Exploring the Importance of Knowledge Management for CRM Success

Aurora Garrido-Moreno, Antonio Padilla-Meléndez, Ana Rosa Del Águila-Obra

Abstract—After reporting a literature review on Customer Relationship Management (CRM) and knowledge management, some important issued arise, in particular related to the lack of success of CRM strategies implementation. The paper contributes to this proposing an integrated model of CRM success taking into account complementary factors such as organizational factors, technology, knowledge management and customer orientation.

Keywords—knowledge management, CRM, CRM success, organizational factors.

I. INTRODUCTION

IN the new environment, relations with the market are critical, and have completely changed the marketing strategies of firms to other more relational approach [1]. In this context, emerged the concept of Customer Relationship Management (CRM) that will be considered in this paper as a business strategy enabled by IT, which involves the establishment and development of value relationships with clients that aim to the retention and loyalty of the clientele. Moreover, research on the subject emphasizes that companies find it more profitable to retain existing customers, by developing long-term relationships that meet their needs, attracting new customers. These long-term relationships are based largely on customer knowledge and knowledge management and CRM systems improving not only the organization's ability to interact, attract, and build personalized relationships with customers, but also the ability to increase their knowledge about them [2].

Reviewing the literature, many studies that analyzed the crucial role played by knowledge management initiatives as determinants of the success of CRM were found [3, 4]. However, many studies that showed high rates of failure to implement that strategy were also found [5, 6, 2]. Consequently, it could be said that there is still no integrated conceptual framework to guide companies to their successful implementation.

Therefore, a question might be, is the actual knowledge management enough? On the other hand, does it take more attention to make the company successful in the implementation of CRM? In this paper, the relationship

A. Garrido Moreno is with the University of Malaga (Spain) (Management Faculty, Campus El Ejido s/n, 29071 Málaga, corresponding author phone: 34-952137265; fax: 34-952131293; e-mail: agarridom@uma.es).
A. Padilla-Meléndez is with the University of Malaga (Spain) (e-mail: apm@uma.es).
A.R. del Águila-Obra is with the University of Malaga (Spain) (e-mail: anarosa@uma.es).

between knowledge management and CRM will be explore and whether or not it is enough to have the actual knowledge management initiatives of customer relationships to succeed in CRM will be analyzed. In the following, a review of the literature linking the two areas and the proposal a model of CRM success are included.

II. THEORETICAL BACKGROUND

A. Knowledge Management overview

Knowledge creation has been widely recognized to be strategically relevant for organizational learning and innovation [7], especially in high-velocity environments. Reference [8] considers knowledge management as achieving organizational goals through the strategy-driven motivation and facilitation of (knowledge) workers to develop, enhance and use their capability to interpret data and information (by using available sources of information, experience, skills, culture, character, personality, feelings, etc.) through a process of giving meaning to these data and information. If knowledge from a systemic approach is studied, data as input, information as the process and knowledge as the output should be considered [9].

One important aspect is how knowledge is created. The dynamic model of knowledge creation of [10] is one of the best-known and accepted models of knowledge creation and management and has become a generally accepted conceptual framework for analyzing the activities and knowledge flows within the organization [11]. In fact, it could be said that the ability to acquire, integrate, combine, store, share, apply, and institutionalize knowledge in the firm represents the most important capability for building and sustaining competitive advantage [i.e. 12, 13].

B. Customer Relationship Management (CRM) overview

Despite the recent birth of CRM, which stands in the nineties, in a short time it has become a key tool for business management. The implementation of this strategy involves the orientation of all business processes to the customer, which is situated in a central position, emerging as key asset of the company. After reviewing the literature on the concept [14-16], the definitions offered coincide in stressing a number of features such as follows. First, CRM is a customer-centric business strategy or model that should be integrated into the whole organization in order to align the different functions with a common objective. Second, the main objective of CRM is to generate value for the customers through knowledge of their needs and preferences and via adaptation and

personalization of the products and services. Third, CRM includes the use of technological tools that enable the strategy, but CRM is not just a technology but a much broader concept. Fourth, CRM is a long-term business strategy that generates benefits for the various parties involved in the relationship. Finally, CRM requires a redesign of the organization to orient it to the customer, so the strategy requires an appropriate organizational culture and leadership. Consequently, the concept of CRM could be summarized as follows: CRM is a business strategy that aims to establish and develop value-creating relationships with customers based on knowledge. Using IT as an enabler, CRM requires a redesign of the organization and its processes to orient them to the customer, so that by personalizing its products and services, the firm can optimally satisfy customer needs and thereby generate long-term, mutually beneficial, loyalty relationships.

Authors have actually made some progress with respect to the definition and theoretical delimitation of CRM, but they have not yet reached a consensus about a clear conceptual framework or structure of the concept [15, 17]. Research on CRM has increased significantly over the past few years [18]. However, there are still research needs in different areas such as a generally accepted conceptual framework, analysis of its key dimensions, study of CRM impact on business results, barriers to its successful implementation, development of valid and reliable scales to study the degree of implementation and success and rigorous empirical studies on the subject [14, 19-21].

At the theoretical level, CRM clearly offers numerous advantages, but a large number of empirical studies indicate a high failure rate in the implementation of this type of strategy [2, 5]. The literature examines the various causes of these negative results [5]. It suggests that one of the main causes of failure is not integrating CRM into the firm's overall strategy, in other words, considering CRM as an exclusively technological tool, and not assuming the various organizational and cultural changes it entails. In turn, [21] argue that there is no integrative conceptual framework translating the CRM concept into specific guidance to companies in implementing the strategy successfully.

In view of the high failure rate in CRM implementation, and of the need to improve understanding of why some initiatives are successful while others are not [22], the next subsection presents an explanatory model for CRM success based on knowledge, which includes the main variables that determine successful implementation of the strategy.

C. CRM and Knowledge Management

In recent years, companies have integrated their customer relationship management (CRM) and knowledge management efforts because they realize that knowledge management plays a key role in CRM success [23]. Identifying the high value customer is a sophisticated knowledge task, as is determining the range of profiles among current customers. Technology can assist but knowledge management puts the information processing power of technology to effective use. Collaborating with customers requires a strong grasp of tacit knowledge exchange, and anticipating or predicting new customer needs can be delivered competently using statistical methods with

technology, but can only be done excellently when the dimension of tacit knowledge exchange and collaboration are also deployed [24]. CRM processes are based on large amounts of knowledge [25].

CRM is about managing customer knowledge to better understand and serve them [8]. Much CRM writing focuses on technology applications, but the critical role of knowledge management is now beginning to be recognised [24]. CRM is definitely related to the discipline of knowledge management, thus, the existence of sufficient and continually updated customer knowledge is critical for an effective CRM system [26].

Given the important role being played by knowledge management systems in the current customer-centric business environment, there is a lack of a simple and overall framework to integrate the traditional customer relationship management (CRM) functionalities with the management and application of the customer-related knowledge [8]. Recent literature has placed the knowledge management capabilities such as the more significant Critical Success Factor in the implementation of a CRM initiative, since the processes of customers' knowledge transmission are a key resource that will enable the company strengthen its relationships with them and gain a sustainable competitive advantage [27, 28].

At this point, it is interesting to note, that, as has been argued, knowledge, unlike data or information, is embedded in people and not in IT [29]. The way people capture, share, and interpret knowledge accumulated in organizational repositories is very important in operational and strategic business activities and actions aiming at retaining competitive advantage [26]. Therefore, the relationship of the discipline of CRM with technological capabilities and knowledge management is being recognized as an important research field at present [19, 23]. Moreover, several authors believe that while previously the majority of CRM research focused on technological aspects, the critical role of knowledge management is beginning to be recognized in research [24, 28].

CRM and knowledge management initiatives are directed towards the same goal: the delivery of continuous improvement towards customers [23]. Clearly, knowledge management is an area that warrants further e-CRM research [19]. Following [17] knowledge management could be seen as the main sub process of a CRM strategy because, to manage CRM effectively, companies must develop capabilities related to customer knowledge management processes, since these capacities, being difficult to imitate, can become a source of competitive advantage. From a resource based perspective [30, 31], customer knowledge will be a valuable and rare asset for businesses, which will allow them to respond quickly to customer needs and adapt to changing markets [28]. Whereas the search for competitive advantage becomes the key factor of current strategic management, to collect information about customers in the context of a relationship, and offer those customers a superior value proposition based on this knowledge, would be a key advantage, hard to imitate.

III. RESEARCH MODEL

Based on the conducted extensive literature review on the topic, a success model for CRM implementation is developed. The proposed model, that considers knowledge management as main success factor, includes other three variables that are considered in the literature key factors for the success of the CRM strategy (see Figure 1): organizational variables; technology and customer orientation. In the following, a brief definition of each model variable is included, and then a formulation of the research hypotheses to be tested, which postulate the impact of each variable on the results of the CRM strategy are synthesized.
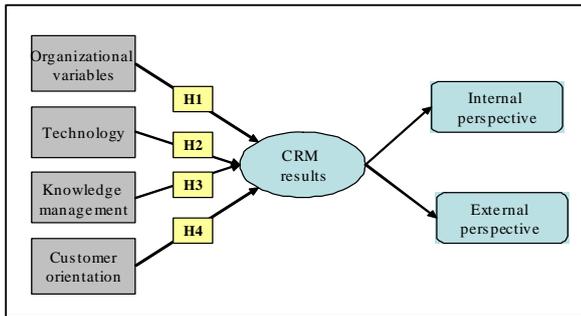

Fig. 1: Proposed CRM implementation success model

A. Knowledge Management and CRM success

As noted earlier, a large number of studies in the literature focus on the relation between CRM and knowledge management [26, 32]. A number of specific studies even propose strategic models based on combining the two concepts [33, 3]. Considering that implementing a CRM project requires that the firm collects and analyzes a large quantity of data, which is enabled by IT, the management of customer knowledge represents a step in this process. When this information is integrated and assimilated throughout the whole organization, it becomes truly effective customer knowledge.

Furthermore, the creation and transmission of knowledge is seen as strategically significant as one of the fundamental processes that determine the ability of organizational learning and innovation [7]. Because of this, knowledge management will exercise a decisive role when implementing a CRM strategy, as it involves a change in the organizational vision and therefore a great deal of learning and innovation within the organization. According to [34], three fundamental processes within knowledge management could be considered: knowledge acquisition, application, and diffusion and transmission throughout the firm. Based on this, a scale consisting of three blocks, which will include several items to measure each of these processes was developed. In subsequent analysis, as a first hypothesis of the model it was considered the following:

H1: An appropriate knowledge management will have a positive effect on the results of the CRM implementation.

B. Organizational variables and CRM success

These variables are aspects to do with human resource management, the organizational structure, and resource allocation. Considering that implementing the CRM strategy requires changes both in the way a firm is organized and in its business processes [21], any model needs to include a variable measuring the importance and effect of these organizational factors on CRM success. In fact, in order to implement CRM successfully firms need to redesign their organization and orient their value chain to the demand [35]. Thus, the strategy, the organizational structure, and the business processes all need to be transformed to implement the CRM strategy, since success in the initiative will depend on creating the right synergy between technological systems, processes and people [2].

On the other hand, the human factor is critically important, since even with the best-defined processes and the most advanced technology the relation between people still has a determinant role in the implementation of any business strategy [36]. This is why factors such as employee training and motivation and the establishment of appropriate reward systems will be determinant in employees' involvement in implementing this type of strategy. Moreover, the organizational culture will play a key role in knowledge management: the vision of the organization, rules, structure and reward system are direct determinants of the transmission of knowledge within the company [37], and therefore have a direct effect on the successful implementation of an initiative of this type. Based on the above discussion, the second hypothesis of the model presented here is as follows:

H2: An appropriate organization will have a positive effect on the results of the CRM strategy implementation.

C. Technology and CRM success

CRM technological systems should be seen as a key component in implementing this type of strategy [36]. As [21] note, CRM software systems enable firms to offer a customized service with higher quality but at lower cost, so many customer-centric activities would be impossible without the right technology. Consequently, to implement the CRM strategy successfully the firm must have the right technology with which to optimize the business processes involved in customer relationships [38]. This author also argues that CRM technological systems offer numerous benefits to firms, since they provide a single view of the customers, manage the relationships with customers in an integrated way regardless of the communication channel used, and help the firm improve the efficiency and effectiveness of the processes involved in customer relationships.

Despite all the above, however, it is not a good idea to give the technology an excessive role. Instead, the firm should consider it as an enabler of its CRM strategy. In this paper, the technology was considered as a necessary but not sufficient condition for the success of the CRM strategy. The third model hypothesis follows:

H3: An appropriate management of the technology will have a positive effect on the results of the CRM strategy implementation.

D. Customer orientation and CRM success

Following [39] conceptual proposal, this paper assumes that a customer orientation implies having a sufficient understanding of the customers to be able to offer them greater benefit. Likewise, customer orientation implies unequivocally placing the customer at the center of all the firm's activities in order to build gradually long-term relationships [40]. This is why this variable is a fundamental component of the organizational climate needed for CRM success: an organization that is strongly oriented to the customer will be able to design its processes better, since that organizational culture is conducive to improved employee understanding of the customers [41].

Consequently, a customer orientation is an indispensable prerequisite for the successful implementation of the CRM strategy [40]. On this basis, the fourth hypothesis follows:

H4: An appropriate customer orientation will have a positive effect on the results of the CRM strategy implementation.

E. Results of the CRM strategy implementation

There were some difficulties in measuring the results of the CRM strategy implementation, since as various authors note [42, 21], despite the increasing importance of the CRM concept there is still no validated measurement scale for evaluating its results. Measurement of firm performance is traditionally based on an analysis of a limited number of financial measures. But if the aim is to evaluate the impact of a CRM initiative, which seeks to improve customer relationships, any measure of results must also include the perspective of the customers [43]. Authors recommend not using a single indicator to measure the results of the CRM strategy implementation, so most models use a two-dimensional measurement scale that includes both financial performance and market performance.

Thus the current authors decided to take a two-dimensional approach to measure the results of the CRM strategy implementation, as proposed by authors such as [44, 21]. The financial perspective will measure the impact of the CRM strategy for the organization in terms of improved profitability or reduced costs, while the market perspective will capture the value that the strategy generates for the firm's customers, and include measures such as customer retention and satisfaction rates.

IV. CONCLUSIONS AND LIMITATIONS

After a literature review many studies that analyzed the crucial role played by knowledge management initiatives as determinants of the success of CRM were found. Contrary to what could be imagined, there were several studies that showed high rates of failure to implement that strategy, so there were still no integrated conceptual framework to guide companies to their successful implementation.

This paper contributes to this in building an integrated model of success, stressing as main factors the following: organizational factors, technology, knowledge management, and customer orientation.

As this is an exploratory paper, more research, in particular empirical studies will be necessary to test the proposed hypothesis. However, the proposed model could be a step forward in building such an integrated model of CRM success.

REFERENCES

[1] C. Grönroos, "From Marketing Mix to Relationship Marketing: Towards a Paradigm Shift in Marketing", Management Decision, vol. 32, no 2, pp. 4-20, 1994.

[2] M. Xu, and J. Walton, "Gaining customer knowledge through analytical CRM", Industrial Management + Data Systems, vol. 105, no 7, pp. 955-972, 2005.

[3] H. Gebert, M. Geib, L. Kolbe, and W. Brenner, "Knowledge-enabled customer relationship management: integrating customer relationship management and knowledge management concepts", Journal of Knowledge Management, vol. 7, no 5, pp. 107-123, 2003.

[4] A. Croteau, and P. Li "Critical Success Factors of CRM Technological Initiatives", Canadian Journal of Administrative Sciences, vol. 20, no 1, pp.21-34, 2003.

[5] D. Rigby, F. Reichheld, and P. Schefter, "Avoid the Four Perils of CRM", Harvard Business Review, vol. 80, no 2, pp. 101-109, 2002.

[6] J. Rowley, "Eight questions for customer knowledge management in e-business", Journal of Knowledge Management, vol. 6, no 5, pp. 500-511, 2002.

[7] M. P. Salmador, and E. Bueno, "Knowledege creation in strategy-making: implications for theory and practice", European Journal of Innovation Management, vol. 10, no 3, pp. 1460-1060, 2007.

[8] R.P. Beijerse, "Questions in knowledge management: defining and conceptualising a phenomenon", Journal of Knowledge Management, vol. 3, no 2, pp. 94-109, 1999.

[9] E. Bueno, and M.P. Salmador, "Knowledge management in the emerging strategic business process: information, complexity and imagination", Journal of Knowledge Management, vol. 7, no 2, pp. 5-17, 2003.

[10] I. Nonaka, and H. Takeuchi, *The Knowledge creating company. How japanese companies create the dynamics of innovation*, Oxford: University Press, 1995.

[11] M. Li, and F. Gao; "Why Nonaka highlights tacit knowledge: a tacit knowledge", Journal of Knowledge Management, vol. 7, no 4, pp. 6-14, 2003.

[12] P. Drucker, *Postcapitalist Society*: Harper Business, New York, NY, 1993.

[13] J.C. Spender, "Making knowledge the basis of a dynamic theory of the firm", Strategic Management Journal, vol. 17, pp. 45-62, 1996.

[14] A. Parvatiyar, and J.N. Sheth, "Customer Relationship Management: Emerging Practice, Process, and Discipline", Journal of Economic and Social Research, vol. 3, no 2, pp. 1-34, 2001.

[15] L. Paas, and T. Kuijlen, "Towards a general definition of customer relationship management", Journal of Database Marketing, vol. 9, no 1, pp. 51-60, 2001.

[16] E. Plakoyiannaki, and N. Tzokas, "Customer Relationship Management: A capabilities portfolio perspective", Journal of Database Management, vol. 9, no 3, pp. 228-238, 2002.

[17] A.R. Zablah, D.N. Bellenger, and W.J. Johnston, "An evaluation of divergent perspectives on customer relationship management: Towards a common understanding of an emerging phenomenon", Industrial Marketing Management, vol. 33, pp. 475-489, 2004.

[18] V.W.T. Ngai, "Customer relationship management research (1992-2002). An academic literature review and classification", Marketing Intelligence and Planning, vol. 23, no 6, pp.582-605, 2005.

[19] N. Romano, and J. Fjermestad, "Electronic Commerce Customer Relationship Management : A Research Agenda", Information Technology and Management, vol. 4, pp. 233-258, 2003.

[20] S. Hart, G. Hogg, and M. Banerjee, "Does the level of experience have an effect on CRM programs? Exploratory research findings", Industrial Marketing Management, vol. 33, pp. 549-560, 2004.

[21] L.Y.M. Sin, A.C.B. Tse, and F.H.K. Yim, "CRM conceptualization and scale development", European Journal of Marketing, vol. 39, n° 11/12, pp. 1264-1290, 2005.

[22] T.H. Roh, C.K. Ahn, and I. Han, "The priority factor model for customer relationship management system success", Expert Systems with Applications, vol. 28, pp. 641-654, 2005.

[23] M. Dous, L. Kolbe, H. Salomann, and W. Brenner, "Knowledge Management Capabilities in CRM: Making Knowledge For, From and About Customers Work", Proceedings of the Eleventh Americas

Conference on Information Systems, Omaha, NE, USA, pp. 167-178, 2005.

[24] P. Lambe, (2008, March): Knowledge-Based CRM: A Map. Available: http://www.greenchameleon.com/thoughtpieces/kcrm.pdf.

[25] A. Bueren, R. Schierholz, L.M. Kolbe, and W. Brenner, "Improving performance of customer-processes with knowledge management", Business Process Management Journal, vol. 11, no 5, pp. 573-588, 2005.

[26] C.J. Stefanou, C. Sarmaniotis, and A. Stafyla, "CRM and customer-centric knowledge management: an empirical research". Business Process Management Journal, vol. 9, no 5, pp. 617–634, 2003.

[27] A. Croteau, and P. Li "Critical Success Factors of CRM Technological Initiatives", Canadian Journal of Administrative Sciences, vol. 20, no 1, pp.21-34, 2003.

[28] J. Shi, and L. Yip, "Driving Innovation and Improving Employee Capability: The Effect of Customer Knowledge Sharing on CRM", The Business Review, vol. 7, no 1, pp. 107-112, 2007.

[29] T.H. Davenport, and L. Prusak, Working Knowledge, Harvard Business School Press: Boston, MA, 1998.

[30] E. T. Penrose, The theory of the growth of the firm, Villey: New York, 1959.

[31] B. Wernerfelt, "A resource-based view of the firm", Strategic Management Journal, vol. 5, pp. 171-180, 1984.

[32] R. Bose, and V. Sugumaran, "Application of Knowledge Management technology in Customer Relationship Management", Knowledge and Process Management, vol. 10, no 1, pp. 3-17, 2003.

[33] A. Tiwana, The essential guide to knowledge management, ebusiness and CRM applications. Prentice-Hall: Upper Saddle River, NJ, 2001.

[34] H.F. Lin, and G.G. Lee, "Impact of organizational learning and knowledge management factors on e-business adoption", Management Decision, vol. 43, no 2, pp. 171-188, 2005.

[35] R.P. Kotorov, "Ubiquituos organization: organizational design for e-CRM", Business Process Management Journal, vol. 8, no 3, pp. 218-232, 2002.

[36] L.E. Mendoza, A. Marius, M. Perez, and A.C. Griman, "Critical success factors for a customer relationship management strategy", Information and Software Technology, vol. 49, pp. 913-945., 2007.

[37] P. Racherla, and C. Hu, "Knowledge Management for an effective CRM system". Paper presented at the Ph.D. Research Workshop for the 13th International Conference (ENTER 2006 - Information and communication technologies in tourism 2006) on Information Technology and Travel & Tourism, January 17, Lausanne, Switzerland, 2006.

[38] R. Chalmeta, "Methodology for customer relationship management", The Journal of Systems and Software, vol. 79, pp.1015-1024, 2006.

[39] J.C. Narver, and F.S. Slater, "The Effect of a Market Orientation on Business Profitability", Journal of Marketing, vol. 54, no 4, pp. 20-35, 1990.

[40] R.V. Bentum, and M. Stone, "Customer relationship management and the impact of corporate culture –a European study", Journal of Database Marketing & Customer Strategy Management, vol. 13, no 1, pp. 28-54, 2005.

[41] J. Bang, "Understanding customer relationship management from manager's and customer's perspective: exploring the implications of CRM fit, market orientation, and market knowledge competence", Doctoral Thesis, University of Rhode Island, 2005.

[42] L. Ryals, and S. Knox, "Cross- Functional Issues on the Implementation of Relationship Marketing Through Customer Relationship Management", European Management Journal, vol. 19, no 5, pp. 534-542, 2001.

[43] T.M. Chang, L.L. Liao, and W.F. Hsiao, "An Empirical Study of the e-CRM Performance Influence Model for Service Sectors in Taiwan". Proceedings of the 2005 IEEE International Conference on e-Technology, e-Commerce and e-Service, pp. 240-245, 2005.

[44] J. Chen, and R. Ching, "An Empirical Study of the Relationship of IT Intensity and Organizational Absorptive Capacity on CRM performance", Journal of Global Information Management, vol.12, no 1, pp. 1-17, 2004.