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Organizational ambidexterity and customer relationship management: A cycle of virtue

Carla Curado[1] | Mírian Oliveira[2] | Marco Antunes[3]

[1] Advance/CSG ISEG, Universidade de Lisboa, Lisbon, Portugal

[2] Advance/CSG, Escola de Negócios, Pontifical Catholic University of Rio Grande do Sul (PUCRS), Porto Alegre, Brazil

[3] Instituto Superior de Economia e Gestao, Universidade de Lisboa, Lisbon, Portugal

Correspondence
Carla Curado, Advance/CSG ISEG, Universidade de Lisboa, Rua Miguel Lupi, 20, 1249-078 Lisboa, Portugal.
Email: ccurado@iseg.ulisboa.pt

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Ambidexterity is often addressed in literature at the strategic organizational levels. This article focuses at customer relationship management (CRM) level. This study provides an inductive qualitative research that is solution focused and contributes to management theory within a paradigm of design sciences. Results suggest the existence of a cyclical approach to customer knowledge management following a sequence towards integration and fit, what constitutes a theoretical contribution. Findings show different exploitation and exploration contribution levels across the continuous spiral interactions illustrating how to develop ambidexterity at CRM level. The research manages to reconcile academic and practitioner perspectives in the theory building and thus offering a model that is both well-grounded in academic terms and relevant to practical needs.

1 | INTRODUCTION

Organizations consider their knowledge a valuable resource (Sedighi, Mokfi, & Golrizgashti, 2012). Thus, they should develop, store, organize, distribute, and integrate the acquired knowledge in order to support decision making (Akhavan & Heidari, 2008; Sedighi et al., 2012). According to March (1991), knowledge management (KM) can assume two different strategies: reusing preexisting solutions (exploitation) or creating new ones (exploration). Exploratory and exploitive initiatives that underlie ambidexterity are likely to affect a firm's performance (Simsek, Heavey, Veiga, & Souder, 2009).

Customer relationship management (CRM) influences the levels of customer satisfaction and loyalty to firms that affects their financial results (Kim & Kim, 2009). Although both KM and CRM focus on knowledge, CRM focuses on the knowledge that is specifically related to customers. Scholars argue that the KM–CRM integration is a strategic issue that strongly influences the long-term competitiveness of organizations (Liew, 2008; Xu & Walton, 2005).

Theoretically, customer KM (CKM) results from the integration of KM and CRM (Sedighi et al., 2012). However, there is no evidence of how such an integration takes place. Many CRM studies seem to make an implicit assumption about the reflexivity of knowledge, but none of them has clearly addressed the possibility of CRM serving as a support for ambidexterity. This research concerns such an integration process and assesses the balance between the two KM strategies (exploitation and exploration) during the process that results in CKM. We contribute to the KM literature by proposing an integration mechanism that sustains ambidexterity in CRM.

We aim to uncover how ambidexterity contributes to CKM. The way in which exploitation and exploration interact to support performance for short- and long-term success remains perplexing (Gaim & Wåhlin, 2016). Thus, we use CRM to identify such mechanisms and show their contribution to CKM. The manuscript is structured as follows: The next section is devoted to the theoretical background, followed by the presentation of the method. The subsequent sections report the empirical results. The end of the article offers conclusions, limitations, and suggestions for future research.

2 | LITERATURE REVIEW

2.1 | Knowledge management

KM is a systematic process that allows organizations to handle knowledge, information, and data to identify, select, organize, disseminate, and transfer knowledge and skills (Allameh, Shahin, & Tabanifar, 2012; Sedighi et al., 2012). KM consists of a structured approach towards creating, codifying, using, gathering, exchanging, measuring, and retaining knowledge to create value (Zehrer, 2011). Knowledge constitutes a prerequisite for survival (Sedighi et al., 2012) because it can enhance the efficiency and reliability of goods and services that heightens customer satisfaction (Sadidi, 2011) and ensures the long-term durability of firms (Akhavan & Heidari, 2008).

There are three essential elements in KM: people, processes, and technology (Carrión, González, & Leal, 2004). Regarding people, personal satisfaction and compensatory policies contribute to improving KM (Carrión et al., 2004). Regarding processes, sequential routines such as the acquisition, recovery, transfer, application, and protection of knowledge add to KM (Carrión et al., 2004). Regarding technology, advances in information systems support KM (Benbya & Belbaly, 2005) through the use of structures (Carrión et al., 2004) and software that support achieving a competitive advantage (Allameh et al., 2012; Moreno & Mélendez, 2011). Croteau and Li (2003) consider KM capabilities that involve information-based, technology-based, and culture-based capabilities.

Firms need to assign their resources (Levinthal & March, 1993) and skills (Stettner & Lavie, 2014) to both exploration and exploitation, because organizational success depends on the balance between the two (Liu, 2006). The harmonization of exploration and exploitation and reaching complementary effects creates ambidexterity (Stettner & Lavie, 2014). Ambidextrous firms can reach higher performance (Simsek et al., 2009). The sequential essence of the exploration–exploitation model (Rothaermel & Deeds, 2004) determines that exploitation cannot take place without prior exploration (March, 1991; Rothaermel & Deeds, 2004). The exploitation of a current capability means its previous development through exploration (Rothaermel & Deeds, 2004). KM capabilities positively influence the CRM effect (Croteau & Li, 2003). Early studies on KM use an extension to pay more attention to CRM as a way to identify ambidexterity.

2.2 | Customer relationship management

CRM is the way in which firms systemically manage the knowledge they obtain from their customers to support longer lasting and more profitable relationships for the firm (Valsecchi, Renga, & Rangone, 2007). CRM is a practice (Akhavan & Heidari, 2008) to identify and keep strategically important customers (Ranjan and Bhatnagar, 2011). CRM comprises four dimensions: technology, processes, customer orientation, and organization (Kim & Kim, 2009; Mendoza, Marius, Pérez, & Grimon, 2007).

The research considers technology as a performance requirement for CRM (Abdul, Basri, & Shaharuddin, 2013; Akroush et al., 2011; Ata & Toker, 2012) because its use improves the efficiency and effectiveness in the relationship with the target audience (Bentum & Stone, 2005; Moreno & Mélendez, 2011). The appropriate technology optimizes the business processes involved in customer relations, and although necessary, it is not sufficient in of itself for successful CRM (Moreno & Mélendez, 2011).

CRM processes refer to the management of customer information to ensure long-term relationships (Jayachandran, Sharma, Kaufman, & Raman, 2005). The adoption of a cross-functional approach to CRM (Payne & Frow, 2006) and the consideration of CRM as a process-oriented approach position it at a strategic level (Payne & Frow, 2005). CRM involves both exploration and exploitation (Wilson, Daniel, & McDonald, 2002).

A customer-orientated strategy is essential for the successful implementation of CRM (Bentum & Stone, 2005). A customer-orientated organizational culture has a positive impact on CRM (Essawi & Aziz, 2012). A customer-orientated strategy is crucial to marketing and financial performance, to improving internal processes, and to learning and growth (Abdul et al., 2013; Akroush et al., 2011).

The CRM organization encompasses three levels: analytical, operational, and strategic (Sedighi et al., 2012; Su, Chen and Sha, 2006). Analytical CRM provides market information and conducts effective targeting (Sedighi et al., 2012, p. 333). Operational CRM guarantees customer retention and knowledge transfer to customize the relationships with customers (Sedighi et al., 2012). Strategic CRM enables firms to create a customer-focused business that increases value (Sedighi et al., 2012).

2.3 | KM and CRM

The most important sources of knowledge on customers are relational databases that are associated with the firm's relationships with its customers (Yakhlef, 2002). Considering this association, we present earlier findings to help build the focus of this research: the distinct argument of CRM serving as a support for ambidexterity.

2.3.1 | Requirements for KM and CRM integration

KM and CRM both imply knowledge sharing. The antecedents of organizational ambidexterity (Simsek et al., 2009) are closely related to the requirements for KM and CRM integration. Considering the organizational level, there are knowledge sharing pillars that support such integration: information technology, individual attitudes and willingness, and leadership and organizational culture. Information technology can be used to facilitate the coding, integration, and dissemination of organizational knowledge (Lin, 2007).

Information technologies such as data mining, data warehouse, or CRM software enable firms to obtain, manage, process, and interpret customer information more conveniently and efficiently (Minami & Dawson, 2008).

The attitude and willingness of individuals are key factors in facilitating and supporting knowledge sharing skills among employees (Yang & Chen, 2007). KM competencies make deliberate use of the firm's knowledge to gain a competitive advantage (Luthra, 2008). Competence corresponds to the explicit and implicit knowledge that is not separated from the individual (Sadidi, 2011).

Leadership supports the creation of a knowledge-based culture by promoting its sharing (Green, 2008; Pasher & Ronen, 2011). Leadership and a collaborative culture are strongly linked to knowledge sharing (Yang & Chen, 2007). To develop a KM system, organizations need a culture that supports knowledge sharing and value creation and to encourage its use (Yazdani, Yaghoubi, & Giri, 2011).

2.3.2 | The process of integrating KM and CRM

The ambidexterity in firms involves two organizational strategies (exploitation and exploration; Simsek, 2009) that are involved in the process of KM and CRM integration. Integrating KM and CRM results in CKM (Sedighi et al., 2012). CKM involves the flow of different types of customer-related knowledge: knowledge about the customer, knowledge cocreation, knowledge from the customer, and knowledge for the customer (Sadidi, 2011; Wilhelm, Gueldenberg, & Güttel, 2013).

Knowledge about the customers enables firms to target them more effectively (Zanjani, Rouzbehani, & Dabbagh, 2008), and it includes demographics and patterns of consumption behavior and preferences (Sadidi, 2011; Wilhelm et al., 2013). Knowledge about the customers builds on data configurations and is efficacy driven that thus serves exploration.

In knowledge cocreation, customers actively collaborate in developing the products offered by the firm (Wilhelm et al., 2013). This kind of knowledge implies a high level of consumer participation in customizing a product or service (Kristensson, Matthing, & Johansson, 2008). Knowledge cocreation is the essence of exploration: It generates new knowledge.

Knowledge from the customer enables firms to enhance the performance of products and services (Zanjani et al., 2008). The customers have an important role in creating value by providing ideas and feedback to improve products and services. The firm must collect such knowledge (Sadidi, 2011; Wilhelm et al., 2013) to allow improvements and efficiency, thus serving exploitation.

Knowledge for customers is the one that customers must access to better perceive the products and services offered to them (Zanjani et al., 2008). It flows from the firm to its customers to meet their information needs (Salomann, Dous, Kolbe, & Brenner, 2005; Wilhelm et al., 2013). Knowledge for customers reuses preexisting knowledge by sharing data on the firm–customer relationship, thus serving exploitation.

The four types of knowledge serve organizational ambidexterity: Knowledge about the customer and knowledge cocreation are related to exploration, whereas knowledge from the customer and knowledge for the customer are associated with exploitation.

2.3.3 | The results from integrating KM and CRM

The results from integrating KM and CRM are twofold and include the reaction from customers and returns. Outcomes (Simsek et al., 2009) or consequences of organizational ambidexterity (e.g., financial performance; Simsek, 2009) are closely related to the results from integrating KM and CRM. The reactions of customers are visible in the levels of satisfaction and loyalty, whereas returns are visible at the decision-making level and the capacity for innovation. Consequently, they impact the profitability of the firm.

KM comprises an essential part of CRM. Thus, its integration enables firms to detect opportunities in the markets, create new products and services, promote innovation and improvement, aid strategic decision making and marketing, and thus increase the competitive advantage (Sedighi et al., 2012). The use of CKM reduces the risk factor in the strategic decisions that are related to maintaining customer loyalty. At the same time, it provides increased customer loyalty and enhances the cost–benefit relationship (Minami & Dawson, 2008). Thus, the decision making is more efficient and intelligent (Sheth, Sethia, & Srinivas, 2011). The knowledge held by customers is a critical resource for firms because it can lead to a higher profitability and a greater propensity for customer loyalty (Akroush et al., 2011; Yang & Chen, 2007). Thus, by integrating KM and CRM, firms can better serve the customer (Minami & Dawson, 2008).

2.4 | Customer knowledge management

CKM results from the integration between KM and CRM, a strategic process of knowledge contribution, where customers transform into knowledge partners (Sedighi et al., 2012). CKM systems are designed to promote and enhance the quality of the customer's relationship with the firm (Allameh et al., 2012; Sadidi, 2011). CKM involves the identification, acquisition, and use of knowledge across organizational boundaries that create value for firms (Allameh et al., 2012) by producing products and services that match the customers' needs (Zanjani et al., 2008).

Customer knowledge is a key resource that can be the source of competitive advantage (Khodakarami & Chan, 2014) because it can influence the buying behavior of the target audience (Wilhelm et al., 2013). The application of the knowledge held by customers generates benefits for both the customer and the firm. The customer benefits through the customization of products and services and the provision of unique experiences, and the firm benefits through a higher profitability and a greater propensity for customer loyalty (Yang & Chen, 2007).

Over time, the customers' transactions can be turned into information and, in turn, into knowledge (Peltier, Zahay, & Lehmann, 2013). The advancement of knowledge can enhance skills related to problem solving, decision making, analytical thinking, conceptual thinking, strategic thinking, and human intelligence as knowledge is a critical component of business intelligence (Liew, 2008 p. 132; Ranjan & Bhatnagar, 2011). KM skills allow the transference and integration of

knowledge (Tseng & Lee, 2014). Cross-functional KM coordination can help the firm better manage its customer relationships (Brattström & Richtnér, 2014) through (a) customer knowledge creation, (b) customer knowledge accumulation, (c) customer knowledge sharing, (d) customer knowledge utilization, and (e) customer knowledge internalization (Tseng & Fang, 2015).

3 | METHODS

3.1 | Qualitative theory-generating approach

Qualitative research designs such as the grounded theory make contributions to the literature by using a theory-generating approach (Johnson, 2015). This study provides an inductive qualitative research that is solution focused and contributes to management theory within a paradigm of design sciences (van Aken, 2004). In this paper, we follow a systematic conceptual and analytical method that leads to credible interpretations of the data (Clark, Gioia, Ketchen, & Thomas, 2010; Gioia, Corley, & Hamilton, 2012; Gioia, Price, Hamilton, & Thomas, 2010; Harrison & Rouse, 2014) to bring qualitative rigor to the clarification of the integration of KM and CRM.

Inductive qualitative research is appropriate when the research question focuses on developing theory, especially theory about processes (Bryman & Bell, 2003, p. 5). In this case, we address the KM–CRM integration process. Therefore, we use purposeful sampling that is designed to target the most adequate and relevant settings and participants to study the phenomenon. Although we are aware of the difficulty of reconciling academic and practitioner assessments of theoretical contributions (Corley & Gioia, 2011), in this study, we incorporate both perspectives in the theory building in order to ensure the emergent model is both well-grounded in academic terms and relevant to practical needs.

Placing scholars and practitioners together creates a suitable environment for developing theory about the integration process: The scholarly and business perspectives complement each other and offer an orderly view of organizational dynamics that is of theoretical interest (Yin, 2009). The use of such methods dissipates the perennial concerns among qualitative scholars on inductive research. We build a prescient theory (Corley & Gioia, 2011). First, we deal with the dynamics of CKM and propose a model that indicates how it takes place. Then we focus on giving it meaning by articulating concepts and variables in the model that involve discussions with both academics and practitioners.

3.2 | Context: The relationship between KM and CRM

This study focuses on the process rather than the result or product. Qualitative research seeks to understand the phenomena through the participants and the direct contact of the researcher with the situation under investigation. An important objective of qualitative research is to capture the phenomenon under study from the perspective of people involved in it, which is achieved by adopting critical thinking and applying accumulated knowledge (Paiva, Leão, & Mello, 2011).

We use data from interviews with managers and scholars in Brazil and Portugal. Both countries have a collectivist national culture (Hofstede, 2001). The two countries also share the same language, thus limiting the effect of cultural differences on the results (Hofstede, 2001). Given the scarcity of formal KM professionals, we interviewed scholars and practitioners from two functional areas: information systems and marketing. The data structure is cross-sectional and comes from the evidence we collected and analyzed on variables within a single specific time period (Bryman & Bell, 2003, p. 55) that was appropriate to the phenomenon under study. The study involved several steps and took place over a period of 18 months.

3.3 | Data gathering and analysis

3.3.1 | Access and data gathering

The Brazilian firms come from the University Science and Technology Park (USTP) that is part of the University in Southern Brazil (22 schools; 29,000 students). We interviewed information systems managers from three IT firms in the USTP and information systems and marketing scholars from the university's business school. We conducted multiple in-depth interviews with both managers and scholars over a 6-month period.

We conducted the same interviews at the University in Portugal (18 schools; 48,000 students). Because this university does not have a USTP, we invited six university partner firms to participate in the study and interviewed managers from the information systems, marketing, and KM areas. As in Brazil, we also interviewed scholars from the university's business school. Similarly, we conducted multiple in-depth interviews with both managers and scholars over a 6-month period.

In both countries, we adopted the same qualitative approach as followed by Clark et al. (2010), Gioia et al. (2012), Gioia et al. (2010), and Harrison and Rouse (2014) so that both research studies would be equivalent. The use of semi-structured interviews allowed the use of open-ended questions. We encouraged managers and scholars to use their own languages and terminologies so that they would feel comfortable. We also allowed them to direct the interview towards issues and concepts that they thought best characterized their experiences.

During the data gathering, we followed several rules on interviewing and on handling qualitative data (Yin, 2009). Using purposeful sampling (Gioia et al., 2010), we addressed managers that had experience in KM and CRM and scholars with specialized knowledge of KM and CRM. This procedure developed an increasingly focused sample that was complete once no new contributions emerged. Thus, we achieved theoretical saturation (Bryman & Bell, 2003, pp. 460, 585).

3.3.2 | Categorical analysis

The iterative process of concurrently collecting, analyzing, and seeking new sources of data leads to systematic and incremental

categorical analyses. Coding in grounded theory is an important first step in the generation of theory (Bryman & Bell, 2003, p. 586). We used open coding, axial coding, and selective coding (Bryman & Bell, 2003, p. 586) at different moments in the study. The analyses of pilot interviews, formal interviews, and focus group sessions provided us with the data to identify relevant concepts and to group them into categories (open coding).

Open coding involves examining, comparing, conceptualizing, and categorizing the data. The process of open coding generates concepts that can later be grouped into categories (Bryman & Bell, 2003, p. 586). We applied open coding by associating codes and creating categories and relationships between them.

Axial coding puts the data back together in new ways after breaking it down and making connections between categories. The process of axial coding involves linking codes to context, to consequences, to patterns of interaction, and to causes (Bryman & Bell, 2003, p. 586). We applied axial coding by identifying core categories and connecting them to other categories.

Selective coding determines core categories by relating them to other categories and validating any existing relationships. It also involves completing categories that need further refinement and development (Bryman & Bell, 2003, p. 586). We applied selective coding when composing the model.

3.3.3 | Reliability and validity

Qualitative research should be judged and evaluated according to different criteria from those used by quantitative researchers (Bryman & Bell, 2003, p. 411). We ensured the goodness-of-fit or quality by following the principles of trustworthiness and authenticity borrowed from constructivism (Guba & Lincoln, 2005). Trustworthiness encompasses four criteria that are equivalent to those in the quantitative research (Bryman & Bell, 2003, p. 411): credibility (which parallels internal validity), transferability (which parallels external validity), dependability (which parallels reliability), and confirmability (which parallels objectivity).

We ensured authenticity (Guba & Lincoln, 2005) by the participation of several managers and scholars of both genders, from different functional areas, and holding both junior and senior positions. We provided ontological authenticity by producing and offering firms a model that sheds light on the process of integrating KM and CRM. Educative authenticity was ensured by merging contributions from practitioners and scholars to better integrate diverse perspectives on the phenomenon. We achieved catalytic authenticity by providing feedback to the firms participating in the research and in the consequences that emerge from the proposed model. The firms' managers were presented with the model and declared their interest in engaging in action to implement KM–CRM integration. Tactical authenticity was

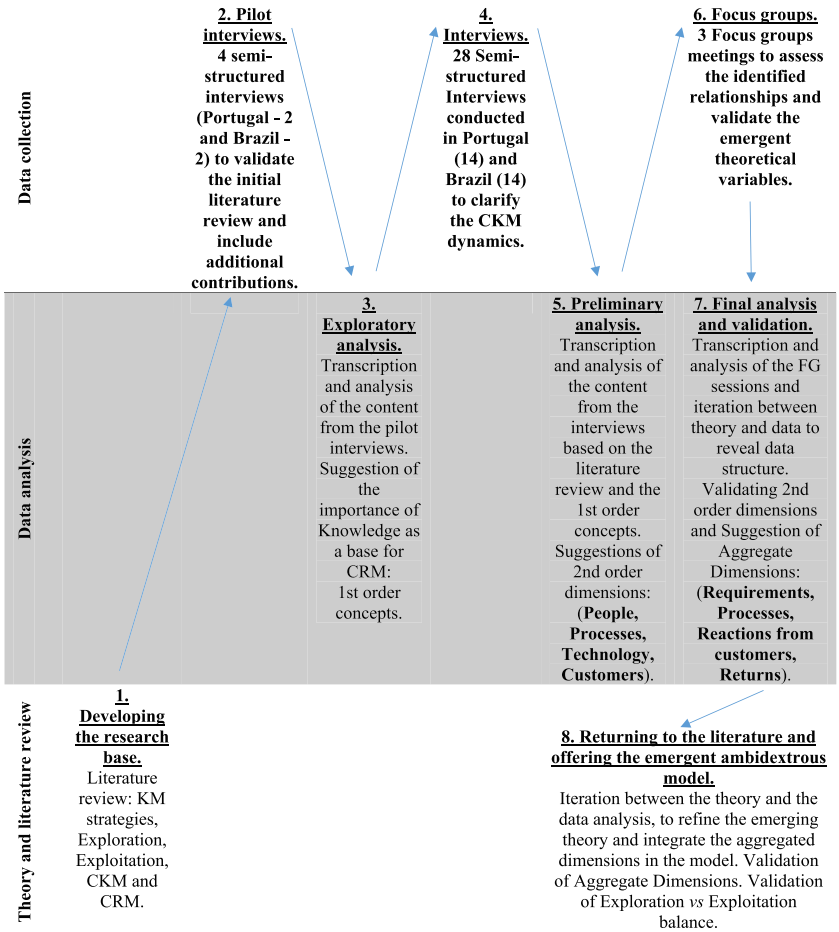

FIGURE 1 Data collection and analysis process. CKM, customer knowledge management; CRM, customer relationship management; KM, knowledge management [Colour figure can be viewed at wileyonlinelibrary.com]

achieved by providing support to the firms wanting to engage in KM–CRM integration.

3.3.4 | Analytical process

Figure 1 presents the research process followed in Brazil and Portugal and shows the initial concepts that arose from the literature review and the pilot interviews.

KM–CRM integration has three phases: preanalysis, material exploration, and analysis of the results (Bardin, 2006). The preanalysis phase consists of selecting and organizing the literature based on the concepts under study—CKM, KM, and CRM. First, the relevant concepts were identified and grouped into categories. Second, the categories resulted in codes such as technology, culture, leadership, knowledge about the customer, knowledge from the customer, knowledge for the customer, or knowledge cocreation. Third, an interpretative analysis of the latent content of the documents was undertaken, which provided validity.

3.3.5 | Pilot interviews and outline of the first-order concepts

We conducted four pilot interviews in Brazil and Portugal that were digitally audio recorded and transcribed verbatim. The exploratory pilot interviews were intended to fully develop our understanding of the phenomenon under research, to validate the literature review on the concepts of KM strategies and CRM, and to better understand the possibility of integration. Pilot interviews lasted 50 min on average. Two authors took part in the interviewing process by asking questions and taking notes. The transcripts and the notes served as a database for the study. We discussed the content of interviews and notes following the 24-hr rule to benefit from the freshness of the data and to run some preliminary analyses. The pilot interviews gathered inputs and comments that validated the initial conceptual framework in the literature review.

The data from the pilot interviews underwent content analysis in accordance with Bardin (2006) in order to examine the outline of the first-order concepts. We used Maxqda® software for the qualitative data analysis. We created the codes to classify and categorize the data into four dimensions: requirements, processes, reactions from customers, and returns. We analyzed the data according to the profiles of the interviewees and the country where the interview was held. The content analysis was subject to reliability testing. The pilot interviews provide validation for the KM and CRM concepts found in the literature review, which supported the development of subsequent interviews. The main contributions relate to KM strategies being more far-reaching than CRM, and the latter being more process related. Table 1 shows the most relevant contributions provided by the pilot interviews.

3.3.6 | Formal interviews and outline of the second-order concepts

We conducted 28 interviews using a structured script, because it presents a lower probability of error and a higher reliability coefficient that facilitates the subsequent analysis (Bryman & Bell, 2003, p. 210). The interview script consisted of an introductory question about the relationship between KM strategies and CRM and then three groups of questions that focused on the organizational requirements, the complexity of the CKM processes, and the results obtained from KM–CRM integration. The interviews intended to collect qualitative knowledge and perceptions of the KM strategies, CRM, and their integration in both countries (14 scholars and 14 practitioners). Regarding the interviewees' experience in KM or CRM, the study reached 20 juniors (between 5 and 15 years of KM/CRM experience) and eight seniors (over 15 years of KM/CRM experience).

TABLE 1 Data on pilot interviews and contributions

Interviewees	Professional occupation	Field	Duration (min)	Contributions
Pilot Interview I (Brazil)	Company/ Senior (M)	IS	46	- KM regards transformation of data into knowledge - CRM permits KM of the customer, providing inputs and structuring the knowledge - Implementing CRM philosophy in a technological platform - CRM requires proactivity and a capacity to interpret the collected information
Pilot Interview II (Brazil)	Company/ Senior (M)	IS	63	- Knowledge is the base of CRM - Knowledge of the customers, about the customers, and for the customers - CRM focuses on the relationship with the customers and the managing knowledge - KM strategies are broader, and CRM is more functional
Pilot Interview III (Portugal)	Senior Scholar (M)	MKT	51	- KM strategies help improving investment and obtaining higher returns - KM supports a holistic philosophy (customer-based view) - CRM focuses on the relationship with the customer and generates knowledge - CRM unites the company's various knowledge collection points
Pilot Interview IV (Portugal)	Senior Scholar (M)	MKT	39	- KM is broader also contributing to employee satisfaction - KM distributes information at different organizational levels - CRM is a knowledge generator: involves processes and knowledge of the organization - KM and CRM are related, but many people are unaware: CRM is more systematic

Abbreviations: CRM, customer relationship management; IS, information systems; KM, knowledge management; M, male; MKT, marketing.

Interviews were digitally audio recorded and transcribed verbatim. Company employees and scholars were invited (a) to explain their KM strategies and CRM and their integration, (b) to identify the requirements for KM and CRM integration, and (c) to comment on the CKM process and disclose the associated results. The interviews were held with executives and scholars to obtain both views (business and academic) on the subject. The scholars were selected based on their backgrounds as teachers in undergraduate and postgraduate business programs where they addressed the issues of KM and CRM. The managers were selected based on their activities related to KM and CRM and not a specific department in the firm where they work. These interviews lasted 42 min on average. We followed similar procedures to those for the pilot interviews. Table 2 presents the data on the interviews from both countries in the study.

Content analysis of the interviews was conducted according to Bardin (2006) and used the codes previously obtained (pilot interviews and rough outlines of the dimensions). These codes were complemented with new codes identified during the interviews. The content analysis was carried out according to the profiles of the interviewees and the country where the interview was held. The initial data analysis began by identifying relevant concepts in the data and grouping them into categories (open coding). For this analytical step, we created codes and used Maxqda® software to aid the data analysis. Then we searched for relationships between the categories and drew them together into higher order dimensions (second-order dimensions and aggregated dimensions).

The content analysis of the collected data was subjected to reliability testing to ensure that it remained constant in all variations of the measurement process (Krippendorff, 1990). Two scholars participated as coders, and their codes were compared with those of the authors. A selection of first-order categories identified by the authors was shared with two independent researchers who were asked to associate them with the emergent second-order dimensions (as in Gioia et al., 2010) through an intercoder analysis. This analysis confirmed the reliability

TABLE 2 Data on interviews

Interviewees	Country	Professional occupation	Field	Company business activity	Duration (min)
B1 (F)	Brazil	Scholar/Junior	IS	—	48
B2 (M)	Brazil	Scholar/Junior	IS	—	53
B3 (M)	Brazil	Scholar/Junior	MKT	—	51
B4 (F)	Brazil	Scholar/Junior	MKT	—	39
B5 (F)	Brazil	Scholar/Junior	MKT	—	41
B6 (M)	Brazil	Scholar/Junior	IS	—	58
B7 (M)	Brazil	Scholar/Junior	MKT	—	48
B8 (F)	Brazil	Company/Junior	IS	IS	41
B9 (F)	Brazil	Company/Junior	IS	IS	29
B10 (M)	Brazil	Company/Senior	IS	IS	49
B11 (M)	Brazil	Company/Senior	IS	IS	35
B12 (M)	Brazil	Company/Junior	IS	IS	33
B13 (M)	Brazil	Company/Junior	IS	IS	42
B14 (M)	Brazil	Company/Junior	IS	IS	31
P1 (F)	Portugal	Scholar/Senior	MKT	—	46
P2 (F)	Portugal	Scholar/Junior	IS	—	49
P3 (M)	Portugal	Scholar/Junior	MKT	—	51
P4 (F)	Portugal	Scholar/Junior	IS	—	38
P5 (F)	Portugal	Scholar/Senior	MKT	—	46
P6 (F)	Portugal	Scholar/Junior	MKT	—	41
P7 (M)	Portugal	Scholar/Senior	SI	—	42
P8 (F)	Portugal	Company/Junior	KM	Biochemicals	35
P9 (M)	Portugal	Company/Senior	IS	IS	40
P10 (M)	Portugal	Company/Senior	MKT	Energy	29
P11 (M)	Portugal	Company/Senior	MKT	Education	40
P12 (M)	Portugal	Company/Junior	IS	Insurance	35
P13 (F)	Portugal	Company/Junior	IS	Project management	34
P14 (M)	Portugal	Company/Junior	IS	IS	45

Abbreviations: F, female; IS, information systems; M, male; MKT, marketing.

TABLE 3 Data structure categorical analysis

First-order dimensions	Second-order dimensions	Exploration versus exploitation balance	Aggregate dimensions
- Knowledge about the customer - Leadership - Absorptive capacity - Trust - Developing technical skills and interaction with the system	People—vision and direction		
- Culture - Top management support - Alignment with the organization's strategy - Rapid distribution and transferal of knowledge throughout the levels and hierarchies	Processes—interpersonal and cultural interaction		
		High exploration	
- Intuitive technology with support - Automation of knowledge - Accessing organizational sharing repositories	Technology—technological support for acquiring and sharing knowledge	High exploitation	Requirements
- Knowledge and transparency of the business - Automation of the knowledge generated by and for the customer - Long-term holistic philosophy (single view of the customer) - Creation of meaning and logic units in the extracted information - Creation of value for the customer	Customers—identifying the customer needs		
- Face-to-face meetings - CRM and big data - Analytical CRM and data mining - Innovation of products and services	People—imagination and creativity		
- Knowledge cocreation - Brainstorming - Crowdsourcing - Social networks	Processes—knowledge creation	High exploration	
- Call center - Social networks - Internet portals and newsletters - Building organizational knowledge repositories	Technology—technological support for knowledge creation	Low exploitation	Process
- Social networks - Corporate sites - Personal meetings - E-mail	Customers—developing partnerships with the customers		
- Understand Culture 2.0 and other social trends - Understand useful customer experiences - Attention to feed back - Following customers - Interested listening	People—reading, classifying and integrating customers reactions		Reactions from customers
- Social networks use - Ability to standardize received knowledge - Quality of data (information) - Knowledge from customers - Prediction systems development - Reducing barriers to customers - Performance analysis	Processes—recognizing and registering relevant customers reactions	Low exploration	
- Updating organizational knowledge repositories - Adjusting decision-making systems - Data mining and CRM systems - Contact systems (phone, e-mail, …) - Web 2.0 - Surveys/suggestions/complaints systems use	Technology—technological support for collecting/receiving knowledge	Low exploitation	
- Measuring customers satisfaction - Assessing customers loyalty	Customers—receiving feedback from customers		

(Continues)

TABLE 3 (Continued)

First-order dimensions	Second-order dimensions	Exploration versus exploitation balance	Aggregate dimensions
- Increasing knowledge quality exchange flow - Culture 2.0 and social trends - Willingness to participate in cocreation - Create sense of "property" on customer			
- Efficient internal environment - Use of internal knowledge - Greater response capacity - Employee satisfaction - Greater independence of the knowledge	People—decision making guided by objectives achievement		
- Outputs from innovative process - Cost–benefit ratio - Increased interaction channels	Processes—assessing and tracking knowledge outputs	Low exploration	
- Better business segmentation support - Better and more efficient operational processes - Better decision-making systems	Technology—technological support for exploiting knowledge	High exploitation	Returns
- Knowledge for the customer - Customer satisfaction - Customer loyalty and profitability - Better marketing campaign design - Loyalty of profit-generating customers (customer promotor) - Profitability	Customers—manage and maintain partnerships with the customers		

of the study's codes regarding the relationship between the first- and second-order dimensions.

During the open coding, we closely adhered to the data to identify the different kinds of statements, questions, and associations that emerged in a given context to develop the first-order concepts, as in Clark et al. (2010), Gioia et al. (2012), Harrison and Rouse (2014), Gioia et al. (2010), and Nag, Corley, and Gioia (2007).

The content analysis of the interviews in the two countries gave rise to very similar outputs that revealed analogous data structures. The cross-cultural analysis showed no differences, which indicates the possibility of integrating inputs from both groups of interviews in a common data structure (Table 3). Given the similarity of the data obtained from the two countries, we were able to merge the evidence into a common data structure. Therefore, the focus groups were not required to explain any differences but rather to challenge and explore the common grounds of the data structure.

3.3.7 | Focus group sessions and outline of aggregated dimensions

Focus group sessions were only held in one of the countries (Portugal) and involved 10 participants: three from academia and seven from business. The sessions were digitally audio recorded, were transcribed verbatim, and were used to assess the data structure and the underlying relationships to refine the second-order dimensions. We held sessions with three focus groups that on average lasted an hour and a half. Each group was first presented with the first-order concepts and challenged to identify the relationships among them. We then asked the group members to consider and discuss the relationships between the first-order concepts and the suitability of the dimensions: employees, process, customers, and technology. Considering the second-order dimensions, the focus groups addressed the aggregated dimensions that emerged. During these discussions, we were able to test and expand our understanding of the theory that was emerging as a result of the previous steps. The aim of the sessions was to validate the data obtained from the literature review, pilot interviews, and formal interviews.

The content analysis of the focus group sessions was conducted according to the previous steps. Then we sought to establish relationships between the categories and draw them together into higher order dimensions. Again, we accounted for the reliability testing as before. The members of the focus groups reflected on the relationships between the first-order concepts and the suitability of the proposed dimensions. Focus Group I emphasized the importance of focusing on the client. Focus Groups II and III addressed the relevancy of the four dimensions and the extent to which they support the aggregate dimensions. The discussions in the focus group sessions supported the rationale for the four second-order dimensions: employees, process, technology, and focusing on the client. Table 4 shows the most relevant contributions provided by the focus group sessions.

3.4 | Integrating content analysis and returning to the literature

Similar to Reay, Golden-Biddle, and Germann (2006), we examine the results of the content analyses of the pilot interviews, formal interviews, and focus group sessions and discuss our preliminary ideas from the field. As for the dimensions, employees, processes,

TABLE 4 Data on focus group and contributions

Focus groups	Member	Type	Field	Sessions' length	Contributions
Focus Group I	FG1 FG2 FG3	Scholar/Senior (F) Scholar/Junior (F) Scholar/Junior (F)	MKT MKT MKT	2 hr 15 min	- Validation of "employees," "process," and "technology" as second-order dimensions - Focusing on the customer as a second-order dimension - Long-term orientation is needed - Value creation for the customer is needed - Organizational culture and top management support are needed
Focus Group II	FG4 FG5 FG6	Company/Junior (M) Company/Senior (M) Company/Senior (M)	IS IS IS	1 hr 40 min	- Validation of "employees," "process," and "technology" as second-order dimensions - Validation of "focusing on the customer" as a second-order dimension - Trust as a requirement of relations among employees - Face-to-face meetings with customers are very important - Technology plays a small part
Focus Group III	FG7 FG8 FG9 FG10	Company/Junior (M) Company/Senior (M) Company/Junior (F) Company/Junior (M)	IS MKT IS MKT	2 hr 25 min	- Validation of "employees," "process," and "technology" as second-order dimensions - Validation of "focusing on the customer" as a second-order dimension - KM strategies and CRM allow for better quality decision making - Loyal customers are critical and demand strategies to serve them - Social networks and clouds are very helpful - Technology: software and hardware compatibility are important

Abbreviations: CRM, customer relationship management; F, female; IS, information systems; KM, knowledge management; M, male; MKT, marketing.

technology, and focusing on the client, they became more central to our understanding of the relationship between KM strategies and CRM. Subsequently, we conducted axial and selective coding with the contributions from the focus groups and the four dimensions emerged—requirements, processes, reactions from customers, and returns—each bounded by a meta-structure.

The development of the four aggregate dimensions further extends the findings from the literature review. The evidence from both countries shows that CRM refers to customer-related knowledge, whereas KM strategies have greater scope at the organizational level. According to the content analysis, the CRM focuses on customer relations and generates knowledge regarding them. CRM facilitates CKM and provides inputs for structuring knowledge and turning data into knowledge in a more organic way. Because CRM involves technology, the use of a technological platform is indispensable to adopt such an approach. Proactivity and ability are needed to interpret and use the information collected so that it is effectively transformed into knowledge.

The findings show that "requirements" gather the elements described in the literature as the inputs necessary for the successful integration of KM and CRM: technology, a sharing culture, top management support, leadership skills (Abdul et al., 2013; Sharma, Singh, & Neha, 2012; Yang & Chen, 2007; Yazdani et al., 2011), and knowledge about the customer (Sadidi, 2011; Wilhelm et al., 2013). Such elements are highly explorative and exploitative in nature.

The "process" corresponds to the way knowledge is obtained from the customer. The process is classified and distinguished as knowledge cocreation (Sadidi, 2011; Wilhelm et al., 2013) and is predominantly explorative in nature.

The "results" correspond to the outputs generated by the process and are twofold: reactions from customers and returns (Akhavan & Heidari, 2008; Kim & Kim, 2009; Sedighi et al., 2012; Yang & Chen, 2007). The latter is predominantly exploitative in nature.

4 | RESULTS

4.1 | A new model emerges

The research introduces second-order dimensions that disclose the complete rationale behind the aggregated dimensions and thus clarifies the integration of KM and CRM. The patterns of interaction that emerged from our data show that integrating KM and CRM involves requirements, processes, and results as proposed in the literature. In addition, the latter gathers reactions from customers and returns. These four aggregated dimensions interact in a loop that provides benefits from feedback effects.

Each type of interaction creates the conditions for the next step. Specifically, our data show that the requirements for KM–CRM integration create the context for it to occur, which, in turn, generates results. Figure 2 illustrates these relationships and depicts the contributions of the second-order dimensions. Figure 2 also portrays the relationship between the different levels of exploration and exploitation associated with the patterns of KM–CRM integration that result in CKM.

Even though the method used in this study prevents us from making definitive statements about the levels of exploration and exploitation, we propose the associate levels of those mechanisms in the model. The initial requirements make use of creative tasks to identify customers' necessities. These procedures involve rapid distribution and transferal of knowledge throughout the levels and

hierarchies. Thus, the requirements dimension for integration of KM and CRM demands a highly challenging ambidextrous approach that applies high levels of both exploration and exploitation.

During the process of integrating KM and CRM, exploration is needed so that they both can come together and merge. The process dimension does not stand on structured routines; thus, this dimension tolerates an unbalanced trade-off that emphasizes exploration over exploitation. The dimension of gathering the customers' reactions demands little exploration and exploitation; it is the less demanding dimension in the model in terms of ambidexterity. This dimension is closely associated with receiving feedback from customers.

Finally, the model proposes that integrating KM and CRM generates returns. Both KM and CRM present decreased levels of exploration in order to fit to one preferred solution, and exploitation increases to allow for efficiency gains. Thus, the results from the integration of KM and CRM originates an unbalanced trade-off that emphasizes exploitation over exploration. Cumulatively, each ambidextrous cycle of interaction produces an increasingly integrated solution, which is consistent with a contemporary perspective in firms that emphasizes the art of managing, underlining the emerging fit, highlighting social action, and promoting intuitive thinking through a design attitude (Gaim & Wåhlin, 2016). When combined, the separate KM and CRM processes generate an autonomous integrated solution —CKM—as proposed in the model shown in Figure 2.

5 | DISCUSSION

We conduct research among both scholars and practitioners to ensure a broad view in our model. Evidence from both countries shows there is a clear recognition of the importance of KM in the relationship with the customer. Customer knowledge and its management are critical differentials in building and maintaining relationships. Customer knowledge allows companies to enhance their ability to better serve the customer and to obtain better results, which according to the literature and the opinion of our respondents are closely linked. Customer satisfaction strengthens the relationships through a process of repurchasing and loyalty. Moreover, presumably, maintaining profit-generating customers will influence corporate profits. Although it is a challenge to integrate academic and practitioner perspectives into theoretical contributions (Corley & Gioia, 2011), we propose a model that is strongly validated by the literature.

The interpretation of the data is rooted in theory and generates theoretical insights (Eisenhardt & Graebner, 2007). The theoretical contributions of the study regard the existence of different levels of exploitation and exploration across the continuous spiral interactions of the model. These are consistent with the literature on the resource sharing among the two types of activities (Levinthal & March, 1993)—the dynamic essence of ambidexterity (Levinthal & March, 1993; March, 1991; Rothaermel & Deeds, 2004; Stettner & Lavie, 2014).

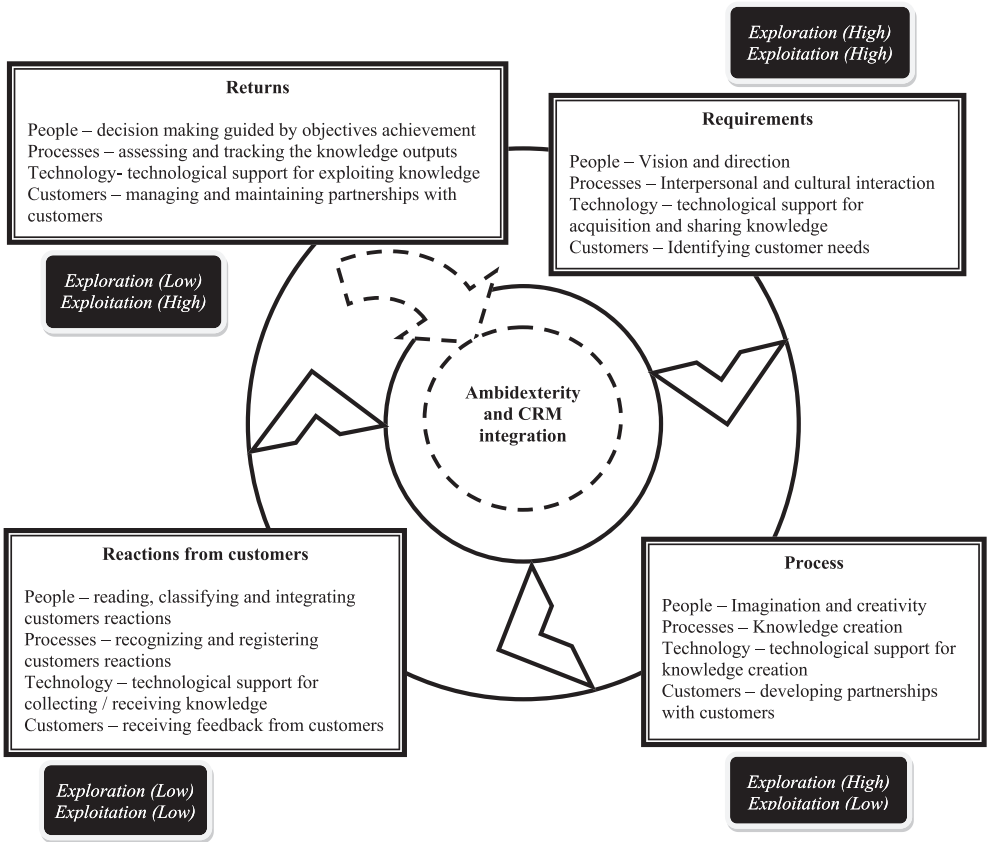

FIGURE 2 Customer knowledge management clarified: Grounded theoretical model—Ambidexterity and CRM integration process. CRM, customer relationship management

Ambidextrous configurations demand the exploitation of a capability that takes place after exploration occurs (Rothaermel & Deeds, 2004) that affects the firm's performance (Simsek et al., 2009).

Although KM is also largely supported by information technology systems (mainly analytical CRM tools, data mining, and Web 2.0), the proper use of these tools and the skills of the people involved determine the degree to which they are successful. At the human resource level of firms, there are key requirements for KM–CRM integration such as top management support, a culture of sharing, skilled employees, and leadership. However, there is no consensus regarding the status and mode of action of the KM leader within the firm. This role can be played by a top manager, by someone close to such a manager, or could be assimilated by others within the firm.

The management and proper use of knowledge can make firms more proactive and capable in decision making when faced with challenges determined by the market and by increasingly informed and demanding customers. The ability of firms to innovate with the aid of their customers is an aspect mentioned by the respondents and supported in the literature. Innovation comes about in association with new channels and new forms of interaction that place the customer as a strategic partner in the creation of knowledge. However, there is no consensus among the participants regarding the concept of innovation, which is also widely debated in the literature. The integration of KM and CRM can lead to incremental (localized innovations) or radical innovations, which can involve other types of investments in research and development.

Managerial implications relate to the broad number of firms that can benefit from considering the contributions of this study. According to the study's results, when integrating KM and CRM, firms should pay extreme attention to the tasks related to the requirements for identification for they demand high levels of exploration and exploitation. The proposed model contributes to the KM and CRM integration by indicating how people, processes, technology, and customers interact. The model clearly depicts the sequence for integration and fit.

6 | CONCLUSION

This study researches a grounded theory in Brazil and Portugal to clarify the integration of KM and CRM. We explore the literature and develop an empirical inductive qualitative approach to address the relationship between KM strategies and CRM.

The aggregated dimensions from the literature, requirements, processes, and results are confirmed by the study. We add a fourth dimension because the results of integrating KM and CRM are twofold: reaction from customers and returns. The four dimensions constitute a coherent sequence of steps in the KM–CRM integration process.

The study combines the views and perspectives of scholars and practitioners to develop a solid and usable model. We find no cross-country differences because the data structure from both countries shows similar arrangements. The second-order analysis generates four relevant dimensions for the emergent model that represent our main theoretical contribution: employees, process, technology, and focus on the customer.

The model prescribes a cyclical relationship among the aggregated dimensions that suggests the presence of feedback effects. We address the important phenomenon of KM–CRM integration by using purposeful sampling that guarantees qualitative rigor and follows the principles of trustworthiness and authenticity. Offering a cyclical model constitutes a contribution to both theory and practice. The findings indicate the emergence of a pattern of KM–CRM integration that supports the concept of CKM.

To overcome the scarcity of formal KM professionals, we mainly approach key informants from the information systems and marketing due to the topics addressed. We contribute to the theory by disclosing new concepts and clarifying the relationships between them in a model. We have chosen the correct purposeful sample and have approached the most relevant informants from the firms and the business schools involved.

Categorical analysis of the data follows a systematic conceptual and analytical method of examination. In the quest for qualitative rigor, we adopt constructivist principles of trustworthiness and authenticity (Guba & Lincoln, 2005). We have applied the goodness-of-fit or quality criteria in this research. Although qualitative studies usually lack the power of generalization, we adopt the principle of authenticity in the search for an applicable model of KM–CRM integration that can be proposed to other firms. Despite the diversity among the key informants and the two countries involved, the results show no objective difference and thus allow for common conclusions. Therefore, we argue that the study's findings constitute a theoretical contribution that can be of use far beyond their application to the firms involved.

Our results have considerable implications for theory building, and therefore, we propose that KM–CRM integration is possible and follows a pattern of continuous spiral interactions. This might be particularly important considering the relevancy of KM and CRM to the firms' performance. The mutual benefit to be obtained by integrating customer-related knowledge is highlighted both in the literature and by practitioners. Organizational structure and design could benefit from integrating KM and CRM and engaging in addressing knowledge on customers from the model's perspective. The emergent model of KM–CRM integration provides a new theoretical basis for explaining how the integration process occurs. In that sense, we achieved our main goal to reconcile academic and practitioner assessments of theoretical contributions by incorporating both perspectives in the theory building and thus offer a model that is both well-grounded in academic terms and relevant to practical needs.

The study provides guidance for managers and consultants:

a. Requirements identification should be addressed thoroughly. Requirements identification represents the initial phase of the KM and CRM integration, and it simultaneously demands high levels of exploration and exploitation. At this stage, practitioners should establish and share the firm's vision and direction using leadership and trust to explore knowledge about the customer. The support

from the culture and the top management team is decisive in order to leverage knowledge across the firm and to align KM, CRM, and the firm's strategy. Developing the right technical skills and using intuitive technology allow for the best interaction with the system and accessing organizational sharing repositories. We advise knowledge and transparency in the firm. Following a customer-based approach enables the automation of meaningful knowledge generated by and for the customer. Thus, managers can identify customer needs and create value for them.

b. People, processes, technology, and customer interaction contribute to the KM and CRM integration in firms. People share the firm's vision and provide creativity and imagination. Individuals interpret knowledge and use it in decision making. They define and follow processes: either cultural or KM processes. Established procedures and sequential activities guarantee that knowledge is created, stored, shared, and used correctly by the firm. People and processes are supported by technology in benefit of a prompt interface. Technology supports long-lasting communication and a common ground to include active collaborating customers. Using customers as true partners allows identifying their needs and receiving constant feedback.

c. The sequence towards KM and CRM integration results in achieving a valuable fit. The successive attention to requirements, process, reactions from customers, and returns provides a layout for strategic integration. In order to guarantee the adequate requirements, firms should provide supportive mechanisms such as teamwork, informal conversation spots and schedules (water fountains and happy hours), instant messaging, and meetings with clients. Managers can implement the most suitable processes by adopting practices such as mentoring, training, brainstorming, wiki, community of practice, and expert systems. Reactions from customers should be safely deposited and considered. In that sense, firms can benefit from establishing mechanisms such as yellow pages, blogs and forums, intranet, e-mail, storytelling, and videoconference. Returns can be achieved by reaching the knowledge that was previously created, stored, and shared. It can be retrieved by making use of best practices and repositories, staff mobility, lessons learned, and sustaining ongoing relations with customers.

Limitations regarding the cultural settings used in the study apply to the results: Brazil and Portugal have a similar collectivist national culture. Thus, the proposed model might suffer from a cultural bias. Future work should replicate this study in different settings to search for evidence in support of the general use of the model. The study does not address contingency variables related to size, industry, knowledge intensity, or ownership of firms. The exploratory drive of the study encloses inevitable shortcomings that need further development and adjustment in the model.

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ORCID

Carla Curado https://orcid.org/0000-0002-2608-8982
Mírian Oliveira https://orcid.org/0000-0002-5498-0329

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