

MOVING BEYOND THE DIRECT IMPACT OF USING CRM SYSTEMS ON FRONTLINE EMPLOYEES' SERVICE PERFORMANCE: THE MEDIATING ROLE OF ADAPTIVE BEHAVIOR

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Abstract

The customer relationship management (CRM) system has been touted as a primary tool for supporting frontline employees' personalized services tasks. Although a number of studies have highlighted the critical role of CRM systems in organizational performance, the link between CRM systems and individual work performance is still under investigation. In order to fill this research gap, the current research-in-progress paper focuses on IT-driven adaptive behavior of frontline employees in the service context. We propose a theoretical model to understand the impacts of two levels of CRM systems deep usage (routinization and infusion) on employees' interpersonal and offering adaptive behavior, which in turn, enhance employees' service performance. This study aims to highlight the importance of adaptive behavior in mediating the relationships between CRM systems use and individual employees' service performance. A field study will be conducted to support the model and multi-sourced data will be gathered from employees' self-reported together with manager-reported and customer surveys.

Keywords: Customer relationship management (CRM) systems, Deep usage of CRM systems, Adaptive behavior, Service performance

1 INTRODUCTION

The promise of CRM systems is their effectiveness in documenting market-relevant information, managing customer contacts, as well as facilitating customer-oriented coordination of employees across the whole organization. Managers anticipate that by adopting CRM systems, frontline employees (hereafter referred as employees in this study) would more effectively target individual customers, engage in personalized dialogues with them, and personalize the product and service offerings. As a result, increasing numbers of organizations are currently implementing CRM systems in order to satisfy customers' individual needs, retain valuable customers, and reap the economic benefits (Ahearne et al. 2008; Hsieh et al. 2012). According to a report from Gartner, the worldwide CRM systems market grew 13.7% from 18 billion in 2012 to 20.4 billion in 2013¹. However, despite substantial investments in CRM systems, companies continue to experience pain rather than profit. Thus, understanding how organizations leverage CRM systems to realize potential business benefits is of great practical significance.

Researchers in information systems (IS) and marketing disciplines have long studied the impact of CRM systems, with much of emphases at the macro level. Among them, typical factors identified as the organizational drivers of successful CRM systems implementation includes marketing capability (Chang et al. 2010), customer-linking capability (Rapp et al. 2010), customer-perceived relationship investment (Zablah et al. 2012), customer service capabilities (Setia et al. 2013), and shared knowledge between IT and customer service units (Ray et al. 2005). However, noticeably missing from these studies is the consideration of the impacts of CRM systems at the individual level and more importantly with the focus on the direct users, i.e., the frontline employees. As Beaujean and his colleagues (2006) at Mckinsey point out "Although companies are investing record amounts of money in customer-relationship-management (CRM) technology, most of these initiatives end in disappointment. What is regularly missing is the spark between the customer and frontline staff members, the spark that helps transform wary or sceptical customers into strong and committed brand followers"².

In many organizations, employees are mandated to use the implemented CRM system during their interactions with customers. It is worth investigating that whether and how the mandated CRM systems are effective in supporting employees to satisfy diversified customer needs, as organizational-level benefits will often be garnered when critical users embrace and fully adopt the implemented systems. Studies at the individual level have found mixed results on this aspect. Some research contends that CRM systems have no actual impacts on bottom-line performance results (e.g., Reinartz et al. 2004; Speier and Venkatesh 2002), while others suggest the opposite (e.g., Rapp et al. 2010; Sundaram et al. 2007). Considering the failure of CRM systems implementation in practice and the lack of consistent results on the effectiveness of CRM systems at the individual employee level, there is a need to take a closer look at the impacts of CRM systems through the perspective of individual employees.

Paralleled to the use of CRM systems, adaptive behavior of frontline employees to meet individual customers' needs has been also suggested as one of the key determinants in maintaining customer relationship in service encounter (Gwinner et al. 2005). Adaptive behavior refers to the set of adjustable work behaviors of employees in response to customer needs (Weitz et al. 1986). As there is no best and universal way to satisfy all kinds of customers, the quality of customer interaction largely depends on how adaptive an employee will be in selecting and implementing a work strategy contingent upon his/her knowledge about the customers and contexts (Román and Iacobucci 2010).

¹ <http://www.forbes.com/sites/louiscolombus/2014/05/06/gartners-crm-market-share-update-shows-41-of-crm-systems-are-saas-based-with-salesforce-dominating-market-growth/>

² http://www.mckinsey.com/insights/organization/the_moment_of_truth_in_customer_service

More specifically, the antecedents of adaptive behaviors have been explained through various theoretical perspectives, such as personality (e.g., Huang et al. 2014), knowledge (Gwinner et al. 2005), motivation (e.g., Román and Iacobucci 2010) and role ambiguity (e.g., Román and Iacobucci 2010). Despite the progress made by using these theories, there has been little focus on linking the role of CRM systems with the explanations of adaptive performance of employees. It is clear that neither IS, marketing nor management research has focused much attention on the impact of CRM systems, on employees' adaptive behavior, one of the most important drivers in the success of CRM.

Thus, this study attempts to address the important but still unanswered question: *what is the effect of CRM systems on individual employees' service performance and how employees adapt their behavior to a customer's need of personalization with the aid of CRM systems?* In order to answer this question, we propose a theory of IT-driven adaptive behavior, grounded on the theory of adaptation (Spiro and Weitz 1990; Weitz et al. 1986) and theory of IT post-adoption (Hsieh et al. 2011; Sundaram et al. 2007; Wang and Butler 2006). To empirically test the proposed model, in this research-in-progress paper, we plan to collect multi-sourced data from a telecommunication company in China.

The paper proceeds as follows. Following this introduction, we develop a theoretical model based on the literature. Then, we will describe the methodology that we plan to adopt. Finally, we discuss the key implications and conclude the paper.

2 MODEL DEVELOPMENT

In order to establish compelling arguments to support the critical role of CRM systems in facilitating employees' adaptive behavior, and their downstream impacts on service performance, we now develop theoretical arguments drawn from the theory of adaptation (Spiro and Weitz 1990; Weitz et al. 1986) and the theory of IT post-adoption (Hsieh et al. 2011; Sundaram et al. 2007; Wang and Butler 2006). Specifically, we draw on the theory of IT post-adoption to articulate the formation of deep level of CRM system usage (routinization and infusion) through the shallow level of use (frequency). Based on the theory of adaptation, we propose that the deep usage of CRM systems facilitates the development of two aspects of adaptive behavior, viz., interpersonal and offering adaptive behavior. Adaptive behaviors then contribute to service performance. Figure 1 summarizes the proposed research model. The definitions of six principal constructs are shown in Table 1. We justify each hypothesis in detail below.

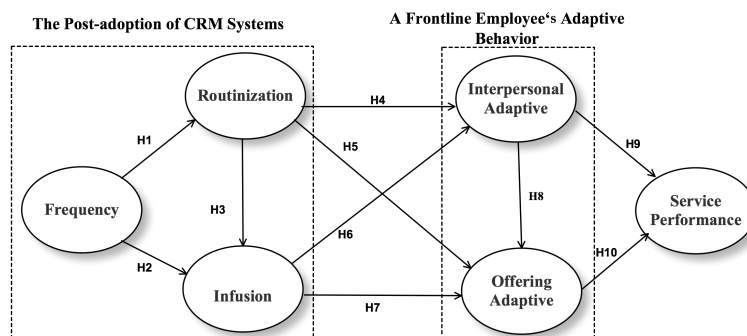


Figure 1. The Proposed Research Model

2.1 The Impact of the Shallow level of CRM Systems Use on the Deep Level

Post-adoption behavior of technology has been defined as individual users' technology use behavior after organizations adopt and deploy a technology (Saga and Zmud 1994). Research of this stream shows the rich and complex nature of IT post-adoption behavior, and describes how users change their attitude (Ward et al. 2005), knowledge (Nambisan et al. 1999), habit (Polites and Karahanna 2013), relationship network (Ou et al. 2013), modify their work procedures and communication patterns

during the post-adoption process (Ou et al. 2014; Sun 2012; Sundaram et al. 2007; Beaudry and Pinsonneault 2005). Deep usage of IT is one type of the post-adoption behavior that has received a great deal of attention in recent research (Wang et al. 2008).

Principal Constructs	Definitions
Frequency	The frequency of a frontline employee's use of a CRM system
Routinization	The extent to which the use of the CRM system has been integrated into a frontline employee's work routine
Infusion	The extent to which a frontline employee uses a CRM system to enhance his or her productivity in a complete and maximum way
Interpersonal Adaptive Behavior	The adjustable behavior of a frontline employee to satisfy interpersonal demands (e.g., small talk, using the customer's name, polite behavior)
Offering Adaptive Behavior	The adjustable behavior of a frontline employee to provide personalized final outcomes related to purchased goods or delivered service
Service Performance	The overall evaluation of a frontline employee's service activities

Table 1. Definitions of Constructs

Deep usage of IT is defined as the extent to which individual employees actually extend the productive contributions of a technology beyond the requirement of managers (Wang and Butler, 2006; Wang et al. 2008). Research on deep usage of IT concentrates on how to use a technology effectively in order to enhance productivity (Chin and Marcolin 2001). Saga and Zmud (1994) propose a framework to explore the different levels of use behaviors on the post-adoption stage. Specifically, they have posited two levels of deep usage, viz., routinization and infusion. Routinization refers to the extent to which an IS has been integrated as a standard and regular part of organizational work system. Infusion is defined as the extent to which system features are used in a complete and maximum way. Based on their study, Sundaram et al. (2007) explore three different types of IT usage, viz., frequency, routinization and infusion at individual level and found the interrelationships among these types. In this study, we extend their concepts of frequency, routinization and infusion into the CRM systems context.

We contend that individual employees can adopt CRM systems either shallowly or deeply. We propose that the shallow level of CRM systems use (e.g., frequency) facilitates the formation of deep level of use. We argue that in order to achieve deep use behaviors (i.e., routinization and infusion), an employee must use the system frequently. During the post-adoption stage, after employees adopt the CRM systems and use the technology frequently as managers require, they may start to learn and try more functions available in the systems (Hsieh and Wang 2007). The increased frequency of use and learning of function then develop their habits to incorporate the system into their work patterns, therefore create an opportunity for the system to be routinized and infused. Thus, we suggest that the frequency of CRM systems use predicts both two deep level of use behaviors, viz., routinization and infusion. Routinization, in turn, facilitates an employee to use the system to its fullest potential. We thus propose:

H1: A frontline employee's frequency of using a CRM system contributes to his/her routinization of using the CRM system.

H2: A frontline employee's frequency of using a CRM system contributes to his/her infusion of using the CRM system.

H3: A frontline employee's routinization of using a CRM system contributes to his/her infusion of using the CRM system.

2.2 The Impact of the Deep Level of CRM Systems Use on Adaptive Behavior

In order to adapt to individual customers' needs, employees often require a clear understanding of their customers. Frontline employees usually work in a complex and uncertain environment that

requires the processing of real-time information on service encounters. In order to be more effective in accomplishing service tasks, a service employee must subsequently adjust his/her responses appropriately to identify the type of customers based on the information he/she has (Román and Iacobucci 2010). According to Park et al. (2010), employees' ability to gather and process market information is positively related to adaptive behavior because it allows for more accurate evaluation of customers' needs. Technology, such as a CRM system, can facilitate the gathering and processing of information, which aids to improve employees' adaptive behavior.

According to the seminal research by Weitz et al. (1986), employee adaptive behavior in the selling context is characterized as the altering of sales behaviors across customer interactions. Adaptable salespeople are more proactive to modify their basic communication approaches in order to interact with customers more effectively. They are able to judge the suitability of presentations and adapt behaviors to different customers' reactions. Different from the selling context, service can be produced and consumed simultaneously. As a result, service employees are not only able to adapt their service presentations, but also to tailor their service offering to meet individual customers' expectations (Gwinner et al. 2005; Lovelock 1983). Accordingly, we identify two aspects of employees' adaptive behavior in service context, viz., interpersonal and offering adaptive behavior. *Interpersonal adaptive behavior* is defined as the manner in which an employee varies during the interpersonal interaction of service encounter. *Offering adaptive behavior* refers to the adjustable behavior of a frontline employee to provide personalized final outcomes related to the purchased goods or delivered service

Through using a CRM system, an employee can increase his/her understanding of a particular customer based on company records and documents even without direct interaction with this customer before. The customer information (e.g., occupation, preferences, purchase histories, requests, etc.), together with market-relevant information (e.g., demand trend, supply trend, etc.) stored in the system, constitutes a pool of intelligence available to employees (Hsieh et al., 2011). To process and utilize such information, an employee can also use the recommendation software implemented in CRM systems to personalize the service process (Shen and Ball 2009), and provide a better offer to satisfy a customer's individual requirements, thereby contributing to high levels of interpersonal and offering adaptive behaviors. The higher extent that an employee integrate the CRM systems into his/her work routine, the more information he/she will gather from the systems and therefore better adapt to a certain customer. Similarly, the more skilful an employee is on using the systems, the higher productivity he/she will achieve when satisfying different customer needs. Therefore, we propose that the deep usage of a CRM system, viz., routinization and infusion, positively affects interpersonal and offering adaptive behavior.

H4: A frontline employee's routinization of using a CRM system contributes to his/her interpersonal adaptive behavior.

H5: A frontline employee's routinization of using a CRM system contributes to his/her offering adaptive behavior.

H6: A frontline employee's infusion of using a CRM system contributes to his/her interpersonal adaptive behavior.

H7: A frontline employee's infusion of using a CRM system contributes to his/her offering adaptive behavior.

2.3 The Impact of Interpersonal Adaptive Behavior on Offering Adaptive Behavior

As explained previously, frontline employees may personalize courtesy and communication styles to suit customers' needs and tastes. For example, they may address a customer by name, initiate small talks with the customer, or display other cues of personal intimacy during service delivery. McFarland et al. (2006) have found that effective salespeople adapt their influence tactics to the characteristics of customers, involving "the alternative means of communication", such as recommendations, requests and promises. Arndt et al. (2014) suggest that according to the types of customers (e.g., task-oriented

and relationship-oriented), salespeople can choose different types of statements (e.g., benevolence and expertise). Customers are more likely to react positively to the statements that match their buying styles.

In addition, we argue that based on the real-time information received during service delivery, an employee can subsequently modify service offering appropriately. Gwinner et al. (2005) used the term “creative discretion” to describe the process of an employee to develop the appropriate service offering based on the information he/she collects during the interaction. Highly interpersonal adaptable employees are good at recognizing customers’ needs and structuring the incoming data on customers to categorize or “qualify” them, for instance, knowing customer A is price-sensitive, but customer B is pleasure-oriented. The categorizing process to which a customer belongs to during the service delivery aids an employee in altering service offering. For example, they may suggest cost-efficient service products to the price-sensitive customers and provide hedonic offering to the high pleasure-oriented customers. Employees with high level of interpersonal adaptive behavior are expected to be more effective in adapting the service offering they provide than those employees with a lower level of interpersonal adaptive behavior. Therefore, we propose:

H8: A frontline employee’s interpersonal adaptive behavior contributes to his/her offering adaptive behavior.

2.4 The Impact of Adaptive Behavior on Service Performance

Service performance refers to the evaluation of service behavior of frontline employees in terms of its contribution to the organization (Anderson and Oliver 1987; Robinson et al. 2005). Prior studies present mixed results regarding on the effect of adaptive behavior on service performance. For instance, Spiro and Weitz (1990) have found that although adaptive selling is positive correlated with employees’ self-assessment of performance, but not correlated with manager assessment of employees’ performance. Rapp et al. (2006) contend that because customers are unable to recognize the existence of adaptive selling tactics, there is no significant correlation between adaptive selling and customer-evaluated service performance. In contrast, some studies indicate that adaptive behavior enhances work performance. Robinson et al. (2005) posit that the adaptability of a salesperson to diversified customers’ needs improves his/her sales performance. One of the plausible explanations for such inconsistency in previous research findings is the frequently used unidimensional scale of adaptive behavior. Román and Iacobucci (2010) have cautioned that most studies ignored the multidimensional nature of this construct, thus confounding their findings.

Therefore, in this study we focus on the effects of two types of adaptive behavior, viz., interpersonal adaptive behavior and offering adaptive behavior, on service performance. Interpersonal adaptive behavior has been shown to have positive relationships with both selling and service performance. Friedman and Churchill (1987) have found that physicians were able to adjust their interpersonal behavior in a contingent manner so as to increase patient satisfaction and compliance. Similarly, Simonson (2005) has indicated the personalized presentations of employees have a strong impact on customers’ positive evaluations. Furthermore, Surprenant and Solomon (1987) highlight that the adaptation of offering has a positive effect on employees’ work performance and customer evaluations. By adapting the service offering to a customer’s unique desires or goals, an employee would be more effective in overcoming objections and building a long-term relationship with the customer. Therefore, we propose:

H9: A frontline employee’s interpersonal adaptive behavior contributes to his/her service performance.

H10: A frontline employee’s offering adaptive behavior contributes to his/her service performance.

3 RESEARCH METHODOLOGY

In order to empirically test the proposed research model and the corresponding hypotheses, we plan to collect multi-sourced data from a call center in a Chinese firm that has implemented a CRM system to support its customer service process. The frontline employees under study will be service employees in the call center who use the CRM system to support their service interactions with customers. We describe the measures that we plan to use and data collection plan below.

All of our measures for the six constructs in this study were adapted from well-established scales in prior research. Since the unit of analysis is frontline service employees, all construct measures will be designated to focus on individual employees who use the CRM system to provide service to customers. Specifically, we will adapt three original items on frequency of IT use from Kankanhalli et al. (2005) into CRM systems usage. Following Sundaram et al. (2007), routinization will be measured with three items, and infusion will be measured with four items. To measure two aspects of adaptive behavior, viz., interpersonal adaptive and offering adaptive, we will adapt the original items from Gwinner et al. (2005). The dependent variable in our study is service performance. We will measure service performance of frontline employees based on the self-assessment of employees and the assessment by group managers (manager assessment), together with the evaluations from customers that were recorded at the CRM system. Such measure has been used in prior research by Ray et al. (2005).

Data collection consists of the following three steps. First, questionnaire translation and back-translation between English and Chinese will be conducted by two certificated translators, following Brislin et al. (1973). Next, prior to the main survey, a pilot study will be conducted to examine construct validity and reliability. Then we will distribute the final version of the survey in our research site. Each questionnaire will be coded with a unique identification number in order to match the data from individual employees and their group managers. Only responses with complete data (i.e., with the data from both employees and their corresponding managers) were qualified as complete observations in this study. Partial least squares (PLS), a component-based structural equation modeling (SEM) technique will be used for data analysis, as the use of PLS has been suggested to test propositions with an exploratory nature (Setia et al. 2013).

4 DISCUSSION AND IMPLICATIONS

Informed by the theory of adaption and the theory of IT post-adoption, we investigate what impact a CRM system exerts on a frontline employee's service performance through which mediating mechanisms. We propose that different levels of employee CRM systems usage influence service performance differently through two key aspects of adaptive behavior. Our research will reveal that the two aspects of adaptive behavior, viz., interpersonal adaptive and offering adaptive, are two significant mediating mechanisms. This study will make several potential theoretical and practical contributions as outlined below.

4.1 Theoretical Implications

This study makes several key contributions to different domains from which we draw. First, by focusing on IT-driven adaptive behaviors of frontline employees, our work extends prior research that has primarily considered employees' personal characteristics as determinants, such as employees' gender (Franke and Park 2006), motivation (Gwinner et al. 2005), and skills (Román and Iacobucci 2010), to facilitate adaptive behaviors. The impact of IT usage is a new perspective in this stream of research. This study can validate, through the deep use of CRM systems, even employees with less work experience and skills may be possible to achieve a high level of adaptive behavior so as to improve service performance. Our study will contribute to this research domain by exploring the important effects of using CRM systems on enhancing interpersonal and offering adaptive behaviors of employees.

Related to the first point, this study will highlight the importance of considering employee adaptive behavior as a multi-dimensional construct instead of a unidimensional concept. Prior studies that measure adaptive behavior with a unidimensional scale have found mixed results on the relationship between adaptive behavior and performance. By exploring the two aspects of adaptive behavior, our study will contribute to solve this problem.

In addition, this study will also contribute to the rich body of studies on IS success. IS researchers have explored various types of IT usage at both organizational level and individual level. However, most research has focused on understanding the broader impacts of IT at organizational level, such as firm financial performance (Zablah et al. 2012), customer relationship performance (Rapp et al. 2010), increased sales (King and Burgess 2008) and organizational performance (Chang et al. 2010), while at the individual level much less is known (Venkatesh et al. 2011). By providing a model that includes individual use of CRM systems and also the performance outcomes of system usage, especially by incorporating two aspects of individual adaptive behavior as the mediating mechanisms, this work will extend and advance prior research on IS success. Specially, this work will not only leverage the ideas underlying the CRM systems success model, but also conceptualize the outcomes of using CRM systems by developing arguments and providing multi-sourced empirical evidence about the outcomes.

4.2 Practical Implications

With the growing role of services in economy, our research will also have several empirical implications for improving a company's CRM performance. First, implementing a CRM system and training service personnel are two important means to improve service performance. Our study will suggest that senior executives in service organizations may need to decide how to persuade their employees to deeply use these systems during the service process and how to deploy their technology resources to enhance employees' service performance. We assume that deep use of CRM systems will enhance employees' adaptation, which in turn will lead to positive service performance. If executives and managers in organizations understand how CRM systems improve organization's performance through employees' adaptive behaviors, such as what we try to investigate in this study, their investment will be well spent.

Furthermore, our findings will reveal that when employees incorporate CRM systems into their work routine and fully use the systems, the corresponding adaptive behavior can yield high service performance. In other words, just simply implementing CRM systems and mandating employees to use the systems frequently may not guarantee benefit achievement. In a mandatory-use context, shallow use of CRM systems (e.g., frequency of use) largely determined by regulations and rules does not reflect employees' instinct motivation on technology acceptance, and thus may be unable to directly predict the downstream impacts of using technology (e.g., interpersonal and offering adaptive behavior). Therefore, managers may consider providing more IT support to employees and recruit employees with the ability to deeply use the CRM systems in their daily work.

5 CONCLUSIONS

Our study will demonstrate how CRM systems can enhance employees' service performance by facilitating their interpersonal and offering adaptive behavior. We propose that although CRM systems are effective in managing customer relationship, the benefit of technology implementation are not automatic and direct, but instead largely depends on the formation of deep IT usage of employees, an important means for facilitating employees' adaptive behavior. In the service encounter, deep usage of CRM systems may help employees to adapt their interpersonal behavior as well as service offering so as to achieve high service performance. By providing a theoretical model and collecting empirical evidence in the future, our study will highlight the vast and untapped research potential at the intersection of IS and other research domains, such as marketing and management.

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