UDC 334

# INVESTIGATING THE FIRM'S CHOICE OF IT OUTSOURCING STRATEGIC INTENTS

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## ABSTRACT

In recent years, information technology outsourcing has been actively promoted in Korea, and numerous companies look to outsourcing from strategic intentions rather than from tactical intentions. They promote information technology outsourcing in order to maximize the effect on business. As a result, the research needs emerged from what strategic intent of IT outsourcing these companies have. According to the prior research, the organizational strategy types were classified into four, and information technology outsourcing intention was classified into information system improvement, business impact, and commercial use according to the previous research. As the determinants of this IT outsourcing intention, the organizational strategy type and IT strategy were adopted based on existing theories. This study shows that it is important to actively consider the organization's strategy type and IT strategy in order to increase the probability of success of IT outsourcing. Theoretical and practical implications are discussed.

## KEY WORDS

IT outsourcing, Organizational strategy, IT strategy, Firm performance.

The information technology outsourcing service industry has been active since Kodak outsourced a major component of its information technology capabilities in 1989. Today IT outsourcing is an important choice for modern businesses and organizations. The impact and scope of IT outsourcing is growing. Modern IT outsourcing includes software development, IT function outsourcing, data centers, cloud services, and offshore outsourcing (Bapna et al., 2010; Gregory et al., 2009). While various types of IT outsourcing have emerged and IT outsourcing has become a viable alternative, effective management of IT outsourcing is still a challenge for many internal IT functions (Lacity & Willcocks, 2017). This task has been extensively documented in previous studies. Some sources estimate that more than 50% of IT outsourcing fails or is very poorly performing (Ditmore, 2012; Keiser, 2014). As the market grows, it is clear that many companies are outsourcing many information system activities.

As such, the trend of outsourcing information system activities is expected to continue to increase, because of the cost savings, which have been pointed out by the traditional rationality of outsourcing in the past, and the improvement of the performance of information technology by the economies of scale and characterization of external suppliers. Increased efficiency of information technology resources (Kudaravalli et al., 2017; McFarlan & Nolan, 1995).

However, when looking at the emerging form of information technology outsourcing, these factors only explain some of the reasons for outsourcing information technology. Looking at the emerging forms of outsourcing by innovative companies, they look at information technology outsourcing from strategic rather than tactical intent and outsource information technology to maximize the impact on the business (Lacity et al., 2017; DiRomualdo & Gurbaxani, 1998). They are pursuing a new role in information technology outsourcing and are exploring new lines of relationships between outsourcing customers and external suppliers.

As the scale and role of information technology outsourcing is increasing, the successful execution of outsourcing is very important. However, many information technology outsourcings do not produce the expected cost savings or other effects. The following points are pointed out for this reason (Lacity et al., 2017; Lacity et al., 1996; Cross, 1995).

First, managers fail to carefully select which information technology activities to outsource, and secondly, the incorrect relationship between outsourcing external suppliers and client companies. Their relationship is not only made up of contracts, but it is desirable to go through partnerships through strategic alliances. Third, there is a problem of incorrect contracts with outsourced external providers. The competitive landscape around companies is changing rapidly, and contracts with outsourcing external providers have not fully taken care of the changing competitive landscape.

In some companies, when deciding on information technology outsourcing, one can only consider what can be gained through outsourcing without considering or ignoring the company's strategy or the role of information technology. There is also misalignment. These discrepancies can result in the failure of information technology outsourcing or the expected effects. Therefore, the necessity of research on the relationship between corporate strategy and role of information technology and intention of information technology outsourcing was raised.

## PRIOR STUDIES ON IT OUTSOURCING CONCEPT AND ITS EVOLUTION

The concept of early outsourcing was the traditional problem area of production management, whether to make a specific part or product in-house (Make) or to outsource or outsource production (Buy). This outsourcing began to gradually expand into other areas, and began to do so in the sales and information systems sectors. Thus, outsourcing means outsourcing some of the functions needed to run a company (Management and Computer, 1996).

The definition of outsourcing through several representative studies is as follows. Lo and Venkatraman (1992) define outsourcing in the information technology sector as "the overall or partial contribution of external suppliers to the physical and human resources that form the enterprise's IT infrastructure." The information technology infrastructure here refers to the organization of tangible elements such as human resources, facilities, and software and intangible elements such as organization, procedures, and policies required to provide various computerized services within an organization.

Teng et al. (1995) defined outsourcing of information systems as the practice of delegating some or all of the organization's information system functions to external service providers. These definitions include application development and maintenance, system operations, network / telecommunications management, end-user computing, system planning and management, application software.

Klepper (1995) defines outsourcing as an external provider providing services to customers, and in the case of information systems, data center operations, system development and maintenance, technical services such as equipment and network management, and general management of information system functions. Taken together, these definitions range from entrusting software development to outside information services firms, to largely relying on third parties for all the functions, assets, and resources of the information systems sector. In this study, information technology outsourcing is defined as "providing the computer resources owned by external specialists to customers, and managing the whole or important part of the customer's information processing business for a long time."

Outsourcing has attracted attention in the information industry since 1989, when IBM and Kodak signed a 10-year, $ 5 million contract. Kodak expects a 50 percent cost savings by splitting out its data center to IBM, network to DEC, and microcomputer to Business Land. Since these Kodak contracts have triggered the ripple effect of the so-called "Kodak Effect," which has marked a milestone in the outsourcing market, many companies have become aware that outsourcing is a major information system management or management strategy.

Large-scale outsourcing has been ongoing since the contract between Kodak and IBM, including British Airways, British Petroleum, Chase Manhattan Bank, Continental Airlines, Continental Bank, DuPont, General Dynamics, Xerox, McDonald Douglas, Citibank and GJ Capital Services. (GE Capital Service), General Motors, and JP Morgan are doing

outsourcing on a large scale. The leading companies in the business are systems such as EDS, CSC, and Anderson Consulting. Professional outsourcing operators starting from integrated businesses and operators based on hardware manufacturing and sales such as IBM, DEC, Hewlett Packard, Unisys, and AT & T, MC Network operators such as MCI, British Telecom, and other small but specialized fields System can be divided into integrators. Outsourcing operators are expanding their market size through continuous technology development around their existing expertise (Lo & Venkatraman, 1992).

In the case of foreign countries, outsourcing to professional outsourcing companies for the purpose of strategic or cost-effectiveness and focusing on core competencies is being done. Domestic outsourcing is at an early stage. Moreover, since the domestic information system industry has grown rapidly in the field of system integration (SI) centered on affiliates, which are based on subsidiaries and perform group integrated computerization, outsourcing is somewhat different from other countries in terms of form. Therefore, when a company outsources, whether or not a professional system integrator exists in the group has a significant impact on decision making.

On the other hand, outsourcing in a pure sense means that a professional outsourcing provider provides outsourcing services to customers. It is hard to find a company that specializes in outsourcing in Korea. This type of outsourcing is not yet active in Korea. In recent years, however, many companies and public institutions have become aware of outsourcing not only as part of restructuring but also as an important management innovation technique.

In 1996, Pulmuone signed a five-year maturity contract that completely transferred the information systems department to Linkware, and in 1997, Chungnam Spinning and IB Korea signed an outsourcing agreement. In 1998, Korean Air and Dongkuk Steel signed an agreement with Korea IBM. 10- and 7-year outsourcing contracts, respectively. BASF Korea was completely in charge of the entire industry to IGS, which was founded by the former staff of the computer room, and outsourced in Korea as Volvo Construction Equipment Korea, a subsidiary of Volvo Korea, signed a three-year contract with Samsung SDS. Increasingly, companies are adopting it (Jang Hee-man, 1998). In the public sector, there are an outsourcing contract that has successfully completed the establishment of an integrated national tax information management system between LG EDS and the IRS, and a computerized outsourcing contract of the register of courts.

## THEORETICAL FOUNDATION AND PROPOSITION DEVELOPMENT

### Organizational Strategy Types

There is a study to find out that decision making on information technology outsourcing is related to organizational strategy and the role of information technology in the organization (Teng et al., 1995). This study attempted to show that information technology outsourcing decision making was related to the firm's particular strategy type, Miles and Snow's.

Miles and Snow (1978) divide an organization's strategy types into four categories: defensive, progressive, analytical, and passive strategies (Defender, Prospector, Analyzer, and Reactor). It is divided into entrepreneurial problem, engineering problem, and administrative problem. The basic purpose of each strategy, how to achieve the strategy, and the advantages and disadvantages of the strategy are explained by type of strategy.

The employer problem is a matter of selecting a company's position in the industry in which the company is concerned. It is a matter of determining the overall direction in which the company should go by setting the market to enter or the nature of the product to be made. The engineering problem is related to the basic way of how a company makes a product, how it is produced and how it is delivered to the end consumer in relation to the product to be produced. Administrative issues are specifically related to the nature of the main activities taking place within the organization and to how to coordinate and control internal activities in order to carry out the decisions made in these two issues.

Miles and Snow's strategy types are as follows. Defender has a stable product or service area and competes through cost reduction, quality improvement and service

enhancement. Therefore, many efforts are made to achieve cost efficiency through improvement of quality and inventory control, material management, production plan, and distribution method. However, because defensive strategies tend to ignore outside market development outside of the specific area of choice, the administrative time and manpower spent monitoring the activities of competitors is extremely limited. Therefore, the focus of technology development is on improving existing technologies rather than developing new ones. This allows production managers to have greater influence on organizational decisions than R & D or marketing managers.

Since prospector is aware of ongoing environmental changes, the success of an organization depends on the development of new products and opening up new markets. This tends to emphasize marketing and R & D because they invest heavily in monitoring environmental conditions and trends, looking for new opportunities, and developing a variety of technologies for many different products. In such a business environment, flexibility is urgently needed, minimizing long-term investment in the production process. Therefore, efficiency is difficult to achieve.

If defender and prospector have opposite characteristics, you can find an analyzer between these two extremes. These areas have stable and changing areas, and the characteristics of the tissues reflect the properties of the defender and the prospector, respectively. But the prominent feature of analyzers is that they mimic the products and markets developed by prospector. Therefore, it is necessary to be ready to quickly switch to new products and new markets, and it is possible to improve product lines without spending R & D as much as companies taking forward strategy.

All three strategies are consistent and stable in their response to the environment. In other words, when the environment changes, each competitive strategy takes a series of actions that adapt its activities to that change. However, reactors lacking this consistent response mechanism can be classified as a fourth competitive strategy. There are three main reasons why reactors appear. First, the firm does not have a clear competitive strategy to survive the competition. Second, even if the strategy is clear, it is not properly linked to technology, organizational structure, and management system. Third, specific strategy-structure Although the relationship no longer fits into the existing environment, the management system adheres to it.

Cheng et al. (1995) predicted that defender would prefer internally developed information technology, and in the case of prospector, it would focus on external resources rather than internal resources to acquire information technology. It was expected to pursue a strategy of a mix of internal and external resources to acquire, and for Reactor, there would be no specific approach to securing information technology resources as there is no clear competitive strategy. As a result of empirical analysis, the hypothesis about the relationship between organizational strategy type and information technology outsourcing decision was not supported. Among the various strategic types, prospector increased information technology outsourcing the most, but the difference was not statistically significant. Therefore, information technology outsourcing suggests that it may have been more universally adopted by firms of all types of strategies than researchers expected.

In addition to Miles and Snow's strategic types, the strategic role of information technology was included in the research model of Cheng et al. (1995). Information system applications in organizations have provided tools for competing and supporting decision making from automating administrative processes over time. As a result, there is a growing awareness that information technology is more important than ever in corporate strategy.

### Strategic Intent of IT Outsourcing

Most literature sees information technology outsourcing as one of the reasons for lowering costs and increasing the efficiency of information technology resources, which is the motivation and reason for information technology outsourcing. Nevertheless, DiRomualdo & Gurbaxani (1998) argue that this focus is in fact one of the intentions of information technology outsourcing.

In addition to the traditional information technology outsourcing intentions of "IS

Improvement," there are two more strategic intentions. The second, Information Technology Outsourcing for Business Impact, focuses on increasing the contribution of information technology to company performance through outsourcing within existing lines of business. The third strategic intent is "Commercial Exploitation." This is to create new markets related to information technology by selling assets related to technologies developed through outsourcing, such as applications, information technology infrastructure, know-how, etc. to other companies.

The outsourcing intention of 'information system improvement' is to outsource the organization's core information system resources, for example, to achieve better performance from the hardware, software, networks, people and processes involved in supporting users and managing and operating technology. This is promoted. Typical objectives of information technology outsourcing include reducing costs, improving service quality, and acquiring new technologies and management capabilities. External experts believe that they are steadily acquiring new technologies and use better processes and management methods than their own, which makes it desirable to manage some or all of the information technology services.

'Influence on business' is the practice of information technology outsourcing with the aim of improving important aspects of business performance. To realize this, it is necessary to understand the business and the relationship between information technology and business processes, and the ability to simultaneously implement new systems and business changes. This type of outsourcing requires skills and the ability to link information technology to business results rather than purely technology.

'Commercial use' is the pursuit of information technology outsourcing with the aim of improving the return on information technology investment by generating new revenue sources and profits or offsetting costs through information technology outsourcing. Commercial use of information technology assets can range from initial patenting of systems and technologies developed for internal use, to selling information system products and services to other companies, and to starting new information technology businesses.

The three outsourcing intentions are cumulative and not mutually exclusive. In other words, outsourcing that focuses on 'impacts on business' generally includes the purpose of 'improving information systems. Outsourcing, which focuses on "commercial use, "also encompasses two other purposes: "improvement of information systems" and "impact on business". These argument leads to the following propositions:

- Proposition 1: Organizational size affects its choice of IT outsourcing strategic intent.
- Proposition 2: Organizational strategy affects its choice of IT outsourcing strategic intent.
- Proposition 3: IT department size affects its choice of IT outsourcing strategic intent.
- Proposition 4: IT department strategy affects its choice of IT outsourcing strategic intent.

## DISCUSSION AND CONCLUSION

The purpose of this study was to theorize whether the organizational strategy type is a factor in determining the intention of information technology outsourcing. In other words, it was able to verify that the intention of information technology outsourcing varies according to the organizational strategy type. In many organizations, information technology outsourcing will be carried out by a visible strategy established by formal procedures. However, the organization strategy in this study has an inherent characteristic that shows the characteristics of the organization, unlike this formal strategy. This type of strategy will determine whether to outsource information technology, whether it is to improve information systems, to business impact, or to commercial use. Thus, the type of strategy of the organization in determining the intention of information technology outsourcing is a highly explanatory variable. Among the types of organizational strategies, Defender is likely to aim to improve the information system compared to analyzers and reactors. Defenders are internally oriented and outsourcing with the intention of improving the information system, the most stable intention, because they avoid risk and seek stability. Prospectors were more likely to target commercial use than analyzers or reactors. Prospectors, by their very nature,

take some risks and try to gain a leading position in the industry.

Information technology outsourcing seems to be undeniable. This is because it is difficult to respond and adapt quickly and appropriately only with internal capacity for the rapid development of information technology. Therefore, information technology outsourcing will be further increased, and its forms will be diversified. When making information technology outsourcing decisions, it is necessary to actively identify and reflect your organizational strategy to clarify the intention of outsourcing. This is because doing so can reduce the risk of outsourcing failures and increase the probability of success.

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