BUSINESS STRATEGY AND INNOVATIVE PRACTICES ON SERVICES INDUSTRY IN INDONESIA SETTING

Achmad Hidayat Sutawidjaya
Lecturer of Economics Faculty, University of Bakrie
Jl. H.R Rasuna Said (Epicentrum) Kav. C22, Jakarta
email: sutawidjaya@hotmail.com, HP: 0818156969

ABSTRACT

This study explores how firms on services industry (cellular company) in Indonesia setting with different strategic orientations manage innovative practices. Specifically, we examine differences in how firms with contrasting strategic orientations view the environmental and organizational factors that influence their management of innovation. This study contributes to the integration of the strategic management and innovation perspective by empirical examining how innovative practices vary among firms on services industry in Indonesia setting with different strategic orientation, thereby achieving tighter integration between these two important theoretical perspective. In doing this research, we begin to address some important questions which are likely to be crucial interest to both scholars and practicing managers. This study proceeds as follows, we first established a foundation for our study by examining te literatures on strategy and innovation. We then develop hypotheses on relationship between a firm’s strategy type and its management of innovation (innovative practice, product innovation), external advantage, internal advantage. We the test hypotheses using data from 3 firms of cellular company (XL, Satelindo, Telkomsel) with sample 87 Manager randomly. A discussion of the empirical results and conclusion there is strong relationship between a firm’s strategy type and its management of innovation on services industry (cellular company) in Indonesia setting.

Keywords: Business strategy (IT adoption process innovation), innovative practices, services industry, product innovation, external advantage, internal advantage.
INTRODUCTION

Indonesia liberalized cellular telecommunications business in 1995. Since that year the government allows private companies to operate in cellular telecommunications business in open competition. Cellular telecommunications operation business became more attractive after the introduction of the GSM (Global System for Mobile Communication) technology replacing the first generations of cellular telecommunication technology used in the country such as NMT (Nordic Mobile Telephone) and AMPS (Advance Mobile Phone System). The business expands rapidly in Indonesia placing the country the fourth largest market for that service in Asia after South Korea, China and Japan. The ranks are based on the number of subscribers from year to year. According to the Indonesian Association of Cellular Telephone (ATSI), the number of cellular phone users in the country grew 49.1% annually in the 2002-2006 period. By the end of 2006, the number of cellular phones users in the country totaled 63.9 million. GSM operators dominated 95% of the market and pre-paid card system accounted for 94% of the payment system with post paid card system making up only 6%. Telkomsel claims it has cover 95% of all district areas of the country and in 2008 Telkomsel targets to cover the entire sub-districts (kecamatans) of the country.

The number of users of cellular phones has grown fast as the market is still widely open and highly potential with the low ratio of users to the population in the country. Teledensity in the country of 220 million people is around 38% much lower compared with the teledensity in other Asean countries. Foreign investors know the potential and are keen to expand operation in the country. A number of operators from other Asian countries such as Singapore Telecommunication Ltd (SingTel), Singapore Technology Telemedia (STT) from Singapore and Telekom Malaysia and Maxis Communication Bhd from Malaysia have established their position in the country by acquiring local cellular operators Telkomsel, Indosat and Excelcomindo Pratama. Indosat, formerly controlled by the state now 41.08% owned by foreign investor. Almost all world telecommunication technology suppliers have made their presence in Indonesia and share the potential market. Telecommunication service industry is one of the most dynamic service industries requiring huge investment.

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Innovation has become an absolute necessity to survive and perform well in almost every industry. The current competitive landscape demand innovation. Gary Hamel, a well-known writer and management consultant, argues that firm cannot rely on past success to perform well today. Furthermore, he suggest that current success will not carry firms into the future. Managers must have the foresight and courage to continuously innovate. Thus a firm’s strategy must include continuous improvement. One key successful strategic management is the ability to achieve fit or coherence among a set of competitive factors, both internal and exkternal to the organization, in a manner that facilitates high performance. The strategic choice perspective (Child, 1972) argues that organizations do not simply react to their environments but dynamically interact with them via the strategic actions of top
managers. Achieving strategic fit thus requires alignment of organization resources, capabilities, and competencies with environmental opportunities and threats (Bourgeois, 1980; Schendel and Hofer, 1979). Beyond this, proper fit requires internal consistency with regard to the firm’s overall activities and operations. In this sense, strategic management constitutes a “pattern in a stream of decision” (Mintzberg, 1978) intended to dynamically regulate the relation between an organization and its environment while at the same time ensuring that internal interdependencies are efficiently managed and that strategic actions are inherently consistent. Mintzberg (1978) distinguished between deliberate strategies, whereby an intended strategy is actually realized, and emergent strategies, whereby a realized strategy may have never been intended.

This notion has subsequently been extended (Brown and Eisenhardt, 1998; Jennings et al., 2003; Mintzberg et al., 1998; Tegarden et al., 2003) to further highlight the dynamic interplay between the organization and its environment and the distinctions between rational and extemporaneous aspects of strategic management. Firms may thus establish competitive advantage on the basis of different sets of distinctive competencies, which are aggregates of specific activities that organizations perform especially well relative to other organizations within a similar environment (Selznick, 1957; Snow and Hrebinjak, 1980). These firms have adopted information technology to foster changes in managing customer relationships, manufacturing, procurement, the supply chain and all other key activities (Agarwal & Sambamurthy, 2002; Barua & Mukhopadhyay, 2000) and to enhance their competitive capabilities (Sambamurthy et al., 2003). A number of information systems researchers have posited information technology as an important ingredient of innovation development (e.g., Corso & Paolucci 2001; Dewett & Jones, 2001; Xu et al., 2005). To address these gaps and advance understanding of information technology adoption and specific service innovation practices, we explored information technology adoption as a coordination mechanism (Dedrick et al., 2003; Galbraith, 1973), which has led to changes in innovation-related activities. The main emphasis in the literature is on the discussion of information technology adoption and its influence on service innovation practices and competitive advantage. Based on Rogers’s (1983) innovation diffusion theory, implementation represents the infusion stage in the process of innovation diffusion (Cooper & Zmud, 1990).

Swanson (1994) suggested that information systems innovation among organizations can be categorized into three distinct types: innovations that occur within the information systems function (Type I), at the individual user or work group level (Type II) and at the organizational level (Type III). Consistent with the perspective of Type III innovations, we discuss and analyze information technology adoption at the organizational level and conceptualize information technology adoption based on four elements in Scott Morton’s (1995) MIT90 model. The terms of the four elements are slightly modified as information technology infrastructure, strategic alignment, organizational structure and individual learning, without losing the original meanings.

Information technology infrastructure includes networks; management and provisioning of large-scale computing, electronic data interchange and shared databases, and research and development to identify emerging technologies (Davenport et al., 1989). Almost two-thirds of the information technology budget of an organization is spent on information technology infrastructure (Weill & Broadbent, 1998), not only to enable the sharing of information across different departments but
also to provide flexibility to respond to changes in business strategy (Weill et al., 2002). Strategic alignment suggests that the effect of information technology on performance will depend on how well the information technology strategy and corporate strategy coincide (Chan et al., 1997; Palmer & Markus, 2000). Companies can be successful in aligning their information technology and business strategies by balancing internal and external factors as well as business and information technology domains (Henderson & Venkatraman, 1993). A number of studies have shown that aligning information technology and business strategies is critical for successful information technology adoption and positively associated with effective organizational performance (e.g., Chan et al., 1997; Sabherwal & Kirs, 1994).

Organizational structure specifies the formal line of communication; helps control, integrate and coordinate work activities; and defines the allocation of work roles (Porras & Robertson, 1992). While information technology is being adopted, organizational structure is often reexamined and adjusted to improve performance via pooled resources, innovation and collaboration across organizational boundaries (Dewett & Jones, 2001). For the organization to effectively take advantage of information technology, both end-users and information technology personnel must acquire new information technology-related skills and knowledge (Grover et al., 1999; Scott Morton, 1995). The acceptance of new information technology may hinge on the proper assessment and identification of organization divisions that would benefit the most, which subsequently may influence the adoption behavior of others (Rogers, 1983). Process innovation refers to the introduction of a new production method that includes a novel way of handling a commodity commercially (Schumpeter, 1934) and can be applied to the entire value chain process, including manufacturing, data processing, distribution and service (Zaltman et al., 1973). Adopting information technology may have positive impacts on internal operational processes as well as external cross-enterprise processes that integrate other organizational and supply chain processes (Joglekar & Yassine, 2002). The adoption of information technology enhances a company’s response to customer demands with shorter delivery times (Jackson, 1990) and enables customers to monitor their deliveries (Tinnila & Vepsalainen, 1995). Externally, companies can not only improve delivery speed and progress visibility, but also take advantage of information technology in designing or modifying new service processes (Avlonitis et al., 2001), such as using Web or mobile services for customer information inquiry and consultation, enriching multi-channel purchasing features and enhancing after-sale services. Internally, information technology may enhance service development capabilities and administration efficiency to shorten product design time, reduce the number of prototypes that must be built, cut costs, improve quality (Karagozoglu & Brown, 1993) and foster better collaboration, communication and coordination among project members (Ozer, 2000). Therefore, we suggest that information technology adoption has positive and significant effects on service process innovation.

**H1:** The higher the level of information technology adoption, the greater the level of service process innovation.

Product innovation refers to the introduction of a new good or a new quality of an existing good (Schumpeter, 1934) and involves the development, production and dissemination of new
consumer and capital goods and services (Zaltman et al., 1973). Compared to physical products, service products are easier to imitate and more difficult to protect under commercial patents. Even so, innovating service products is still an important task for service firms, to remain competitive. Adopting information technology provides a means for production and marketing staff to create numerous opportunities to innovate new services (Vermeulen & Dankbaar, 2002). In doing so, firms are capable of developing new services that are better suited to market demand and offer better post-selling services to fit customer needs (Demirhan et al., 2006; Preissl, 1999). Thus, we suggest that service firms that fully utilize information technology will do better in differentiating their products and providing superior services.

**H2:** The higher the level of information technology adoption, the greater the level of service product innovation.

Competitive advantage can be gained when an organization produces its goods or services more cheaply than its competitors and resolves bargaining situations to its own advantage (Bakos & Treacy, 1986). Recent discussions on competitive advantage have broadened the scope from value chain and value creation capabilities perspectives (e.g., Barney, 1991; Piccoli & Ives, 2005) and suggest that competitive advantage is gained through outstanding organizational conditions and strong value creation capabilities in a firm. That is, competitive advantage is achieved by fully deploying and using idiosyncratic, valuable and inimitable resources and capabilities (Bhatt & Grover, 2005) and can be viewed externally as outcome performance and internally as organizational capabilities. Thus, in this study, based on the above discussion, we categorize competitive advantage as external and internal, to examine the effect of service innovation on competitive advantage externally and internally.

External competitive advantage is attainable by providing high-quality products and services to meet customer desires and being constantly aware of market changes and quick to react to trends and competitors’ strategies. Firms depend on the effective use of existing assets to enhance profitability and apply innovation practices to establish their values when faced with imitation by competitors (Roberts & Amit, 2003). The effects of service process innovation on external competitive advantage can be examined by evaluating customer satisfaction with quality, delivery time and installation assistance (Day, 1994). Process innovation may also increase the effectiveness and efficiency of operations (e.g., Tushman & Nadler, 1986). It follows that firms that constantly innovate service processes would excel at utilizing new marketing techniques and enhancing customer satisfaction to fulfill the constantly changing needs of their customers. Furthermore, launching new products and improving existing products help firms grow their sales and become market leaders (e.g., Iansiti, 1995). Offering new service products to fit customer needs would enable firms to keep pace with the shifting desires of customers and help improve brand image. In addition, taking good care of customer needs leads to sustainable success in business operations (Henard & Szymanski 2001). We postulate that both service process innovation and service product innovation would have positive and significant effects on external competitive advantage.
H3: The higher the level of service process innovation, the greater the level of external competitive advantage.

H4: The higher the level of service product innovation, the greater the level of external competitive advantage.

Firms that continuously provide innovative services are often characterized by a service-oriented working environment, better cross-function coordination and well-defined training and learning mechanisms. Employees in such environments may be more satisfied and motivated to learn and build new knowledge (Brown & Duguid, 1991). Whenever a new service process is provided and/or a new service product is launched, employees will need to learn about the new processes or services. Consequently, employees will tend to become more creative and acquire new knowledge (Rubery et al., 2002). Similarly, if firms launch new services as a routine practice, employees will be more able to adapt to new roles and new practices in selling the new services (Smith et al., 2005) and will be more satisfied with their work, by assuming a challenging, ever-changing role, instead of selling the same services time after time.

H5: The higher the level of service process innovation, the greater the level of internal competitive advantage.

H6: The higher the level of service product innovation, the greater the level of internal competitive advantage.

Information technology adoption was measured using a Likert-type summated scale, including eighteen items rated on a five-point scale (1: strongly disagree, 5: strongly agree). As explained earlier, four different sub-constructs were used to capture dimensions of the information technology adoption. Information technology infrastructure was measured using four items that refer to the firm’s investment in related hardware, software, staffing and sophisticated Internet applications (Bharadwaj, 2000; Sircar et al., 2000). Strategic alignment was measured using four items that refer to the firm’s alignment of its information technology strategy with its corporate strategy to achieve greatest effectiveness (Palmer & Markus, 2000; Reich & Benbasat, 1996; Venkatraman, 1989). Organizational structure was measured using five items including organizational structural change for new business practices and for increasing employee empowerment, enabling inter-department (cross-function) integration, enhancing operations mobility and improving timely response in managerial decision making (Flippo, 1966; Mintzberg, 1979; Porrass & Robertson, 1992; Zaltman et al., 1973). Individual learning was measured using five items including the learning skills and acquired knowledge that can effectively manipulate information technology applications (Barrett, 1995; Chonko et al., 2003; Grover et al., 1999; Zahra & George, 2002).

The scale of process innovation was adopted and modified mainly from Zaltman et al. (1973) and Davenport and Short (1990), with seven question items to measure new service processes within a firm regarding customer service, information inquiry, promotion, trade, administration and new service development. The scale of service product innovation was adapted and modified mainly from Avlonitis et al. (2001), items, namely, service modifications, service line extensions, service
repositioning and improvements in existing services.

The competitive advantage scale identified two categories, external and internal advantage. The measure of external competitive advantage was mainly modified from Avlonitis et al. (2001) and Atuahene-Gima (1996), using three items to assess how a firm uses new services to increase competitive advantage, enter new markets and provide better service quality than competitors. The measure of internal competitive advantage was mainly adopted from Van Riel et al. (2004) and Atuahene-Gima (1996), with three items including improvements to employee innovation, domain knowledge and job satisfaction.

METHODS

Data were collected from a sample of 3 firms of cellular company (XL, Satelindo, Telkomsel) with sample 87 Manager randomly. The questionnaire was mailed to one information technology manager in each firm, accompanied by a covering letter explaining the purpose of the research and assuring respondents that answers would remain confidential. We also indicated that we would provide the summary of the survey results and a gift certificate. These efforts increased the total responses to 76, corresponding to a valid return rate of 87.5%. Partial least squares regression was primarily used to evaluate the research hypotheses. Whereas the typical factor-based LISREL analysis using maximum likelihood estimation emphasizes the transition from exploratory to confirmatory analysis, the partial least squares method is primary intended for causal-predictive analysis and to explain complex relationships by following a component-based strategy (Joreskog & Wold, 1982; Rai et al., 2006; Stewart & Gosain, 2006), as is the case with this research.

RESULTS AND DISCUSSION

Path coefficients and T-values of the structural links are listed below. All of the six links were positive and significant in supporting the six proposed hypotheses.

1. H1, that information technology adoption has a positive and significant effect on service innovation in process, is supported (path = 0.64, t = 8.28, p < .01).
2. H2, that information technology adoption has a positive and significant effect on service innovation in product, is supported (path = 0.66, t = 6.56, p < .01).
3. H3, that service innovation in process has a positive and significant effect on external competitive advantage, is supported (path = 0.54, t = 3.77, p < .01).
4. H4, that service innovation in product has a positive and significant effect on external competitive advantage, is supported (path = 0.58, t = 4.70, p < .01).
5. H5, that service innovation in process has a positive and significant effect on internal competitive advantage, is supported (path = 0.42, t = 3.56, p < .01).
6. H6, that service innovation in product has a positive and significant effect on internal competitive advantage, is supported (path = 0.42, t = 3.56, p < .01).
advantage, is supported (path = 0.24, t = 1.88, p < .05).

CONCLUSIONS

The implementation of these innovation activities requires the coordination of related and complementary resources across the firm’s business units. Building on previous research, this study conceptualized information technology as a major coordination mechanism (Tanriverdi, 2005). Strategic alignment, management processes, organizational structure and individual learning and to explain how such mechanisms can sustain and enhance service innovation practices in financial firms. This research model and the associated hypotheses add detail to the prevailing understanding of critical linkages between information technology adoption and competitive advantage. With all hypotheses supported, the empirical results provide strong overall validation and point to the important role of information technology adoption that coordinates four elements to improve the implementation of service innovation practices. Managers must pay special attention to how service innovation, in conjunction with suitable processes and products, can enable all aspects of innovation interactions between the external and internal aspects of firms to obtain superior competitive performance.

First, we provide an organization-wide perspective about information technology adoption that is valid for the enterprise, business unit and process levels in a firm. We propose that the value-added role of information technology adoption lies in enabling a coordination mechanism that shapes a firm’s capacity to launch frequent and varied innovation practices. Second, our research highlights an integrated perspective to link information technology adoption, service innovation practices and competitive advantage. In particular, we highlighted two service innovation practice dimensions, namely, process innovation and product innovation. We propose that service innovation practices are important because they visualize how firms continually develop their capabilities and focus on their process and product to shape their strategy.

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