An investigation of knowledge brokering during service encounters

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Abstract

Service encounters present excellent opportunities for obtaining and exchanging so called tacit and explicit knowledge between customers and organisations. Recently, the role of frontline employees as knowledge brokers between organisations and their customers has received attention from scholars and practitioners. Despite the significant role played by frontline employees in obtaining knowledge from customers and sharing it during service encounters, there is a lack of research that provides a comprehensive framework intended to explain their role during such engagements. Following an extensive literature review we developed a research model that identifies (1) the role of frontline employees as knowledge brokers for customers and organisations and (2) the factors that influence their roles as knowledge brokers during service encounters. In total, 30 semi-structured interviews with different informants (i.e. managers & employees) from three top commercial banks in Jordan (X, Y, & Z) were administered through three case studies. We adopted a qualitative 'interpretative' methodological approach to the analysis of the empirical data. Our findings from an evidence-based analysis suggest that the knowledge brokering engaged in by frontline employees during service encounters is affected by four sets of factors (organisational–level, individual-level, technology-level, & knowledge–level).

Keywords: Knowledge brokering, customer knowledge, frontline employees, service encounters.

Introduction

As the service sector has become increasingly dependent on knowledge, customer knowledge has become a vital driving force, as it supports sustaining competitive advantages, improving service quality, and managing customer relationships (Khodakarami & Chan, 2014; Soltani & Navimipour, 2016; Tseng & Wu, 2014; Van der Heijden, Schepers, Nijssen, & Ordanini, 2013). Despite the fact that service organisations are able to obtain customer knowledge from various sources such as social media and customer relationship management systems (CRMs), frontline service employees who are involved in service encounters remain a valuable source of such knowledge (Coelho, Lages, & Sousa, 2018; Lages & Piercy, 2012). Gradually, the duties of frontline service employees have shifted from those associated with the traditional role, which were referred to as "customer contact" or "service provider", to one that is more effective for both organisations and customers alike (Slåtten, Svensson ,& Sværi, 2011). Therefore, their roles have been extended to involve more complex duties, as they may now also function as innovators (source of new ideas for services innovation), enablers (help customers & technology to play their roles in co-production as well as value creation), differentiators (technology is not able to entirely substitute the human touch in the service encounters) (Bowen, 2016; Coelho et al., 2018; Larivière et al., 2017; Motamarri,

Akter, & Yanamandram, 2017), idea collectors (Woisetschläger, Hanning, & Backhaus, 2016), and/or knowledge brokers (Berg et al., 2014).

Existing empirical evidence indicated that the role of frontline employees as knowledge brokers requires more investigation (e.g. Van der Heijden et al., 2013; Woisetschläger et al., 2016). Despite the benefits that stem from the knowledge obtained during service encounters between frontline service employees and customers, such as assisting service organisations to become more innovative (Engen & Magnusson, 2015), to maintaining their relationships with customers, to enhancing service quality (Tseng & Wu, 2014), customer knowledge gaps remain a very serious challenge for the majority of service organisations. Organisations should, thus, attempt to bridge these gaps by gathering knowledge from, for, and about customers in order to maintain their relationships with them (Tseng, 2016).

Organisations frequently ignore the contributions of frontline employees to their knowledge, with the result being that the roles played by frontline employees as knowledge brokers and in knowledge-sharing are neglected (Engen & Magnusson, 2015). Ye, Marinova, and Singh (2012) argued that service organisations have an increasing need for the knowledge obtained by frontline employees due to rapid changes in customer needs. Furthermore, all too often, organisations are not aware of the knowledge held by their frontline employees regarding customers (Engine & Magnusson, 2015), with much of this knowledge, thus, remaining with the employees who interact with customers (Rowley, 2002). The role played by frontline employees as knowledge brokers and the process that they employ to capture and share customer knowledge during customer interactions are underexplored and academic understanding thereof is empirically limited (Ye et al., 2012). However, we argue that employees tend to function more as knowledge brokers for customers than for their organisations. So as to promote an understanding of the role of the frontline employees as knowledge brokers for the customer-knowledge; this research strives to answer the following research questions:

RQ1. How does customer knowledge transfer between customer and organisation through frontline employees as knowledge brokers during service encounters?

RQ2. What are the main factors that influence frontline employees' roles as knowledge brokers between organisation and customers?

This paper is structured as follows: Section 2, which follows, provides a summary of the existing literature. Section 3 provides an overview of research framework. Section 4 describes the research methodology followed by Section 5, which presents the research findings and an analysis. Section 6 provides research discussion. Section 7 offers managerial implication. Section 8 highlights the conclusion. Finally, Section 9 discusses this study's limitations and opportunities for future research.

Literature Review

Knowledge management (KM) literature acknowledges that individuals in an organisation are the base of the creation of new knowledge. For example, Nonaka (1991) argued that individuals, such as frontline employees, are the source of new knowledge, and the ability of the organisations to sustain competitive advantage depends on managing the creation of new knowledge. Moreover, new organisational knowledge is the results of the continuous interaction between explicit and tacit knowledge (Nonaka, 1994). According to Nonaka, Toyama, and Nagata (2000), the organisational knowledge creation theory explains four

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processes that lead to the creation of new knowledge; these four processes are identified in the SECI model as: socialisation (tacit knowledge to tacit knowledge), externalisation (articulate tacit knowledge into explicit knowledge), combination (transform explicit knowledge into new explicit knowledge), and internalisation (convert explicit knowledge to tacit knowledge). They collectively produced the acronym 'SECI'.

The customer knowledge management (CKM) approach was developed as a result of combining the KM approach with CRM strategy (Gohary & Hamzelu, 2016). In general, CKM is described as the holistic philosophy that helps an organisation to tap into their knowledge in order to grasp the big picture about their customers (Rowley, 2002). Overall, the primary focus of CKM is on the knowledge from the customer, as well as how to obtain and share this knowledge (Gibbert, Leibold, & Probst, 2002). However, according to the technological view, CRM is an information system that assists organisations in contacting customers, affording services for them and gathering, storing and analysing customer information to provide a complete understanding of the customers (Salojärvi, Sainio, & Tarkiainen, 2010). The CRM systems also aid organisations in capturing and generating customer knowledge (Khodakarami & Chan, 2014).

In a service organisation, one of the most critical responsibilities of top management is ensuring customer satisfaction (Webster, 1988). Many factors may assist an organisation in this regard; however, a business may also adopt a number of strategies to facilitate this goal. The ability of an organisation to rapidly react to customer needs and to exceed the expectations of competitors is considered a significant challenge when attempting to implement any strategy. To achieve their goals, organisations must take full advantage of customer knowledge, which includes that about, from, and for customers. Prior research has stressed the significance of knowledge brokering in terms of assisting top management to acquire market knowledge (Hargadon, 2002). However, while much of the existing literature has focused on customer knowledge and the role of external knowledge brokers in acquiring such knowledge, less attention has been paid to the contributions made by frontline employees to customer knowledge.

Knowledge Brokering Through Frontline Employees

The term "knowledge broker" can refer to an individual, organisation, technology, or object that enables the knowledge of one community to be shared and used by another (Meyer, 2010). However, relatively little attention has been paid to investigate the role of knowledge brokers who are known to facilitate knowledge-sharing within organisations (Waring, Currie, Crompton, & Bishop, 2013). Furthermore, the majority of the existing literature on knowledge brokers discusses external knowledge brokering, as opposed to internal knowledge brokering (Currie & White, 2012). Additionally, the significant role played by frontline employees as internal knowledge brokers has been ignored by researchers and practitioners (Berg et al., 2014). Moreover, there is a paucity of research on how organisations encourage employees to manage and share customer knowledge so as to satisfy customer needs and enhance service quality (Korhonen- Sande &Sande, 2016). Van der Heijden et al. (2013) argued that frontline employees play a critical role as knowledge brokers between customers and the organisation because the nature of their jobs provides them with a perfect position from which to access, filter, and translate the knowledge that they obtain from customers. Literature of knowledge brokering distinguishes between two kinds of knowledge brokering based on the belonging of knowledge broker to the group s/he

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facilitates transfers knowledge for them, namely, external and internal knowledge brokering (e.g., Berg et al., 2014; Cillo, 2005). Based on this typology, external knowledge brokers are the actors who transfer knowledge between knowledge users and knowledge generators, but they do not belong to the knowledge users' community. In contrast, internal knowledge brokers transfer knowledge from out the organisation and between actors in the same communities. That being said, a few studies have discussed internal knowledge brokering. For example, Cillo (2005) addressed market knowledge being obtained through internal actors, as illustrated in Figure 1.
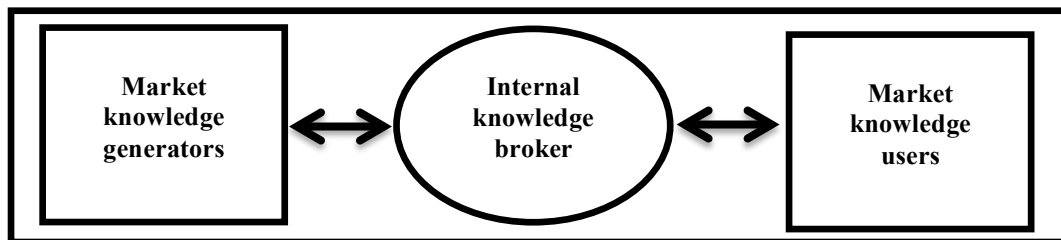
Figure 1. Internal Knowledge Broker (Adopted with modification from Cillo, 2005, p. 405)

Customer Knowledge

Nowadays, customer has become the vital source of the knowledge for the organisation (Mehdibeigi, Dehghani, & Yaghoubi , 2016). Customer knowledge is a critical asset for any business (Tseng, 2009), meaning that management should be aware of how to successfully gather and manage customer knowledge and share it within an organisation (Chua & Banerjee, 2013). In addition, scholars believe that customer knowledge helps organisations to maintain their relationships with customers and to enhance service quality (Tseng & Wu, 2014).

Based on customer knowledge management approach (CKM), there are three dimensions of customer knowledge: knowledge about the customer, knowledge for the customer, and knowledge from the customer (Daneshgar & Parirokh, 2012; Taghizadeh, Rahman, & Hossain, 2018). As shown in Figure 2, organisations and customers exchange these three types of customer knowledge.
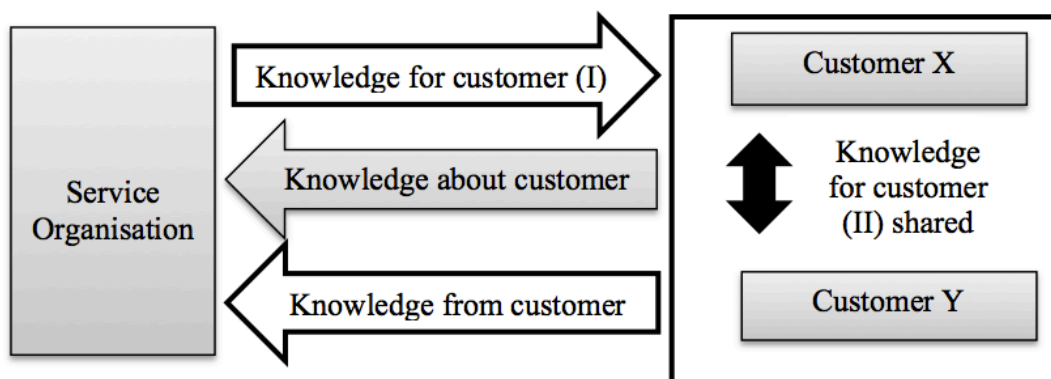
Figure 2. Three Types of Customer-Related Knowledge (Adopted with modification from Wu, Guo, & Shi, 2013, p. 361)

1. **Knowledge for customers:** This type of knowledge is associated with the information concerning its products and services that an organisation provides to its customers, as well as knowledge that helps customers to make purchase decision and satisfy their needs (Khodakarami & Chan, 2014; Soltani & Navimipour, 2016). Organisations directly provide this type of knowledge to their customers; in many cases, this knowledge affects customers' perceptions with regard to service quality (Gohary & Hamzelu, 2016).

2. **Knowledge About Customers:** This type of knowledge provides organisations with general information about their customers to understand their motivations (Soltani & Navimipour, 2016) and the record of their transactions is the most prominent example of this knowledge (Wu et al., 2013); usually, this type of knowledge concerns customer requirements and backgrounds (Khodakarami & Chan, 2014).

3. **Knowledge from customers:** This type of knowledge is concerned with customer experiences and perceptions (Daneshgar & Parirokh, 2012). In other words, this type of knowledge refers to that which customers have of an organisation and the products and services that it offers (Gohary & Hamzelu, 2016). Knowledge from customers also helps service organisations to maintain service quality (Gebert, Geib, Kolbe, & Brenner, 2003). The interactions that occur with customers during service encounters are one of the best sources of this type of knowledge (Tseng & Wu, 2014). Overall, customer knowledge is vital to the customer knowledge management (CKM) approach, and knowledge from customers is deemed to be key to CKM (Gibbert et al., 2002). Gebert et al. (2003) argued that the experience of a customer with regard to a product or service represents the main source of knowledge from that customer and that the optimal time and place to gain this knowledge is at the service point, after delivery of the service. Based on the three dimensions of CKM, knowledge for customer is the result of knowledge about and from that customer (Daneshgar & Bosanquet, 2010); it also makes it possible to complete the cycle of the process of knowledge-sharing between an organisation and its customers.

Frontline Employees and Service Encounters

According to Melton and Hartline (2010), "frontline employees are employees of the service firm, who have regular contact with customers" (p. 413). In service organisations, frontline service employees are one of the major channels that link organisations and their customers (Coelho et al., 2018; Lages & Piercy, 2012). The frontline employees of service organisations are the link between customers and managements; furthermore, in many cases, a customer's experience with a service organisation will be limited to his or her interactions with its frontline employees (Bitner, Brown, & Meuter, 2000). Indeed, given that the majority of their work involves interacting with customers, frontline service employees act as boundary spanners between organisations and their customers (Coelho et al., 2018).

The interaction between the frontline service employees and customers is significant for the organisation and not just to deliver the services to customers, but it is also considered as one of the opportunities that help the organisations to understand their customers better through their feedbacks concerning organisation's services and products (Cambra-Fierro, Melero-Polo, & Vázquez-Carrasco, 2014). The position of the frontline employees as boundary spanners and their constant interaction with customers during service encounters gives them the ability to understand customer experiences and to serve as a good source of ideas concerning improving organisation services (Melton & Hartline, 2010). The face-to-face interaction between the customer and the frontline employees is at the heart of most service

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experiences (Fernández-Sabiote & Román, 2016). Moreover, frontline service employees represent the best source of information about customers, and they have been identified as the individuals within organisations who are best placed to understand customers' problems and to identify their needs (Lages & Piercy, 2012).

A number of scholars have noted that frontline service employees are considered to be valued sources with respect to customer feedback, be it positive or negative, and perceptions of service quality (Bowen, 2016; Hu, Parsa, Chen, & Hu, 2016). Also, frontline employees are considered as a valuable source for obtaining customer experience (Bolton, 2014). Based on marketing literature, an interaction between a customer and a frontline employee is referred to as a service encounter. Service encounters can occur in the form of face-to-face meetings, over the phone, or by Internet (Bitner et al., 2000). The interactions between the frontline employees of service organisations and customers can generate new tacit knowledge (Kumar, Dass, & Topaloglu, 2014). Such knowledge is related to customers' experience, ideas and problems (Taherparvar, Esmaeilpour, & Dostar,2014). Despite the fact that financial services' organisations can use digital channels such as websites (e.g. social media) and e-channels to effectively obtain customers knowledge and understand their experience, face-to-face direct interaction between customer and frontline employees during service interaction has been hailed as important source of not only explicit knowledge but also source of tacit knowledge (Fernández-Sabiote & Román, 2016). Besides, capturing and transforming customer knowledge depends on the absorptive capacity of the employees. Lowik, Kraaijenbrink, and Groen (2017) defined individual absorptive capacity as "an individual's activities to recognise, assimilate, transform and exploit new external knowledge" (p. 1323). According to the absorptive capacity theory, the cognitive structure at the individual level is crucial for assimilating and utilising external knowledge in the organisation. This is because the prior-related knowledge is considered an essential element for the organisational absorptive capacity (Cohen & Levinthal, 1990). Moreover, self-efficacy is considered a self- evaluation for individuals, and it functions through an individual's judgement of their capabilities to perform some action to gain some level of performance (Bandura, 1986). Furthermore, individuals with a high level of confidence in the value of their knowledge will be more willing to share this knowledge (Bock & Kim, 2002; Cabrera & Cabrera, 2005; Lin, 2006). Self-efficacy has a direct positive effect on knowledge sharing for individuals (Hsu, Ju, Yen, & Chang, 2007). Similarly, previous studies have supported self-efficacy's positive effect on the job performance of frontline employees in service organisations (Karatepe, Uludag, Menevis, Hadzimehmedagic, & Baddar, 2006). In addition, Lee Endres, Endres, Chowdhury, and Alam (2007) revealed that possessing high self-efficacy helps employees to share tacit knowledge.

Table 1 shows an overview of recent research that investigated the role of the frontline employees regarding the transfer of knowledge between organisation and customers (ordered chronologically). The table indicates that few studies examined the role of the frontline employees as knowledge brokers. Also, less attention was given to provide comprehensive formwork to explain knowledge brokering through frontline employees and the factors that influence this role.

Although prior studies have discussed the role of frontline employees in transferring knowledge from the customer to an organisation, the majority of attention has been paid to examining the willingness of frontline employees to share customer knowledge (e.g. Hu et al., 2016; Luria, Gal, & Yagil, 2009). Moreover, some studies have focussed on the role of frontline employees as knowledge brokers for the customers, mainly involving the transfer of

knowledge about the service or products to the customers (e.g. Berg et al., 2014; Verbeke et al., 2011). Hence, the frontline employees' role as knowledge brokers for the organisations still needs more empirical investigation. For example, Rapp et al. (2014) argued that salespeople today act as knowledge brokers for customers because they are acquiring knowledge of the customers' needs and then satisfying these needs by providing the products to them. Thus, this type of knowledge brokering focusses on external knowledge. However, we draw on the definition of Rapp et al. (2014) concerning the role played by frontline employees as knowledge brokers. As a result, we define the role of frontline employees who act as knowledge brokers during service encounters as involving the acquisition of knowledge from and for the customer in order to identify both expressed and unexpressed customers' needs in order to provide the product(s) and/or service(s) that can address such needs.

Table 1. Selected studies that discussed the role of frontline employees in transferring customer knowledge

Study	Objectives	Type of Study	The Main Findings
Anaza and Nowlin (2017)	This research examined antecedents of knowledge withholding among salespeople (B2B) and its impact on knowledge hoarding behaviour.	Empirical: survey instrument, 233 US B2B salespeople working in inside and/or outside sales.	Lack of incentives, personality and the organizational environment, indirectly influence knowledge hoarding behavior through withholding efforts.
Lam et al. (2017)	This article focused on the phenomenon of big data in order to offers an integrative conceptual framework that captures not only the benefits but also the costs of big data for managing the interaction between frontline employees and customers.	Conceptual article	Frontline employees can benefit from big data, extracting knowledge from such data does not discount knowledge derived from frontline employees' small data. Rather, combining and integrating the firm's big data with frontline employees' small data are crucial to absorbing and applying big data knowledge.
Hu et al. (2016)	In their study, they investigated the main factors that influenced the frontline service employees' willingness to transfer customer feedback during service encounters to their organisation.	Empirical: survey instrument, 332 frontline employees from major Taiwan restaurants.	There are some factors that effect the willingness of frontline service employee to share the feedback of customers after service delivery to their organisation. The service climate and perceived organisation support have a positive effect on the willingness of frontline service employees to share a negative customer feedback with their management. Moreover, the frontline employee who has an internal focus of control has more of a tendency to share negative customer feedback to their organisation compared to those who have an external locus of control.
Berg et al. (2014)	This study aimed to investigate the antecedents and consequences of a salesperson's internal knowledge brokering activities concerning new product selling.	Empirical: two studies, the sample in the first one is 144 salespeople and the second is 170 salespeople.	Salespeople with the DRD2 A1gene variant engage at significantly lower levels of internal knowledge brokering behaviour than salespeople without this gene variant, and as a result are less participate effectively in new product selling.

Table 1. Selected studies that discussed the role of frontline employees in transferring customer knowledge (Cont.)
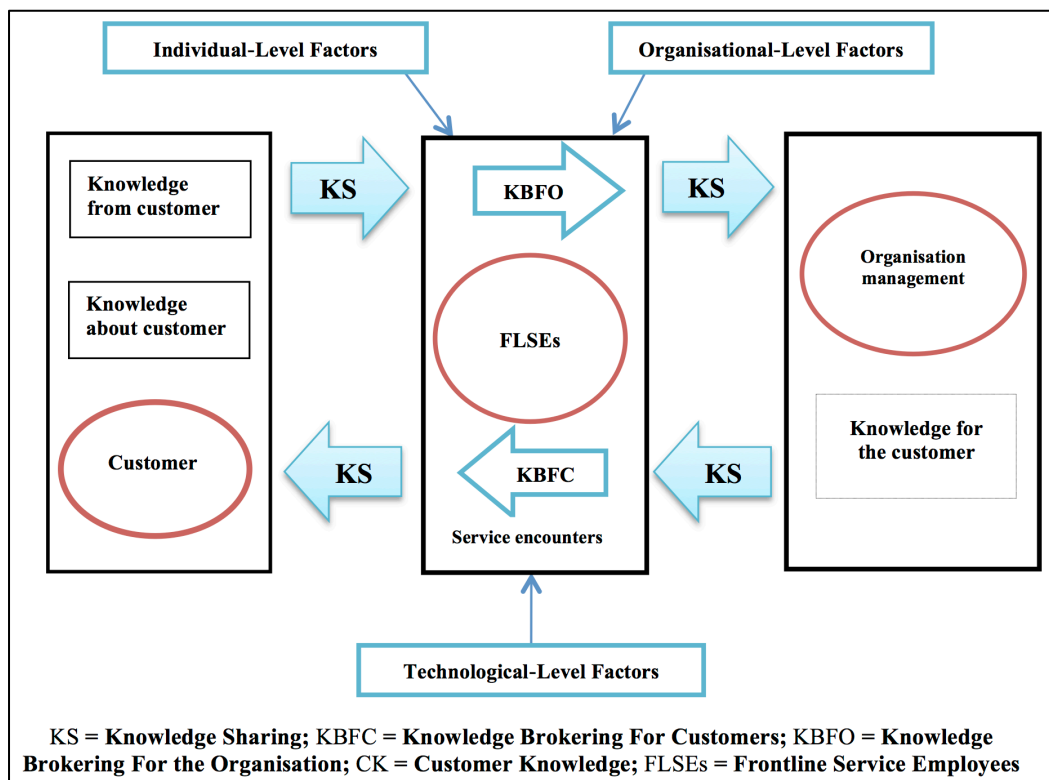
Study	Objectives	Type of Study	The Main Findings
Rapp, Bachrach, Panagopoulos, and Ogilvie (2014)	This research aimed to offer comprehensive empirical and conceptual critique of the Challenger Sales approach.	Review of literature and conceptual review	The finding of this research pointed out that salespeople today act as knowledge brokers for customers because they are acquiring knowledge of the customers' needs and then satisfying these needs by providing the products to them.
Lages and Piercy (2012)	The aim of this study was to investigate the individual and organisational factors that are considered influential factors on frontline service employees to generate ideas for service improvement.	Empirical: survey instrument, 740 frontline employees from fast-food outlets and restaurants in the UK.	The capability of the frontline employee to read the customer need is the primary factor that leads to the generation of ideas for service improvement. Also, there is no direct effect of perceived frontline employees and organisational support with regard to the generation of ideas for service improvement. However, when the frontline employee perceived organisational support, they were more willing to read customer needs and lower emotional exhaustion.
Ye et al. (2012)	The aim of this research was to understand the mechanism of capturing frontline employee knowledge which is generated during routine daily work and articulate this knowledge to update the knowledge base to improve performance through the frontline learning process.	Empirical: survey instrument, 398 frontline employees and 56 managers in US healthcare organisation.	The finding of this research pointed out that: (1) knowledge articulation mediates the conversion of knowledge generated in the frontlines into updated knowledge. (2) Updated frontline knowledge positively impacts customer and financial outcomes. (3) frontline employee workload hinders the transformational process except it is at a moderate level (inverted U-effect), while employee goal convergence bolsters it linearly.
Sousa and Coelho (2011)	This research aimed to investigate how personal values and the way employees respond to the organisation and the job impact on employee creativity.	Empirical: survey instrument, 266 bank employees in Portugal.	The empirical results of this research pointed out that personal values, organisational commitment, and customer orientation are essential drivers of the creativity of frontline employees.
Verbeke et al. (2011)	The drivers of sales performance.	Review of literature and meta-analysis.	The job of salespeople tends to be crucial for an organisation, especially when the salesperson becomes a knowledge broker who transfers knowledge to the customer. Thus, the salesperson needs cognitive conditions to act as a knowledge broker to absorb knowledge and transfer this knowledge to the customer.
Luria et al. (2009)	Focused on the factors that impact the willingness of frontline service employees to report customer complaints to managers. Moreover, tried to answer the question of why frontline employees decide to report or not report customer complaints to management.	Empirical: mixed methods, two qualitative studies (critical incident and extended interviews) and a quantitative study (survey instrument, 180 frontline service employees).	The organisational citizenship behaviour, service climate, and worker empowerment affected the willingness of frontline employees to report the customer complaints.

Theoretical Framework

This research utilises the organisational knowledge creation theory (Nonaka, 1994) to explain the frontline employees' contribution as knowledge brokers to the creation of new customer knowledge based on the interaction between the frontline employee, organisation and customers. This research argues that the interaction between the frontline employees and customers during service encounters as well as the interaction between frontline employees and their managers will create new tacit and explicit customer knowledge.

Moreover, this research proposes a conceptual framework to explain how frontline service employee act as knowledge brokers between the organisation and the customers during service encounters through sharing three kinds of customer knowledge. Furthermore, our model focusses on the individual, organisational and technological factors that might encourage or inhibit the frontline employees' success in fulfilling their knowledge-broker role. Figure 3 depicts the conceptual framework based on the CKM approach and several other models, such as the three types of customer-related knowledge (Wu et al., 2013), and internal knowledge brokering model (Cillo, 2005).

KS = **Knowledge Sharing**; KBFC = **Knowledge Brokering For Customers**; KBFO = **Knowledge Brokering For the Organisation**; CK = **Customer Knowledge**; FLSEs = **Frontline Service Employees**

Figure 3. Customer-Knowledge Brokering Through Frontline Employees During Service Encounters

The proposed factors that may affect the frontline service employees' ability to act as knowledge brokers have been drawn from the literature of knowledge-sharing due to the lack of studies discussing customer knowledge brokering through frontline employees. The literature review of knowledge-sharing suggested that there are three main sets of factors at three levels that influence of knowledge-sharing, namely, organisational-level factors, individual-level factors, and technological-level factors (e.g., Kukko, 2013; Lin, 2007 Riege, 2005; Yang & Wu, 2008).

Methodology

Because the academic knowledge of the role frontline employees as knowledge brokers between customer and organisation is limited, we employed a case study design. A case study research is considered an appropriate research strategy when there is a current phenomenon to be studied in its real setting (Yin, 2014). Jordan's service-oriented economy, combined with its developing nature, represents an excellent research environment for exploring the phenomenon of knowledge brokering through frontline employees.

The retail banks have been used as a context of this research because the banks are knowledge- intensive organisations (Motamarri et al., 2017). Also, nowadays the job of frontline bank employees includes less routine duties and they have the opportunity be more creative (Sousa & Coelho, 2011). Moreover, the frontline bank employees have to possess adequate knowledge about the service, product, and organisation in order to improve service quality (Pattni, Soutar, & Klobas,2007). Banks are seen to be high-contact service organisations, with frontline bank employees dealing with many customers through highly personal interactions.

We conducted initial contact with potential case study organisations, and further sent invitation letters via email to 21 commercial banks in Jordan, followed by a telephone call to explain the aim of the research and in the hope of gaining access to the banks. We have received the approval of three of the top five banks in Jordan. What is more, the snowball sampling technique was adopted for the selection of participants in each bank after conducting the first interview with one manager from top management; this was decided in mind of ensuring access to the bank, with other participants recommended. Moreover, the number of informants was identified during the interview progress, with additional interviews not carried out when data saturation was reached and when no additional themes could have emerged from new interviews.

Data Collection

In total, 30 semi-structured interviews with different informants (i.e. managers & employees) from three top commercial banks in Jordan (X, Y, Z) were carried out. All the interviews were face to face in these organisations, six conducted with front-line employees, 17 interviews done with employees who worked both on the front line and as managers, such as sales and service manager, and seven conducted with managers. The interviews lasted between 20 and 80 minutes and all audio interviews were transformed to written text through transcribing each interview and then translating the interview text from Arabic to English. Thereafter, a back translation technique was applied through an independent assistant to test the overall accuracy of translation, as recommended by Douglas and Craig (2007). Thus, in this type of interview, we prepared some questions for the interview, while we asked various probing questions depending on the discussion and interviewee answers.

Data Analysis

Nevertheless, the process of the qualitative data analysis is an interactive process involving three overlap activities: data reduction, data display, and conclusion drawing and verification (Miles & Huberman, 1994). The qualitative content analysis was used in this work to investigate the phenomena of brokering customer knowledge during service encounters and the role of frontline bank employees as knowledge-brokers. Hence, content analysis has been used widely in analysing interview transcripts in the case study research (Patton, 2002). In

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addition, qualitative content analysis has been used to gain more in-depth meaning of the qualitative data. Maylor and Blackmon (2005) recommend the use of qualitative content analysis when the researcher's emphasis is placed on searching out underlying themes. The qualitative content analysis process includes three main stages: data preparation, data organisation, and findings reporting (Elo & Kyngäs, 2008). However, in this research, we followed Zhang and Waltemath (2009) eight steps of qualitative content analysis process in order to analyse our research data. Therefore, we started with identifying open codes and then axial coding in order to generate central themes regarding the role the frontline employees as knowledge brokers between organisation and customers, as well as to identify the main factors that influence this role. In this research, a within-cases analysis was applied for each case in order to extract meaning from the categories or themes at the level of the case, as Yin (2014) recommended prior to conducting a cross-case analysis. Thus, in this research, attention was directed towards explaining the procedures of the qualitative content analysis used to analyse the data, with a cross-case synthesis following the within-cases analysis carried out in order to represent the findings of the research. Moreover, in this study, NVivo 11 was used to perform a systematic analysis and assist in organising the process of coding the transcribed data stemming from the semi-structured interviews.

Findings

The following are the findings of each of the three RQs posed by this research study.

RQ1. How does customer knowledge transfer between customer and organisation through frontline employees as knowledge brokers during service encounters?

The frontline employees in the three banks contribute to knowledge brokering through sharing customer knowledge between the organisation and the customers during service encounters, while some of them share knowledge about the customer, knowledge for the customer, and knowledge from the customer. Table 2 shows the cross-case empirical findings from the three cases (X, Y, & Z) relating to the role of the frontline employees as knowledge brokers between organisations and customers during the service encounters.

Table 2. Knowledge Brokering During Service Encounters

Case	Knowledge brokering for the customer (KBFC)	Knowledge brokering for the organisation (KBFO)
Case X	Frontline employees in X bank are highly professional, and they usually transfer knowledge about the bank's services and products to the customers during service encounters, and they try to help the customers to understand the advantages of services and products.	X bank's frontline employees are keener to transfer customer feedback to bank management in order to eliminate the problems that reduce their achievement of targets required of them.
Case Y	The role of frontline bank employees at Y bank has shifted from the traditional one to that of acting as advisors who provide customers with all of the knowledge they require about services and products during service encounters.	The transfer of knowledge from the customer to the organisation during service encounters remains inadequate at Y bank, and it is still an individual initiative.
Case Z	Z bank's frontline employees play the traditional role in service encounters; this role comprises providing the service and products for the customer and transferring the knowledge for the customer about the services and products.	The frontline bank employees transfer knowledge about the customer, and in rare cases, they capture and share knowledge from the customer during service encounters.

RQ2. What are the main factors that influence frontline employees' roles as knowledge brokers between organisation and customers?

Table 3 shows the cross-case empirical findings from the three cases (X, Y, Z) concerning to the main factors that influence knowledge brokers through the frontline employees during the service encounters.

Table 3. Factors Impacting Brokering Customer Knowledge Through Frontline Employees During Service Encounters

Factors Group	Main Factors	Case X	Case Y	Case Z
Organisational –level	Organisational Support	Lack of training programs for frontline employees in terms of capturing and transferring knowledge from the customers during service encounters . Lack of incentives (moral & financial) for the frontline employees to transfer knowledge from the customers to the organisation. When frontline bank employees perceive themselves as having organisational support, they will be more active when it comes to engaging in knowledge brokering during service encounters.	An absence of a rewards system when it comes to transferring knowledge from customers to the organisation. A lack of engagement on the part of frontline bank employees in the new product and service development process. Having a suitable training program in place will assist frontline bank employees to act as knowledge brokers for both customers and the organisation.	There is a lack of rewards for frontline bank employees when they transfer knowledge from the customers during service encounters. There is inadequate training that empowers frontline bank employees to capture and transfer knowledge from the customer to the organisation. There is a lack of appreciation of the role that frontline bank employees play as a source of customer knowledge and their lack of involvement in the new product and service development processes.
	Organisational Culture	Mutual trust between frontline bank employees and their manager encourages them to engage in knowledge brokering during service encounters. Having an organisational learning culture encourages frontline bank employees to act as knowledge brokers.	Having a knowledge-sharing culture would help frontline bank employees to act as knowledge brokers. Having a culture that supports learning will encourage frontline bank employees to act as knowledge brokers. Having healthy levels of internal competition among employees encourages frontline bank employees to serve as knowledge brokers in two distinct ways (from organisation to customers & from customers to organisation).	Having an organisational culture that supports knowledge sharing, trust within the organisation, and learning encourages frontline bank employees to engage in knowledge brokering during service encounters in both directions (i.e. from the customer & organisation).
	Organisational Structure	Organisational structure influences knowledge brokering by frontline employees, as high levels of centralisation,standardisation, and formalisation inhibits knowledge brokering on the part of frontline employees. This is due to the fact that knowledge brokering requires high levels of flexibility and direct communication with the top management.	The hierarchical structure of Y bank, which is reflected through high levels of centralisation and formalisation, makes the flow of customer knowledge from the frontline employees to top management more complicated as result of multiple layers, and it inhibits frontline employees from engaging in knowledge brokering for the organisation.	Due to the hierarchical organisational structure, middle management plays a critical role in encouraging or impeding frontline bank employees from serving as knowledge brokers during service encounters.

Table 3. Factors Impacting Brokering Customer Knowledge Through Frontline Employees During Service Encounters (Cont.)

Factors Group	Main Factors	Case X	Case Y	Case Z
Organisational – level	Workload	The high workloads during service encounter influence knowledge brokering by frontline bank employees.	High and low workloads influence successful knowledge brokering during service encounters, while moderate workloads encourage frontline bank employees to act as knowledge brokers.	A lack of time for the frontline bank employees during services encounters influence capturing and transferring customer knowledge for the organisation.
Individual- level	Absorptive Capacity	Lack of prior customer knowledge, adequate experiences, and the ability to understand customer knowledge during service encounters prevent frontline employees from engaging in knowledge brokering for and from customers.	The level of experience of a frontline employee is a fundamental factor in terms of improving his or her ability to serve as a knowledge broker for the customer. Having adequate knowledge of services, products, and the organisation is considered to be a prerequisite for knowledge brokering from the customer. The ability to understand the knowledge obtained from a customer affects the knowledge-brokering process during a service encounter.	Having prior knowledge that customers require concerning services and products during service encounters and adequate job experience is considered to be vital to successful knowledge brokering for both customers and the organisation. The capability of frontline employees to understand the three kinds of customer knowledge will help them to contribute to knowledge brokering during service encounters.
	Self-efficacy	Frontline bank employees with low self-efficacy are not able to act as knowledge brokers between customers and organisations during service encounters.	A frontline employee with a high level of self-efficacy is better able to act as knowledge broker between a customer and the organisation during a service encounter.	A low level of self-efficacy on the part of frontline bank employees impedes knowledge brokering during the service encounters because the success of knowledge brokering depends on the willingness of these employees to share customer knowledge between the organisation and customers.
	Lack of Awareness	A lack of awareness on the part of frontline employees with regard to the value of knowledge from the customers hinders knowledge brokering during service encounters.	A high level of attention is paid by frontline employees to obtaining knowledge about the customers and providing knowledge for the customers during the service encounters, while less attention is paid to obtaining knowledge from the customers, such as information concerning their experiences with the organisation.	Frontline bank employees have a low level of awareness of the importance of knowledge from the customer for the organisation; this impedes knowledge brokering during service encounters.

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Table 3. Factors Impacting Brokering Customer Knowledge Through Frontline Employees During Service Encounters (Cont.)

Factors Group	Main Factors	Case X	Case Y	Case Z
Technological–level	Bank's information system	The bank's information system does not support frontline bank employees when acting as knowledge brokers for the organisation.	The bank's existing information system does not assist frontline bank employees to capture and store the knowledge obtained from customers during service encounters. A lack of integration between the bank's information systems limits the ability of frontline bank employees to act as knowledge brokers.	The standard information system does not support knowledge brokering by frontline employees during service encounters.
	CRM system	Having a full CRM system would improve knowledge brokering during service encounters, and support frontline bank employees to act as knowledge brokers in both ways.	Implementing a CRM system will assist frontline bank employees to act as knowledge brokers during service encounters.	The absence of a CRM system hinders frontline bank employees from engaging in the two forms of knowledge brokering during service encounters.
Knowledge –level	Tacit customer knowledge	The difficulty experienced in capturing and sharing tacit customer knowledge during service encounters impedes knowledge brokering by frontline bank employees.	It is quite often the case that the knowledge from the customer is tacit and that frontline bank employees face difficulties when capturing and sharing this knowledge. This impedes knowledge brokering from the customers to the organisation.	The highly tacit nature of customer knowledge during service encounters impedes knowledge brokering from the customer to the organisation.
	Explicit customer knowledge	Lack of access to explicit knowledge for the customer during service encounters impedes knowledge brokering for and from customers by frontline bank employees.	The majority of the knowledge about the customer and for the customer is explicit knowledge, and not all of this knowledge is stored in the bank's system during service encounters.	The complexity of the explicit customer knowledge, such as knowledge for the customer (e.g. knowledge concerning new service and products) that exists in the bank's information system impedes knowledge brokering for both the customer and the organisation.

Discussion

The two processes of knowledge brokering during service encounters are integrative, and we find that the frontline employees' success in knowledge brokering for the organisation first depends on the success of the knowledge brokering for the customers. In this vein, the three banks focussed on capturing knowledge about the customers and providing knowledge for the customers during service encounters, while obtaining knowledge from the customers received less attention from the three banks' management, particularly at Z bank. Banks X and Y designed some initiatives aiming to encourage knowledge brokering through the frontline employees from the customer to the organisation. However, brokering the customer knowledge through the frontline employees was not fulfilled as it should be because of certain barriers that inhibit this process. These findings are consistent with the study of Cadwallader, Jarvis, Bitner, and Ostrom (2010), which demonstrated that most often frontline

employees are serving as knowledge brokers for the customers through introducing customers to new service innovations. Also, they argue that the boundary-spanning role of the frontline employees between organisation and customers give them the opportunity to act as barrier or catalysts to customer awareness concerning acceptance and adoption of the service innovation. Furthermore, it is consistent with work of Lam, Sleep, Hennig-Thurau, Sridhar and Saboo (2017) who suggested that service organisations still have a problem with capturing customer knowledge precisely with offline services. Collectively, data from the three organisations revealed that there are four sets of factors that affect this role (organisational –level, individual-level, technology-level, & knowledge –level).

Organisational-level factors: Include four main factors. First, organisational support such as system rewards, training, appreciation of role frontline employees as a source of customer knowledge play critical role with respect to encourage or impede knowledge brokering through frontline employees. This finding is consistent with the recent empirical results offered by Anaza and Nowlin (2017), which affirmed that the lack of organisational rewards, including recognition and monetary, impede frontline employees in sharing their market knowledge to the organisation. Second, organisational culture either encourages or inhibits the frontline employees in serving as knowledge brokers for the organisation. Similar findings have been found in prior studies, which have suggested that the organisational culture impacts employees' knowledge-sharing behaviour, and it may either increase or decreases their willingness to share knowledge within the organisation (e.g., Lin, 2008; Seba, Rowley, & Delbridge, 2012). Third, organisational structure; the analysis of the data from the three banks suggested that hierarchical organisational structure inhibited customer knowledge brokering for the organisation through the frontline employees during the service encounters. The hierarchical structures in the three banks which show its features through high centralisation and formalisation is made the flow of customer knowledge from the frontline employees to the top management more complicated through multiple layers. The empirical findings of this research are in line with previous research of Kim and Lee (2006) which found that the hierarchical organisational structure had a negative impact on the employee's knowledge-sharing behaviour. Fourth, workloads;this study indicates that a moderate frontline workload during service encounters helps the frontline employees to fulfil the role of knowledge brokering between the organisation and the customers, while heavy or light frontline workloads hinder success in this role. Frontline employees, through their interaction with a large number of customers, are able to learn knowledge from the customer, and they will be able to provide knowledge for the customers during the service encounters. The findings of this research support the study of Ye et al. (2012), who argued that heavy or light frontline workloads hinder frontline learning mechanisms, while moderate frontline workloads foster frontline learning.

Individual-level factors: Comprise of three sub-factors: absorptive capacity, self-efficacy, and awareness about the importance customer knowledge. The empirical evidence of this research is consistent with many previous studies, which have found individuals with high self-efficacy to be more willing to contribute their knowledge. For example, Lin (2007) considered self-efficacy as source of self-motivation that encourages the individual to engage in knowledge-sharing. Similarly, Hsu et al., (2007) found self-efficacy to positively influence knowledge-sharing behaviour. Moreover, Marrone, Tesluk, and Carson (2007) argued that self-efficacy is necessary for boundary-spanning behaviour, and it provides the employees with confidence in their capabilities to fulfil the role of boundary-spanning. The majority of participants argue that the frontline employees possess a higher awareness of the value of the knowledge about the customer and knowledge for the customer compared to the knowledge

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from the customer. Prior studies have suggested that low awareness of the value of possessed knowledge comprises one of the main barriers for sharing knowledge within the organisation (e.g., Kukko, 2013; Riege, 2005). Moreover, it is found that the frontline employees possessing high levels of absorptive capacity are more able to work as knowledge brokers for the customers (to obtain knowledge from the organisation and provide knowledge for the customer) and then for the organisation (to obtain knowledge from the customers and then transfer this knowledge to the organisation). These findings are also consistent with the study by Parjanen, Melkas, and Uotila (2011), which suggested high levels of absorptive capacity help knowledge brokers to bridge the knowledge gap.

Technological-level factors: Information systems and CRM systems play a critical role in the creation and sharing of customer knowledge within the organisations. Generally, the findings of this inquiry are consistent with many of the previous studies that have focussed on the impact of information technology on employees' knowledge-sharing capabilities (e.g., Kim & Lee, 2006; Lin, 2007; Seba et al., 2012). These findings are also in line with other studies that have considered that lack of appropriate information systems to be a barrier to sharing knowledge within the organisation (e.g., Kukko, 2013; Riege, 2005). Also, the findings of this research are in line with previous studies that have highlighted the importance of CRM systems for supporting customer-knowledge acquisition (Xu & Walton, 2005) and customer-knowledge creation (Khodakarami & Chan, 2014).

Knowledge-level factors: Nature of customer knowledge, namely tacit or explicit has influence the frontline employees to act as knowledge brokers between organisation and customers. The findings of this research are also in line with prior studies that have stressed the difficulty of coding and sharing tacit customer knowledge at the individual level. For example, Ye et al. (2012) argued that most of the knowledge generated during service encounters is tacit knowledge. Zhang, Wu and Cui (2015) demonstrated that understanding customer needs is tricky, because quite often, it is tacit knowledge. Furthermore, Wang (2015) argued that employees face challenges in sharing customer knowledge because most of the customer knowledge possessed by employees is tacit knowledge. However, the results of the evidence-based analysis of the multiple case studies summarised in the revised framework (see Figure 4) suggests that the knowledge brokering engaged in by frontline employees during service encounters is affected by four sets of factors. Hence, the findings lead to the identification of four main sets of factors that can facilitate or impede knowledge brokering during service encounters of frontline bank employees, namely organisational-level factors (organisational culture, organisational structure, organisational support, and workload), individual-level factors (absorptive capacity, self-efficacy, & low awareness of the importance of knowledge from the customers), technological-level factors (a bank's information system and/or the lack of a CRM system), and customer knowledge-level factors (tacit or explicit). Moreover, it appears that the process of knowledge brokering during service encounters can be divided into two types: knowledge brokering for the customer and knowledge-brokering for the organisation. Furthermore, the success of knowledge brokering for an organisation largely depends on the success of knowledge brokering for customers.

Overall, the role of frontline employees as knowledge brokers still facing many barriers such as lack of organisational support, a corporate culture that does not support knowledge-sharing and learning, and high workload. Additionally, barriers at individual-level such lack of awareness of frontline employees about the importance of customer knowledge, lack of self-efficacy, and low absorptive capacity can hinder knowledge brokering during service encounter.
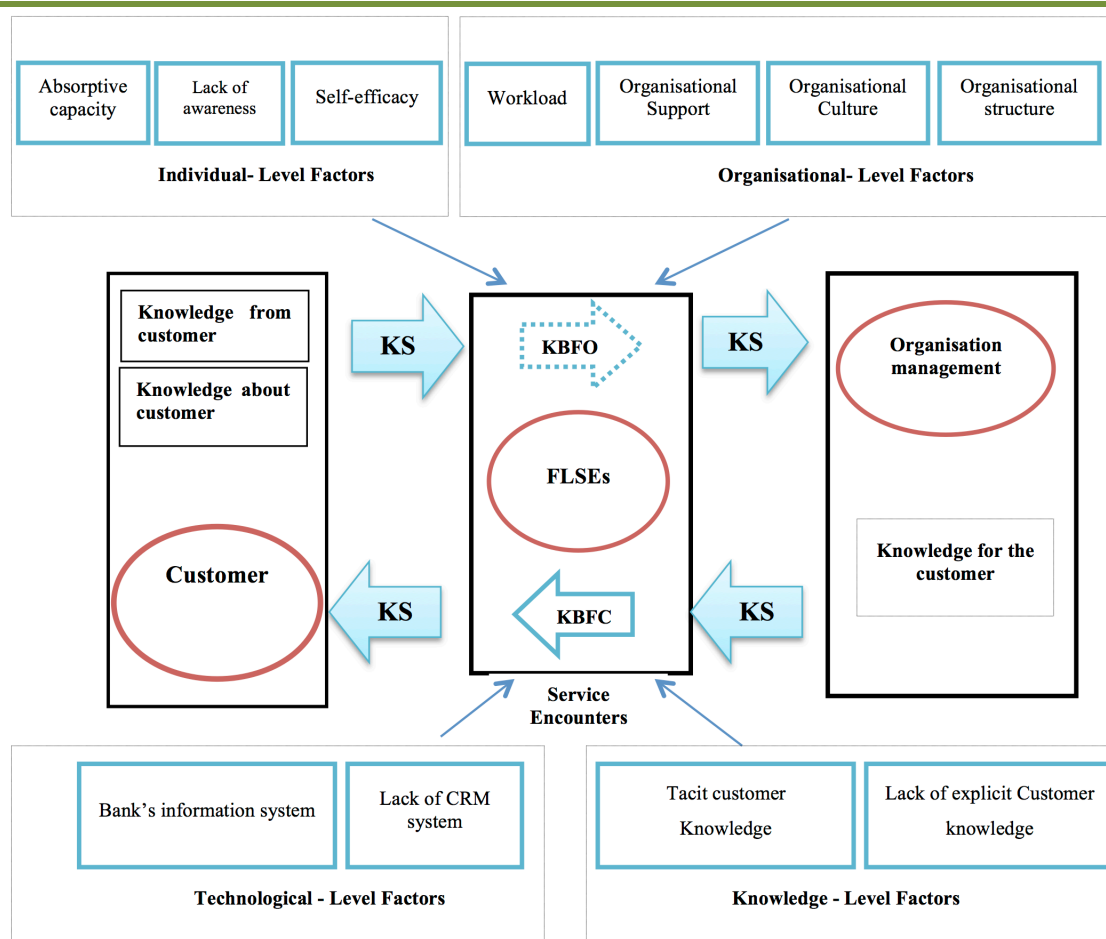
Figure 4. Customer-knowledge brokering through frontline employees during the service encounters

Managerial Implications

The findings of this research suggest that organisational support is critical for encouraging the frontline employees to act as knowledge brokers for the organisation. Hence, the banks' management must recognise the frontline employees as a source of customer knowledge and involve them in the early stages of the new service development process. Moreover, the banks' management needs to provide adequate training that helps the frontline employees to capture and share knowledge from customers. In addition, the bank managers need to link a system that rewards frontline employees for their contribution of transferring knowledge from the customer to the organisation, because the lack of rewards comprises one of the main barriers that inhibit frontline employees in acting as knowledge brokers to the organisation.

The empirical evidence of this research reveals that the frontline employees' potential absorptive capacity plays a vital role with respect to helping them act as knowledge brokers for the customers and then for the organisation. Thus, the bank management has to improve the absorptive capacity of their frontline employees in order to help them to understand knowledge from the customers through providing the frontline employees with all of the knowledge for the customers that they require during service encounters. In addition, the results of this research stress that the organisational culture, and knowledge-sharing culture in particular, has a significant influence on customer-knowledge brokering through frontline

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employees. In this vein, the bank's management needs to support a knowledge-sharing culture within the organisation, both formally and informally, in order to encourage knowledge brokering through frontline employees. Additionally, the findings of this research reveal that a hierarchical organisational structure has a negative impact on the success of knowledge brokering through frontline employees during service encounters because the multiple layers impede the flow of customer knowledge between frontline employees and top management. Hence, having an open communication channel between top management and frontline employee helps to share customer knowledge between frontline employees and top management, and this encourages knowledge brokering during service encounters.

This study suggests that high and low workloads during service encounters hamper knowledge brokering through the frontline employees, while a moderate workload is considered the best setting for successful knowledge brokering during service encounters. For that reason, the bank management needs to appoint an adequate number of frontline employees in order to keep the workload at a moderate level, and they need to encourage the customers to use online and mobile services that decrease workload during service encounters. Furthermore, this study highlights the importance of CRM systems for helping frontline employees to act as knowledge brokers because CRM systems provide full knowledge about and for the customers during service encounters, and this will help frontline employees to focus more on acquiring knowledge from the customers. The bank management needs to adopt a full CRM system in order to maintain a long relationship with customers, and using a CRM system will reduce workload during service encounters through providing full prior customer knowledge that the frontline employees need during service encounters.

Conclusions

The interpretation of the data that were collected concerning the three cases by means of the semi-structured interviews suggested that knowledge brokerage through frontline bank employees during service encounters is still in a state of infancy. The study's findings suggest that frontline employees contribute to knowledge brokering during service encounters by transferring the three types of customer knowledge, namely knowledge about, for, and from customers. Moreover, the frontline employees at these three organisations tend to function more as knowledge brokers for customers than for their organisations during service encounters. In addition, the majority of the interviewees indicated that frontline employees act as knowledge brokers who transfer knowledge about and for customers; however, with regard to their role as knowledge brokers for organisation is still not successful because of many barriers.

The aim of this research was to explore the role of frontline employees as knowledge brokers during the service encounter, as well as to identify the most important factors that influence this role. This study contributes to the literature of knowledge management by presenting a conceptual framework that illustrates the process of knowledge brokering during service encounters, where the main factors impact the role of frontline service employees as knowledge brokers. This study also provides a set of managerial implications to keep in mind for achieving a better understanding of the influential factors inherent in establishing knowledge brokering and the process carried out when seeking to succeed in knowledge brokering during frontline bank employees' interactions in regards to service encounters.

Limitations and Further Research

This research offers novel contributions to the understanding of knowledge brokering during service encounters, but it is subject to a number of limitations. These limitations stem from three sources, with the first being the qualitative method adopted to collect data and the criticisms that have been associated with this method, such as bias in the interpretation of research data. The second concern is related to the direct link between customers and management was not controlled-information provided by customers to management utilising IS, or CRM might have an impact on directives, workload, reward systems, etc., imposed by management on frontline employees.The third concerns the generalizability of the results of this study. The context of this research is Jordan, a developing country, and this research focused on businesses in the banking sector as a type of service organisation. However, we recommend that future studies use the quantitative method to collect data; in addition, the focus should be on the customer's perspective when it comes to the role played by frontline employees as knowledge brokers.

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