

Self-Service Technology Investment, Electronic Customer Relationship Management Practices, and Service Innovation Capability: An Extended Abstract

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Introduction

Self-service technology (SST) is an increasing investment and part of service operations in most industries and companies today (Curran and Meuter 2007). SST has been increasingly prominent in the service industries in particular. For example, hotels utilize automated check-in systems, and airports take advantage of check-in kiosks. Other examples of SSTs include automated ticketing machines, electronic retailing, automated phone systems, automated teller machines (ATMs), telephone banking, and mobile banking. SST is having a marked presence in the marketplace and represents a considerable investment in money and strategy for many organizations (Bitner et al. 2002). Customers now have the option of using ATMs, kiosks, scanners, touch screens, automated phone systems, and the Internet in a self-service mode for a variety of tasks, including booking flights and creating seat assignments, vending boarding passes, entering fast-food orders, preparing taxes, self-check-in/out, shopping, and account management (Meuter et al. 2000). These SST options, by removing the need for human service encounters and personnel and actively allowing the consumer to self-serve and control the service, have the potential of providing time savings, convenience, and service quality to the customer while leveraging cost reduction and effective service delivery for firms (Bhappu and Schultze 2006; Dabholkar 1996; Parasuraman 2000).

However, the emergence of the knowledge economy, intense global competition, and considerable technological advance has seen service innovation become

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increasingly central to competitiveness. Firms must continually seek new and innovative ways to meet customer wants and needs (Chan et al. 1998). Because many of these innovations to service activities involve adding new services, expanding the existing services, or improving the service delivery process, the service innovation capability for a firm's competitive advantage must be considered. When these changes occur in their competitive environment, organizations often respond by implementing IT to seek its innovative application to either enhance or enlarge the scope of their products and services (Sprague and McNurlin 1993). Therefore, an important research issue has emerged in response to the challenges of service innovation, focusing on the SST investment for service innovation capability. A clear understanding of these two issues can help managers invest in SST and allocate resources for service innovation capability.

In addition, today's global competitive climate places a greater burden on businesses for adopting SST- or web-based solutions, particularly to those with operations that require quick responses in filling customer needs. With the growing global penetration of the Internet, electronic CRM (e-CRM) has become increasingly popular as a communication tool and relationship-building platform. Organizations are keen to deploy different types of e-CRM tactics to attract, maintain, and enhance customer relationships because they believe that good customer relationships are beneficial to loyalty to and the profitability of the organization (Reichheld 1996; Winer 2001). Although managers and researchers often ponder the wisdom of their IT investments (Carr 2003), IT-related investments continue to rise. Studies examining the impact of IT investment and IT adoption on CRM performance have drawn similar conclusions; that is, investments in IT- and web-based applications are keys to effective CRM practices (Curry and Penman 2004; Agnihotri et al. 2002). However, research examining the impact of SST investment on service innovation capability through e-CRM practices has been limited. In doing so, we address four specific questions: (1) Does SST investment impact service innovation capability, and if so, how? (2) Does SST investment impact e-CRM marketing and operational programs, and if so, how? (3) Do e-CRM marketing and operational programs impact service innovation capability, and if so, how?

Literature Review and Propositions Development

SST Investment

SSTs are one form of IT. Meuter et al. (2000) propose that SSTs are technological interfaces that enable customers to produce a service independent of direct service employee involvement. Hilton et al. (2013) define SST as technologies that an organization provides specifically to enable customers to engage in self-service behaviors. SST has become prevalent as a service delivery option. There are more and more businesses launching SST businesses intended to provide efficiency and to gain benefits, particularly Taiwanese convenience stores, e.g., ibon (7–11), Famiport

(Family Mart), and LifeET (HiLife) (Chiu et al. 2010). Today, SST investments are common in many industries and technologies and can have a considerable potential impact on investment and service quality and satisfaction (Curran and Meuter 2007). SST has a strong presence in the marketplace and represents a considerable investment in money and strategy for many organizations (Bitner et al. 2002).

Service Innovation Capability

Service innovation capability is not clearly defined, and relatively little research has concentrated on this issue (e.g., Atuahene-Gima 2005; Hurley and Hult 1998; Yang et al. 2009). Only Tang et al. (2013) develop service innovation capability in the hotel industry and define service innovation capability as the ability to apply useful knowledge from multiple resources to creative new services, processes, and systems. Our focus extends the service innovation research. According to Calantone et al.'s (2002) work, firms' innovation involves their ability, relative to other firms, to adopt something new. Innovation capability can come about through (internal) development or adopting something from an external source. In this study, our focus is on the tendency to develop new products/services and the capacity to introduce new products/services. Thus, based on Rubalcaba et al. (2012) and Tang et al. (2013), we define service innovation capability as a firm's ability to develop new products and services.

Despite large investments in SST over many years, there are uncertainty and debate about what we know and do not know for the relation of SST investment and service innovation capability. Innovation is dependent on the combination of the technology. When considering an IT platform investment, organizations vary greatly in terms of the innovation-related capabilities and endowments that they bring to the table (Fichman 2004). Furthermore, the organization is investing in IT to create new organizational capability, such as service innovation capability, by doing something new by using IT (Peppard and Ward 2005). Thus, SST offers an opportunity to provide new and innovative services. This study proposes the following:

P1: The higher the level of SST investment is, the greater the level of service innovation capability.

e-CRM Practices

CRM practices refer to the actions that enterprises take to contact their targeted customers with a personal touch. These practices include establishing a customer centric information system and service environment, deploying direct marketing capability for one-to-one customer care, cross selling, and loyalty programs. CRM practices are generally distinguished as CRM marketing programs and CRM operational programs to include both external and internal CRM practices (Applegate

et al. 1996; Karimi et al. 2001). In this study, based on the works of Applegate et al. (1996) and Karimi et al. (2001), we propose that e-CRM practices are divided into two typologies: e-CRM marketing programs and e-CRM operational programs. *e-CRM marketing programs* are defined as the external practices that are conducted for better customer data collection and customer profile analysis and to identify customer preferences and buying behaviors for use in Internet marketing campaigns. Additionally, companies can contact customers more proactively to know customer needs and provide customized services/products through multiple channels of their choice for very efficient and effective operations. *e-CRM operational programs* include internal practices that handle a large volume of customer interactions, such as product inquiries and order taking through the Internet. They also provide fast and on-time delivery and high flexibility and agility for dealing with customized orders.

A great portion of business leaders has described IT as being critical to their long-term strategy and indicated CRM software as a high priority to improve (Financial Technology 2002). Thus, IT should be invested and adopted for marketing and CRM practices. Thus, investments in IT should be directed toward marketing and CRM practices that enable business management to identify up-sell and cross-sell opportunities and when interventions are needed (Gessner and Volonino 2005). IT can also be used to analyze the efficacy of different modeling strategies for predicting potential customer value and provide the advantage of using customer information on the industry's investment (Verhoef and Donkers 2001). Adequate IT investment can enhance the facilitation of an organization's CRM marketing and operational programs such that greater investments in IT will lead to sophisticated and enriched CRM practices. Thus, proposition 2 is proposed as follows:

P2: The higher the level of SST investment is, the greater the levels are of (a) e-CRM marketing programs and (b) e-CRM operational programs.

The literature has begun to link the practice of e-CRM with the development of innovation capability. Ramani and Kumar (2008) suggest that using CRM to engage in creating, maintaining, and fostering useful customer relationships and keeping long-term partnerships are important strategic elements for developing innovation capability. Dow et al. (1999) demonstrate that customer-oriented manufacturers devote efforts to strengthen CRM through customer participation at an early stage to provide practical experience to facilitate NPD or modify existing products. Therefore, manufacturers that receive important information from customers are able to increase their innovation capability by meeting the needs of a targeted market (Ottum and Moore 1997; Souder et al. 1997). In summary, e-CRM practices have been known to have positive effects on innovation capability. Thus, proposition 3 is proposed as follows:

P3: The higher the levels of (a) e-CRM marketing programs and (b) e-CRM operational programs are, the greater the level of service innovation capability.

Contributions for Theory and Practice

Contributions to Research

This study contributes to the theoretical development of a conceptual model for explaining the relationships among SST investment, service innovation capability, and e-CRM practices. Despite the increasing importance of SST investment and service innovation capability, few studies have discussed these relationships, and this deficiency is serious because of the increasing importance of e-CRM practices. In particular, we highlight two e-CRM practice dimensions: e-CRM marketing and operational programs. We propose that e-CRM marketing and operational programs are important because they depict how firms continually develop customer service resources and innovation capabilities to shape their service innovation capability. It will be important for researchers to pay attention to the e-CRM marketing and operational programs in our study.

Contributions to Practices

This proposal has practical managerial implications. First, understanding the key e-CRM marketing and operational programs that may affect service innovation capability will put practitioners in a better position to develop appropriate e-CRM strategies for customer service resource deployment and, consequently, enhance a firm's service innovation capability. Firms must continue to develop new e-CRM practices and respond to (or sense) customer new needs and wants. In particular, firms should pull more business resources into related marketing and operational programs (and/or campaigns) and foster closer relationships with customers to identify market opportunities accordingly. Second, we propose that SST investment may play a critical role in the development of e-CRM practices. It is imperative for top management to carefully consider the role of senior managers in e-CRM initiatives. Before beginning major e-CRM programs, managers may need to consider investing in the IT-related resources that will be used to build SST. Similarly, managers are often faced with supporting organizational co-innovation IT programs, and having a collaborative IT mechanism in place may guide them in adopting guidelines and managerial postures that will ensure successful SST investment. We suggest that if firms consider SSTs, they may be able to sense changes; organize capital, knowledge, and relations; meet changing customer needs in a timely manner; and convert market change challenges into customer service opportunities.

References Available Upon Request