Customer Knowledge Management Competence: Towards a Theoretical Framework

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Abstract

Customer knowledge has been increasingly recognized as a key strategic resource in any company's success. Recent studies conducted in the fields of Knowledge Management and Customer Relationship Management have proposed that the two approaches can have great synergies. In this paper, our purpose is to provide an understanding of Customer Knowledge Management (CKM) as an integrated management approach and competence it requires. We describe CKM as an ongoing process of generating, disseminating and using customer knowledge within an organization and between an organization and its customers. In addition, we propose a tentative theoretical framework of CKM competence, i.e., the ability to integrate customer knowledge into customer relationship management processes.

1. Introduction

Customer knowledge has increasingly been recognized within marketing as a significant resource that can be managed to support R&D ([24]), to improve innovation, to facilitate sensing of emerging market opportunities and to support the management of long-term customer relationships ([12]). Marketing intelligence, i.e. gathering data about market including customers and competitors from various sources, and sharing it within an organization, has long been regarded as a key dimension of the market orientation philosophy of a firm ([12]; [35]).

However, the extensive attention that Customer Relationship Management (CRM) and Knowledge Management (KM) have gained in recent years, have brought the dynamics between customer knowledge and customer relationships into focus in a new way. Market orientation should not just be viewed as a measurable characteristic of a company — a state of being market-oriented — but something that has to be created and re-created continuously in an organization and in customer interface. As Helfert, Ritter & Walter [32] argue, the market orientation philosophy is severely limited when seen from a relationship marketing perspective. In many businesses, in business markets in particular, there are no general markets towards which a firm can be oriented, but only individual customers with their individual needs and wants. The existence of continually updated customer information and knowledge is critical in managing these customer relationships ([8]; [21]; [32]; [52]). In addition, customer relationships can create and offer the platform for knowledge creation and transfer between an organization and its customers ([5]; [53]).

Traditionally, customer data was mainly collected and translated to customer information through market research and marketing information systems by experts ([1]; [48]; [49]). Nowadays, many organizations have tools to gather customer data from various contact points with a single customer and to structure it into customer information (e.g. [1]; [20]; [55]). However, converting enormous amounts of customer data into customer information and, furthermore, customer knowledge is very challenging (e.g. [15]). Forrester Research found that most of the organizations are not capable of analyzing their customer data ([46]).

Technology can facilitate gathering and analyzing customer data as well as transferring customer information within an organization ([45]; [52]), but they are not able to convert information to knowledge, because knowledge is always related to a person or a group of people ([18]). Furthermore, customer information and knowledge generated has to be integrated into that organization's every day operations and processes at the right time to benefit both the company and the customer ([9]; [16]; [21]).

In business practice, managing customer knowledge has been the most important aspect of KM in many organizations ([52]), and KM capabilities have been found to be crucial factors in successful CRM-implementations ([11]). Effective use of customer information and knowledge, particularly in the context of marketing decisions, is still inchoate in many organizations (e.g. [8]). Consequently, a number of researchers have recently paid attention to the potential synergies of integrating ideas from CRM and KM in both consumer and business markets ([8]; [23]; [39]; [48]; [49]; [52]; [53]; [55]).

In this paper, our purpose is to provide an understanding of Customer Knowledge Management (CKM) as an integrated management approach. Ideas from market orientation, relationship marketing, CRM and KM literatures are used. We describe CKM as an ongoing process of generating, disseminating and using customer knowledge within an organization, and between an organization and its customers. Furthermore, "CKM competence" refers to the ability to integrate customer information and knowledge into an organization's every day processes and operations. We propose a tentative theoretical framework for CKM competence. We look at CKM from a relationship marketing perspective i.e., how it can be used to support CRM efforts.

This paper continues as follows. First, we will describe how customer data, information and knowledge are defined in this paper. Second, we will compare CRM and KM in terms of their disciplinary roots, perspective, key actors, conceptual foci, processes, communication context, and goals. Third, we will define CKM. Fourth, we will propose our framework for CKM competence. Finally, we suggest some ideas for further research.

2. Customer data, information and knowledge

The concept of knowledge and its relation to data and information have been under debate since the ancient Greeks (e.g. [14]). Briefly, data presents observations and facts. Data alone is useless. When data is placed in some meaningful context, it becomes information. Knowledge is created when information is transformed into capabilities for an effective action, in other words, when information is used and disseminated between people in documented form or in interaction ([33]). Knowledge is always embodied in a person or group of people ([18]).

Types of knowledge and knowledge creation are one of the main subjects in KM literature ([34]). Polanyi [44] has classified knowledge into explicit and tacit knowledge. Explicit knowledge, also known as formal or codified knowledge, can be expressed by words and numbers and it can be shared by IT-systems, whereas tacit knowledge, known as informal or uncodified, is something that is produced through recreation and experiences of people. Tacit knowledge can be also viewed as intuition, beliefs and values that reside in human mind, behavior, and perceptions ([40]). Nonaka and Takeuchi [41] describe knowledge creation as a spiral that starts from individual, moves up to the group level and then to the organizational level.

Beijerse [6] states that from an organization's point of view, "knowledge can be seen as the capability to interpret information through the process of giving meaning to this information, consisting of an attitude aimed at wanting to do so". From the resource-based view of the firm, knowledge is seen as a resource embedded in the firm. Within the organization, knowledge often becomes embedded not only in documents, but also in organizational routines, processes, practices and norms ([14]).

In marketing, concepts "customer knowledge" and "Customer Knowledge Management" are not clearly described. Many closely related terms can be found such as marketing intelligence ([35]), marketing knowledge (e.g. [58]) and market knowledge ([37]; [16]). So far, "customer knowledge" has referred to "structured information about customers" ([37]; [9]), simply knowledge about customers ([48]; [49]) and knowledge from customers i.e. knowledge residing in customers ([22]; [24]). Managing knowledge residing in customers contains the idea of partnering or collaborating with customers.

In this paper, we distinguish between the terms customer data, customer information, and customer knowledge (adapted from Rowley [48]; [49]). Customer data is facts about customers in organization's databases, binders and mind of the employees. This data can be, for instance, customer contact data, interaction data, demographics, customer service data, customer lifestyle data, psychographics, purchases, preferences, customer feedback and complaints, responses to marketing initiatives (e.g. [15]; [22]; [24]), and data about potential customers and customer segments ([47]). Customer data can be collected by several practices such as through transaction situations, interviewing customers, interacting with customers in the field, carrying out customer satisfaction research or observing customers in a store, on a web site or in gatherings that are related to an organization's products and services ([15]; [22]; [47]; [52]).

In many organizations, building an integrated customer database represents a frightening challenge, because customer data is often dispersed across the entire organization: departments, databases, binders, personal laptops and particularly, in mind of people (e.g. [1]; [13]; [20]). In addition, people are often reluctant to share their information about customers (e.g. [13]). Therefore, Ballantyne [4] and Massey et al. [39] call attention to the shift in the way information and knowledge have been conceptualized recently – it is important to know who has them and who can use them. CRM systems have made customer information available for more people in organizations; consequently, it is not the privilege of the experts anymore.

Abbott [1] and Davenport [13] state that analyzing customer data gathered directly and indirectly from different sources and in different form can be very challenging. For example data mining and warehouse techniques, can be used to structure customer data to customer information (e.g. [49]). In some organizations, cross-functional "Customer Knowledge Management" teams have been established to spin customer data to information and to share it among different departments and locations of the organization (e.g. [14]; [20]).

When customer information is translated and disseminated in an organization, it becomes customer knowledge. Customer knowledge can be explicit, the structured information in databases, or tacit customer knowledge, knowledge in mind of employees and customers. Davenport et al. [15] call tacit customer knowledge "human data or knowledge", because it is captured and used mainly by employees interacting with customers or observing and interpreting customer behavior.

Customer information converted from an organization's databases provides only detailed information on past customer behavior. In managing individual customer relationships, particularly in business markets, an organization needs "relationship-specific knowledge" i.e., how to deal with one another in customer relationships. Therefore, we propose that customer knowledge needs to include the concept of "relationship-specific knowledge". Relationship-specific knowledge is created based on past relational experiences in interaction and in dialogue between customer and organization ([5]; [7]).

Li & Calantone [37] clarify that by stating because customer knowledge is often embedded in an organization's processes, it is immobile and difficult to imitate by competitors. Customer knowledge may create a long-term competitive advantage for an organization (see e.g. [53]).

3. Comparing CRM, KM and CKM

CRM and KM are two different management approaches, with different disciplinary roots and perspectives, but in the case of customer knowledge, integrating them can produce great synergies (e.g. [8]; [23]; [39]; [52]; [53]). First, CRM and KM approaches are described in terms of disciplinary roots, perspectives and key actors, conceptual foci, processes, communication context ([48]; [49]) and goals. Figure 1 illustrates the main differences of the two approaches. Second, we will describe how these two approaches are integrated in CKM.

3.1. Customer Relationship Management

CRM is probably one of the most recognized management approaches of the past decade. Increased competition in every business, globalization, the development of information technology, total quality movement, system-selling approach ([43]), and the development of network economy have all facilitated the rise of the relationship marketing orientation which can be seen as the origin of CRM. Briefly defined, relationship marketing orientation is concentrating on building, developing and maintaining long-term relationships with (profitable) customers ([28]; [25]), and other stakeholders ([10]). CRM, in turn, is a fusion of relationship marketing and management theories and approaches ([29]).

CRM is concerned about managing relationships between a company and its customers with its all various contacts, interactive processes and communication elements ([26]). As Xu, Yen, Lin & Chou [56] put it, in business practice, "CRM refers to an all-embracing management approach, which seamlessly integrates sales, customer service, marketing, field support, and other functions that touch customers".

Although the roots and the idea of CRM come from relationship marketing, CRM has had a very technical connotation ([9]; [19]; [56]; [30]). It has to be noted that a successful CRM implementation always adopts a strategic approach of CRM first ([19]; [45]). After that CRM systems can be successfully implemented. CRM systems can facilitate gathering customer data, supporting customer service, sales and marketing by providing up-to-date customer information and knowledge at all times throughout the organization. They are also implemented to reduce the power of some staff group, particularly sales staff and sales agents (e.g. [19]; [45]).

Three different types of CRM systems are distinguished by several authors (e.g. [2]; [56]): 1) operational, 2) analytical, and 3) collaborative CRM systems. An operational CRM system, also called a front office CRM system, functions in the customer touching points by collecting customer data. It can include for example: sales force automation, customer service and support, field service, and marketing automation characteristics. An analytical CRM system, a back-office CRM system structures customer data into customer information. It can include components from the procedure perspective: multimedia access channels, a complete, integrated, comprehensive view of management reporting, and CTI solutions which include predictive dialing, voice/data tracking, skill based touting and tolls for data analyzing, such as data warehouse, data mining, marketing and

Customer Relationship Management

Disciplinary roots: relationship marketing and management theories & approaches

Perspective: in customer interface

Key actors: customers and employees

Key communication context: Marketing communication: interaction between organization and its customers

Conceptual foci: What is customer relationship? Different types of customer relationships of organization (b-to-b, b-to-c)

Key processes: creating loyal and stable customer base, improving customer service and maintaining customer relationships

The goal: to build and develop long-term customer relationships with profitable customers, managing interaction between an organization and its customers

Knowledge Management

Disciplinary roots: fusion of organizational behavior theory, cognitive sciences and information sciences

Perspective: inside the organization

Key actors: employees

Key communication context: Organizational communication

Conceptual foci: What is knowledge? How it is created?

Key processes: Knowledge creation, sharing, and exploitation

The goal: to fuel organizational learning, cost savings, and "avoid re-inventing the wheel"

Figure 1 Comparing KM and CRM (adapted from Rowley [48]; Rowley [49])

campaign analysis, clustering, and segmentation. A collaborative CRM system includes tools for building online communities, developing business-to-business customer exchanges, and personalizing services.

CRM concerns both customers and employees ([26]; [29]), but its perspective is outside of an organization, in the market place and in customer interface. Thus, CRM communication can be seen as marketing communication. At the conceptual level, CRM is concerned with defining customer relationships. This includes different types of relationships such as business-to-business relationships, customer lifecycles, different customer segments and naturally, customer life time value and customer profitability ([48]). Key processes of CRM focus on creating and maintaining a loyal and stable customer base by improving and supporting excellent customer service, offering marketing plans for individual customers and customer groups, and measuring frequently customer relationship value and customer satisfaction.

3.2. Knowledge Management

KM became an emerging discipline in the end of the 1990s due to companies' need to manage their knowledge resources more efficiently. Knowledge has become a fundamental factor behind an organization's success and all its activities in many businesses ([6]; [54]). KM approach draws from different disciplinary backgrounds and approaches such as cognitive sciences, artificial intelligence, computer-supported collaborative work, library and information sciences and organizational science ([48]; [49]; [54]).

According to Wiig [54], the objective of KM is to "make an organization act as intelligently as possible to secure its viability and overall success and to otherwise realize the best value of its knowledge assets". Some KM scholars, such as Nonaka [40], define KM as the process of capturing collective expertise and intelligence of organization and using them to foster innovation. Common reasons to implement KM are to enable and foster organizational learning, to improve an organization's performance by linking experts to each other, to apply best practices to future problems and opportunities, and to produce long-term competitive advantage ([24]; [59]).

In KM, the focus is on capturing employees' knowledge about customers, competitors, products and services produced in an organization, therefore; the perspective of KM is inside of the organization (e.g. [42]). Thus, KM process is first of all, an organizational learning process ([34]; [52]). KM communication is organizational communication ([48]).

At the conceptual level, almost all KM models can be traced back to a basic approach to analyze what is knowledge and how it is created ([34]). Consequently, from a business practice point of view, a common weakness of KM models is that knowledge is separated from relevant business processes ([24]). There is also a lack of research conducted on how KM approach can be implemented in practice ([34]). KM also includes knowledge dissemination and exploitation: "a capability to put knowledge to work" ([49]). It can thus be concluded that key processes of KM deal with converting data into information and knowledge (e.g. knowledge creation), distributing knowledge within an organization, exploiting

knowledge in operations, and learning (e.g. replacing old knowledge with new knowledge) in order to gain efficiency ([22]; [49]; [59]).

3.3. Customer Knowledge Management (CKM)

As stated earlier, customer knowledge is recognized as a key strategic resource in any company's success. CKM can thus be viewed as a crucial domain of KM. Moreover, it connects KM and CRM closely together. CKM is an area of management where KM instruments and procedures are applied to support the exchange of customer knowledge within an organization and between an organization and its customers, and where customer knowledge is used to manage customer relationships, to improve CRM processes such as customer service, customer retention and relationship profitability. Using the metaphor of service exchange, in CKM, KM is the service provider, who offers the tools and procedures for knowledge exchange ([24]and CRM the service buyer, who determines what knowledge is needed and who generates and uses the knowledge in customer interaction.

Figure 2 presents the key aspects of CKM as a management area in between KM and CRM. We argue that the perspective of CKM is both inside the organization and in customer interface. This is how it adds, for instance, to the closely related concepts of customer knowledge competence ([8]) and market knowledge competence ([37), which both focus on company internal processes only. CKM communication occurs in both within an organization and in customer interface.

Customer Knowledge Management: an integrated management approach

"Disciplinary partners": CRM and KM approaches

Perspective: In customer interface and inside the organization

Key actors: Employees and customers

Key communication context: Interaction between organization and customers

Conceptual foci: What is customer knowledge? Different sources and types of customer knowledge

Key processes: Generating, disseminating and using customer knowledge within organization and between organization and its customers

The goal: Learning about, from and with customers, in order to support CRM efforts

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Figure 2 Customer Knowledge Management as an integrated management approach

Relationship marketing orientation encourages organizations to interact and learn from and with customers, not only learn about their customers ([22]; [27]). Customers can help an organization to point out which issues are done well, and which issues need to be improved ([33]). In addition, customer relationships can offer a platform for knowledge creation and transfer ([5]; [59]).

In CKM, the key conceptual focus is on defining customer knowledge, its sources and types. On the basis of recent studies, this work seems to be going on at several fronts. A number of authors like to see customer knowledge as customer specific knowledge instead of more aggregate information about the market (see e.g. customer knowledge concept by Campbell [8], 376; relationship-specific knowledge by Ballantyne [5], 119; inter-firm knowledge by Halinen [31], 214). Gebert et al. [24] suggest that CKM model differentiates between four knowledge aspects: 1) content, 2) competence, 3) collaboration, and 4) composition. Content refers to the knowledge aspect when knowledge has to be separated from individuals and codified. Davenport et al. [15] note that some customer data should be left uncodified. Competence aspect focuses on understanding which customer knowledge is required by employees in order to accomplish their tasks in different business processes dealing with customers. Collaboration aspect refers to knowledge that only exits in groups such as project teams and it focuses on how this kind of knowledge can be supported. Composition aspect characterizes the incorporation and cost- effective distribution of customer knowledge within an organization. Reference information sources such as glossaries or metadata repositories support users while they are searching for customer knowledge they need.

We describe CKM as an ongoing process of generating, disseminating and using customer knowledge within an organization and between an organization and its customers. CKM is also a learning process ([21]), where efficient organizational processes of knowledge exchange are necessary.

4. Customer Knowledge Management Competence

CKM requires organizational competence to make full use of customer knowledge and to fulfill the promises of superior customer knowledge for company performance and competitive advantage. We draw on the ideas of Li & Calantone [37] concerning market knowledge competence, Campbell [8] concerning customer knowledge competence, and Gamble et al. [21] concerning Customer Knowledge Management, in defining CKM competence as the ability to integrate customer information and knowledge into an organization's CRM processes and operations.

Based on existing literature from the fields of market orientation and relationship marketing and studies about successful CRM and KM implementations, we propose that CKM competence should concern five areas in particular: 1) inter-functional cooperation, 2) supportive organizational systems, 3) cooperation with customers, and 4) supportive IT systems, and 5) organizational culture that supports organizational learning and customer orientation (see: Figure 3). These five areas should be managed so that customer knowledge generation, dissemination and use are enhanced and become integral parts of customer management processes and operations. The list of five areas is not exhaustive. Elements such ability to measure CRM efforts and organizational structure may also be significant.
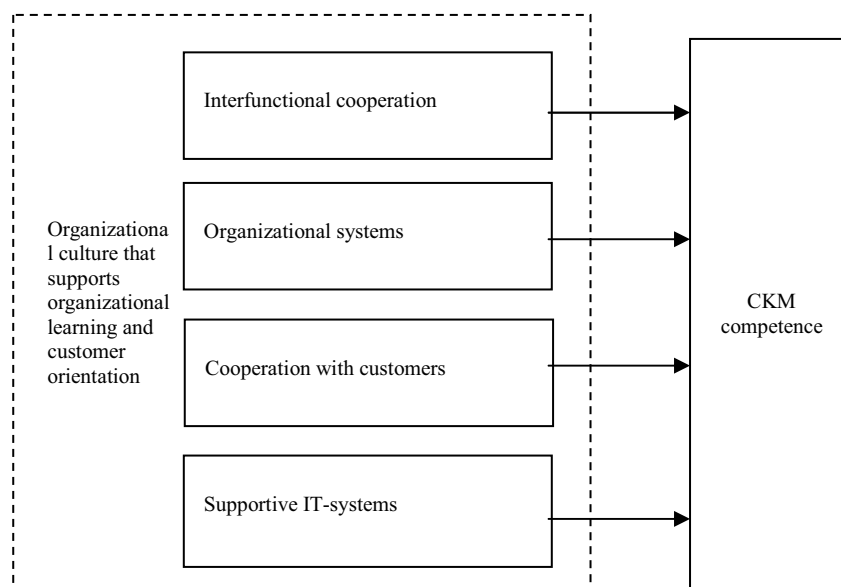

Figure 3 A tentative framework for CKM competence

Organizational culture that supports organizational learning and customer orientation can be seen as a platform for CKM competence. **Inter-functional cooperation.** In order to manage individual customer relationships, customer information and knowledge should be available everywhere and to everyone in an organization dealing with customers and everyone who uses customer knowledge in decision making (see e.g. [15]; [20]; [45]). In addition, in particular in business markets, customer information and knowledge can be available for functions that are not directly dealing with customers, such as finance and accounting ([50]).

There are two major reasons why cooperation among different departments in an organization is crucial in managing customer knowledge. First, customer knowledge is generated and disseminated within the formal and informal meetings and discussions among employees from different departments, i.e. tacit, individual customer knowledge is shared and made explicit, organizational knowledge (e.g. see: [41]; [42]; [59]). Second, inter-functional cooperation is required in developing and maintaining a shared customer database because some customer information and knowledge is generated and used by different departments at different times ([15]). Shared rules are required, for example, to decide what kind of customer data is required and stored, and in which format data should be in database that it can be analyzed ([21]).

Supportive organizational systems refer to the formal managerial systems under which people function. These are management, employee reward and evaluation systems, hierarchy of responsibilities and tasks, and other manifestations of a formal organization ([17]). In this paper, we discuss only senior management and employee reward and evaluation systems. The support of senior management has been found to be critical for CRM success in many studies (e.g. see: [8]; [38]; [45]). Senior management has an important role in communicating the value of customer knowledge for an organization and it can also work as a driving force for seeing customers as a valuable source of knowledge and partners as well ([24]; [33]; [35]).

In order to encourage employees to capture customer data and, moreover, share it with each other and use it, the reward and evaluation system should be linked to measures of customer satisfaction and knowledge sharing ([33];

[57]). For instance, Campbell [8] suggests that organizations might need to redesign their reward and evaluation systems first towards internally focused measures, such as knowledge sharing, and over time, towards more customer-focused rewards. However, Gamble et al [21] note that generating and sharing customer knowledge is not only matter of rewards, but culture. In KM literature, the use of traineeships, mentors and communities in an organization are proposed to foster knowledge sharing ([34]).

Cooperation with customers is critical for many reasons in managing customer knowledge. First, customers can provide their experience and knowledge about a company's products and services and, moreover, competitors' products and services ([13]; [22]; [24]). Second, customers have become more active parties in many businesses due to development of IT technology, especially due to Internet and e-commerce, and changes in business environment. Establishing a co-creative environment for customer interaction can be viewed as a principal goal of organizations that build and develop long-term customer relationships ([50]). Therefore, companies are seeking opportunities for partnering with customers. For example, Microsoft and Amazon.com have used customer knowledge successfully in developing, testing and even producing some of their products and services.

Supportive IT systems refer to channels and platforms for knowledge generation and sharing within an organization and between an organization and its customers. These are such as Internet, Intranet, and Extranet, email, customer communities and customer contact centers that are designed to conduct customer dialogue ([8]). Integration of these IT systems containing customer data and information is necessary in order to disseminate and use customer knowledge ([20]).

5. Conclusion

In this paper, we have aimed to create understanding of CKM as an integrated management approach and CKM competence as a necessary organizational resource in implementing CKM in a company. We draw on literature from the fields of market orientation and relationship marketing and implementations of CRM and KM in defining CKM as an ongoing process of generating, disseminating and using customer knowledge within an organization and between an organization and its customers. CKM competence refers to an ability to integrate customer knowledge into CRM processes. In developing the notions of CKM and CKM competence we have paid attention to three issues in particular:

1. There is an evident need in the marketing discipline to further elaborate on the concepts of "customer knowledge" and "Customer Knowledge Management". Market orientation as a core concept of marketing does not correspond to the current relationship marketing thinking. We suggest that the idea of relationship-specific knowledge is needed to integrate the concept of customer knowledge.

2. There is a need to broaden the perspective of CKM competence to include customer relationships and customer interface. CKM competence has been seen an inherently company-internal concept. We suggest that customers and customer interface should be part of CKM competence from the customer knowledge generation and use point of view.

3. There is a need to define the competence of CKM, i.e. the main areas where management effort is needed in order to make CKM a managerially viable approach. Based on recent ideas of Siravamkishnan, Delba & Bruning [51], we argue that CKM competence plays a key mediating role in translating a company's market orientation to business performance. For this to be possible, managers need to be served with a clear picture of what CKM competence includes and how customer knowledge generation, dissemination and use become integral parts of CRM processes and operations.

In this paper, we have started the conceptual development in this direction. The work is, however, just in the beginning. Besides theoretical work, further empirical research is required for instance on:

a) What elements the CKM competence includes. This would mean the development and testing of the proposed CKM competence framework in a number of industries in both consumer and business markets.

b) How CKM competence affects the performance of CRM efforts e.g. customer perceived value, satisfaction, customer loyalty or customer relationship profitability in different industries.

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