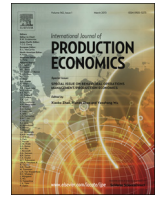




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Service innovation and new product performance: The influence of market-linking capabilities and market turbulence

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ABSTRACT

Service innovation is a significant factor in maintaining a firm's competitive advantage in an increasingly service-centered economy. Although there is a rich body of research on the role of service innovation in value creation for firms, little attention has been paid to the effect of service innovation on new product development. This study advances the research on service innovation and market-fit capabilities by examining how a service-based firm's market-linking capabilities and market turbulence shape the relationship between service innovation and new product performance. The study offers a theoretical framework that integrates both the resource-based and market orientation perspectives of service innovation to investigate innovative service practices and activities that occur in contemporary service-based firms. Using an original dataset of 170 service-based firms from a service-centered economy, the study demonstrates that the combination of high market-linking capabilities and high market turbulence strengthens new product development performance. The empirical results further show that new product performance is highest in situations involving high levels of service innovation, market-linking, and market turbulence; thus, the findings support the proposed three-way interaction among these variables. Overall, these findings contribute to a better understanding of the contexts in which service innovation represents an invisible specific asset or resource for service-based firms.

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1. Introduction

Over the past two decades, the development of the global economy has gradually shifted from the traditional production of goods toward a service-centered economy. The service sector now dominates the development of the global economy (Paton and McLaughlin, 2008). In particular, more than 70% of the global economy's gross domestic product (GDP) is derived from the service sector, and innovation plays a crucial role in ensuring the creation of economic activities (Ostrom et al., 2010). Global economic activity is significantly dominated by the service sector because this sector promotes the development of new services and enhancements through service innovation (SI) efforts. Given the growing

significance of the service sector, the notion of SI is of central importance. SI is cited as the primary source of value creation (Maglio and Spohrer, 2008; Möller et al., 2008; Zhang et al., 2015), particularly in areas that involve creating value for customers via innovation (Möller et al., 2008; Wang et al., 2015) and increasing firm performance (Menor and Roth, 2008; Melton and Hartline, 2010). These studies provide insights into the origins of SI and offer useful guidance for service management practice.

SI is becoming a crucial issue for research on service-based practice for several reasons. First, the global economy is transitioning from a traditional product-oriented economy to one that is service-based (Chesbrough and Spohrer, 2006; Sheehan, 2006). The majority of the economic growth in developing and developed countries is derived from service products and activities that continuously contribute to the global economy (OECD, 2006). Thus, SI has become an increasingly important concern for service-based firms that focus on innovative service initiatives and the adoption and implementation of the market concept along their value-added chains. Nevertheless, traditional innovation-measurement studies are greatly dependent on research and development (R&D) expenditures. However, R&D considerations

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may not be satisfactory for service-based sectors because the innovation process also requires a number of non-R&D activities, such as offering new services, servicing human capital design and investment, training personnel, engaging in market research, and investing in new production or service capacities.

Second, traditional manufacturing firms are beginning to integrate or combine products and services as “bundled offerings” to provide a complete value-added service chain and thus to increase their competitive advantages. These bundled offerings are based on the notion of combining products, processes, and services to design and deliver new services and to create value for customers and firms through services. Bundled offerings for service-based firms have clearly resulted in greater interest in promoting new service development and value creation to meet market needs. Offerings based on SI require the integration of customers, employees, suppliers, and partners in an innovative service process that meets all of their needs (Carbonell, Rodríguez-Escudero, and Pujari, 2009; Maglio and Spohrer, 2008; Melton and Hartline, 2010; Zhang et al., 2015). Particularly in a service economy, SI activity is widely recognized as a key driver of economic growth (IBM, 2012; Sakata et al., 2013; Tamura et al., 2005; Wöfl, 2005; Chae, 2012). According to recent survey research by the Organization for Economic Cooperation and Development (OECD), the service sector accounted for approximately 70% of aggregate production and employment in 2005 (OECD, 2005; Tamura et al., 2005). The World Trade Organization (WTO) reports that in 2011, trade in the U.S. service sector was the world's highest (\$185.6 billion), followed by trade in the United Kingdom (\$103.3 billion). China and Saudi Arabia are the world's largest markets for imported services, which exceed exports in those countries by \$54.1 billion and \$43.8 billion, respectively (WTO, 2012). As the global economy has transitioned to a service-based economy, an increasingly large stream of SI studies has emerged to attempt to identify elements that are crucial to competitive advantages. From this perspective, SI is an essential element that can facilitate a firm's operations and thus contribute to its competitive advantage (Avlonitis et al., 2001).

Third, given the emerging servicization era, many researchers postulate that the development of more competitive service offerings requires consideration of SI efforts in complex service environments (Paswan et al., 2009). In addition to this already complex external environment, service-based firms must continuously engage in innovative services to manage new products or services. Naturally, a service system is a dynamic configuration of people, technologies, organizations, and information-sharing that creates and delivers value to customer-focused providers and other actors (Dominguez-Pery et al., 2013; Hallikas et al., 2014; IfM and IBM, 2008; Ng et al., 2009). Clearly, SI is considered an important trigger for extensions of the service business (Gebauer et al., 2008) because SI involves value co-creation in which customers and firms are jointly involved in co-creating value-in-use within a service system (Åkesson and Skälén, 2011; Chae, 2012; Hallikas et al., 2014; Ng et al., 2012; Payne et al., 2008; Vargo et al., 2008). Understanding these value-creating activities and attributes enables a firm to manage its value proposition around the value-in-use realized by its customers. This logic implies that successful service firms must place greater emphasis on the selection, development, and management of SI activities and attributes that contribute directly to a customer focus (Bitner et al., 2008; Sampson, 2012). Therefore, service-based firms are amenable to new and better ways of providing services for the benefit of their customers. The goal of this study is to gain a better understanding of the complex service system in an innovation-development process, which results in the need to manage what innovative service logic entails for service-based firms. Because of the emergence of service-based firms and the servicing of global markets, firms that engage in the creation of innovative services may increase their performance. Thus, it is

necessary to identify the conditions under which particular relationships enhance or constrain SI and new product development performance by facilitating or inhibiting a firm's capability to explore SI opportunities and their potential returns.

Despite previous studies' recognition that SI is becoming increasingly crucial for service-based firms' competitive advantages, research on the practice of SI remains limited (Chae, 2012; Hauser et al., 2006; Maglio and Spohrer, 2008; Essen, 2009; Wooder and Baker, 2011) and is specifically linked to service-based firms' new product performance gains. Several key empirical articles that relate to the effect of SI on a firm's performance are summarized in Table 1.

In addition, there are no theory-based frameworks for SI in service-based firms (Chase and Apte, 2007; Maglio and Spohrer, 2008) to assist us in understanding the consequences of SI. Therefore, a more detailed exploration and understanding are necessary for SI in service-based firms to meet the needs of theory and practice (Essen, 2009; Paswan et al., 2009). Specifically, a service-based firm's SI endeavors may facilitate the pursuit of new market opportunities that may enhance its performance (Menor and Roth, 2008); thus, adopting a strong SI practice is increasingly considered necessary, albeit insufficient, for new product development by service-based firms and has not been sufficiently addressed by the current research.

For these reasons, this study attempts to address these gaps. It examines the effects of two types of external market factors (market-linking capability and market turbulence) on new product performance gains. According to the resource-based view of firms (Barney, 2001; Day, 1994), the success of a strategy depends on the fit between resources and market orientation. Thus, the effects of market orientation are likely to vary across different external environmental conditions. Consequently, a better exploration of the conditions under which SI implementation enhances a firm's new product development performance may require a contingent perspective that emphasizes the importance of fit in a firm's new service development (NSD). This NSD should incorporate both internal SI implementation capabilities and the external market-oriented perspective to develop SI to meet market needs.

2. Service innovation as an intangible resource

SI can be regarded as a set of improvements in technology innovation, business model innovation, social-organizational innovation, and demand innovation with the objective of improving existing services, creating new value propositions, or creating new service systems (IfM and IBM, 2008). A firm's SI capability is vital to its survival because innovative services drive the transformation of new services, products, processes, and technologies into outcomes that meet market needs. Obviously, SI is concerned with service offerings and the processes of interdependence between new service/product/process combinations and customer/market needs by delving more deeply into the additional value of changing firms' operational models and their perceptions of innovation, which may be relevant in both contexts.

Previous studies have generally suggested that innovative services enable firms to access market trends (Carbonell, et al., 2009) and enhance their learning capabilities (Den Hertog et al., 2010), thus facilitating firm performance (Menor and Roth, 2008). SI can result from novel combinations of existing services, people, technologies, and approaches to satisfy both current and potential customers. In fact, specific service activities can serve as invisible specific assets (Penrose, 1959) that may generate competitive advantages. Based on the seminal work of Penrose (1959), distinctive service activities may constitute a specific capability that can be developed in different ways to accelerate a firm's adaptation to environmental changes. This

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