Leveraging Accumulated Customer Knowledge in Electronic Knowledge Repositories for Superior Customer Service

Sujeong Choi[a], Il Ryu[b,*]

[a] Research Professor, Free21Plus e-Service Team, Chonnam National University, Korea
[b] Professor, Sunchon National University, Korea

ABSTRACT

Customers are now demanding ever better service from customer service representatives (CSRs) to create superior customer service. Accordingly, CSRs are required to have more specialized knowledge and abilities of customer service. This study examines the roles of accumulated customer knowledge in electronic knowledge repositories (EKRs), which a firm has developed for customer service over time to enhance CSRs' work capabilities and work performance, in the context of call centers. To test the proposed research model and hypotheses, we conducted LISREL analysis using 261 responses collected on CSRs working for inbound call centers. The key results are as follows. First, accumulated customer knowledge in EKRs enhances CSRs' knowledge utilization and service expertise during the customer contact. Second, CSRs' knowledge utilization reinforces service expertise. Finally, service quality depends on CSRs' knowledge utilization and service expertise, but it is not directly related to accumulated customer knowledge. Overall, the findings suggest that accumulated customer knowledge in EKRs enhances CSRs' knowledge utilization and service expertise, and thereby leading to superior service quality.

Keywords: Accumulated Customer Knowledge, Knowledge Management, Knowledge Utilization, Service Expertise, Service Quality

Ⅰ. Introduction

This study examines whether accumulated organizational knowledge in electronic knowledge repositories (EKRs) influences organizational capabilities and organizational performance. Nowadays, EKRs (e.g., knowledge management systems, KMS) serve as a great reservoir of organizational knowledge which is electronically codified (Bock et al., 2010; Gray and Durcikova, 2005; Gray and Durcikova, 2006; Kankanhalli et al., 2005; Watson and Hewett, 2006) and as a key means of managing organizational knowledge (Gray and Durcikova, 2005; Gray and Durcikova, 2006; Markus, 2001; Watson and Hewett, 2006).

*Corresponding Author. E-mail: iryu@scnu.ac.kr Tel: 82617503414

Organizations have achieved full success in hoarding a wide range of organizational knowledge in their own EKRs through organizational learning (Teece et al., 1997) and knowledge management (KM) activities (Alavi and Leidner, 2001; Inkpen, 2000; Sambamurthy and Subramani, 2005; Yoon et al., 2013). Previous studies have asserted that organizational knowledge can be a key source of creating a firm's various business capabilities and superior performance (Choi et al., 2010; Grant, 1996; Moorman and Miner, 1997; Moorman and Miner, 1998; Rhodes et al., 2008; Watson and Hewett, 2006). Recognizing this, scholars of organizational knowledge have developed various research issues along with KM processes, such as the creation, sharing/distribution and utilization of organizational knowledge (Alavi and Leidner, 2001; Inkpen, 2000; Rhodes et al., 2008; Sambamurthy and Subramani, 2005; Yang, 2007) or based on organizational learning theory (Teece et al., 1997; Yang, 2007). KM processes are greatly promoted by the use of cutting-edge information technologies (IT) (Alavi and Leidner, 2001; Choi et al., 2012; Sambamurthy and Subramani, 2005).

Although the issues of knowledge creation and sharing of KM processes have received a considerable amount of attention (Bock et al., 2010), there is a lack of understanding about how stocked knowledge in EKRs can be utilized for achieving a firm's business purposes and goals. Previous studies of EKRs also have put their emphasis on identifying the key determinants of employees' knowledge contribution into, and their reuse of, the knowledge in EKRs (Bock and Sabherwal, 2008; Kankanhalli et al., 2005), whereas there has been little focus on the issue of how stocked knowledge in EKRs are applied in practice. From the perspective of knowledge utilization, researchers have argued that accumulated organizational knowledge should be used for enhancing a firm's business capabilities and performance, recognizing that knowledge creation and knowledge sharing do not ensure superior firm performance without using the created/shared knowledge (Choi et al., 2010; Ko et al., 2009; Pfeffer and Sutton, 2000; Moorman and Miner, 1997; Watson and Hewett, 2006). That is, they contend that accumulating organizational knowledge is different from using it appropriately in practice (i.e., knowledge utilization). Furthermore, previous studies have noted that utilizing valuable existing knowledge is more important than knowledge *per se* in creating a firm's business capabilities and competitiveness (Moorman and Miner, 1997; Van Wijk et al., 2008; Watson and Hewett, 2006), such as the development of organizational improvisational capability (Moorman and Miner, 1998; Pavlou and El Sawy, 2010), the creation of creativity (Cheung et al., 2008; Moorman and Miner, 1997; Rhodes et al., 2008), and the enhancement of organizational knowledge processing capability (Hult et al., 2004). Therefore, it is important to understand the mechanisms of how accumulated organizational knowledge leads to superior performance, beyond simply building it in EKRs. In the same vein, we attempt to explain how customer knowledge in EKRs, which has been accumulated over time for customer service, can be utilized for developing customer service representatives (CSRs)' work capabilities (i.e., service expertise) and for enhancing work performance (i.e., service quality), in the context of call centers.

The most challenging issue of call center operation is to create superior service quality and CSRs play a key role in creating it because customers evaluate a firm's overall service quality through the experience of interaction with CSRs (Bitner et al., 1990; Bitner et al., 1994). For this reason, most service organizations demand CSRs to comply with a set of established service guidelines for maintaining the organ-

ization's standardized quality of service as delivered to customers (Lytle et al., 1998). However, such guidelines may be insufficient to meet customers' various service needs. Customers are now demanding ever more specialized service from CSRs in call centers. Accordingly, it is required that CSRs have more specialized service knowledge and abilities (i.e., service expertise), beyond the basic service skills such as greeting, kindness, and attentiveness. Therefore, CSRs' service expertise should be considered as an important prerequisite for superior service quality (Brady and Cronin, 2001). Previous research in the service marketing domain has focused on the issue of the service quality *per se* offered by CSRs rather than that of how to help them become service experts. Considering that superior service comes from superior CSRs, it is important for call centers to enhance CSRs' service expertise in advance. Hence, the current study aims to offer some new insights into the service marketing domain by integrating the studies of KM into those of service quality.

In a nutshell, the purpose of this study is three-fold: first, we verify the impacts of accumulated customer knowledge in EKRs on CSRs' knowledge utilization, service expertise, and service quality. Second, this study uncovers the relationship of CSRs' knowledge utilization and service expertise. Finally, this study explores how accumulated customer knowledge contributes to CSRs' service quality, directly or indirectly.

Ⅱ. Theoretical Background

2.1. Organizational Memory

To measure accumulated customer knowledge in EKRs, this study introduces the concept of organizational memory (OM), which is defined as the amount of stored knowledge, experience, and familiarity with a certain domain (Day, 1994; Hult et al., 2004; Moorman and Miner, 1997; Moorman and Miner, 1998). Concerning the conceptualization of OM, Day (1994, p. 44) defines it as "a repository for collective insights contained within policies, procedures, routines, and rules that can be retrieved when needed." Besides, OM can be embedded within the organization in the invisible form of organizational structure and organizational culture (Alavi and Leidner, 2001; Moorman and Miner, 1997). Walsh and Ungson (Walsh and Ungson, 1991) also define OM as stored information created from an organization's history, proposing that it encompasses a structure for its maintenance and the processes of information acquisition and retrieval as well as stored information *in itself*. Moorman and Miner (1997) define OM as the degree to which an organization has the amount of stored information and experience related to its business. Following Moorman and Miner (1997), this study defines accumulated customer knowledge as the amount of stored information and experience related to customer service in EKRs.

Previous studies of OM have regarded it as an important facet of knowledge management, emphasizing the function of storing and retrieving organizational knowledge (Alavi and Leidner, 2001; Walsh and Ungson, 1991). The fundamental role of OM is that it serves as a reservoir of collective knowledge created by individuals or groups (Cross and Baird, 2000). OM covers declarative and procedural organizational knowledge (Moorman and Miner, 1997) as well as individual and collective knowledge (Inkpen, 2000). In the context of call center, declarative knowledge includes business goals, customer needs and preferences, descriptions of goods and services whereas procedural knowledge refers to skills (i.e., the ways in which customer service work is

conducted), routines and procedures.

EKRs (e.g., KMS, intranet systems, and online databases) reinforce the role of OM as a reservoir of organizational knowledge (Bock et al., 2008; Gray and Durcikova, 2005; Gray and Durcikova, 2006; Kankanhalli et al., 2005; Watson and Hewett, 2006). Previous studies have agreed that IT acts as a facilitator of KM (Alavi and Leidner, 2001; Kankanhalli et al., 2011). Nowadays, EKRs are a typical means of realizing and maintaining OM by means of IT (Alavi and Leidner, 2001; Bock et al., 2008; Cheung et al., 2008; Sambamurthy and Subramani, 2005). IS scholars often use the term EKR as a synonym of OM. Bock et al. (2010) defines EKRs as "an on-line computer-based storehouse of expertise, knowledge, experience, and documentation regarding a particular domain of expertise in which knowledge is collected, summarized, and integrated across sources (p. 257)." Similarly, Bock and Sabherwal (2008) used the term knowledge repository systems and defined as "an electronic store of content related to all subjects about which the organization maintains knowledge (p. 536)." These definitions are almost similar with that of OM suggested by Moorman and Miner (1997). However, it is noteworthy that IS researchers can expand the studies of OM by including the issues related to IT. More specifically, OM stored in EKRs can be modified and shared instantly when needed (Croasdell, 2001). In this sense, OM in EKRs is closely linked to knowledge reuse, enabling employees to timely use the electronically codified knowledge in EKRs (Kanhanhall et al., 2011). In this sense, we limit our research to OM related to customer knowledge stored in EKRs. Although OM is also embedded in business processes, products/services, organizational structure and organization culture with invisible forms, most firms attempt to build OM electronically using cutting-edge IT (Cross and Baird, 2000).

2.2. Knowledge Utilization

The accumulated knowledge of an organization is a key source of creating business capabilities and superior performance (Choi et al., 2010; Moorman and Miner, 1997; Moorman and Miner, 1998). Recognizing this, researchers of organizational knowledge have developed various research issues along with knowledge management (KM) processes, such as the creation, sharing/distribution and utilization of organizational knowledge (Alavi and Leidner, 2001; Inkpen, 2000; Rhodes et al., 2008; Sambamurthy and Subramani, 2005; Yang, 2007) or based on organizational learning theory (Teece et al., 1997). The issues of knowledge creation and sharing have received a considerable amount of attention whereas there is a lack of understanding about how the stocked knowledge in EKRs can be utilized for achieving the organization's business purposes and goals.

Most of all, it should be noted that utilizing organizational knowledge is a different issue from creating and sharing it (Alavi and Tiwana, 2002; Majchrzak et al., 2005; Pfeffer and Sutton, 2000). The creation and/or sharing of organizational knowledge do not ensure the utilization of it (Alavi and Leidner, 2001; Alavi and Tiwana, 2002). Similarly, Pfeffer and Sutton (2000) have stated that there is a gap between knowing and doing. Thus, to create benefits from prior organizational knowledge, firms should attempt to utilize it appropriately, beyond creating and sharing it (Alavi and Leidner, 2001; Alavi and Tiwana, 2002). In line with this idea, researchers put more emphasis on the use of valuable existing knowledge (i.e., knowledge utilization), arguing that accumulating knowledge is different from using it appropriately in practice (Kankanhalli et al., 2011; Moorman and Miner, 1997; Pfeffer and Sutton, 2000; Watson and Hewett,

2006). Much research has underlined the use of valuable existing knowledge in enhancing a firm's business capabilities and competitiveness (Moorman and Miner, 1997; Van Wijk et al., 2008; Watson and Hewett, 2006). These include the development of organizational improvisational capability (Moorman and Miner, 1998; Pavlou and El Sawy, 2010), the creation of creativity (Cheung et al., 2008; Moorman and Miner, 1997), and the enhancement of organizational knowledge processing capability (Hult et al., 2004). Therefore, accumulated organizational knowledge can be a source of competitive advantage and be a driver of superior organizational performance only when it is effectively utilized by individuals or groups (Watson and Hewett, 2006).

In the context of call centers, CSRs who interact with customers consistently throughout the day utilize accumulated customer knowledge in EKRs to deal with customers' various service requests. That is, accumulated customer knowledge is an enabler for customer service in a call center. Given that CSRs' primary responsibility is to offer accurate knowledge in response to customers' service requests, it is essential that CSRs effectively use accumulated customer knowledge in EKRs. Moreover, CSRs are required to handle various customers' service requests and problems. Under the circumstance, EKRs serve as a knowledge base by offering necessary knowledge to CSRs so that they can deal with customers' service requests and problems during the customer contact in a very limited time over the phone. For instance, in a call center for property insurance companies, EKRs contain a more diverse and sophisticated spectrum of knowledge, including detailed information and knowledge on numerous insurance products, the cancellation of insurance contracts, loans based on insurance contracts, insurance laws, insurance claims and so on (Choi and Shin, 2012). When a

customer requests a CSR to recommend appropriate insurance products suitable for him or her, the CSR could quickly offer accurate information related to the request using accumulated customer knowledge in EKRs. If the CSR fails to offer appropriate information to the customer, the firm would miss a good opportunity to create new sales. Furthermore, the CSR would not receive a favorable evaluation from the customer who would not obtain satisfactory information despite being treated courteously. Hence, CSRs' service ability and service performance will be dependent on the use of valuable knowledge stored in EKRs.

2.3. Service Expertise and Service Quality

Call centers are the typical service encounter where customers can interact with a firm when they have service requests and complaints on its products/services. The ultimate objective of call centers is to enhance customer loyalty and customer satisfaction by creating good customer service (Calvert, 2001). In a call center, CSRs have the responsibility of creating good service by handling customers' requests and providing appropriate solutions to customers with problems (Mukherjee and Malhotra, 2006; Gilson and Khandelwal, 2005). Previous studies have emphasized that customers' experience of the service encounter considerably depends on CSRs who they interact with (Bell and Menguc, 2002; Hartline and Ferrell, 1996; Bitner et al., 1990; Bitner et al., 1994). For this reason, most call centers establish a set of customer service manuals for generating standardized quality of service, and they demand CSRs to comply with the manuals (Lytle et al., 1998). Customers take it for granted that CSRs provide courtesy, greeting, kindness, and attentiveness during the contact. Although CSRs treat cus-

tomers with good attitudes and behaviors, they would not receive the favorable evaluation from the customers if they fail to solve customers' service requests timely and accurately. The role of call centers expands as an integrated center for customer service, managing various customer contact channels including conventional (e.g., phones, faxes, and e-mails) and emerging channels (e.g., real time video chatting and mobile-based service). Customers are now demanding ever more specialized service from call centers, beyond the basic customer service. Therefore, it is required that CSRs have more specialized knowledge and abilities to meet customers' heightened expectations of service (Gilson and Khandelwal, 2005).

It is argued that CSRs' service expertise is one of the key determinants of service quality together with good attitudes and behaviors (Bitner et al., 1990; Brady and Cronin, 2001). Given that excellent customer service comes from excellent CSRs (Bitner et al., 1990; Brady and Cronin, 2001), it is important that call centers primarily enhance CSRs' service expertise. However, little has been known about how service organizations can enhance CSRs' service expertise. The focus of most service researchers is to enhance individual CSRs' knowledge and abilities of customer service at the individual level, through mandatory training and learning programs (Malhotra and Mukherjee, 2004). That is, CSRs' knowledge and skills of customer service depends on their personal learning abilities and characteristics. On the contrary, the focus of this study is that CSRs' service expertise is reinforced by the use of accumulated customer knowledge in EKRs during the customer contact. In other words, this study proposes that an organization's knowledge resource can also be a source of enhancing CSRs' work capabilities and further creating superior service quality.

Ⅲ. Research Framework and Hypotheses

3.1. Research Framework

In the context of a call center, CSRs generally use accumulated customer knowledge in EKRs in order to deal with customers' various and complicated service requirements over the phone in a very limited time (Choi and Shin, 2012). For instance, EKRs at an anonymous insurance company contain a great deal of knowledge and information on the descriptions of numerous insurance products, the comprehensive coverage of insurance contracts, the cancellation of an insurance contract, loans secured on the insurance contracts, insurance laws, insurance claims, and so on (Choi and Shin, 2012). Considering that CSRs cannot learn about everything on a firm's products and customer service policies, the importance of EKRs increases as a key knowledge base for creating superior customer service, in the context of call centers.

The research model explains how accumulated customer knowledge in EKRs is associated with CSRs' work capability (i.e., knowledge utilization and service expertise) and work performance (i.e., service quality). Previous research has asserted that the use of EKRs promotes knowledge reuse and thereby improving employees' work performance (Kankanhalli et al., 2011). Thus, we assume that accumulated customer knowledge in EKRs influence CSRs' knowledge utilization and service expertise, thereby leading to service quality.

It is generally argued that OM directly leads to positive outcomes, such as reduced transaction costs, effective decision-making, collaboration (Cross and Baird, 2000; Walsh and Ungson, 1991), increased efficiency (Chang and Cho, 2008), and organizational

effectiveness (Stein and Zwass, 1995). On the other hand, researchers assert that OM has an indirect effect on organizational performance via mediators (e.g., organizational capability). That is, OM first contributes to the enhancement of organizational capability, thereby leading to higher organizational performance. Moorman and Miner (1998) argue that OM influences organizational improvisation capability which then leads to increased firm performance (i.e., short-term financial performance and the creativity of new product development). Pavlou and El Sawy (2010) demonstrate that OM contributes to improvisational capabilities and thus increases organizational performance. Rhodes et al. (2008) contend that organizational knowledge leads to innovative capabilities and thus increases organizational performance. Therefore, we suggest that accumulated customer knowledge directly influences CSRs' service quality. Besides, we propose that accumulated customer knowledge first enhances CSRs' knowledge utilization and service expertise and thus increases service quality. The proposed research model and hypotheses are depicted in <Figure 1>.

3.2. The Roles of Accumulated Customer Knowledge

Concerning the roles of OM, first of all, previous research has verified that OM is closely related to the use of accumulated organizational knowledge namely, knowledge utilization (Walsh and Ungson, 1991). When organizations have a great deal of organizational knowledge and experiences, their employees can have more opportunities to apply them for enhancing work performance (Moorman and Miner, 1998; Ofek and Sarvary, 2001). Moorman and Miner (1997) highlight that OM is equally important to the creation or acquisition of new knowledge because it plays a key role in accumulating organizational knowledge over time and distributing it to be applied when needed. Choi et al. (2010) assert that a transactive memory system built in a team facilitates the ability of its members to apply prior knowledge stocked in the IS.

Furthermore, it is argued that EKRs are as a key means of knowledge utilization (Kankanhall et al., 2011; Watson and Hewett, 2006). As organizational knowledge in EKRs is electronically codified knowl-
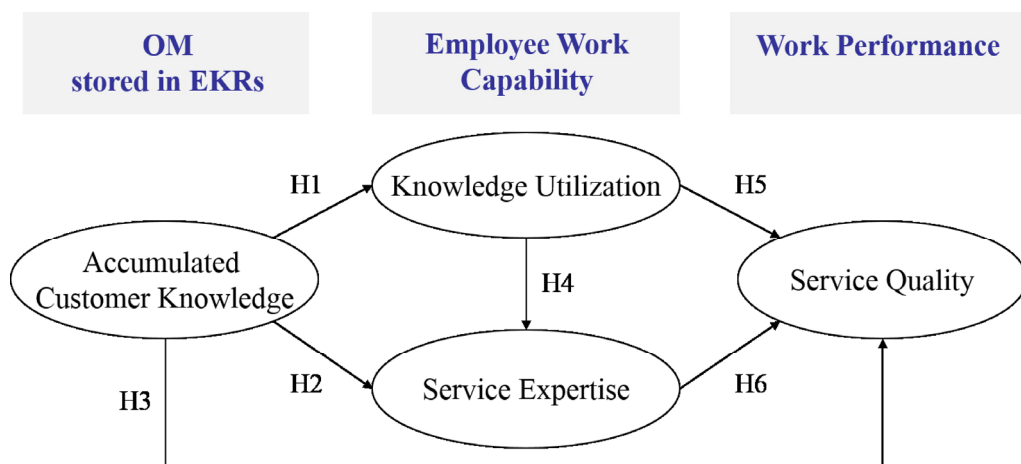
<Figure 1> Conceptual Research Framework

edge, it can be easily delivered and utilized when necessary (Stein and Zwass, 1995). Kankanhalli et al. (2011) argue that knowledge reuse is facilitated by perceived knowledge repository capability, which is composed of the capturing, packaging, and distributing capabilities of knowledge through a repository. Based on the above discussion, we assume that when call centers provide CSRs with a great deal of customer knowledge in EKRs, CSRs are likely to utilize the knowledge for customer service.

H1: Accumulated customer knowledge in EKRs will positively influence CSRs' knowledge utilization.

It has been argued that accumulated organizational knowledge is a source of creating an organization's various capabilities and competitiveness (Choi, 2014; Choi et al., 2010; Moorman and Miner, 1997; Moorman and Miner, 1998; Rhodes et al., 2008). Moorman and Miner (1997) assert that OM is directly associated with new product creativity and new product short-term financial performance. Pavlou and El Sawy (2010) argue the positive relationship of OM and improvisational capability in the context of new product development, recognizing that OM contains useful knowledge on past effective improvisational actions. Rhodes et al., (2008) contend that organizational knowledge leads to innovative capabilities, such as product/service innovation and process/technical innovation. Choi (2014) show that digitalized memory developed in interorganizational relationships enhances a firm's absorptive capacity, which refers to "the ability of a firm to recognize the value of new external information, assimilate it and apply it to commercial ends (Cohen and Levinthal, 1990, p. 128)." As such, accumulated organizational knowledge can be a source of developing and enhancing an organization's various business capabilities.

On the other hand, researchers have also argued that OM has negative effects on the enhancement of capability and performance of individuals and organizations by promoting the maintenance of the status quo seeking stable, consistent organizational cultures (Alavi and Leidner, 2001; Moorman and Miner, 1998). Moorman and Miner (1998) contend that a high level of OM negatively influences the development of organizational improvisation capability required for developing new products by providing only well-established knowledge obtained from the organization history that restricts radical changes. Similarly, Cheung et al. (2008) indicate that knowledge reuse via EKRs suppresses employees' creativity. Nevertheless, we assume that OM functions as a knowledge base for enhancing CSRs' various work capability by instantly offering necessary knowledge and experiences during the customer contact.

In the context of call centers, EKRs serve as a reservoir of customer knowledge including both declarative, explicit knowledge (e.g., customer service manuals, past purchase records, customer preferences, descriptions of products and services and business goals) and codified procedural, tacit knowledge (e.g., skills of dealing with customer complaints and ways of understanding customer needs) (Moorman and Miner, 1998). Such customer knowledge in EKRs would strengthen CSRs' ability to deal with customers' various service requests and problems, enabling CSRs to offer accurate and instant service to customers by the timely provision of necessary knowledge and solutions during the customer contact. Gray and Durcikova (2005-6) assert that organizational knowledge provided by EKRs enables CSRs to solve various customer problems regarding products and services in the context of call centers. Likewise, accumulated customer knowledge would contribute to enhancing CSRs' service expertise by responding instantly to

customers' service requests over the phone in a very limited time. In this regard, we assume that when abundant amount of customer knowledge is provided to CSRs, their service expertise will be increased.

H2: Accumulated customer knowledge in EKRs will positively influence CSRs' service expertise.

It has been reported that accumulated organizational knowledge is positively associated with individual and organizational performance. Walsh and Ungson (1991) argue that OM directly reduces transaction costs, effective decision-making and it also facilitates collaboration in multiple-task and multiple-use environments. Cross and Baird (2000) contend that organizations improve their performance by utilizing their stored knowledge in their decision-making processes and business activities in knowledge-based economies. Chang and Cho (2008) obtain the finding that a greater degree of team knowledge memory yields increased efficiency by reducing repetition problems in the process of new product development. Stein and Zwass (1995) indicate that IT-supported memory results in high levels of organizational effectiveness since the contents stored in IS are explicit, communicable, and integrated so that it could be properly used when necessary. Likewise, accumulated customer knowledge brings about positive outcomes to individuals and organizations.

In service encounters, KM practices enable service organizations to build a strong relationship with customers by providing personalized service experiences that meet customers' needs (Guchait et al., 2011). Guchait et al. (2011) suggest that CSRs can satisfy customers when they have knowledge to fulfil customers' preferences. When call centers provide CSRs with a great stock of customer knowledge through EKRs, it is possible that CSRs can speedily solve

customers' problems during the first contact and instantly respond to customers' service requests. Thus, we propose the following hypothesis:

H3: Accumulated customer knowledge in EKRs will positively influence CSRs' service quality.

3.3. Knowledge Utilization and Service Expertise

It has been generally argued that organizational knowledge is a strategic resource of developing organizational capabilities (Choi et al., 2010; Grant, 1996; Moorman and Miner, 1997; Moorman and Miner, 1998; Watson and Hewett, 2006). Particularly, an organization's ability to use valuable prior knowledge (i.e., knowledge use) determines its business capabilities (Moorman and Miner, 1997; Van Wijk et al., 2008; Watson and Hewett, 2006). Through the review study, Roberts et al. (2012) indicate that firms can use prior knowledge for achieving various purposes, such as the enhancement of existing capabilities and the creation of innovative products and services. By using accumulated customer knowledge in EKRs, CSRs are able to solve customers' problems and service requests immediately (Gray and Durcikova, 2005; Gray and Durcikova, 2006). That is, CSRs can quickly solve customers' current problems by using successful solutions to similar problems in the past (Gray and Durcikova, 2005; Gray and Durcikova, 2006). Likewise, CSRs are likely to improve their service knowledge and abilities by using accumulated organizational knowledge in EKRs. Therefore, we expect that if CSR utilizes accumulated customer knowledge in EKRs effectively to deal with customer's requests and problem, then their service work capability could increase. In this regard, we propose the following hypothesis:

H4: CSRs' knowledge utilization will positively influence service expertise.

3.4. Knowledge Utilization and Service Quality

To improve organizational performance, utilizing accumulated knowledge in knowledge repositories is more important than simply accumulating knowledge in these repositories (Cross and Baird, 2000). Although organizations have high levels of knowledge in EKRs, it is difficult to create differential benefits form the knowledge if employees do not utilize the knowledge for their work (Moorman and Miner, 1997; Van Wijk et al., 2008; Watson and Hewett, 2006). Pfeffer and Sutton (2000) point out that organizations do not always effectively utilize shared knowledge. Accordingly, knowledge utilization has received a considerable amount of attention in that knowledge utilization is different from the knowledge creation and knowledge sharing dimensions of KM (Alavi and Tiwana, 2002; Majchrzak et al., 2004; Markus, 2001). The effective use of prior knowledge directly leads to organizational effectiveness (Markus, 2001).

It is noteworthy that knowledge creation and sharing are not always linked to firm performance (Alavi and Leidner, 2001; Alavi and Tiwana, 2002; Pfeffer and Sutton, 2000). Knowledge sharing and transference in organizations are not on their own enough to solve problems and produce products and services (Choi et al., 2010; Pfeffer and Sutton, 2000). Cohen and Levinthal (1990) and Zahra and George (2002) emphasize that organizations need the process of knowledge exploitation to achieve their business goals, which is one aspect of absorptive capacity. Roman et al. (2010) suggest that employees who directly meet customers should utilize customer knowledge to analyze the customers' needs, understand the customers' buying motives and distinguish between different types of customers. Likewise, knowledge utilization is related to positive outcomes in organizations (Choi et al., 2010; Ko et al., 2009). In this sense, we hypothesize that CSRs' knowledge utilization will lead to higher work performance, namely service quality.

H5: CSRs' knowledge utilization will positively influence service quality.

3.5. Service Expertise and Service Quality

The success of a service encounter relies on the service employee involved. In service encounters, CSRs' service ability is directly linked to customers' perception of service quality (Bitner et al., 1990; (Bitner et al., 1994; Surprenant and Solomon, 1987). A customer evaluates the overall service quality of a firm based on interaction with its service employees (Bitner et al., 1990). That is, the interpersonal interaction between CSRs and customers in a service encounter is a primary predictor of service quality (Bitner et al., 1990; Surprenant and Solomon, 1987). Likewise, service quality in call centers is dependent on CSRs' knowledge, skills and abilities namely, service expertise (Burgers et al., 2000). Brady and Cronin (2001) argue that interaction service quality is directly determined by CSRs' attitudes, behaviors and expertise. Pontes and Kelly (2000) indicate that CSRs' abilities, such as their CRM and communication, lead to higher performance (i.e., customer repurchasing) in the context of a call center. Roman and Iacobucci (2010) show that a salesperson's customer-qualification skills, which denote the abilities of the salesperson to identify and analyze customers' needs, to understand their buying motives and to

distinguish between different types of customers, positively influence their adaptive selling behaviors, thus leading to customer satisfaction.

CSRs' service expertise can be viewed as a prerequisite of creating superior service quality in call centers where customers now require more specialized services beyond the basic requirements such as displaying courteousness, kindness and articulate pronunciation. Given that call centers seek service differentiation over competitors, it is important that CSRs should have more specialized skills and knowledge of customer service work (Mahesh and Kasturi, 2006). In other words, CSRs should be qualified with skills and knowledge in the customer service field in order to deliver differential service to customers (Gilson and Khandelwal, 2005). In this regard, we posit that CSRs' service expertise is a key determinant of service quality.

H6: CSRs' service expertise will positively influence service quality.

Ⅳ. Methodology

4.1. Sample and Non-Response Bias

To empirically test the proposed research model and hypotheses, we conducted a survey on CSRs working for inbound call centers using a self-reported questionnaire method. We distributed a total of 500 questionnaires to five call centers in health/life insurance that provided CSRs with KMSs as EKRs. A total of 269 responses were returned, which was a response rate of 53.8%. Excluding eight responses with missing data, we used a total of 261 responses for the analysis. Non-response bias was tested by verifying that there is no difference between early respondents and late respondents in terms of all the variables. The results of t-test between the means of the two groups demonstrated no significant difference at the 0.05 level, suggesting that non-response bias is not a problem in this study.

Demographics are summarized in <Table 1>. Female CSRs accounted for 98.5% of the sample,

<Table 1> Demographics

Category		Frequency	Percentage
Gender	Male	4	1.5
	Female	257	98.5
Age	Twenties	19	7.3
	Thirties	156	59.8
	Forties	83	31.8
	Over Fifties	3	1.1
Education	High school	115	44.1
	Junior college	68	26.1
	Undergraduate	14	5.4
	Four-year college	64	24.5
Number of calls handled per day	Fewer than 50 calls (< 50)	51	19.5
	50 calls to less than 70 calls (51-70)	74	28.4
	70 calls to less than 100 calls (71-100)	106	40.6
	More than 100 calls (> 100)	30	11.5

suggesting that an absolute majority of CSRs in call centers were female. In the country in which we collected data, call centers generally employ a majority of female CSRs (Choi et al., 2012). In terms of age, respondents in their thirties accounted for 59.8% of the sample, and those in their forties were the next largest group at 31.8%. For education level, high school graduation represented the largest group at 44.1 percent, indicating that the education level of CSRs is relatively low. Concerning the number of calls handled per day, 40.6% of respondents handle 70 calls to less than 100 calls. The average number of calls that CSRs handle per day was 77 calls (*S.D.* = 29).

4.2 Measures

We adapted measures from prior research and modified these for a call center 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 presented in <Table 2>.

Accumulated customer knowledge is defined as the degree to which a CSR perceives that EKRs (e.g., KMS) have a great deal of knowledge and experience pertaining to customer service, and is measured with four items drawn from Hult et al. (2004) and Moorman and Miner (1997).

Knowledge utilization is defined as the degree to which a CSR applies accumulated customer knowledge in EKRs for conducting customer service work and is measured with three items drawn from Choi et al. (2010), whose study knowledge utilization (precisely, knowledge application) was developed

<Table 2> Measurement Model

Constructs	Items	Factor Loadings	Construct Reliability	AVE
Accumulated Customer Knowledge	1. There is a lot of customer knowledge useful for customer service in EKRs. 2. There is knowledge and experience on customers in EKRs. 3. There is well-organized customer knowledge useful for customer service in EKRs. 4. There is abundant knowledge on customers in EKRs.	0.90 0.92 0.93 0.87	0.949	0.822
Knowledge Utilization	1. I use customer knowledge stored in EKRs to serve a customer. 2. I use customer knowledge stored in EKRs to solve a customer's problems. 3. I use customer knowledge stored in EKRs to respond to a customer's service requests.	0.91 0.98 0.97	0.966	0.904
Service Expertise	1. I have an ability for customer service work. 2. I have knowledge for customer service work. 3. I can instantly meet customers' requirements. 4. I have knowledge to deal with difficult service work.	0.88 0.89 0.89 0.79	0.917	0.787
Service Quality	1. I solve customers' problems during the first contact. 2. I solve customers' problems speedily when these problems occur. 3. I instantly respond to customers' service requests.	0.78 0.90 0.92	0.903	0.756

Note: All items were significant at the 0.01 level. Fit index: Chi Square = 89.8, *df* = 59, p-value = 0.006, GFI = 0.95, RMR = 0.039, RMSEA = 0.045, $\chi2/df$ = 1.52, AGFI = 0.92, NNFI = 0.99 and CFI = 0.99.

based on the knowledge application capability suggested by Gold et al. (2001).

Service expertise is defined as the degree to which a CSR has knowledge and abilities needed for dealing with customer service work. It is measured using four items: three of which come from Brady and Cronin (2001) to measure knowledge; an additional item is developed to directly measure customer service work ability.

Service quality is measured through a CSR's self-rating using three items drawn from Malhotra and Mukherjee (2004). To measure service quality more objectively, customers' direct evaluation would be preferable. However, support for service employees' own evaluation of service quality has also been found (Boshoff and Mels, 1995; Mukherjee and Malhotra, 2006). Service employees can evaluate their service outcomes in that their service quality results from human interaction between employees and customers (Boshoff and Mels, 1995; Sergeant and Frenkel, 2000). It has also been found that there is high correlation between service quality as evaluated by customers and that as evaluated by service employees (Schneider and Bowen, 1995). Moreover, in call centers, service quality is one of the key performance indicators used for evaluating CSRs' work performance. Thus, CSRs can identify their level of service quality.

4.3 Measurement Model Assessment and Common Method Variance

From the analysis results in terms of Cronbach's a, all the constructs used in this study exceeded 0.7, as suggested by Nunnally (1978). This verifies that our constructs have reliability. Our measurement model was then assessed by confirmatory factor analysis (CFA), using LISREL 8.54 as shown in <Table 2>. According to the recommendations from Joreskog and Sorbom (1993), the goodness-of-fit index of the measurement model was evaluated. All these indices meet the recommended values, demonstrating that the measurement model is appropriate. The factor loadings of items to their corresponding constructs ranged from 0.78 to 0.98, which were significant at the level of 0.05. The values of average variance extracted (AVE) for constructs were above the recommended value of 0.5 (Fornell and Larcker, 1981). Therefore, it can be said that measurement items used in this study had high representativeness for the constructs. Likewise, the construct reliability for all the constructs also exceeded the recommended value of 0.7. Finally, as shown in <Table 3>, the square root of the AVE was found to be greater than the coefficient (Fornell and Larcker, 1981), which demonstrated discriminant validity between the constructs.

<Table 3> Correlation Matrix

	Variables	Mean	SD	A	B	C	D
A	Accumulated Customer Knowledge	4.88	1. 23	**0.907**			
B	Knowledge Utilization	5.15	1.20	0.67	**0.951**		
C	Service Expertise	5.06	0.97	0.51	0.49	**0.887**	
D	Service Quality	5.94	0.90	0.44	0.44	0.53	**0.870**

Note: All constructs were significant at the 0.01 level. The value of square root of the AVE is presented in the diagonal colored line.
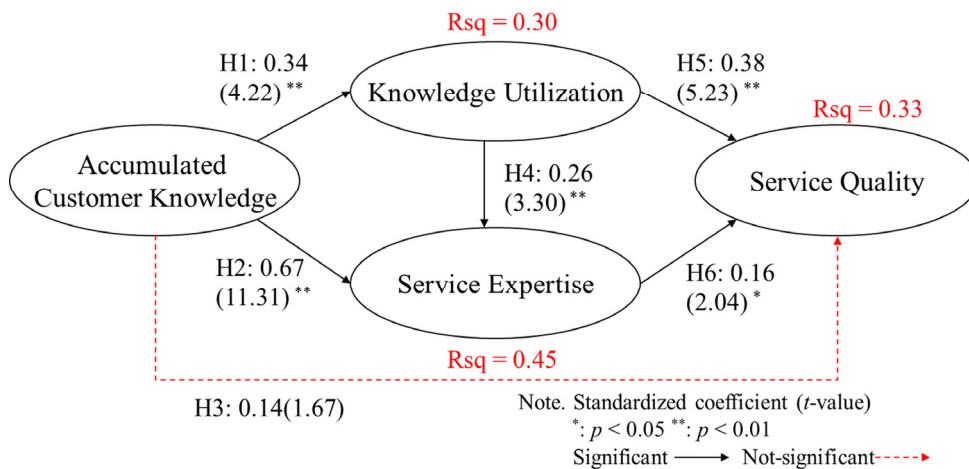
The common method variance (CMV) was confirmed using a CFA because we used data collected via a self-reported survey to measure both independent and dependent variables for a respondent. We compared the seven-factor model with a single-factor model (or Harman's one-factor model) in which all indicators loaded on a single factor (Podsakoff et al., 2003). If CMV is substantial, than the single-factor model provides a better fit (Podsakoff et al., 2003). The result showed that the single factor model did not have a good fit (χ^2 = 1835.27, df = 65, GFI = 0.48, CFI = 0.80 and RMSEA = 0.324), thus providing evidence that CMV is not an issue for this study.

4.4 Assessment of Research Model and Hypotheses

Structural equation modeling was used to validate the research model and the hypotheses. To estimate the parameters of the model, we used the maximum likelihood method and a covariance matrix. The results are presented in <Figure 2>, indicating the good fit of our research model as follows: chi-square = 89.80, df = 59, p-value = 0.006, χ^2/df = 1.52, RMR = 0.07, RMSEA = 0.045, GFI = 0.95, AGFI = 0.92, NNFI = 0.99 and CFI = 0.99. Thus, it can be said that the goodness-of-fit index of the model is acceptable since all the indices were evaluated as being acceptable. <Figure 2> provides the values of the standardized path coefficients and the significance of the path and the results of hypothesis testing (H1 ~ H6). As we expected, all the hypotheses were found to be significant except that predicting relationship between accumulated customer knowledge and service quality.

Additionally, we analyzed the indirect effects among variables. The results are as follows: first, accumulated customer knowledge has a significant indirect effect on service quality via knowledge utilization and service expertise (indirect effect = 0.30, p < 0.001). Second, accumulated customer knowledge also indirectly influence service expertise via knowledge utilization (indirect effect = 0.17, p < 0.01). Finally, the indirect effect of knowledge utilization on service quality via service expertise is 0.10, which is significant at the 0.01 level.

<Figure 2> Results of Structure Model Assessment

Ⅴ. Discussion and Implications

Most service organizations have accumulated their own OM related to customer knowledge over time at the organizational level by using EKRs, such as KMS and online databases. Accumulating customer knowledge in EKRs is a different matter from utilizing the knowledge when needed. However, there is a lack of understanding of how organizations can develop their own idiosyncratic capabilities and increase performance by using their accumulated knowledge in EKRs. In this sense, this study attempts to illustrate how organizations can utilize accumulated customer knowledge in EKRs for achieving their business goals, in the context of call center service. The results support our assertion that accumulated customer knowledge in EKRs enhances CSRs' service expertise and knowledge utilization, which in turn leads to increased service quality. The key findings are provided below.

With regard to the roles of accumulated customer knowledge in EKRs, the results show that it is positively related to CSRs' service expertise and knowledge utilization. It is noteworthy that accumulated customer knowledge in EKRs strengthens CSRs' knowledge and abilities to handle customers' various problems (namely, service expertise), by offering the necessary knowledge to them at the right time. That is, OM serves as a knowledge base of supplementing CSRs' knowledge and ability on customer service work. The result suggests that call centers can enhance CSRs' service expertise by offering relevant knowledge needed to solve customers' service requests. There has been the growing importance of CSRs' service expertise in service encounters as customers continue to demand more specialized services from CSRs whom they directly interact. In service encounters, CSRs are placed to deal with customers' various

complaints and discontents which require much professional knowledge and abilities beyond the basic service offerings, such as kindness and politeness. Besides, it is impossible for CSRs to learn a vast range of knowledge needed for customer service work. The current study provides new insights into service organizations that seek to develop CSRs' service abilities and knowledge, by proving the positive effect of accumulated customer knowledge on CSRs' service expertise.

Moreover, our results show that accumulated customer knowledge is positively associated with CSRs' knowledge utilization during the customer contact. By using the knowledge stored in EKRs, CSRs can handle customers' various problems. Thus, it is important that service organizations provide CSRs with necessary customer knowledge through well-established EKRs, and thus they can use the knowledge to deliver superior service to customers in a timely manner. For example, when a customer requests information on suitable insurance goods when making a phone call to an insurance call center, CSRs could present the proper option based on the prior customer knowledge in EKRs. In doing so, firms could create new business opportunities. Likewise, the interaction between CSRs and customers can be considered as a golden opportunity to confirm the effectiveness and accuracy of existing customer knowledge in EKRs.

By combining research of OM with that of the service encounter, we provide an evidence of enhancing CSRs' service abilities and knowledge in the context of call centers which become one of the typical service encounters of a firm. Particularly, the current study can provide a new perspective to the studies of service encounters by proving the roles of OM (i.e., customer knowledge in EKRs) that has been accumulated over time. Scholars have long recog-

nized that CSRs' service expertise determines service quality in service encounters. In general, well-developed service training and education programs are considered as an effective way of enhancing CSRs' service expertise. However, as we illustrated in the introduction and research framework sections, it would be impossible for CSRs to learn everything needed to solve customers' various problems in a very limited time. The current study implies that the knowledge resources of service organizations can be a source of developing their CSRs' capabilities. This is in line with the argument that accumulated organizational knowledge is a source of developing the organization's various capabilities, such as organizational improvisational capability (Moorman and Miner, 1998; Pavlou and El Sawy, 2010), absorptive capability (Choi, 2014; Zahra and George, 2002), and creativity (Cheung et al., 2008; Moorman and Miner, 1997).

Concerning the relationship of CSR work capability and work performance, the results demonstrate that service quality depends on CSRs' knowledge utilization and service expertise. In other words, the use of accumulated customer knowledge in EKRs enables CSRs to create good customer service. Furthermore, the results provide an empirical evidence on the assertion that superior customer service comes from superior CSRs (Brady and Cronin, 2001). Thus, to create superior customer service, call centers should attempt to enhance CSRs' work capability in advance. Although prior studies also recognize the importance of CSRs in creating high quality of service, there have been no studies explaining how to increase CSRs' service expertise, as a key determinant of service quality (Brady and Cronin, 2001). The current study offers new insight into the field of service research by proving that accumulated customer knowledge in EKRs serve as a knowledge base

for enhancing CSRs' service expertise, thereby increasing service quality.

Meanwhile, the current study suggests that there is no direct relationship between accumulated customer knowledge and service quality, whereas service expertise and knowledge utilization have direct effects on service quality. The results imply that accumulated customer knowledge first contributes to the enhancement of knowledge utilization and service expertise, and thereby leading to superior customer service. This result is accordance with the assertion that organizational knowledge in itself does not ensure increased organizational performance (Choi et al., 2010; Moorman and Miner, 1997; Watson and Hewett, 2006). In other words, creating and accumulating organizational knowledge is a different matter from using valuable prior organizational knowledge. The results suggest that accumulated customer knowledge should be used for developing CSRs' service expertise, and then leads to superior service quality. Moreover, it has been found that knowledge utilization increases service expertise. Therefore, call centers ensure CSRs to use accumulated customer knowledge for customer service.

Ⅵ. Limitations and Future Research

This study has several limitations. First, although there is theoretical and empirical support as to measuring service quality by using the self-reported ratings of service employees (Boshoff and Mels, 1995; Mukherjee and Malhotra, 2006; Schneider and Bowen, 1995), it would still be better to use customers' real evaluation. To make up for the weakness, we used anonymous questionnaires and also tested the CMV. Second, we limited our focus on customer knowledge stored in EKRs although service organ-

izations could have numerous and various types of knowledge in the form of documentation and human knowledge sources (i.e., coworkers and managers). That is, this study only considers electronically codified knowledge in EKRs. Thus, future research can advance our study by including various types of customer knowledge that service organizations already have. Third, the sample of this study was collected on CSRs working for inbound call centers of health/life insurance. In general, the call center is divided into two major functions: inbound service for handling incoming customer calls and outbound service for creating new sales by making outgoing calls to customers. Thus, there is a need to include other types of call center service to expand the generalizability of our findings. Forth, in our study, 98.5% of the respondents are female CSRs. This is a common phenomenon in the country that we collected data, particularly in the context of inbound call centers where deal with incoming calls from customers (Choi and Shin, 2012; Choi et al., 2012). In this sense, the results of this study are useful in explaining female-dominated service organizations. Finally, we did not test the mediating roles of work capabilities (i.e., knowledge utilization and service expertise) on the relationship between accumulated customer knowledge and service quality. Therefore, future research further elaborates our research model by considering the mediating roles of work capabilities.

Ⅶ. Conclusion

Given that customers are now demanding ever better service from service organizations, to create superior customer service, CSRs are required to have more specialized knowledge and abilities of customer service beyond having basic customer service skills. Under the circumstances, this study suggests that service organizations can enhance their CSRs' service expertise by utilizing accumulated organizational knowledge in EKRs. More specifically, accumulated customer knowledge in EKRs positively influences CSRs' knowledge utilization and service expertise during the customer contact. Furthermore, CSRs' knowledge utilization reinforces service expertise. Finally, service quality depends on CSRs' knowledge utilization and service expertise. However, this study shows that there is no direct effect between accumulated customer knowledge and service quality. Therefore, this study concludes that accumulated customer knowledge in EKRs enhances CSRs' knowledge utilization and service expertise, and thereby leading to superior service quality.

<References>

[1] Alavi, M., and Leidner, D. E. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly, 25*(1), 107-136.

[2] Alavi, M., and Leidner, D. E. (1999). Knowledge Management Systems: Issues, Challenges and Benefits. *Communications of the Association for Information Systems, 1*(2), 1-37.

[3] Alavi, M., and Tiwana, A. (2002). Knowledge Integration in Virtual Teams: The Potential Role of KMS. *Journal of the American Society for Information Science and Technology, 53*(12), 1029-1037.

[4] Bitner, M. J., Booms, B. H., and Tetreault, M. S. (1990). The Service Encounter: Diagnosing Favorable and Unfavorable Incidents. *Journal of Marketing, 54*(1), 71-84.

[5] Bitner, M. J., Booms, B. H., and Mohr, L. A. (1994). Critical Service Encounters: The Employee's Viewpoint. *Journal of Marketing*, *58*(4), 95-106.

[6] Bock, G. W., Lee, J. Y., and Lee, J. (2010). Cross Cultural Study on Behaviour Intention Formation in Knowledge Sharing. *Asia Pacific Journal of Information Systems*, *20*(3), 1-32.

[7] Bock, G. W., Mahmood, M., and Sharma, S. (2010). The Impact of Information Overload and Contribution Overload on Continued Usage of Electronic Knowledge Repositories. *Journal of Organizational Computing and Electronic Commerce*, *20*, 257-278.

[8] Bock, G. W., and Sabherwal, R. (2008). The Effect of Social Context on the Success of Knowledge Repository Systems. *IEEE Transactions on Engineering Management*, *55*(4), 536-551.

[9] Boshoff, C., and Mels, G. (1995). A Causal Model to Evaluate the Relationships Among Supervision, Role Stress, Organizational Commitment and Internal Service Quality. *The European Journal of Marketing*, *29*(2), 23-42.

[10] Brady, M. K., and Cronin Jr. J. (2001). Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach. *Journal of Marketing*, *65*(3), 34-49.

[11] Burgers, A., de Ruyter, K., Keen, C., and Streukens, S. (2000). Customer Expectation Dimension of Voice-to-Voice Service Encounters: A Scale-Development study. *International Journal of service Industry Management*, *11*(2), 142-161.

[12] Chang, D., and Cho, H. (2008). Organizational Memory Influences New Product Success. *Journal of Business Research*, *61*(1), 13-23.

[13] Cheung, P., Chau, P., and Au, A. (2008). Do Knowledge Reuse Make a Creative Person More Creative. *Decision Support Systems*, *45*, 219-227.

[14] Choi, S., and Shin, S. (2012). Improving Service Quality by Using Organizational Memory in Electronic Knowledge Repositories: Focusing on Shared Service Value and knowledge Reuse. *Korean Journal of Business Administration*, *25*(9), 3511-3531.

[15] Choi, S., Cheong, K., and Feinberg, R. A. (2012). Moderating Effects of Supervisor Support, Monetary Rewards, and Career Paths on the Relationship Between Job Burnout and Turnover Intentions in the Context of Call Centers. *Managing Service Quality*, *22*(5), 492-516.

[16] Choi, S. Y., Lee, H., and Yoo, Y. (2010). Information the Impact of Information Technology and Transactive Memory Systems on Knowledge Sharing, Application, and Team Performance: A Field Study. *MIS Quarterly*, *34*(4), 855-870.

[17] Cohen, W. M., and Levinthal, D. A. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, *35*, 128-152.

[18] Croasdell, D. C. (2001). IT's Role in Organizational Memory and Learning. *Information Systems Management*, *18*(1), 8-11.

[19] Cross, R., and Baird, L. (2000). Technology Is Not Enough: Improving Performance by Building Organizational Memory. *Sloan Management Review*, *4*(3), 69-78.

[20] Day, G. S. (1994). The Capabilities of Market-Driven Organizations. *Journal of Marketing*, *58*(4), 37-52.

[21] Eisenhardt, K. M., and Martin, J. A. (2000). Dynamic Capabilities: What Are They? *Strategic Management Journal*, *21*, 1105-1121.

[22] Fornell, C., and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *19*(4), 440-452.

[23] Gold, A., Malhotra, A., and Segars, A. (2001). Knowledge Management: An Organizational Capabilities Perspective. *Journal of Management Information Systems*, *18*(1), 185-214.

[24] Gray, P. H., and Durcikova, A. (2005-6). The Role of Knowledge Repositories in Technical Support Environments: Speed Versus Learning in User Performance. *Journal of Management Information Systems*, *22*(3), 159-190.

[25] Gilson, K. A., and Khandelwal, D. K. (2005). Getting More from Call Centers. *The McKinsey Quarterly*, Web Exclusive, April.

[26] Grant, R. M. (1996). Toward a Knowledge Based Theory of the Firm. *Strategic Management Journal, 17*(Spring), 109-122.

[27] Guchait, P., Namasivayam, K., and Lei, P. (2011). Knowledge Management in Service Encounters: Impact on Customers' Satisfaction Evaluations. *Journal of Knowledge Management, 15*(3), 1367-3270.

[28] Hult, G. T. M., Ketchen Jr., D. J., and Slater, S. F. (2004). Information Processing, Knowledge Development, and Strategic Supply Chain Performance. *Academy of Management Journal, 47*(2), 241-253.

[29] Inkpen, A. C. (2000). Learning Through Joint Ventures: A Framework of Knowledge Acquisition. *Journal of Management Studies, 37*, 1019–1043.

[30] Joreskog, K. G., and Sorbom, D. (1993). *LISREL8: Structural Equation Modeling with the SIMPLIS Command Language.* Hillsdale, NJ: Erlbaum.

[31] Kankanhalli, A., Tan, B. C. Y., and Wei, K. (2005). Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation. *MIS Quarterly, 29*(1), 113-143.

[32] Kankanhalli, A., Lee, O., and Lim, K. H. (2011). Knowledge Reuse Through Electronic Repositories: A Study in the Context of Customer Service Support. *Information & Management, 48*, 106-113.

[33] Ko, I., Olfman, L., and Choi, S. (2009). The Impacts of Electronic Collaboration and Information Exploitation Capability on Firm Performance: Focusing on Suppliers Using Buyer-Dominated Interorganizational Information Systems. *International Journal of e-Collaboration, 5*(2), 1-17.

[34] Lytle, R. S., Hom, P. W., and Mokwa, M. P. (1998). SERV*OR: A Managerial Measure of Organizational Service-Orientation. *Journal of Retailing, 74*(4), 455-489.

[35] Majchrzak, A., Cooper, L. P., and Neece, O. E. (2004). Knowledge Reuse for Innovation. *Management Science, 50*(2), 174-188.

[36] Markus, M. L. (2001). Toward a Theory of Knowledge Reuse: Types of Knowledge Reuse Situations and Factors in Reuse Success. *Journal of Management Information Systems, 18*(1), 57-93.

[37] Malhotra, N., and Mukherjee, A. (2004). The Relative Influence of Organisational Commitment and Job Satisfaction on Service Quality of Customer-Contact Employees in Banking Call Centres. *Journal of Service Marketing, 18*(3), 162-174.

[38] Mahesh, V. S., and Kasturi, A. (2006). Improving Call Centre Agent Performance: A UK-India Study Based on the Agents' Point of View. *International Journal of Service Industry Management, 17*(2), 136-157.

[39] Moorman, C., and Miner, A. S. (1997). The Impact of Organizational Memory on New Product Performance and Creativity. *Journal of Marketing Research, 34*(1), 91-106.

[40] Moorman, C., and Miner, A. S. (1998). Organizational Improvisation and Organizational Memory. *Academy of Management Review, 23*(4), 698-723.

[41] Mukherjee, A., and Malhotra, N. (2006). Does Role Clarity Explain Employee-Perceived Service Quality. *International Journal of Service Industry Management, 17*(5), 444-473.

[42] Nunally. J. C. (1978). *Psychometric Theory.* McGraw-Hill, New York.

[43] Ofek, E., and Sarvary, M. (2001). Leveraging the Customer Base: Creating Competitive Advantage Through Knowledge Management. *Management Science, 47*(11), 1441-1456.

[44] Pavlou, P. A., and El Sawy, O. A. (2010). The "Third Hand": IT-Enabled Competitive Advantage in Turbulence Through Improvisaitonal Capabilities. *Information Systems Research, 21*(3), 443-471.

[45] Pfeffer, J. and Sutton, R. (2000). *The Knowing-Doing Gap: How Smart Companies Turn Knowledge into Action.* Boston: Harvard Business School Press.

[46] Podsakoff, P. M., MacKenzie, S. B., Lee, J., and Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology, 88*(3), 879-903.

[47] Pontes, M. C. F., and Kelly, C. O. (2000). The Identification of Inbound Call Center Agents' Competencies That Are Related to Callers' Repurchase

Intentions. *Journal of Interactive Marketing, 14*(3), 41-49.

[48] Roberts, N. P., Galluch, S., Dinger, M., and Grover, V. (2012). Absorptive Capacity and Information Systems Research: Review, Synthesis, and Directions for Future Research. *MIS Quarterly, 36*(2), 625-648.

[49] Rhodes, J., Hung, R., Lok, P., Lien, B. Y., and Wu, C. (2008). Factors Influencing Organizational Knowledge Transfer: Implication for Corporate Performance. *Journal of Knowledge Management, 12*(3), 84-100.

[50] Roman, S., and Iacobucci, D. (2010). Antecedents and Consequences of Adaptive Selling Confidence and Behavior: A Dyadic Analysis of Salespeople and Their Customers. *Journal of the Academy of Marketing Science, 38*(3), 363-382.

[51] Sambamurthy, V., and Subramani, M. (2005). Special Issue on Information Technologies and Knowledge Management. *MIS Quarterly, 29*(1), 1-7.

[52] Schneider, B., and Bowen, D. (1995). *Winning the Service Game.* Harvard Business School Press, Boston, MA.

[53] Sergeant, A., and Frenkel, S. (2000). When Do Customer Contact Employees Satisfy Customers? *Journal of Service Research, 3*(1), 18-34.

[54] Stein, E. W., and Zwass, V. (1995). Actualizing Organizational Memory with Information Systems. *Information Systems Research, 6*(2), 85-117.

[55] Surprenant, C. F., and Solomon, M. R. (1987). Predictability and Personalization in the Service Encounter. *Journal of Marketing, 51*(2), 86-96.

[56] Teece, D., Tippins, J., Pisano, G., and Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal, 18*(7), 509-533.

[57] Van Wijk, R., Jansen, J. J. P., and Lyles, M. A. (2008). Inter-and Intra-Organizational Knowledge Transfer: A Meta-Analytic Review and Assessment of Its Antecedents and Consequences. *Journal of Management Studies, 45*(4), 830-853.

[58] Walsh, J. P., and Ungson, G. R. (1991). Organizational Memory. *Academy of Management Review, 16*(1), 57-91.

[59] Watson, S., and Hewett, K. (2006). A Multi-Theoretical Model of Knowledge Transfer in Organizations: Determinants of Knowledge Contribution and Knowledge Reuse. *Academy of Journal of Management Studies, 43*(2), 141-173.

[60] Yang, J. (2007). The Impact of Knowledge Sharing on Organizational Learning and Effectiveness. *Journal of Knowledge Management, 11*(2), 83-90.

[61] Yoon, B. S., Kim, Y. J., and Jin, S. H. (2013). An Empirical Investigation into the Effect of Organizational Capabilities on Service Innovation in Knowledge Intensive Business Firms. *Asia Pacific Journal of Information Systems, 23*(1), 87-106.

[62] Zahra, S. A., and George, G. (2002). Absorptive Capacity: A Review, Reconceptualization, and Extension. *Academy of Management Review, 27*(2), 185-203.

◆ About the Authors ◆

Sujeong Choi

Sujeong Choi is a research professor of the Free21Plus e-Service Team (the BK21 Plus program), Chonnam National University (CNU), Korea. She worked as a senior researcher at the Korean Call center Industry Research Center and was part of the Brain Korea 21 Team, CNU, as a research professor. She received her doctoral degree in MIS from CNU. Her work has been published in international journals such as *Information Technology & Management, International Journal of Information Management, International Journal of Electronic Collaboration, Managing Service Quality, and Information* as well as in many Korean journals. She participated in international conferences including 13th and 17th AMCIS, 39th DSI annual meeting, 43rd HICSS, 27th Pan-Pacific Conference, and 17th-19th PACIS. Her current research interests include IT and service competitiveness, knowledge management, IT-enabled capability, mobile business, and social networking service.

Il Ryu

Il Ryu is a professor of Management Information Systems in the Department of Business Administration at Sunchon National University, Korea. He holds a Ph.D. in Management Information Systems from Chonnam National University. His research interests focuses on knowledge management, e-Commerce, human behavior and impacts of technology, effective provision of e-service. He has published over 100 articles in refereed journals, and has received numerous research award recognitions from several Korean conferences. He participated in international conferences including 2011 Third International Conference on Computational Intelligence, Communication Systems and Networks, Annual London Business Research Conference, and 17th PACIS (Pacific-Asia Conference on Information Systems).