



A Review of Customer Knowledge Management Importance

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Abstract

In knowledge-based economy, firms consider to integrate knowledge management (KM) with their customer relationship management (CRM) due to the fact that KM plays a crucial role in the success of CRM. This research is designed to review the literature about customer knowledge management from three approach, first importance of integrating KM with CRM, types of customer knowledge in CRM and models displaying integration of KM and CRM. We performed a literature review of empirical studies on integration models which was published in the last decade (2001-2013). After taking into consideration these studies, we discovered that by integration of KM and CRM, organizations can reach their targets more affordable, quicker, and with higher quality than their competition.

Keywords: Customer relationship management, Knowledge management, Customer knowledge management

1. Introduction

To achieve a competitive advantage, the organizations should recognize and capture their customer knowledge. This knowledge helps firms to focus on their customers' needs, which ultimately increases the perceived value and switching costs of a firm's products (Mitussis et al., 2006; Rowley, 2002). Indeed, customer knowledge can assist employees with cross-selling and efficiently predict market demand, which then helps to leverage the competitive advantage more effectively (Mitussis et al., 2006). However, although capture of knowledge and information concerning customers prepares a powerful competitive advantage to companies, they should be aware that they cannot treat their customers as static individuals (Nejatian et al., 2011). The needs and demands of customers will themselves change over time.

Plessis and Boon (2004) noted that integration of knowledge management and CRM allows for a better understanding of customer needs, demands and behaviour. according to identified customer needs, as well as customer values, service to the customer can be quicker, more effective and more efficient. Knowledge management facilitates the flow of knowledge around customer issues between the groups, thereby facilitating quicker and more effective integration of customer-related knowledge. Knowledge management plays a role in facilitating communication through the provision of technology, processes and platforms that enable communication in organisation and knowledge flow.

2. Benefits of Integrating KM with CRM

The nature of Customer Relationship Management (CRM) is a business strategy that can make use of IT in order to facilitate processes. CRM can retain existing customers by providing long-term relationships that meet a customer's needs. CRM systems, as well as knowledge management and customer knowledge is the fundamental of maintaining long-term relationships with customers.

Garrido-Moreno et al. (2010) stated that knowledge management in implementing CRM can improve the company's capability to attract, interact and make firm relationships with customers, as well as the capability to increase their knowledge about them.

CRM provides advantages for the different groups involved in the relationship because CRM is a long-term business strategy. To create a customer-oriented company, CRM requires a redesign of the company; hence the strategy needs an appropriate organizational culture and leadership. To conclude, the concept of CRM could be summarized as follows: CRM is a business strategy that aims to setup and extend value-creating relationships with customers based on knowledge. A company can personalize its products and services to achieve customer-oriented goals by satisfying customer needs; accordingly, the company can generate long term, mutually beneficial loyalty relationships (Garrido-Moreno et al., 2010).

The processes involved in knowledge dissemination about customers are a key resource that will facilitate the company, strengthen its relationships with them and ultimately obtain a sustainable competitive advantage (Croteau and Li, 2009; Fan and Ku, 2010).

Garrido-Moreno et al. (2010) offered a success model of implementation and emphasized that knowledge management has an important effect on CRM success. Garrido-Moreno and Padilla-Meléndez (2011) proposed a research model to examine the relationship between KM capability factors and CRM success. The result showed that KM capability factors have an important effect on CRM success. They mentioned that KM capability can be defined as the capability of a firm to absorb and manage real customers, offer products and services information to improve customer response and provide faster decision-making based on reliable information (Alavi and Leidner, 2001). It follows, then, that CRM and KM strategy are directed towards the same purpose, namely: the delivery of continuous improvement of customer service (Dous et al., 2005). In addition, the creation and diffusion of knowledge strategically influences the ability of organizational learning and innovation (Salmador and Bueno, 2007; Xu and Walton, 2005). Because of this, KM will adopt a crucial role when implementing CRM, as it includes a change in the organizational vision and therefore a great deal of learning and innovation within the firm. Additionally, previously published empirical research studies on the subject highlighted KM abilities as the variable that has a more significant effect on CRM success (Campbell, 2003; Croteau and Li, 2009; Shi and Yip, 2007).

Primary business functions are namely: marketing; sales and service that need some specific features of direct customer contact, as well as knowledge intensity, which makes them important targets for CRM. Gebert et al. (2002) suggested the knowledge management model for CRM which is based on CRM business processes.

Knowledge management effect is embedded in each of these CRM business processes and plays an enabling role for them. Further, it has some benefits which prompted Gebert et al. (2002) to propose the knowledge management pyramid.

CRM use KM as a service to improve effectiveness and efficiency in all the related processes. KM helps CRM to broaden from its technology-driven, mechanistic, and data-oriented approach, while KM empowers CRM to use both elements of people and technology (Gebert et al., 2002).

Wang and Yu (2010) stated that integrating CRM with KM can assist the firm to deal with obstacles and enhance comparative advantages, by communicating with the customers and learning from them continuously in the management process. The company can then use the acquired customer knowledge to achieve the goals of acquiring maximum returns from the customer relations (see Fig 1).

The enhancement in customer knowledge has a definite effect on the relationship between CRM and customer satisfaction (Nejatian et al., 2011). Measuring customer satisfaction provides a meaningful, immediate and rational feedback about customer preferences and expectations (Kim et al., 2003). Another important performance measure for CRM is that of customer life time value. According to Nejatian et al. (2011): "Lifetime value is the sum of the

future stream of profits and other benefits attributable to all purchases and transactions with an individual customer, discounted back to its present value". Therefore, if a firm can keep its customers longer, it will be able to obtain more revenue from them caused by factors such as: cost reduction in operations, increase in purchases, recommendations and "word of mouth", best prices, as well as cost reduction in customer-gaining processes and activities. However, some customers will have a higher lifetime value because of the knowledge that they create for the firm, since this knowledge can provide the firm with new skills and capabilities which can be used for other customers as well. Chong (2006), describes customer share as one of the performance measures which is the company's share on each of the customer's total business trade. The company can calculate its customer share through understanding of what customers want to buy from competitors and what she/he might be willing to buy from the company (Nejatian et al., 2011).

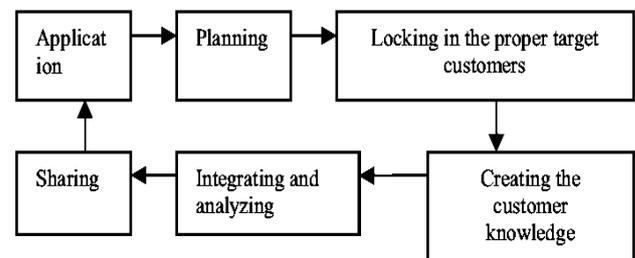


Fig. 1. Customer Knowledge Recycling System.

Talet (2012) noted that KM is essential for CRM, in the areas of namely: assessing firms, providing better service, improving quality of product, decreasing costs and replying quicker to their customers. However, the main challenge of managing knowledge in firms is gathering, extending and integrating knowledge to share among all organizational members.

Yaghoubi et al. (2011) carried out quantitative research to investigate the impact of knowledge management on different aspects of customer relationship management (customer knowledge, customer interaction, customer satisfaction and customer value). The population sample of the study is comprised of all the staff in the marketing, sales and customer relationship departments in the automotive industry. Results of the study show that KM has a significant impact on CRM and, further, that this relationship has an impact on improving customer satisfaction and profitability. Customer knowledge is the basis of strategic decisions; hence carrying out customer relationship management systems includes gaining documentation, as well as transmitting and using knowledge inside and outside the company.

3. Types of Customer Knowledge in CRM

The definition and classification of customer knowledge is based on various research viewpoints. One of the regular accepted definitions of customer knowledge comes from Feng and Tian (2005), originally identified by Gebert *et al.* (2003). They identify customer knowledge as: “the dynamic combination of experience, value and insight information which is needed, created and absorbed during the process of transaction and exchange between the customers and enterprise”. Campbell (2003) defines customer knowledge as: “organized and structured information about the customer as a result of systematic processing”. According to Mitussis *et al.* (2006), customer knowledge is identified as one of the more complex types of knowledge, since customer knowledge can be captured from different sources and channels (Nejatian *et al.*, 2011).

Scientists classify customer knowledge in different ways. Gebert *et al.* (2002), for example, classified customer knowledge, from an organization’s perspective, into three types, namely: knowledge about customers; knowledge for customers and, finally, knowledge from customers. The same categorization of customer knowledge has been made by other scholars such as Bueren *et al.* (2005); Feng and Tian (2005). In another categorization, Crié and Micheaux (2006) divide customer knowledge into two types, namely: “Behavioural” (or Quantitative) and “Attitudinal” (or Qualitative). Behavioural knowledge is easy to acquire and is basically quantitative by nature; that is, containing a customer’s transactional relations with the company. On the other hand, attitudinal knowledge is difficult to acquire because it deals with a customer’s state of mind; but meanwhile it is an important factor for enhancement of customer knowledge because they are directly related to a customer’s thoughts and insights.

Sanayei and Sadidi (2011) conducted the quantitative research to examine four aspects of the Customer Knowledge Management (CKM) system in the pipe industry, namely: content, competence, collaboration, and composition. The result shows that none of the employees has an appropriate or adequate understanding of the four dimensions of CKM. It also reveals the fact that the process of recording information in forms and documents, along with the distribution of information among the companies’ employers, is at its lowest stage.

Gebert *et al.* (2002) categorized types of knowledge of CRM into three groups, namely:

- i. The requirements of customers, which is considered as “*knowledge about customers*”.
- ii. Customer needs should be satisfied with the services and products available. All knowledge offered here are under the term “*knowledge for customers*”.
- iii. Customers obtain many insights and experiences when using a product or service. This knowledge is beneficial as it can be utilized for product and service improvements. This “*knowledge from*

customers” should be channelled back into the company.

Wang and Yu (2010) classified customer knowledge in CRM into three groups, namely:

- i. The customer's basic knowledge: This kind of knowledge is captured during business dealings with customers. It includes factors such as: the purchasing time of the products, the quantity, the place, the variety and so on.
- ii. Knowledge which the customers require: This type of knowledge is prepared by an enterprise to satisfy customers’ needs. This knowledge relates to products, services and the market situation.
- iii. Knowledge coming from the customers: This kind of knowledge refers to the feedback that the customers send to the enterprise and competitor's products and services.

4. Models of Integrated KM and CRM

Companies are increasingly required to compete in today’s knowledge-based era. Accordingly, KM and CRM are both important strategies that organizations utilize and integrate so as to achieve a sustainable competitive advantage (Alryalat and Al Hawari, 2008). There are a variety of different models which are capable of integrating CRM with KM; one of these models is the KM process model proposed by Talet (2012). There are four phases included in the KM process model which will enable utilization of the knowledge in the company and integration of it with the CRM process. These are the phases that start with obtaining and storing knowledge into the KM system, followed by distributing and utilizing knowledge among the various communities. Talet (2012) mentioned that, in order to integrate KM and CRM, three phases of the Customer Knowledge Relationship Management process should be undertaken. By using these integration phases, a company can achieve increased customer satisfaction.

Customer Knowledge Acquisition: capture knowledge in a collaboration environment which includes sequential steps that must be taken in order to ensure that the knowledge can be captured from the right people, place and time. It is suggested to be carried out as follows:

1. Identify Knowledge (define sources and type of knowledge).
2. Gather Knowledge (collect and transform knowledge according to the conditions).
3. Adapt Knowledge (classify knowledge).
4. Organize Knowledge (Prepare and map knowledge into the specific requirements).
5. Store Knowledge (Keep and index the knowledge dynamically).

Talet (2012) suggested three strategies for the integration of KM and CRM in order to achieve CRM success. These are, namely:

- i. Integration should have the support of top management. Company leaders should understand the benefits of the implications of KM and CRM and the strategic effect of their integration.
- ii. The corporate culture may change (i.e. knowledge-sharing behaviour, collaborative activities) thus requiring active planning and watchful management.
- iii. The change agent or program champion is also required and he/she is generally designated as the Chief Knowledge Officer (CKO). The CKO should have the ability to comprehend human resource management, issues of company strategy, information technology, change management, corporate culture development, leadership, team dynamics, as well as KM and CRM, and should have the resourcefulness to carry the program through to completion.

Hualin and Zhongdong (2010) noted that there are six steps required for extracting customer knowledge from CRM. These are as follows:

- i. **Extraction:** choose and capture the customer-related data from the different types of databases in the company.
- ii. **Cleaning:** this involves the removal of noise, the assessment of the missing value data, the removal of duplicate records and the achievement of data type conversion. It also includes estimating and filtering out these incomplete and duplicate customer data.
- iii. **Conversion:** mainly used to decrease the data dimensionality; that is, to find out truly useful features from the initial characteristics and to decrease the features and the number of variables, which need consideration in the data mining. After this step, the characteristics and variables that are associated with the customer knowledge will be extracted.
- iv. **Classification:** Classify the customers according to certain classification criteria and comprehensive assessment of customer value. Based on Tirana's point of view, customers can be divided into, namely: the most valuable customers, the most potential growth customers and negative value customers. According to the results of classification, clustering and classification can be used to split the customer data that have been classified.
- v. **Analysis:** Certain technical methods, such as OLAP (online analytical processing), statistics, DM (data mining) technology, can be used to analyse and mine the data that have been classified.
- vi. **Explanation and evaluation:** Customer knowledge (which has been obtained through the above steps) is necessary to identify whether it is correct or not, and to correct deviations at the same time. Finally, after the evaluation, knowledge about customers is formed, which can help the enterprise to analyse and target customers accurately.

Dous et al. (2005) suggested a model for the integration of KM and CRM. He developed a process framework which illustrates the business processes related to the CRM and KM plan. The framework is the outcome of ongoing study mixing theoretical conceptualization concepts with practical application. The theoretical findings involved eight years of case study and action research that has been introduced to the research community (Bueren et al., 2005; Gebert et al., 2003; Geib et al., 2005; Goh, 2005).

The framework contains all identified business processes that are related to successful CRM implementation within a firm. An important feature of the framework is that it is recommended for customers' needs and desires. Customer process is a sequence of activities performed by a customer in order to satisfy a demand or to solve a specific problem.

The gathering and analysis of knowledge concerning customers is undoubtedly one of the oldest forms of KM activity in the CRM domain. Besides the customer's master data and past transactions, knowledge about the customer covers, namely: the customer's present demands and requirements, connections, future desires, purchasing activity and financial capability. Knowledge about customers is collected in CRM service and support processes and subsequently analysed in CRM analysis processes (Bueren et al., 2005; Fahey et al., 2001).

Dous et al. (2005) presented four implications of the successful improvement of CRM processes by CKM, based on their quantitative findings. These implications can be presented in a conceptual framework for knowledge-based CRM strategy including; change management, systems and processes (see Fig 2). This framework can be used as an instruction guide for consultants and then assist to improve the gap between the profits that are known in theory and in successful practice cases. Garrido-Moreno and Padilla-Meléndez (2011) suggested some important factors for successful implementation of CRM and proposed some hypotheses based on these factors. They examined these factors by using quantitative research methods and also distributed questionnaires in 153 Spanish hotels.

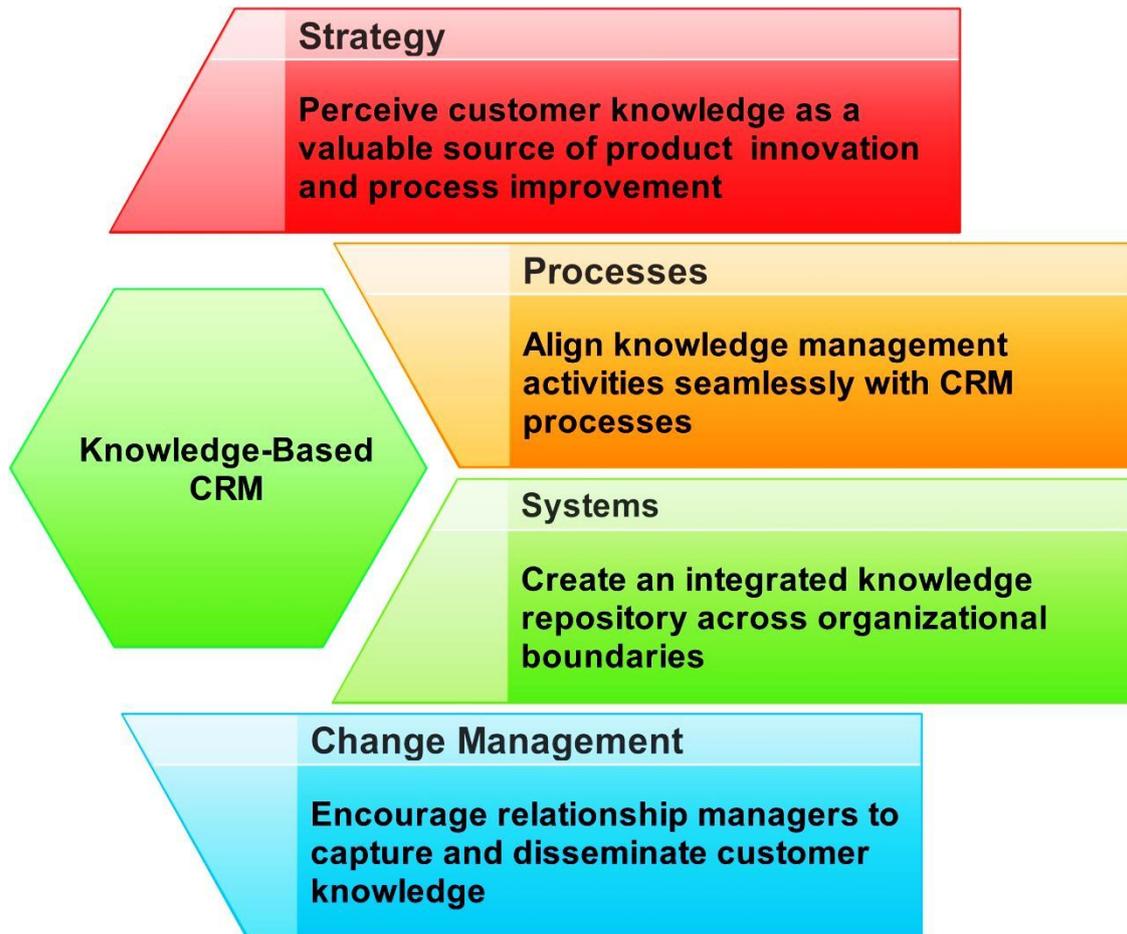


Fig. 2. A conceptual framework for knowledge-based CRM (Dous et al., 2005).

Zanjani et al. (2008) proposed a CKM conceptual model to assist firms in order to manage different types of customer knowledge. Zanjani et al. (2008) illustrated each type of customer knowledge in detail. This model is composed of three layers and is based on categorized customer knowledge. It did not, however, mention relationships existing between different types of customer knowledge. Further, the model did not show any relationship between customer knowledge and relevant business processes.

Buchnowska (2011) proposed an integrated CKM model to assist managers in order to understand the relationship between customer knowledge and related CRM processes. The first step is to identify the purpose of customer knowledge management (which is related to the company). These goals are based on identification of knowledge about the customer. The next process (achievement of customer knowledge) is a process of knowledge transfer from the environment of the company to its inside, as well as the process of capturing knowledge from internal sources. The knowledge captured must be codified and stored in company databases and knowledge warehouses. Customer knowledge deployment is the next process in the knowledge cycle. Knowledge should be applied in order for the company to successfully meet organizational goals and

objectives. During this phase, knowledge for the customer is developed. CKM is not a single action; all the CRM processes must continuously support the process of knowledge creation, validation and application.

Wu et al. (2013) offered a conceptual framework to discover the linking mechanisms between customer knowledge management and IT-based business model innovation. This integrated model supports three types of customer-related knowledge to value creation in business model innovation. Using this integration approach increases knowledge accessibility for both company and customers in value delivery. It also enables the company to increase revenue streams with lower costs in value capture for business model innovation. This research links business model innovation literature to customer knowledge management studies, as well as extending customer knowledge management research through integration of both customer and company perspectives.

Liberona et al. (2013) discussed the four stages of KM in terms of evolution. The fourth stage of KM is related to KM maturity, and is associated with external knowledge of an organization. Although external knowledge is not new to KM, the tools that are available now are comparatively new.

This external knowledge (especially concerning customer information or customer tacit knowledge) can

capture strong trends in the adoption of social networks. Organizations now have access to the beliefs, information, thoughts and opinions of their customers or potential customers in a way that has never been experienced before

in the online social networks. Thus, social customer knowledge management is a new area that needs more research to be undertaken so as to integrate with CRM (see Fig 3).

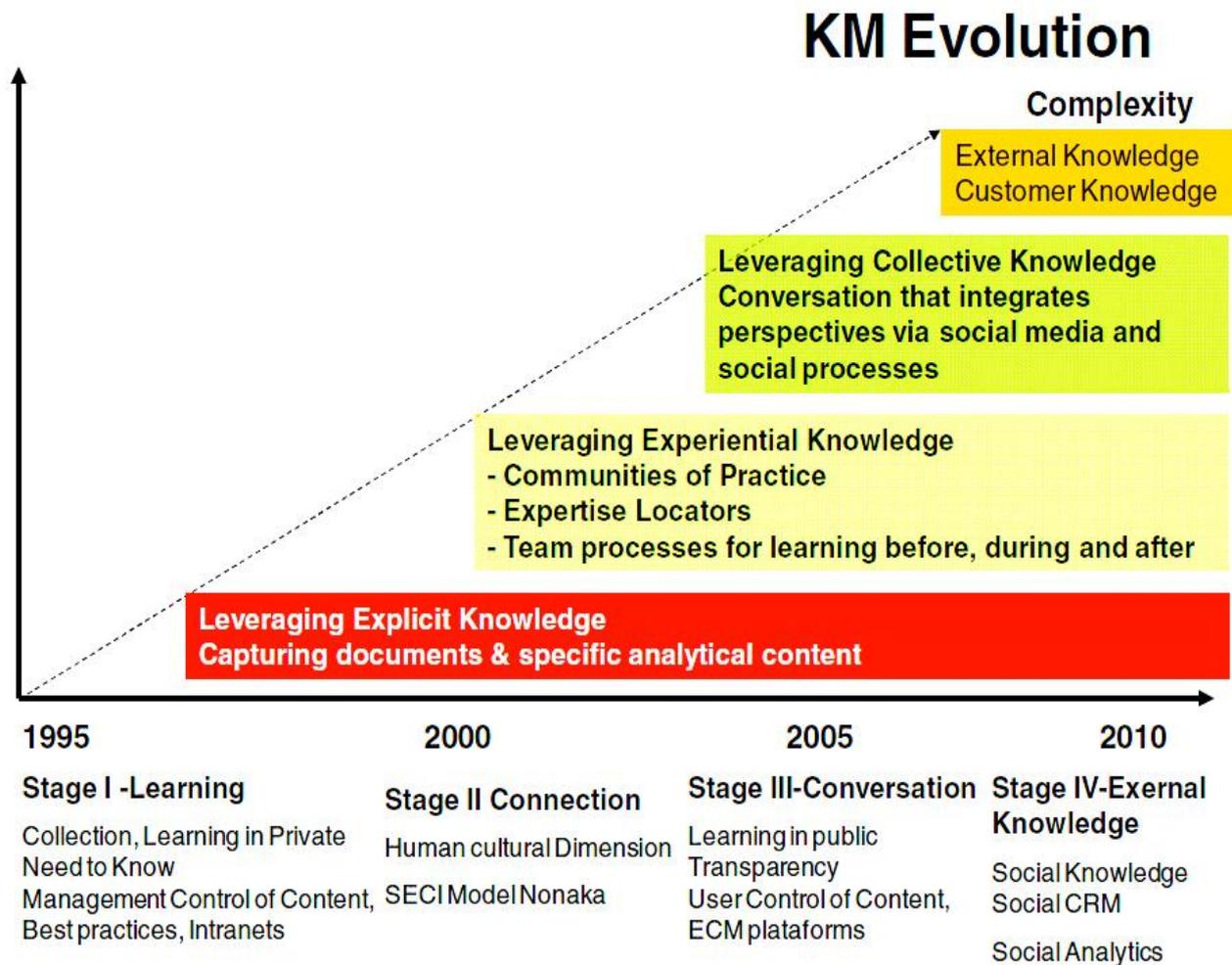


Fig. 3. Knowledge Management stages (Liberona et al., 2013).

5. Conclusion

Based on literature and research, KM is a critical success factor for CRM. KM and CRM have high synergy potential and can be utilized together. Through enhanced knowledge, firms can achieve their results faster, cheaper, and with more quality than their competitors. Different types of classifications and definitions exist in relation to customer knowledge. Customer knowledge was categorized, from an organization’s viewpoint, into three types, namely: knowledge about customers, knowledge for customers and knowledge from customers. In another viewpoint, some researchers divided customer knowledge into two types, namely: “Attitudinal” or “Qualitative” and “Behavioral” or “Quantitative”. The behavioral knowledge is easy to obtain and is basically quantitative by nature, containing the customer’s transactional relations with the firm. Some important models of integration for CRM success were reviewed. Talet (2012) suggested three strategies for integration of KM and CRM in order to

achieve CRM success. These strategies include, namely: top management support, changing the culture of the organization and active change agent. Dous et al. (2005) offered the model for the integration of KM and CRM. He set up a process framework which describes the business processes related to CRM and KM initiatives. In the model of Zanjani et al. (2008), all the details of different CKM are mentioned, however this model is not process-oriented. To fill in the gaps left by previous models, Buchnowska (2011) suggested integrating a CKM model that is process-oriented and integrated with the firm’s strategy. Wu et al. (2013) offered a conceptual framework that not only integrates CRM and KM, but also assists in improving business model innovation. Finally, Liberona et al. (2013) discussed the new trend of organizations to integrate social media with CKM. In the new decade, with a sharp increase in the usage of social media, companies will arrive at a new area of integration social media with CKM and use

considerable amounts of external knowledge-producing, which will be cheap and easy to access in the social media environment. Integration of CRM and KM is a new research environment for which the researcher was not able to consider all aspects and needs to carry out further research. Existing empirical studies have some limitations and they utilized either one or a limited number of companies for their studies. In general, the conclusion derived from a large number of studies is likely to be more reliable. It is obvious that the issue of inadequate studies for evaluating a model of successful integration of KM and CRM is common in the field of knowledge management.

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