INFORMATION SYSTEMS OUTSOURCING: EXPLORATION ON THE IMPACT OF OUTSOURCING SERVICE PROVIDERS' SERVICE QUALITY

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ABSTRACT

This study explored the relationship between outsourcing service providers' service quality and the effect of IS outsourcing of the companies that receive the service. Seventy-eight companies participated in the study. Results showed that strategic effect, technological effect and economic effect were strongly related to tangibles. However, strategic effect was only positively related to reliability/responsiveness and empathy. Implications for management practice and research are discussed.

Keywords: Outsourcing, Information Systems Outsourcing, Outsourcing Service Providers, Service Quality, Outsourcing Benefits, Information Systems (IS), Information Technology (IT)

INTRODUCTION

Motivations for outsourcing are evolving from a primary focus on cost reduction to an emerging emphasis on improving business performance. There are also unprecedented pressures on the information system (IS) function to develop new systems faster and to achieve higher performance in the operation of existing services (16). Furthermore, as the growing role and importance of information and communication technologies become widely recognized, companies frequently confront a wide disparity between the capabilities and skills necessary to realize the potential of these technologies and the reality of their own in-house technology capabilities and skills. IS outsourcing is playing an increasingly prominent role in strategies designed to close this gap (5).

The business objective behind the concept of outsourcing has always been a fundamentally sound one: handing off responsibility for non-core functions to a third-party provider, thus freeing up capital and human resources that can be redirected to more strategic uses. In theory, the strategy is supposed to result in improved quality and efficiency in both the outsourced support functions and the in-house strategic ones, along with a net cost saving. In practice, results may not meet expectations (9).

The service quality of an outsourcing vendor is one of the essential elements that an outsourcing company should consider for its contract. Rockart et al. also see managing vendor partnerships as one of eight imperatives (15) for IS outsourcing. Companies planning to engage in outsourcing must address two issues: 1) figure out how to select a certain outsourcing service provider and 2) decide which vendor to choose. Thus, understanding how the outsourcing service providers' service quality affects the outsourcing companies' benefits remains of paramount importance.

The purpose of this study is to explore the relationship between the service quality of vendors and the effect of IS outsourcing (10).

BACKGROUND AND HYPOTHESES

Outsourcing

IS outsourcing refers to a situation in which part or all of the IS activities of an organization are performed by external service providers. This includes IS tasks relating to applications development and maintenance, systems operation, networks/telecommunications management, end-user computing support, systems planning and management, and purchase of application software, but excludes business consulting services, after-sale vendor services, and the lease of telephone lines.

Both small and large companies often turn to outsourcing as a way to obtain IS services not available or feasible internally. Larger companies are able to accept the separation of data ownership from data processing, acknowledge the technical sophistication of service providers, and concentrate their resources on efforts to produce high added value. Current outsourcing practices allow a firm to outsource proactively and thereby choose specific IS functions to be outsourced based on need.

Traditionally, outsourcing service providers assumed no management responsibility, even when they took over a part of the business. Today, a growing number of service providers are willing and eager to take on such responsibility (17) and the market is becoming intensely competitive. Furthermore, the business relationship between the outsourcing service receiver and the service provider is increasingly that of a partnership rather than merely that of customer and vendor (14). It is considered as part of the broader context of "information partnership" as described by Konsynski and McFarlan (8).

Service Quality

Until the mid 1980's, measures of service quality were qualitative in nature. The overall problem in measuring service quality was the lack of conceptual specifications of the constructs to investigate service quality (12), leading to a variety of definitions for service quality. Parasuraman, Zeithaml and Berry developed a quantitative yardstick (SERVQUAL) to assess the quality of a firm's service by measuring customers' perceptions of quality. This instrument uses twenty-two matched pairs of items to measure the gaps between client expectations and client perceptions on five dimensions of a service experience – tangible, reliability, responsiveness, assurance, and empathy (13). The current study assesses the extent to which various outsourcing benefits are affected by outsourcing service provider service quality factors. We developed three hypotheses to test this relationship.

H1. The service quality, tangibles, is positively related to the (a) strategic, (b) economic, and (c) technological outsourcing effects.

H2. The service quality, reliability/responsiveness, is positively related to the (a) strategic, (b) economic, and (c) technological outsourcing effects.

H3. The service quality, empathy, is positively related to the (a) strategic, (b) economic, and (c) technological outsourcing effects.

The constructs specified in the above hypotheses are explained in the following lines.

Tangibles are the physical aspects of a service experience such as the appearance of the facility and staff, and items such as communication materials. In short, tangibles relate to the image that an organization projects. In the outsourcing service providing industry, for example, the facility and the staff must be neat, clean and organized in order for the customer perception and experience to be satisfactory. To engender loyalty, however, that physical image must exceed the customer's expectation (13).

Reliability means performing the promised service dependably and accurately, keeping promises, and performing tasks satisfactorily at the onset of the relationship. In the outsourcing industry, this can be as simple as ensuring that the service provided is the service that the customer expects. Reliability can be assessed through questions such as the following. Are you taking steps to ensure that there are no interruptions in service delivery? When outsourcing customers need information or have a question, do they know where to go for an answer? Are technical staffs easy to identify and prepared to answer most customers' questions? *Responsiveness* refers to the timeliness of service and the willingness to help. The loyalty factor is engaged when an organization responds to a customer's need before he or she even realizes that a need exists, or when an organization goes above and beyond the call of duty in responding to a request. Reliability and responsiveness were combined in one variable, *reliability/responsiveness*.

Empathy is the caring, individualized service that makes a customer feel valued. Loyal customers are made when an organization remembers their names and their likes and dislikes. Outsourcing service providers might utilize empathy to keep their customers in their list.

Strategic effect measures the focus on the core business, improved focus on strategic use of information technology (IT), enhanced IT competence, and enhanced IS staff expertise. Outsourcing allows companies to refocus their business efforts towards core business and strategic use of IT, which is believed to enhance IT competence (7).

Economic effect measures economies of scale, cost containment and predictability. The challenge for IS management today is to accomplish more with less. This pressure is seen as the most significant factor driving today's corporate interests. An outstanding service provider is more positioned to exploit economies of scale in areas of hardware, software, and staff, since it pools projects from many service receivers. Outsourcing also provides an unambiguous approach to arriving at a detailed cost structure of IT operations. The costs become predictable for the service receiver, since the responsibility of cost overruns is often placed on the service provider (3).

Technological effect measures access to leading-edge technology and avoidance of obsolescence risk. Outsourcing allows the service receiver to gain immediate access to otherwise unavailable state-of-the-art technology. Outsourcing also allows the service receiver to move the obsolescence risk to the service provider (2).

METHODOLOGY

Instrument

We developed a 33-item questionnaire including three dimensions for the independent variables, tangibles (4 items, Cronbach coefficient, .92), reliability/responsiveness (9 items, Cronbach coefficient, .92), and empathy (5 items, Cronbach coefficient, .92) and three dimensions for the dependent variables, strategic effect (5 items, Cronbach coefficient, .75), economic effect (3 items, Cronbach coefficient, .82), and technological effect (7 items, Cronbach coefficient, .90). Most items were derived from the literature (12, 13). Eight IS professionals, serving as subject matter experts reviewed and tested this instrument. Pre-tests were also conducted on a small sample of thirty-two professional, evening MBA students. The unit of analysis for this research is an organization, a subsidiary, or a division having an IS department. Information about company characteristics (type of industry, sales revenue, and number of employees, IS budget as a percentage of total sales, and number of IS employees) was collected.

Data Collection

Top 500 companies in Korea received the survey questionnaire. One hundred and sixty eight responses were received representing a response rate of about 33.6%. Of these, 78 were used for analysis, because only 78 companies were involved in outsourcing practices at that time. Most participating companies were in the manufacturing (N=52, 66.7%), banking/finance/insurance (N=14, 17.9%), construction (N=8, 10.3%), and distribution (N=4, 5.1%) industries respectively. The responding companies represent a wide variance in size, with 24 out of 78 companies having an annual sale of $800 million or above, and 28 having sales below $ 200 million. Also, 23 of the companies have 2,500 or more employees, 20 have fewer than 500 employees, and 29 have 500 to below 1500 employees. Sixty-nine of 76 companies have IS budgets that are equivalent to 2% or less of total sales and 7 have more than 4%. Fourteen of 77 companies have 45 or more IS employees and 41 have less than 15 IS employees.

For adequate representation of the sample, a demonstrated lack of response bias is far more important than a high response rate (1). Based on guidelines suggested in the literature (4, 6) non-response bias was assessed by comparing the respondents in terms of two key organization features: total company sales and number of employees to ensure that these responses were representative of the larger population. T-tests showed no significant differences between the two groups at the significance level of 0.05 ($t=3.48$, $p<.027$). This result suggests that the results from the study sample can be generalized to the larger population.

RESULTS

Table 1 provides Pearson's correlations between various service quality variables and outsourcing effect variables. All correlations are significant at the 0.05 level or better, except the correlation between tangibles and empathy.

Table 1. Pearson Correlation Matrix for Independent and Dependent Variables

	Technological Effect	Strategic Effect	Economic Effect	Reliability / Responsiveness	Tangibles
Strategic Effect	.296**				
Economic Effect	.318**	.392**			
Reliability / Responsiveness	.143*	.413**	.125*		
Tangibles	.492**	.366**	.249*	.273*	
Empathy	.152*	.350**	.127*	.346**	.027

* Significance < .05 ** Significance < .01

We conducted a regression analysis to assess the relationship between an IS outsourcing service provider's service quality and outsourcing effects. We consider three outsourcing effects as criterion variables and service quality measures as predictors. The results of the regression analysis are displayed in Table 2. The results of the regression analysis fully supported Hypothesis 1 The variable, tangibles, is positively related to strategic (ß = .50, t= 3.95, p <.001), economic (ß = .29, t= 2.24, p <.03), and technological effects (ß = .55, t= 4.93, p <.001) of IS outsourcing. However, hypothesis 2 and hypothesis 3 were partially supported. Strategic effect was only positively related to reliability/responsiveness (ß = .38, t= 3.95, p <.002) and empathy (ß = .36, t= 3.58, p <.001).

Table 2. Testing Hypotheses

		Beta	T	Prob.	R^2	Hypothesis	
Tangibles	Strategic Effect	.499	3.954	.001**	.242	H1a	Supported
	Economic Effect	.291	2.242	.027*	.082	H1b	Supported
	Technological Effect	.554	4.933	.001**	.318	H1c	Supported
Reliability / Responsiveness	Strategic Effect	.380	3.953	.002**	.171	H2a	Supported
	Economic Effect	.027	.384	.659	.044	H2b	Not Supported
	Technological Effect	.142	.642	.421	.057	H2c	Not Supported
Empathy	Strategic Effect	.358	3.584	.001**	.145	H3a	Supported
	Economic Effect	.112	.443	.592	.056	H3b	Not Supported
	Technological Effect	.192	1.002	.218	.074	H3c	Not Supported

* Significance < .05 ** Significance < .01

DISCUSSION AND CONCLUSION

The present findings provide a strong relationship between tangibles and technological effect, strategic effect, and economic effect. These results demonstrate the importance of tangibles in IS outsourcing. Indeed, IS outsourcing service providers must focus on tangibles to earn contracts from service recipient organizations. Our results also showed that reliability/responsiveness and empathy are associated only with strategic effect indicating the importance of this effect. IS outsourcing service provider should also pay attention to these service quality factors, reliability/responsiveness and empathy, along with tangibles for organizations that want to have strategic advantages from IS outsourcing.

Although our findings are in the anticipated direction, one aspect of the findings requires additional discussion. We expected a stronger relationship between service quality and economic

effect, since one of the most important purported reasons for outsourcing is cost savings (11). However, service quality appeared more strongly associated with strategic effect of IS outsourcing. While financial and cost considerations as factors in the outsourcing decision have received much attention from practitioners as well as researchers (11), we found that the decision on selecting outsourcing service provider was related more to the "strategic consideration" than to the "economic or technological consideration." These findings are in line with those of previous research (18).

In this study, we have shown that the service quality in technology area is an important factor in choosing IS outsourcing provider. With research hypotheses based on SERVQUAL model, our study of firms that are currently practicing information systems outsourcing supports the contention that service quality may be related to the decision in selecting an IS outsourcing service provider. Among the service quality factors, tangibles appeared to be the most important service quality that an IS outsourcing service provider should have. The study also found that IS outsourcing service providers should pay attention to the strategic considerations rather than economic or technological considerations of the organizations that utilize outsourcing service.

Our findings have implications for IS practice. Managers who wish to pursue the outsourcing should focus on the tangibles, because as mentioned earlier, they represent the most important issues in selecting IS outsourcing service providers. IS outsourcing service providers who want to sell their outsourcing product or service may concentrate on the service quality 'tangibles' most to earn the interest of service receiving organizations. They also should have 'reliability/responsiveness' and 'empathy' service quality that are focused on strategic considerations of service recipients.

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