity and Willcocks (1998). Their findings were that selective, fee-for-service, short-term, single vendor outsourcing achieved expected cost savings with a higher relative frequency than other types of outsourcing strategies. As they explained, elective outsourcing decisions with fee-for-service contracts show the highest benefits in terms of the economies of scale in human and technical resources and control of IT expenses, whereas total outsourcing decisions with partnership, long-term, and multi-vendors strategies allow organizations to reap the greatest outsourcing benefits in the rest of the outsourcing measures such as focusing on core business, IT competence, skilled personnel, avoidance of obsolescence risk, access to key IT, and overall satisfaction. The divergence between Lacity and Willcocks (1998) results and the results of this study may result from their different perspectives. While their study mainly focused on each outsourcing strategy without considering their combined effects in terms of cost savings, this study examined fit or congruence among outsourcing strategies in terms of the strategic, economic, and technological benefits.

Another interesting finding is that bigger and longer outsourcing projects within the same perspective have a tendency to adopt a multi-vendor approach rather than a single vendor, as shown in 〈Table 3〉. For example, from a transaction cost perspective, firms applying the third pattern of congruent outsourcing strategies, which involved significantly bigger (the size of outsourcing: t-value of -3.82, $p<0.001$) and longer (the period of outsourcing: t-value of -3.17, $p<0.05$) contracts than the second pattern, used a multi-vendor strategy. The single vendor approach was more likely to be adopted by firms in the

second pattern. A study conducted by Ang and Straub (1998) can explain this interesting finding. According to their study based on the transaction cost theory, organizations that outsource a small portion of their IT functions are more concerned about transaction costs than those who do more outsourcing. This means that organizations doing smaller and shorter outsourcing prefer a single vendor approach to minimize monitoring cost and communication cost. Two outsourcing strategies from social exchange theory follow the same pattern. Project size differed significantly (t-value of -8.26, $p<0.001$) between firms in the fourth and fifth patterns, even though the period was not significantly different (t-value of -1.46, $p=0.14$). The fourth group adopts a single vendor strategy, while the fifth group uses a multi-vendor approach. This finding also can be explained by previous studies. Longer and bigger strategic partnerships in outsourcing are intended to broaden market connections and increase opportunities to innovate synergistically in cooperation with several strong partners (McFarlan and Nolan, 1995; Martinsons, 1993). In sum, bigger and longer outsourcing projects favor a multi-vendor approach.

This study has highlighted two interesting points about Korean business. A high percentage of the IT budget is commonly devoted to outsourcing (54.39% in Appendix A (b)) compared with USA or UK practice. And total IT outsourcing is quite prevalent. No difference was found between respondents and non-respondents in terms of total sales revenue or number of employees. One possible explanation is that companies who have been heavily involved in outsourcing arrangements were more likely to answer the questionnaire. In this study, 39 companies were classified in pattern four and 53 in pattern five, where 80 percent of more of total IT budget is contracted out. This level of outsourcing is much less common in the USA (less than 8%) and UK (less than 2%). 82 percent of US and 75 percent of UK companies choose selective outsourcing (Lacity and Willcocks, 1998). It is possible that this disparity may reflect the Korean conglomerate environment. In this context, this study found that a total outsourcing, partnership, long-term, and multi-vendor strategy shows the highest outsourcing achievement.

Generally, the affiliated firms of a conglomerate group outsource their entire IT operations to their group IT companies for a long term due to the group's influence or intervention (total and long-term outsourcing). While the rapid growth of the group IT company supports the group's IT strategy, the affiliated firms of the conglomerate group may suffer from their lack of choice in IT solutions and the poor quality of service provided to captive customers (Lee and Kim, 1997). Accordingly, some affiliated firms may have no desire to sustain

the relationship with their group IT companies anymore. However, the affiliated firms and their IT companies have begun to recognize the importance of their close relationships in enhancing the effectiveness of their parent organizations, especially after the Korean economic crisis. Recently, they have been spontaneously trying to forge long-term and beneficial relationships based on mutual trust. In addition, the outsourcing industry in Korea is changing from group-by-group segmentation to open competition based on vendors abilities. For instance, the conglomerate groups allow their affiliated firms to employ outside vendors if they cannot find the best solution from their internal IT companies for specific IT activities. Thus, most affiliated firms have several outsourcing relationships with both internal IT companies (as their main service provider) and outside vendors (as supplementary service providers). Such situational factors may have contributed to the highest outsourcing achievement of this strategy in Korea.

5.2 Implications for management practice

With the increasing attention paid to IT outsourcing, it is imperative that organizations recognize the importance of congruence among their outsourcing strategies to reaping the greatest outsourcing benefits. Although previous studies in this field have made great contributions to understanding effective outsourcing, they have not provided deep understanding about the relationship among the dimensions of outsourcing strategies, since they have primarily concentrated on each individual dimension. Accordingly, the results of this study can provide useful directions to organizations seeking an effective outsourcing decision model. Further, the congruent sets of outsourcing strategies identified in this study provide organizations with a benchmark against which they can compare their own outsourcing strategies.

5.3 Implications for future research

The encouraging results of this study explain that the concept of fit is useful for studying complex practical issues such as outsourcing strategy. While many researchers have mentioned the importance of fit, there is a lack of empirical studies on this issue. This study is a first attempt to adapt the concept of fit to outsourcing studies. This study suggests the following future research directions. First, this study has concentrated on fit among four dimensions of outsourcing strategy, but features of the firm and of firm's environment may influence the final outsourcing decision and the resulting success in IT outsourcing. Other fit concepts such as strategy-structure and task-technology relationships in the field of outsourcing should be considered. Second, the selection of outsourcing strategies is restricted

to the early stage of outsourcing decision-making. Hence, this study did not consider more diverse dimensions which can be realized at a later stage in the outsourcing process, such as evaluation of outsourcing bids, the actual size of the contract, etc. Studies that examine such factors can help organizations to analyze their outsourcing decisions systematically. Third, this study used a sample collected in Korea. Replication of this study over a more extensive geographical area is needed to fine-tune the analysis. Finally, this study examined the concept of fit mainly from the service receiver's perspective. An analysis of congruence in terms of the service provider may provide interesting results.

5.4 Limitations of the Study

There are some limitations associated with this study. First, it did not cover all the different criteria in each dimension of the outsourcing strategies. Only the most objective and quantitative among several in each dimension were selected. For example, the degree of outsourcing is a multi-dimensional variable, but only one of its dimensions, percentage of the total IT budget, was chosen for this study. Second, this study tried to cover major theories supporting the four dimensions of outsourcing strategies, but there may be others to be considered, such as resource-based theory and power-political theory. They may provide other perspectives on and implications of outsourcing strategy. Third, outsourcing success might be modeled with reflective indicators rather than with formative indicators. This might lead to non-significant differences between the means of patterns three, four, and five. Fourth, in cases where multiple vendors had different contract types and contract periods, this study asked the respondent to select the dominant contract type and its period of outsourcing, which may compromise the findings of the study. Fifth, only the CIO of each organization was surveyed. While information from the CIO should provide a high level of confidence in the quality of the information gathered, selection bias could still exist due to relying on a single respondent for both the antecedent and dependent variables. Finally, the results of this study may include some bias since the sample was restricted to Korea. As mentioned before, the Korean outsourcing market has different features, and the results may reflect Korea's unique outsourcing environment and trends. Hence, the results of this study must be carefully interpreted.

VI. CONCLUSIONS

As outsourcing offers a variety of ways for

organizations to leverage their resources and focus on core business to increase IT value to corporate objectives, more and more organizations look to IT outsourcing from external service providers rather than to pursuing in-house development. However, organizations suffer from the lack of the established models in deciding outsourcing strategies, which motivated me to undertake this study. A good deal of research has discussed outsourcing strategies, but such studies handled, at most, one or two dimensions of outsourcing strategies without consideration of their combined effects. Thus, previous research has yielded a variety of sometimes conflicting conclusions. Recently, however, many organizations have begun to be interested in formulating effective outsourcing strategies leading to higher achievement of outsourcing benefits. In this context, this study is both timely and significant. This is one of the earliest attempts to conceptualize the concept of fit or congruence and to empirically validate such a view in the field of IT outsourcing. This study further investigates the differences of outsourcing performance among the patterns of outsourcing. The results of this study describe significant support for the concept of fit or congruence among the variables that were examined.

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APPENDIX A: Descriptive Statistics

(a) The profile of responding companies

(a-1) Industry

Industry Type	Frequency	Percent
Manufacturing	81	26.0
Banking/Finance/Insurance	65	20.9
Distribution	45	14.5
Construction	40	12.9
Transport/Warehousing/Communication	32	10.3
Research	25	8.0
Information Technology	23	7.4
Unanswered	0	0
Total	**311**	**100**

(a-2) Number of employees

Range	Frequency	Percent
Less than 100	31	10.0
100 200	28	9.0
201 500	40	12.9
501 - 1,000	49	15.7
1,001 - 3,000	62	19.9
3,001 - 5,000	38	12.2
5,001 - 10,000	27	8.7
10,001 - 30,000	18	5.8
30,001 and above	10	3.2
Unanswered	8	2.6
Total	**311**	**100**

(a-3) Total sales revenue

Range	Frequency	Percent
Less than $50 million	38	12.2
$50 - $100 million	42	13.5
$100 - $500 million	90	29.0
$500 - $1 billion	37	11.9
$1 - $5 billion	42	13.5
$5 - $10 billion	26	8.4
$10 billion and above	20	6.5
Unanswered	16	5.2
Total	**311**	**100**

APPENDIX A: Descriptive Statistics (Cont.)

(a-4) Type of IT outsourcing

Type	Frequency	Percent
Application Development	71	20.2
Application Maintenance	89	25.2
Data Center	44	12.5
Network	51	14.5
Desktop	22	6.2
Help Desk	16	4.5
IT Consulting	45	12.7
Unanswered	15	4.2
Total	353*	100

* Multiple answers from a response were allowed.

(b) Means, standard deviation and correlation for outsourcing strategies

Outsourcing Strategy	Unit	Mean (S.D.)	Correlation (n=311)			
			V1	V2	V3	V4
Degree of outsourcing (V1)	Percent of IT budget (0~100%)	54.39 (30.55)	1.00	-	-	-
Relationship type (V2)+	Fee-for-service (1, 2, 3, 4) Partnership (5) Buy-in contract (6)	-	-	-	-	-
Period of outsourcing (V3)	Contract years	5.16 (2.56)	0.793***	-	1.00	-
Number of vendors (V4)	# of vendors employed	1.56 (0.80)	0.449***	-	0.396**	1.00

+: Nominal Scale; ***p<0.01; **p<0.05; *p<0.10

APPENDIX B: Summary of Measures

Outsourcing definition provided to survey respondents
The term IT OUTSOURCING refers to the practice of commissioning part or all of an organization's IT assets, people, and/or activities to one or more external vendors. It includes any one or combination of the following: system planning, application analysis and design, application development, operation and maintenance, system integration, data center operation, telecommunication management and maintenance, software, hardware products, facilities management (e.g., PC management), end-user support (e.g., training), and so on. Please choose a major outsourcing project in your company in terms of IT budget and then answer the following questions based on the selected project.

Construct	Operationalization Question Items	Classification
Degree of outsourcing	The total outsourcing expenditure on the basis of the IT budget in a given year Please answer this question considering all sorts of IT expenditure spent in the 2000 financial year including the purchased human and technical resources and services that are controlled by in-house management or outside service vendors, and any capital investment for joint ownership of an entity to do the needed activities =What is the amount of IT outsourcing as a percentage of the total IT budget?	Total outsourcing (more than 80% of IT budget); Selective outsourcing (from 10% to 80% of IT budget); Total insourcing (less than 10% of IT budget)
Number of vendors	The total number of IT service providers working together based on formal contracts Please answer this question considering the number of all IT service providers connected by formal outsourcing contracts as of the end of 2000. =How many service providers did you employ for your outsourcing projects?	Single vendor (one vendor); Multi-vendor (more than one vendor)
Relationship type	Type of contract between the service receiver and provider in an outsourcing relationship What kind of relationship (or contract) did you make with your service provider? Please, check only one number considering the contract type with your main outsourcing service provider. =1. Standard contracts: your firm signed the service provider's standard, off-the-shelf contract. =2. Detailed contracts: the contract included special clauses for service scope, service levels, performance measures, and penalties. =3. Loose contracts: the contract did not provide comprehensive performance but specified the service providers' performance as "whatever the customer was doing in the baseline year" for the next five to 10 tears at 10% to 30% less than the customer's baseline budger. =4. Mixed contracts: For the first few years, requirements of the contract were fully specified (detailed contract), but the technology and business requirements in the long run were not defined (loose contract). =5. Partnership: the relationship involved significant resources of your and your service provider(s) to create, add to, or maximize joint value. Also, the contract included an agreement to furnish a part of the capital and labor for a business enterprise, and each shares in benefits and risks. =6. Buy-in contracts: your firm bought some resources to supplement in-house capabilities, but the resources were managed by in-house business and IT management =7. Other (specify)	Free-for-service contract (1, 2, 3, and 4); Partnership (5); Buy-in contract (6)

APPENDIX B: Summary of Measures (Cont.)

Construct	Operationalization Question Items	Classification
Period of outsourcing	The duration of the outsourcing contract between the service receiver and provider Please answer this question based on the outsourcing contract with your main IT service provider = How many years did you make the contract with your service provider?	Short-term (less than 4 years); Medium term (from 4 to 7 years); Long-term (more than 7 years)
Outsourcing success	The degree to which predefined outsourcing objectives are realized in terms of strategic, economic, and technological benefits of outsourcing. Please check the number corresponding to the degree of achievement through IT outsourcing in conjunction with each of following questions [Scale ranges from 1 (lowest) to 7 (highest)]. =1. We have been able to refocus on core business =2. We have enhanced our IT competence =3. We have increased access to skilled personnel =4. We have enhanced economies of scale in human resources =5. We have enhanced economies of scale in technological resources =6. We have increased control of IT expenses =7. We have reduced the risk of technological obsolescence =8. We have increased access to key information technologies =9. We are satisfied with our overall benefits from outsourcing	Scale ranges from 1 (strongly disagree) to 7 (strongly agree).

정보시스템 아웃소싱 전략들 간의 적합성을 통한 아웃소싱의 성공: 실증적 검증

이재남*

Abstract

정보시스템 아웃소싱은 기업들이 경쟁력을 획득하고 정보시스템을 보다 효율적으로 관리하기 위한 하나의 대안으로 고려되고 있다. 그동안 다양한 형태의 아웃소싱 전략들이 대두되었지만, 대부분의 연구들은 주로 아웃소싱 전략에 관련된 하나 또는 두개의 차원에 초점을 두고 있으며, 이들 간의 결합 효과에 대한 연구는 전무한 상태이다. 본 연구에서는 아웃소싱 전략에 관련된 네가지의 중요한 차원들 (아웃소싱의 정도, 관계 유형, 아웃소싱의 기간, 업체의 수)을 기존의 관련 이론들 (전략적 관점, 경제적 관점, 사회적 관점)로부터 찾아내도록 한다. 그런 다음, 제시된 네가지의 아웃소싱 전략들의 차원들 간의 다섯개의 가능한 조합들을 기존 이론들을 근간으로 제시한다. 마지막으로 국내에서 수집된 311 기업 데이터를 통해 제시된 아웃소싱 전략들의 형태가 실제로 존재하는지, 존재한다면 어떤 아웃소싱 전략이 가장 높은 아웃소싱의 성공을 가능하게 하는지를 분석해 본다. 분석 결과는 제시된 다섯 개의 아웃소싱의 전략 형태가 기업들에 의해 실제로 많이 채택되고 있으며, 본 연구에서 제시된 다섯 개의 아웃소싱 전략을 채택한 기업들이 다른 전략들을 선택한 기업들 보다 높은 아웃소싱 성과를 보여주고 있다. 그리고 제시된 다섯 개의 아웃소싱 전략들 중에서도 사회교환 이론을 바탕으로 한 아웃소싱 전략 (전체 아웃소싱, 파트너쉽, 장기기간, 그리고 복수업체)을 채택한 기업들이 가장 좋은 아웃소싱의 성과를 거두고 있는 것으로 나타났다.

Key words: 정보시스템 아웃소싱, 아웃소싱 전략, 아웃소싱 성공, 적합성, 확증적 분석.

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