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Enhancing Customer Response Capability through Organizational Knowledge Resources in Service Encounters

Completed Research Paper

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Abstract

Considering that a firm's service competitiveness comes from customer service representatives (CSRs)' capability, it is essential to enhance their capability first to create superior customer service. Accordingly, this study provides a way of creating CSRs' capability by proving how organizational knowledge accumulated in knowledge management systems influences their customer response expertise and speed. Moreover, drawing on studies of organization memory (OM), it is defined by the three dimensions of OM level, OM dispersion, and OM usability. To test the proposed model and hypotheses, this study conducted the structural equation modeling analysis using a total of 373 responses collected on CSRs. The results indicate that both OM level and dispersion greatly increase customer response expertise. Besides, OM level, dispersion, and usability enhance customer response speed. Particularly, OM usability is the most effective in improving customer response speed. Finally, CSRs' service performance depends on customer response expertise and speed.

Keywords: Organizational Memory, Organizational Knowledge Resources, Knowledge Management Systems, Customer Response Capability, Call Centers

Introduction

In a service encounter that customers interact with a firm, customer service representatives (CSRs) are required to deliver good service to them and solve their problems (Gilson and Khandelwal, 2005). Accordingly, CSRs' abilities to satisfy customers' service needs are important in determining overall service quality of the firm (Brady and Cronin, 2001). This study focuses on CSRs working in call centers which have been rapidly emerging as the typical service encounter of a firm. Nowadays, customers are demanding more specialized services from CSRs, going beyond basic service, for example, courteousness, kindness, and articulate pronunciation. Besides, call centers attempt to create a differentiated service over competitors. In practice, many call centers are widely using the standardized service manual that demand CSRs to comply with to produce consistent services (Lytle et al., 1998). However, such a guideline has a limitation in satisfying customers' various needs. Therefore, CSRs' expertise is gradually becoming an important issue in call centers (Batt and Moynihan, 2002; Choi and Ryu, 2015). Although prior studies of service encounters have recognized the importance of CSRs' abilities and expertise, there is a lack of understanding about constructs to capture them clearly and further their effectiveness in service delivery. That is, there is a need to clarify the service abilities and expertise that CSRs need to create good service.

Under these circumstances, this study draws CSRs' two customer response capabilities namely, customer response expertise and customer response speed, from the study of Jayachandran et al. (2004). In call centers, CSRs should deal with customers' various requests accurately and quickly in a given time. That is, both service accuracy and speed in service delivery are needed. These capabilities

emphasize CSRs' agile service in responding to customers' various requests. Previous studies have used the term "agility" to explain a firm's ability to respond accurately and speedily to unexpected issues in a rapidly changing environment (Pavlou and El Sawy, 2010; Roberts and Grover, 2012; Setia et al., 2013; Tallon and Pinsonneault, 2011). The agility concept is particularly important to CSRs because they have to solve customers' problems at a given time over the phone. However, CSRs' agility has not been fully examined in service encounters including call centers.

Furthermore, this study proposes key factors for enhancing CSRs' customer service expertise and speed, applying studies in information systems (IS) research. Specifically, drawing on the knowledge-based view (KBS) that asserts organizational knowledge as a key resource for enhancing a firm's capabilities and performance, this study explains that accumulated organizational knowledge in knowledge management systems (KMSs) contributes to developing CSRs' capabilities. Previous studies have emphasized the importance of knowledge management practices, which includes the creation, transfer, sharing, and utilization of knowledge (Alavi and Leidner, 2001). Besides, knowledge has been considered a key source of a firm's competitive advantage (Grant, 1996; Pavlou and El Sawy, 2010; Watson and Hewett, 2006). It is asserted that knowledge obtained from customers is one of the most strategic knowledge resources (Lopez-Nicolas and Molina-Castillo, 2008; Tsai and Shih, 2004). Likewise, knowledge determines the successes or failures of an organization (Tsai and Shih, 2004). Furthermore, researchers have emphasized that the ability to use valuable knowledge in an organization is more important than knowledge in itself in creating a firm's competitiveness (Moorman and Miner, 1997; Watson and Hewett, 2006). Accordingly, researchers seek to identify the way of using knowledge stored in knowledge repositories, rather than accumulating it in the repositories (Cross and Baird, 2000). Despite of the fact that firms have accumulated much knowledge in KMSs, there is a lack of understanding about how to use it for their business purposes. This study provides one concrete way by proving the role of accumulated organizational knowledge in KMSs in enhancing CSRs' capabilities.

In summary, the objectives of this study is to propose two types of CSRs' customer response capabilities (i.e., customer response expertise and speed) needed to deal with customers' various requests and to prove their impacts on service performance. In addition, we verify the role of accumulated organizational knowledge in KMSs in developing CSRs' capabilities. By integrating the studies of IS into service encounters, this study would provide new insights of the ways to advance a firm's service competitiveness.

Literature Review

Organizational Memory (OM)

Scholars have focused on OM as a key source for developing and enhancing a firm's capabilities and performance, such as new product development (Chang and Cho, 2008; Moorman and Miner, 1997, 1998) and improvisational capabilities (Pavlou and El Sawy, 2010), emphasizing previously acquired organizational knowledge. Day defined OM as "a repository for collective insights contained within policies, procedures, routines, and rules that can be retrieved when needed (1994, p, 44)." Moorman and Miner (1997) defined OM as the degree to which an organization has an amount of stored information and experience on its business. Applying the concept of OM, this study identifies how much a call center has an amount of declarative and procedural knowledge, skills, and experiences needed to provide customer service by means of KMSs.

Moreover, this study considers sub-dimensions of OM, following the study of Moorman and Miner (1997) in which they have proposed its four major dimensions such as OM level, OM dispersion (i.e., sharing), OM content, and OM accessibility. OM level refers to the amount of stored knowledge on a certain domain, whereas OM dispersion refers to the degree of knowledge sharing across the organization. OM content denotes the types of knowledge (i.e., declarative or procedural knowledge), whereas OM accessibility denotes the degree of extracting knowledge when needed. OM covers declarative and procedural knowledge (Moorman and Miner, 1997) as well as individual and collective knowledge (Inkpen, 2000). For example, declarative OM contains facts on business goals, customer needs and preferences, and descriptions of goods and services. In contrast, procedural OM

includes skills (a way to conduct work), routines, processes, and procedures in an organization. This study considers OM level as a construct including declarative and procedural knowledge stored in KMSs through electronic codification; hence, we do not consider OM content as a separate dimension.

Accessibility is proposed as one of the dimensions of OM to describe how employees can retrieve it easily when needed (Moorman and Miner, 1997), yet it has not received much attention in comparison to OM level and dispersion (Chang and Cho, 2008; Hult et al., 2004; Moorman and Miner, 1997). Accordingly, there is no further discussion about OM accessibility. There are several constructs that have been used in IS researchers. Bock and Sabherwal (2008) used the construct of searchability to emphasize how well KMSs can help employees who want to reuse knowledge stored in KMSs find that knowledge, instead of the constructs of ease of use and systems quality. In this study, we use the construct of usability to capture how easily and efficiently knowledge in KMSs is organized for use, in addition to the accessibility to the knowledge. That is, usability captures ease of use, accessibility, and searchability (Flavian et al., 2006).

From the perspective of knowledge reuse, OM has been studied as the best way to promote the use of previously stored knowledge in the organization. Stored knowledge (i.e., OM) is equally as important as knowledge acquisition and creation (Moorman and Miner, 1997). It is argued that OM is closely related to positive outcomes. Cross and Baird (2000) asserted that organizations could improve their performance by using stored knowledge for their decision-making and business activities, in the knowledge-based economy. Walsh and Ungson (1991) argued that OM can reduce transaction costs, contribute to effective decision-making, and support collaboration in multiple-task and multiple-use environments. Hult et al. (2004) contended that OM affects knowledge acquisition activities with the finding that firms with greater OM tend to seek more new knowledge than those with lower OM.

Customer Response Capability in Service Encounters

Across the fields of organization, service, and IT research, researchers have commonly emphasized the concept of “agility” which refers to a firm’s ability to respond accurately and speedily to unexpected issues in rapidly changing environments. The examples include a firm’s customer response capability (Day, 1994; Jayachandran et al., 2004; Setia et al., 2013) and organizational improvisation (Moorman and Miner, 1998) in the fields of service and organization research and a firm’s improvisational capabilities (Pavlou and El Sawy, 2010), organizational ability (Tallon and Pinsonneault, 2011), and a firm’s customer agility (Roberts and Grover, 2012) in the field of IT research. In particular, IT researchers have led to advances in agility research by proving the role of IT as a key means to enhance it. Although they have used different terms, the common assertion is that a firm’s agility is a key capability to create superior performance particularly, in an unexpected environment.

In call centers, to enhance customer service, it is required CSRs’ ability to respond to customers’ requests instantly and to solve their problems accurately. Given that the call-center service is provided by means of phone calls in a very limited time, CSRs’ ability to respond quickly and accurately to customers’ various issues could be a source of a firm’s service competitiveness. To help their customer service work, organizations provide CSRs with the standardized service manual that is developed based on the analysis of past experience and types of service requests (Lytle et al., 1998). However, CSRs frequently face customers’ unanticipated issues that they cannot solve with only that manual. Considering that customers are ever demanding better service from CSRs, there is a limitation in providing instant and accurate service with the standardized manuals. Hence, this study focuses on CSRs’ ability in creating good service.

Drawing on the studies of customer response capability (Day, 1994; Jayachandran et al., 2004), this study conceptualizes it as a concept consisting of customer response expertise and customer response speed. Basically, the capability describes an organization’s competence to satisfy customer needs via effective and instant actions. The former refers to “the extent to which the responses of an organization effectively meet customer needs,” whereas the latter refers to “the extent to which its responses to customer needs are rapid. (Jayachandran et al., 2004, p. 220)” That is, the former emphasizes the accuracy of responses, whereas the latter emphasizes the rapidity of responses, in

fulfilling customer needs. Despite its accurate response, an organization could miss a good chance to satisfy customer needs if there is a delay in the response. Hence, the speed of a response is also important along with its accuracy. In this regard, this study considers customer response expertise and speed as the customer response capability that CSRs need to provide good service accurately and promptly in responding to customers' various requests.

Research Model and Hypothesis

Customer Response Capability based on Organizational Knowledge Resources

This study employs the knowledge-based view (KBV) of a firm as a theoretical lens to support the relationship of OM and customer response capability. KBV explains that organizational knowledge is a key source for improving its business capabilities and performance (Grant, 1996). It has its roots in the resource-based view (RBV) that highlights a firm's resources as a source of sustained competitive advantage (Barney, 1991). Furthermore, RBV asserts that not all resources are related to sustained competitive advantages. Resources can contribute to the creation of sustained competitive advantage, they are valuable, rare, imperfectly imitable by competitors, and non-substitutability. Grant (1996) assert organizational knowledge as a key resource that can satisfy such four attributes so that it could be a source of sustained competitive advantage.

It is generally asserted that organizational knowledge is a major source of competitive advantage of a firm (Barney, 1991; Grant, 1996; Watson and Hewett, 2006). Specifically, knowledge obtained from customers is one of the most strategic knowledge resources (Lopez-Nicolas and Molina-Castillo, 2008; Tsai and Shih, 2004). Customer knowledge determines the successes or failures of an organization (Tsai and Shih, 2004). Moreover, researchers have emphasized that the ability to use existing knowledge in an organization is more important than knowledge in itself in creating a firm's competitiveness (Moorman and Miner, 1997; Watson and Hewett, 2006). To enhance business performance, it is more important to develop various ways of using knowledge stored in knowledge repositories, going beyond accumulating it in the repositories (Cross and Baird, 2000). In this sense, this study pays attention to the role of OM stored in KMSs.

By distinguishing a resource from a capability, researchers explain that a resource can be categorized into tangible, intangible, human resources, whereas a capability is the ability to combine these resources (Grant, 1996). That is, a firm's capabilities can be developed based on its various resources. Following this idea, for example, Pavlou and El Sawy (2010) contended that OM influences improvisational capabilities in new product development, thereby improving its performance. Hence, this study proposes the research model explaining that OM serves as a key resource for developing CSRs' customer response capability, which in turn influences their performance, as depicted in Figure 1. As we discussed earlier, OM is defined as three dimensions of OM level, OM dispersion, and OM usability, which captures the organizational knowledge resource stored in KMSs.

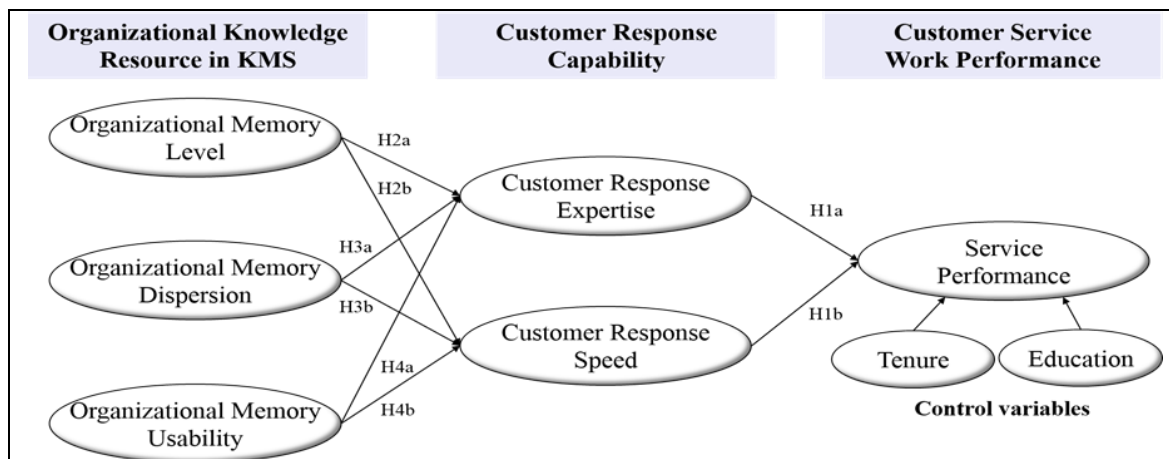


Figure 1. Research Model

Customer Response Capability and Service Performance

CSRs' service expertise is gradually becoming an important issue in call centers (Choi and Ryu, 2015). Nowadays, customers are expecting more specialized services from CSRs, going beyond basic service, for example, courteousness, kindness, and articulate pronunciation. Previous studies have recognized that CSRs' service expertise is a key determinant of service quality, arguing that customers evaluate a firm's overall service quality on the basis of interaction with CSRs in service encounters (Bitner et al., 1994; Brady and Cronin, 2001). It seems apparent that the specialized services depend on CSRs who have more specialized knowledge and expertise on customer service work.

Nevertheless, there is a lack of understanding about how to define and measure CSRs' ability and/or expertise in service research; hence, researchers have used different terms to examine them. Burgers et al. (2000) found that CSRs' interaction service quality in call centers depends on their knowledge, skills, and abilities. Pontes and Kelly (2000) measured CSRs' abilities with two forms: customer relationship management ability and communication ability, and proved their positive effects on customers' repurchase in call centers. Brady and Cronin (2001) showed that interaction service quality is directly affected by CSRs' attitudes, behaviors, and expertise. Roman and Iacobucci (2010) proposed the construct of salespersons' customer-qualification skills, which mean the ability to identify customers' needs, to understand their purchase motives, and to categorize them into different types, and found its positive influence on adaptive selling behaviors. Overall, previous studies indicate that CSRs' ability and expertise lead to positive outcomes in service encounters.

As discussed in the earlier section, this study considers two types of the customer response capability that CSRs need in call centers: customer response expertise and customer response speed, and proposes that they will positively influence customer service performance. The most challenging issue that customers face is the first-call resolution which means the percentage of calls closed on the first contact (Feinberg et al., 2000). When CSRs cannot solve customers' problems, transferring calls frequently occur. During the transfer of customer calls, disconnection also happens before customers receive service from CSRs. Therefore, in call centers, it is important that CSRs have the abilities to solve customers' problems accurately and further their responses could be done rapidly, which would influence their service performance.

H1a: CSRs' customer response expertise will be positively associated with service performance.

H1b: CSRs' customer response speed will be positively associated with service performance.

Organizational Memory Level

By applying KBV, this study proposes OM as a key resource for enhancing CSRs' customer response expertise and speed. Along with the conceptualization of service ability and expertise, there is also a lack of studies to address how firms can enhance CSRs' ability and expertise. First of all, this study posits that OM level namely, accumulated organizational knowledge in KMSs help develop CSRs' customer response expertise and speed. Organizational knowledge in KMSs is the digitalized knowledge so it can be easily used when needed (Bock and Sabherwal, 2008; Bock et al., 2010; Kankanhalli et al., 2005). Such knowledge includes not only details of customer service manuals, descriptions of products and services, past purchase records, customer preferences, and service goals (i.e., declarative knowledge), but also the methods to identify and handle customer complaints (i.e., procedural knowledge). Cross and Baird (2000) asserted that IT-supported knowledge repositories could guide employees' decision-making and actions, which enhances their performance. Paul et al. (2004) contended that collective memory affects the speed of group decision-making. Cohen and Levinthal (1990) and Zahra and George (2002) suggested that related prior knowledge and experiences are determinants of a firm's absorptive capacity.

In call centers, CSRs are demanded to solve customers' requests correctly and quickly, given the time that the organization has set up already, depending on service manuals. Thus, OM level namely, accumulated customer knowledge in KMSs will be positively associated with CSRs' customer response capability, by providing more knowledge needed to solve customers' problems and to

instantly respond to them in a limited time. That is, OM level in KMSs enables CSRs to deliver good service during the interaction with customers by providing necessary knowledge and solutions instantly. Based on the above discussion, this study develops the following hypotheses:

H2a. OM level will be positively associated with CSRs' customer response expertise.

H2b. OM level will be positively associated with CSRs' customer response speed.

Organizational Memory Dispersion

To conduct service work, CSRs need integrated knowledge across customer contact channels, such as phone-calls, websites, emails, faxes, phones, and in-stores. In call centers, such knowledge promotes CSRs' effective communication with customers over the phone at a given time. For example, a customer sent an email to check its order status after purchasing a product on the website; however, the customer has not received yet any reply from the company. So, the customer tries to contact with a CSR at the call center of the company. If the customer has to explain the whole story from the beginning, he or she would be irritated at the company's service. As another example, a customer updates his or her information on the website; however, what if a CSR keeps asking the same information during the interaction with the customer? The customer would get easily irritated. Call centers could miss the opportunities to satisfy their customers. CSRs are able to deliver good service on the basis of integrated customer knowledge by increasing the understanding of customers. Despite the importance of customer knowledge integration, this issue has not received attention by researchers.

The dispersion (i.e., sharing) of knowledge across departments relevant to customer service in the organization would contribute to developing its capabilities. Lopez-Nicolas and Molina-Castillo (2008) asserted that firms can obtain a vast amount of customer knowledge useful for the improvement of service quality and customer relationship management activities including customer needs, preferences, purchase motives, repurchase intentions etc., from customers through Web. However, this can also bring about knowledge overlapping and knowledge overloads; therefore, it is more important to integrate such knowledge in order to achieve business goals. Similarly, the studies on KM have emphasized the importance of knowledge integration (Grant, 1996). Grant (1996) asserted that the core of organizational capability is the integration of knowledge, which individuals have, rather than the creation and acquisition of knowledge. Harrigan et al. (2008) argued that integration of knowledge increases responsiveness. Wang et al. (2006) also verified that IS-enabled virtual integration, which refers to the sharing of knowledge relevant to products, markets, and production, enhances suppliers' responsiveness. Likewise, shared customer knowledge in KMSs could enhance CSRs' abilities to respond accurately and quickly to customers' various requests.

H3a. OM dispersion will be positively associated with CSRs' customer response expertise.

H3b. OM dispersion will be positively associated with CSRs' customer response speed.

Organizational Memory Usability

Although much knowledge necessary for customer service is accumulated in KMSs, if CSRs cannot retrieve it when needed, it would be of no use. As one of the major dimensions of OM, Moorman and Miner (1997) stated accessibility that means the degree of easily retrieving necessary knowledge at the right time. Bock and Sabherwal (2008) used the construct of searchability to emphasize how well KMSs can help employees who want to reuse knowledge stored in KMSs find that knowledge, instead of the constructs of ease of use and systems quality. In this study, we use the construct of usability to capture how easily and efficiently knowledge in KMSs is organized for use, in addition to the accessibility to the knowledge. That is, usability captures ease of use, accessibility, and searchability (Flavian et al., 2006).

Previous research has agreed that the usability of knowledge is more important than the knowledge in itself. Crosasdel (2001) asserted that accessibility is important for the effective use of knowledge stored in knowledge memory. Bock and Sabherwal (2008) contended that searchability is more important than the knowledge in itself in determining its value. O'Reilly (1982) the accessibility, not

the quality, of knowledge sources promotes its use. Ease of use is also considered a key factor promoting knowledge reuse (Bock et al., 2010).

OM should be designed to allow employees to use the right knowledge at the right time (Crosasdell, 2001; Pavlou and El Sawy, 2010). If a CSR fails to retrieve the right knowledge during the interaction with customers, it would result in the failure of a good service delivery. Therefore, usability is necessary to use knowledge and experiences stored in KMSs (Crosasdell, 2001). In this regard, this study supposes that usability enhances CSRs' customer response expertise and speed by enabling them to use necessary knowledge when needed.

H4a. OM usability will be positively associated with CSRs' customer response expertise.

H4b. OM usability will be positively associated with CSRs' customer response speed.

Methods

Data Collection and Sample

To empirically test the proposed research model and hypotheses, we conducted a survey, which the method of was self-reported questionnaires, on CSRs working in call centers. A total of 500 questionnaires were distributed to two call centers of S company in the health and life insurance industry that use KMSs. We received a total of 384 responses; therefore, the response rate was 76.8 percent. Except for 11 responses with missing data, we used a total of 373 responses for our analyses.

In our sample, female CSRs accounted for 81.2 percent (303 respondents), which means that the absolute majority of CSRs in a call center are female. By age, the thirties accounted for 63.5 percent of the sample (237 respondents), and the forties were the next with the value of 18 percent (67 respondents). For education level, graduation from two-year colleges was the largest group at 35.7 percent (133 respondents). Graduates from high school made up 34.6 percent (129 respondents) and those from four-year colleges were 29.2 percent (109 respondents). Their average tenure was 35 months ($SD = 31$). The average calls that a CSR deals with a day were 89 ($SD = 26$) and 182 CSRs (48.8 percent) processed more than 100 calls a day.

Measures

We adapted measures from prior research and modified them for a customer service setting. All items were measured using a seven-point Likert scale ranging from 1 point (very strongly disagree) to 7 points (very strongly agree). The details of measures are provided in Table 1.

Measurement model assessment and common method variance (CMV)

As the analysis result of Cronbach's α , all the constructs used in this study exceeded 0.7 suggested by Nunnally (1978). This verifies that our constructs have reliability. And then, our measurement model was assessed by confirmatory factor analysis, using Amos 20 (See. Appendix). According to the recommendations by Joreskog and Sorbom (1993), the goodness-of-fit index of the measurement model was evaluated: chi-square value = 440.87, and degree of freedom (df) = 260, $p = 0.00$, goodness-of-fit index (GFI) = .91, standardized root mean square residual (SRMR) = .03, chi-square/ $df = 1.70$, root mean square error of approximation (RMSEA) = .04, adjusted GFI (AGFI) = .89, normed fit index (NFI) = .97, Tucker-Lewis index (TLI) = 0.97, and comparative fit index (CFI) = 0.98. All the indices met the recommendation's value, which demonstrated that the measurement model was appropriate.

The factor loadings of items to their corresponding constructs were ranged from 0.71 to 0.98, which were significant at the level of 0.05. The values of average variance extracted (AVE) of constructs were above the recommended value of 0.5 (Fornell and Lacker, 1981). Therefore, it can be said that measurement items used in this study had the high representativeness for the constructs. The construct reliability of all the constructs also exceeded that recommendation of 0.7 (Hair et al., 1998). Finally,

as shown in Table 2, the square root of the AVE turned out to be greater than the coefficient (Fornell and Larcker, 1981), which demonstrated discriminant validity between the constructs.

Considering that we measured both independent and dependent variables on a respondent via a self-reported survey, the possibility of CMV was verified by using a single-factor model (i.e., Harman’s one-factor model) through CFA (Podsakoff et al., 2003). If CMV is substantial, than the single-factor model would provide a better fit than our six-factor model. Our result demonstrated that the single factor model did not show a good fit (chi-square = 3339.0, *df* = 275, GFI = 0.49, CFI = 0.58, and RMSEA = 0.17), indicating that CMV is not a serious issue in this study.

Table 1. Measurement Model

Constructs	Items	Factor loadings	AVE	CR	Cronbach’s α
Organizational Memory level	The extent to which the call center has the amount of knowledge, experience, and familiarity with customer service in KMSs (Hult et al., 2004; Moorman and Miner, 1997, 1998) 1. In KMSs, a great deal of knowledge about customer service is saved. 2. In KMSs, experience and solutions for customer service are saved. 3. In KMSs, procedures for customer service are saved. 4. In KMSs, methods and skills needed for customer service are saved. 5. In KMSs, customer service manuals are saved.	0.782 0.840 0.875 0.874 0.864	0.692	0.918	0.927
Organizational memory dispersion	The extent to which the call center develops common understandings on customer service across customer-related departments and customer contact channels (Chang and Cho, 2008; Hult et al., 2004; Moorman and Miner, 1997) 1. Departments across the organization share knowledge needed for customer service. 2. The call center develops a shared understanding about customer service with other departments in the organization. 3. Customer knowledge created from the call center, web-sites, and emails is integrated.	0.881 0.911 0.820	0.691	0.870	0.902
Organizational memory usability	The extent to which CSRs use knowledge in KMSs easily and efficiently to achieve a service goal in the call center (Flavian et al., 2006) 1. In the KMS, everything is easy to understand. 2. Knowledge in KMSs is easily organized to use. 3. It is easy to find the knowledge that I need from KMSs. 4. The structure and knowledge of KMSs are easy to understand. 5. It is easy to move within KMSs. 6. The organization of the knowledge of KMSs makes it easy for me to know where I am when navigating it.	0.886 0.868 0.870 0.895 0.819 0.853	0.728	0.923	0.947
Customer response expertise	The extent to which the responses of CSRs effectively meet customer needs in the call center (Jayachandran et al., 2004) 1. I can easily satisfy the new needs of customers. 2. I can satisfy customers’ needs much better than competitors’ call centers. 3. I have the ability to effectively meet customers’ service requests.	0.830 0.932 0.873	0.740	0.895	0.909

Customer response speed	The extent to which the responses of CSRs to customer needs are rapid in the call center (Jayachandran et al., 2004) 1. When I identify a new customer need, I am quick to respond to it. 2. Customer complaints are quickly responded to in this call center. 3. When I find that customers are unhappy with our product or service, I take corrective action immediately. 4. I believe in being proactive to provide good service than being reactive. 5. When customers need to modify service, I try to provide the necessary service to them.	0.791 0.782 0.801 0.845 0.823	0.611	0.887	0.903
Customer service performance	CSRs' self-rated performance (Arnold et al., 2009) 1. Overall quantity of service work I perform. 2. Overall quality of service work I perform. 3. My overall job performance.	0.623 0.883 0.804	0.586	0.806	0.810

Note. All items are significant at the 0.01 level. CR: Construct reliability.

Table 2. Correlation Matrix

Variables		Mean	S.D.	A	B	C	D	E	F
A	Organizational memory level	5.09	0.94	0.832					
B	Organizational memory dispersion	4.69	1.08	0.61	0.831				
C	Organizational memory usability	4.74	0.94	0.67	0.67	0.853			
D	Customer response expertise	4.65	1.01	0.52	0.54	0.48	0.860		
E	Customer response speed	4.73	0.93	0.46	0.45	0.51	0.50	0.781	
F	Customer service performance	4.99	0.88	0.34	0.35	0.42	0.41	0.49	0.765

Note. All constructs are significant at the 0.01 level. Diagonal line refers to the value of square root of the AVE.

Testing of Research Model and Hypothesis

Structural equation modeling was used to validate the research model and the hypothesis. To estimate the parameters of the model, we used the maximum likelihood method and covariance matrix. As shown in Table 5, the analysis results of model-fit indices are as follows: $\chi^2 = 526.882$, $df = 307$, and $p = 0.000$, GFI = 0.90, SRMR = 0.05, RMSEA = 0.04, chi-square/ $df = 1.72$, AGFI = 0.88, NFI = 0.93, TLI = 0.97, and CFI = 0.97. Thus, it can be said that the goodness-of-fit index of the model is acceptable since all the indices are evaluated to be acceptable. The results are presented in Figure 2 and Table 3. Figure 2 provides the values of standardized path coefficients, the significance of the path, and the results of hypotheses testing (H1a~H4b). As we expected, all the hypotheses were found to be significant except the relationship of OM usability and customer service expertise (H4b). Details of the results are presented in the next section.

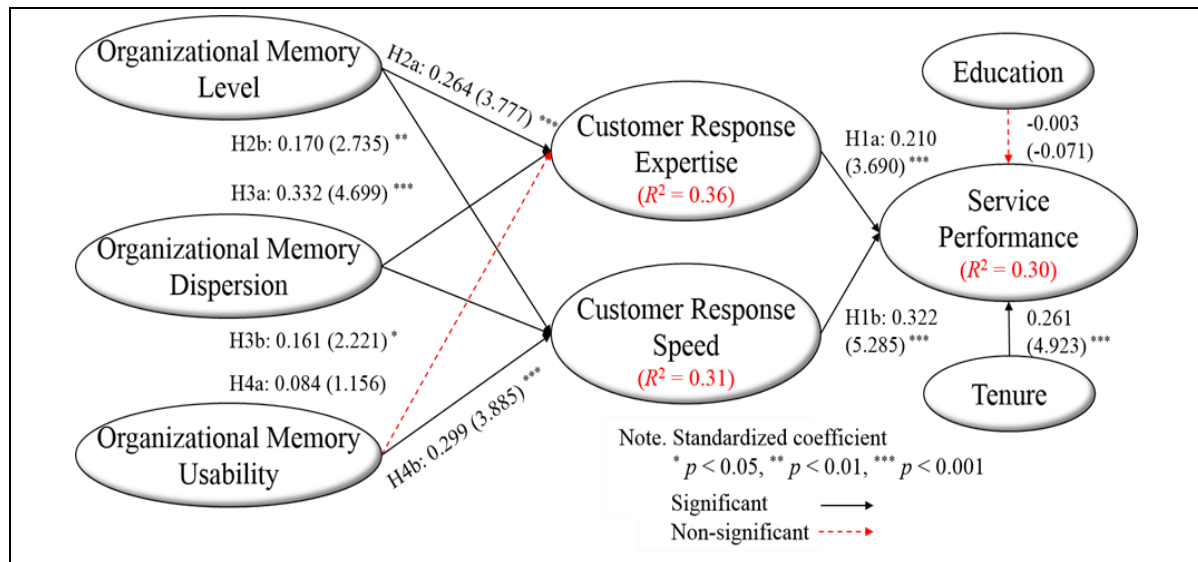


Figure 2. Results of the Structural Model Analysis and Hypothesis Testing

Discussion and Implications

The results support our assertion that OM is a key resource for enhancing CSRs’ customer response capability, which in turn leads to increased service performance in call centers. Below are the details of the key findings and implications. First of all, the results show that CSRs’ customer response expertise and speed are key determinants of service performance in call centers. When CSRs not only have the ability to satisfy customers’ service requests and service needs, but also have the ability to conduct them rapidly, their service performance is greatly increased. In particular, CSRs’ customer response speed considerably influences service performance. Given that the call-center service should be delivered in a given time, it is interpreted that CSRs’ ability to solve customers’ requests quickly is considered to be more influential.

The findings provide an implication to service organizations that seek to advance their customer service by verifying the role of CSRs’ customer response capability. In practice, CSRs are generally considered as a key cost element that should be reduced, rather than a strategic element contributing to a firm’s service competitiveness in that labor costs account for 60 to 80 percent of the total budget of the call-center operation (Aksin et al., 2007). The cost-effective perspective of CSRs causes numerous negative outcomes in the call-center operation, including high CSR turnover, serious job burnout, and intensive emotional labor that have received much attention by researchers (Choi et al., 2012). In contrast, this study regards CSRs as a strategic resource for creating superior service. Judging from RBV, CSRs’ customer response capability can be a source of a firm’s service competitiveness because it cannot be easily imitated by competitors in a short time and be substituted by other elements. This study provides an empirical evidence by proving that to increase service performance, firms need to enhance CSRs’ customer service capability by priority.

The findings’ academic implication is that this study identifies two types of customer response capability (i.e., customer response expertise and speed) to describe CSRs’ key capability needed to conduct customer service work, and verifies their positive impacts on service performance. Although previous studies of service encounters have recognized the importance of CSRs’ ability and expertise in delivering good service (Bitner et al., 1994; Brady and Cronin, 2001), there is a lack of understanding about how to define and measure the constructs relevant to their ability and expertise. They put more emphasis on service quality conveyed by CSRs and its consequences (e.g., customer satisfaction and loyalty). Accordingly, researchers have used different constructs to capture CSRs’ skills, knowledge, and abilities, such as competence (Burgers et al., 2000), customer relationship management ability and communication ability (Pontes and Kelly, 2000), expertise (Brady and Cronin, 2001), and customer-qualification skills (Roman and Iacobucci, 2010). Under these circumstances,

this study draws and proves the constructs that can capture CSRs' abilities (i.e., customer response expertise and speed), which are needed to provide good service in call centers, from the study of Jayachandran et al. (2004). Their study has been also applied in following studies that focus on a firm's agility (Roberts and Grover, 2012; Setia et al., 2013). Furthermore, this study proved the effectiveness of two constructs in improving service performance.

With regard to the relationships of OM dimensions and CSRs' customer response capability, the results show that CSRs' customer response expertise depends on OM level and OM dispersion, but not OM usability. That is, a firm's accumulated knowledge in KMSs strengthens CSRs' expertise to solve customers' problems accurately, by offering necessary knowledge and experience, solutions, and skills. Besides, integrated knowledge across departments related to customer service and customer contact channels helps enhance CSRs' expertise. However, OM usability has no effect on expertise. The findings imply that characteristics of contents in KMS are effective in enhancing CSRs' expertise, rather than the ease, efficiency, accessibility of use of the contents.

Considering that customers continue to demand more specialized service from CSRs in call centers which becomes the typical service encounter of a firm, CSRs' expertise is an important issue. Under these circumstances, our findings offer a practical implication to service organizations, by verifying the role of accumulated knowledge in KMSs and its integration for customer service as key sources for enhancing CSR's expertise. Therefore, service organizations can enhance CSRs' expertise by providing the integrated knowledge resource that has been accumulated over time. For example, when customer request information on insurance goods appropriate to them over the phone in an insurance call center, a CSR should suggest the proper one based on prior knowledge in KMSs. In doing so, a firm can obtain a business opportunity. Likewise, a CSR can create new business opportunities by offering accurate service to customers. The finding also offers an academic implication to KM research. Although KM researchers emphasized the acquisition/creation, sharing, and utilization of knowledge, there is little understanding about how existing knowledge contributes to developing a firm's capabilities. Our results indicate that accumulated knowledge, as outcomes of KM practices, affects CSRs' service expertise, thereby improving work performance.

Finally, CSRs' customer response speed is determined by OM level, OM dispersion, and OM usability. The noteworthy finding is that OM usability is the most influential factor for improving CSRs' speed, although it has no impact on their expertise. That is, accessibility to necessary knowledge in KMSs is closely related to speed in service delivery. The finding strongly indicates that although a service organization has a great stock of knowledge in KMSs, its employees would fail to obtain benefits from the knowledge, if they cannot retrieve it when needed. Thus, it is important to understand that usability of knowledge in KMSs enables CSRs to respond quickly to customers' requests. This study has a contribution by proving that OM dimensions are closely related to CSRs' customer response speed. This study indicates that along with service accuracy, speed in service delivery is an important ability needed to create good service in service encounters, which has not been empirically tested in service research.

Overall, by combining the studies of OM with those of employee capability, this study could develop a theoretical model that explains OM is a key resource for CSRs' customer response capability, which in turn leads to increased service performance in call centers.

Limitations and Future Research

There are several limitations in our study. First of all, although there are theoretical supports on the way to measure work performance by using the self-reported rating of service employees (Arnold et al., 2009; Mukherjee and Malhotra, 2006), it would be still better to use a customer's real evaluation on that service. Secondly, this study tried to measure customer response expertise and speed at the employee level although previous studies measured them at the organizational level. Hence, this is important but preliminary, so that there need further studies to advance the constructs and their measurement. Lastly, this study focuses on digitalized knowledge in KMSs, although a service organization could have other types of knowledge useful for service, for example, documented knowledge in call centers.

Conclusion

CSRs' customer response capability is gradually becoming important given that service excellence is required for service organizations to obtain competitive advantages over competitors. Going beyond basic service, nowadays, customers are ever demanding better service from CSRs in service encounters. Under these circumstances, this study suggested that service organizations could use knowledge in KMSs that have been accumulated in the organization over time, in order to enhance CSRs' customer response expertise and speed. Our results verified that CSRs' expertise depends on OM level and OM dispersion, whereas CSRs' speed is influenced by OM level, OM dispersion, and OM usability. Furthermore, CSRs' expertise and speed considerably increased service performance. Therefore, the results lead to the conclusion that organizational knowledge is a key resource for developing CSRs' customer response capability, thereby leading to increased service performance.

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