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How does CRM technology transform into organizational performance? A mediating role of marketing capability☆

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ABSTRACT

Customer relationship management (CRM) technology has attracted significant attention from researchers and practitioners as a facilitator of organizational performance. Even though companies have made tremendous investments in CRM technology, empirical research offers inconsistent support that CRM technology enhances organizational performance. Given this equivocal effect and the increasing need for the generalization of CRM implementation research outside western context, the authors, using data from Korean companies, address the process concerning how CRM technology translates into business outcomes. The results highlight that marketing capability mediates the association between CRM technology use and performance. Moreover, a customer-centric organizational culture and management system facilitate CRM technology use. This study serves not only to clarify the mechanism between CRM technology use and organizational performance, but also to generalize the CRM results in the Korean context.

1. Introduction

In today's competitive business environment, the success of firm increasingly hinges on the ability to operate customer relationship management (CRM) that enables the development and implementation of more efficient and effective customer-focused strategies. Based on this belief, many companies have made enormous investment in CRM technology as a means to actualize CRM efficiently. Despite conceptual underpinnings of CRM technology and substantial financial implications, empirical research examining the CRM technology- performance link has met with equivocal results. Recent studies demonstrate that only 30% of the organizations introducing CRM technology achieved improvements in their organizational performance (Bull, 2003; Corner and Hinton, 2002). These conflicting findings hint at the potential influences of unexplored mediating or moderating factors and the need of further research on the mechanism by which CRM technology leads to improved business performance.

Such inconsistent results of CRM technology implementation are not limited to western countries which most of previous CRM research originated from. Even though Korean companies have poured tremendous resources to CRM initiatives since 2000, they also cut down investment in CRM technology drastically due to disappointing returns (Knowledge Research Group, 2004). As a result, Korean companies are increasingly eager to corroborate the returns from investment in CRM. In the eastern culture like Korea that promotes holistic thinking focusing on the relationships between a focal object and overall context (Monga and John, 2007), CRM operates as a two-edged sword. Because eastern culture with holistic thinking tends to value existing relationship with firms or contact point persons as a standard of selecting products in comparison to western culture with analytic thinking focusing on attributes of products, CRM in eastern cultures can be more effective to improve organizational performance if executed appropriately or can be more miserable if implemented horribly than that of western culture with the similar level of CRM implementation. Considering the possibility of more powerful influence of CRM on organizational performance in eastern culture, CRM research in eastern culture is expected to show the process by which CRM technology translates into organizational outcomes more definitely and to generalize successful CRM implementation to cross-cultural setting neglected by prior CRM studies. In particular, Korea is supposed to be a reasonable context in that it possesses unique feature of holistic thinking more vividly and experienced recently increasing need to clarify the reason of conflicting results in CRM implementation more sincerely than any other eastern countries. This is not to say, however, that significant questions relating to how CRM technology leads to firm's outcome and generalizability have not emerged.

Thus, the objectives of this paper are to suggest an integrative framework describing how CRM technology use translates into organizational performance and to make a generalization of the mechanisms involved in the successful CRM implementation. Specifically, we discussed some antecedents and outcomes of CRM technology use and

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situate our findings in the Korean domain. In our proposed model, we suggest that marketing capability operates as a key mediating variable. We reason that while firms may possess CRM technology, the enhancements to performance resulting from increased CRM technology use are conditioned on the extent to which CRM technology improves firm's marketing capability by providing sales and service support, data integration, and analysis effectively. In addition, we believe that customer-centric organizational culture and management system will facilitate CRM technology use on the basis of recent emphasis on the integration of organizational variables with CRM solutions to enhance the outcome of CRM technology implementation (e.g., Jayachandran et al., 2005; Payne and Frow, 2005). Understanding of determinants and outcomes of CRM technology use helps clarify what firms should do to improve CRM performance.

The remainder of this paper proceeds as follows. First, we discuss our focal constructs of interest and the relationships among them on the basis of a theoretical model stressing the importance of marketing capability to CRM technology vis-a-vis business performance. Second, we detail the research method utilized in our study and analyze the model's overall fit and our hypotheses via a structural equation model. Finally, the paper concludes with a discussion of the findings as well as managerial and theoretical implications.

2. Theoretical background and hypotheses

2.1. CRM technology use

In the past, CRM was viewed by researchers and practitioners primarily as an investment in software technology. Indeed, CRM technology has been often equated with CRM (Reinartz et al., 2004). However, more recent treatments have depicted CRM as a more expansive and holistic approach in developing sound and productive relationships with customers, while CRM technology, one of major components of CRM, has been defined as the information technology that is deployed for the specific purpose of managing customer relationships (Chen and Popovich, 2003; Sin et al., 2005). In this context, CRM technology use equates to, "the degree to which firms use supporting information technology," to manage customer relationships effectively (Reinartz et al., 2004, p. 296).

Specifically, we focus on four activities of CRM technology: sales support, service support, analysis support, and data integration and access support. In that the general role of CRM technology is assumed to support sales force and service (Meuter et al., 2000; Speier and Venkatesh, 2002), CRM technology involves supportive activities to boost sales and adaptive service. Beyond such front office applications, CRM technology is expected to include collection, integration, and analysis of customer data (Jayachandran et al., 2005). Accordingly, CRM technology is referred to as an information technology used to encourage sales support, service support, data analysis, and data integration.

2.2. Marketing capabilities

To understand marketing capabilities, it is necessary to begin by identifying capabilities in the organization. In the resource-based view (RBV) perspective, firm is composed of a bundle of resources and capabilities, leading to differential performance in firms (Barney, 1991; Peteraf, 1993). While resources are defined as tangible or intangible factors that firm uses to achieve its business objectives, capabilities are referred to as organization's repeatable patterns of core routines and skills in carrying out various activities effectively (Amit and Schoemaker, 1993; Finney et al., 2008; Grant, 1991). In a similar vein, marketing capability is defined as an organization's repeatable pattern of actions to carry out the marketing-related needs of the business effectively.

Previous research concerning marketing capability helps to develop the concept more specifically. Vorhies and Morgan (2003) divide marketing capability into two subsets, specialized capabilities and architectural capabilities. The former has to do with, "…the specific marketing mix-based work routines," while the latter deals with, "the marketing strategy formulation and execution work routines," (Vorhies and Morgan, 2003, p. 106). In other words, firm's marketing capability demonstrates the ability not only to accomplish marketing mix-based activities such as pricing, advertising, and channel management efficiently but also to develop and execute marketing strategy appropriately. Even though the specific marketing mix-based routines play a pivotal role in marketing activities, architectural capabilities in the marketing capabilities literature appear to be prominent because architectural capabilities have been assumed to have stronger impact on business performance than specialized capabilities. For example, Morgan et al. (2003) paid attention to the effect of architectural marketing capabilities with two subdimensions of formulation and execution of marketing strategies on the adaptive performance of export ventures. Slotegraaf and Dickson (2004) also investigated the influence of marketing planning capabilities composed of skills to anticipate environment changes (planning capabilities) and respond to those changes (implementing capabilities) on firm performance. In accordance with this research stream, we consider marketing capability to be firm's ability derived from two prominent components: marketing planning ability and marketing implementation ability.

2.3. Linking CRM technology use to marketing capabilities

The most fundamental and critical issue of CRM research stream has been to identify its direct effect on organizational outcome. Despite the strong conceptual association, previous studies investigating the direct relationship were replete with conflicting results, illuminating the need for further research that examines the role of mediating and contingent variables.

We suggest that marketing capability bridges the association between CRM technology use and performance. According to Morgan and Hunt (1994) and Webster (1992), building and managing customer relationships delivers the essence of marketing concept. Specifically, CRM technology enables firms to formulate more appropriate marketing strategies and to execute specific marketing actions more efficiently and quickly by offering superior front-line support and the access of integrated customer data (Chen and Popovich, 2003; Dutta et al., 1999). Moreover, Payne and Frow (2005) posit that CRM "requires a cross-functional integration of processes, people, operations, and marketing capabilities" (p.168) and Boulding and colleagues (2005) suggest that "the effectiveness of CRM activities depends on how CRM is integrated with preexisting capabilities" (p. 158). Taken together, CRM technology enhances marketing capability by helping managers and employees achieve specific marketing objectives more effectively and efficiently. We therefore advance the following:

H1. CRM technology use is positively related to marketing capability.

2.4. Linking marketing capabilities to performance

Organizational performance is a multidimensional construct. According to organization theory, organizational performance can be largely classified into effectiveness and efficiency (e.g., Bonoma and Clark, 1988; Lewin and Minton, 1986). Effectiveness means, "…the degree to which desired organizational goals are achieved," whereas efficiency represents,"…the ratio of organizational resource inputs consumed to goal outcomes achieved," (Vorhies and Morgan, 2003, p. 103). However, recent research tends to include customer-related outcomes in business performance (Kaplan and Norton, 1996). Therefore, we measure organizational performance through customer satisfaction, efficiency (profitability), and market effectiveness.

Based upon the RBV literature, strategy researchers have recognized organizational capabilities as critical to performance enhancement and competitive advantage (Ghosh et al., 2001; Greenley et al., 2005; Ruiz-Ortega and Garcia-Villaverde, 2008). Within marketing literatures, marketing-related capabilities are also assumed to be key drivers of firm's