



# Literature Review on Customer Knowledge Management (CKM)

Uma Lakshmi Kalakada<sup>1</sup>  
Selvam Jesiah<sup>2</sup>

## Abstract

This paper reviews the literature pertaining to Customer Knowledge Management (CKM) and comprehensively presents CKM's process models, antecedents and consequents. The CKM process of capturing rapidly changing customer information and translating it into actionable knowledge is rooted in resource pre-conditions such as strategic flexibility, customer-centric culture and supportive technological infrastructure, and is found to have significant positive influence on firm's long term performance via strengthened Customer Relationship Management (CRM) processes and new product development.

**Keywords:** CKM, CRM, customer knowledge, customer knowledge management, firm performance

## 1. Introduction

Customer Knowledge (CK) represents an important organizational asset to keep track of customers' changing needs and demands, and to support long-term relationship with customers (Capraro et al., 2003; Jayachandran et al., 2004) culminating in successful market innovations (Sofianti et al., 2010). The process of capturing and translating customer-related information into employable knowledge is referred to as Customer Knowledge Management (CKM) (Gebert et al., 2003). A firm's KM capability can be evaluated by continuous and intentional mobilization of organizational resources in combination with other capabilities in the KM processes (Gold et al., 2001). Hence, it is important to know the resources pre-conditions for CKM as well. CKM studies are in rise in the past two decades and present paper has gathered and integrated research articles from multiple databases and working papers that are published between 2000 and 2019. The extracts on the state of CKM research have been organized as follows: (1) Concept of CK (2) Concept of CKM (2) CKM process models (3) Antecedents of CKM (4) Consequents of CKM in terms of firm performance.

## 2. Literature Review

Global competition combined with ever increasing customer demands towards quality and novelty of products and services, is exerting pressure on companies to adapt quickly to changing rules of markets. This transition requires customer knowledge to a considerable extent.

### 2.1. Customer Knowledge

Customer knowledge (CK) is defined as "organized and structured information about the customer as a result of systematic processing" (Campbell, 2003). It is generated during the transactions between customers and the organization, and provides a framework for evaluating new experiences and information (Gebert et al., 2003). Customer Knowledge flow is not one-sided and the following types are identified for CK. First, *knowledge about customer* represents the basic CRM data about a customer (e.g., personal details, transaction history, products and services used, language preference etc.). Second one, *knowledge for customer* refers to knowledge flows from the organization to its customers, regarding its products, markets and suppliers with a view to support them. Thirdly, *knowledge from customer* is the feedback in terms of

<sup>1</sup> Research Scholar, Alliance University, Anekal – 562 106, Bengaluru [Umalakshmi.k@gmail.com](mailto:Umalakshmi.k@gmail.com)

<sup>2</sup> Professor & Vice Principal, Faculty of Management Sciences, SRIHER (Deemed to be University)

Porur-600 116, Chennai, [sjesiah@gmail.com](mailto:sjesiah@gmail.com)

customer experiences with the company, their needs, emotional and functional drivers to stay in this relationship. This knowledge is a precious resource for companies to understand the customers better, improve products and services continually and to strategize the innovations (Gibbert et al, 2002; Rowley, 2002; Smith and McKeen, 2005; Salomann et al. , 2005;Wu et al., 2013). The fourth type, *Customer knowledge of co-creation* is derived from a two-way relationship by the firm with customers as knowledge development partners; and by incorporating IT-based design toolkit, lead users can configure parts of or complete products (von Hippel and Katz, 2002). The negative side effects of this co-created knowledge can include unavoidable sharing of company know-how with customers, which can be misused; and dependency on select customers (Gassmann et al., 2010). Whatever be the type of Customer knowledge acquired, company needs to generalize it to the markets (Rowley, 2002).

### 2.2. Customer Knowledge Management (CKM)

CKM is defined as “the process of capturing, sharing, acquiring and applying all types of customer knowledge in order to create value for both customers and the organization” (El-Helaly, 2015). CKM is viewed as a process and as a capability by different researchers. CKM as a process is understood by applying KM concepts in the area of CRM (Gebert, 2003), and it broadly encompasses knowledge acquisition, creation, transfer and application. As a capability of the firm, CKM absorbs and manages real customers, offer products and services information to improve customer response, helps faster decision-making, aids employees with cross-selling, predict market demand so as to leverage the competitive advantage more effectively (Kaushik et al., 2016). Table 2.1 provides summary of CKM processes proposed in prior research.

**Table 2.1. CKM Process/ Capability Models**

CKM Process	Phases	Reference
CKM styles	Prosumerism, Team based co-learning, Mutual innovation, Communities of creation, Joint Intellectual property	Gibbert et al. (2002)
Customer/ user tool kit for innovation	Identify market trends, Identify lead users, Analyze lead user need data Project the lead user data onto general market interests	Hippel and Katz (2002)
Integrated CKM Model	CRM sub-processes; KM Processes; CKM dimensions	Gebert et al, (2003)
CKM steps	Envision, Plan for and manage different types of relationships, Knowledge development, Effective Execution.	Smith and McKeen(2005)
Kano-CKM Process	Product benefits/ preferences identification, Customer satisfaction categorization, Market segmenting, Customer usage pattern extraction	Chen and Su(2006)
E-CKM model (using IT & data mining)	Product features/ benefits identification, Customer needs categorization, Market segmentation implementation, Segment needs pattern extraction	Su et al. (2006)
CKM process	Customer Data Acquisition; customer data processing to generate customer knowledge; customer knowledge deployment	Chen (2011)
CKM process	Customer Knowledge Capture, Customer Knowledge Sharing, Customer Knowledge Acquisition and Application	El-Helaly et al., (2015)

### 2.3. Antecedents of CKM

There are limited studies on resource and capability antecedents of CKM and the following are identified from the available research. An organization’s ability to create customer knowledge depends on access to resources, strategic flexibility and management of project members motivation (Joshi and Sharma, 2004). Information Technology (IT) forms the building blocks of comprehensive integrated CRM systems via knowledge support for customer related processes (Wu et al., 2013). Website customer knowledge infrastructure based on customer knowledge tools perspective is presented by Zanjani et al. (2008) and Roberts and Grover (2012). These tools enable firms to keep track of customers’ dynamics, be sensible and act on time. The extent of richness of website knowledge tools supports the varied customer roles of user, resource and co-creator (Roberts and Grover, 2012). Website design should enable two way communications with customers allowing requests, complaints from one side and addressing system from business (Vasireddy, 2016; Kalakada and Jesiah, 2019). Social media links on websites present companies with opportunities to use them to access knowledge that resides in the minds of customers (Boateng, 2016).

Khosravi and Hassin(2018) identified “Customer-Centric Culture,” “Collaboration System,” and “CRM Technology Infrastructure” as important antecedents based on literature review. Interactions among employees and customers are likely to generate CK that is rich in its tacit insights than those generated from analysis of transactional data (Gibbert et al., 2002; Smith and McKeen , 2005; Kalakada and Kundu, 2018).

#### 2.4. Consequents of CKM in terms of firm performance

Knowledge exploration on a continuous basis to support CRM processes is the task of CKM (Rowley, 2002; Chen, 2011). CRM sets ground for leveraging customer relations to firm’s customers to ultimately obtain a position of sustainable competitive advantage and maximize returns (Joshi and Sharma, 2004; Sofianti et al., 2010). Table 2.2. summarizes various firm performance parameters significantly impacted by CKM.

**Table 2.2: CKM - Firm performance Frameworks**

References	Type of study	Firm Performance Metric
Hippel and Katz (2002)	Case study	Product Innovation
Campbell (2003) ;Gebert et al. (2003)	Case study	CRM
Joshi and Sharma (2004)	empirical	New product performance
Salomann et al. (2005)	Case study and empirical	CRM
Sofianti et al. (2010)	conceptual	New product development
Chen (2011)	conceptual	CRM
El-Helaly (2015)	empirical	Service Recovery Performance
Mehdibeigi et al. (2016)	Empirical	Organizational Effectiveness
Trejo et al.(2016), Vasireddy (2016)	Empirical	Innovation

### 3. Conclusion

The challenges in deriving customer related knowledge insights include generating customer engagement value on a continuous basis, incorporating customer-firm interactions into organizational knowledge with supporting customer-centric culture and technological infrastructure; and applying it for mass customization and innovations. Initial research focused on examining CKM – CRM/ New Product Development linkages and deriving CKM process models based on KM literature. In recent times, CKM studies are extended to website design and social media. There are few empirical studies on resource and capability antecedents of CKM. In this backdrop, current literature review presents the antecedents – CKM process – consequents research comprehensively, and these results can be used by companies and researchers for successful implementation of CKM.

### 4. References

1. Boateng, H. (2016). Customer knowledge management practices on a social media platform: A case study of MTN Ghana and Vodafone Ghana. *Information Development*, 32(3), 440-451.
2. Campbell, A.J. (2003). Creating customer knowledge competence: managing Customer Relationship Management programs strategically. *Industrial Marketing Management*,32(1),375– 383.
3. Capraro, J.A., Broniarczyk, S., and Srivastava,R.,K. (2003). Factors influencing the likelihood of customer defection: The role of customer knowledge. *Journal of the Academy of Marketing Science*, 31(2),164-175.
4. Chen, Y-H., & Su, C-T. (2006). A Kano-CKM model for customer knowledge discovery. *Total Quality Management and Business Excellence*, 17(5), 589-608.
5. Chen,T.F. (2011). An Integrated Process-based Customer Knowledge Management Model. *Journal of Knowledge Management Practice*, 12(4), December.
6. El-Helaly, N.; Ebeid, A. and El-Menbawey, A.(2015).The Role of Customer Knowledge Management Process in Service Recovery Performance: An Applied Study to the Egyptian National Railways. *International Journal of Management and Applied Research*, 2(1),1-21.
7. Gassmann, O., Enkel, E., and Kausch, C. (2010). Negative Side Effects of Customer Integration. *International Journal of Technology Management*, 50(1),43-62.
8. Gebert,H., Geib,M., Kolbe,L., and Brenner,W. (2003). Knowledge-enabled customer relationship management: integrating customer relationship management and knowledge management concepts, *Journal of Knowledge Management*, 7(5),107-123.
9. Gibbert,M., Leibold, M.,Probst,G. (2002). Five Styles of Customer Knowledge Management, and How Smart Companies Use them to Create Value. *European Management Journal*, 20 (5) , 459-469.
10. Gold, A.H., Malhotra,A.,Segards,A.H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, Summer, 18(1),185.

11. Hippel, E.V., and Katz, R. (2002). Shifting innovation to users via toolkits. *Management Science*, 48 (7), 821–833.
12. Jayachandran, S., Hewett, K., and Kaufman, P. (2004). Customer response capability in a sense and-respond era: The role of customer knowledge process. *Journal of the Academy of Marketing Science*, 32(3), 219–233.
13. Joshi, A.W., and Sharma, S. (2004). Customer knowledge development: Antecedents and impact on new product performance. *Journal of Marketing*, 68, 47-59.
14. Kalakada, U.L., and Kundu, S. (2018). Antecedents of customer agility from the perspective of customer knowledge management capability: the context of retail sector. 6th International conference on Business Analytics and Intelligence, 20-22, December, Analytics Society of India, IISc, Bengaluru, India.
15. Kalakada, U.L., and Jesiah, S. (2019). Customer knowledge management via website: How far are brick and mortar retails from online retails. IIM-Indore- NASMEI Summer Marketing-IS conference, 26-28, July, 2019, Indore, India.
16. Kaushik, A., and Xu, S. (2016). Derivation of customer intelligence from customer knowledge management. *International Journal on Computer Science and Engineering*, 8(8), 296-306.
17. Khosravi, A., and Hussin, A.R.C. (2018). Customer knowledge management antecedent factors: A Systematic literature review. *Knowledge and Process Management*, 25(1), 12-30.
18. Mehdibeigia, N., Dehghanib, M., Yaghoubic, M., N. (2016). Customer Knowledge Management and Organization's Effectiveness: explaining the mediator role of Organizational Agility. 3rd International Conference on New Challenges in Management and Organization: Organization and Leadership, 2 May 2016, Dubai, UAE.
19. Roberts, N., and Grover, V. (2012). Leveraging Information Technology Infrastructure to Facilitate a Firm's Customer Agility and Competitive Activity: An Empirical Investigation, *Journal of Management Information Systems*, 28(4), 231-270.
20. Rowley, J. (2002). Reflections on customer knowledge management in E-business. *Qualitative Market Research: An International Journal*, 5(4), 268-280.
21. Salomann, H., Dous, M., Kolbe, L., and Brenner, W. (2005). Rejuvenating Customer Management: How to Make Knowledge For, From and About Customers Work. *European Management Journal*, 23(4), 392–403.
22. Smith and McKeen (2005). Developments in Practice XVIII-Customer Knowledge Management: Adding Value for Our Customers. *Communications of the Association for Information Systems*, 16, 744-755.
23. Sofianti, T.D., Suryadi, K., Govindaraju, R., Prihartono, B. (2010). Customer Knowledge Co-creation Process in New Product Development. *Proceedings of the World Congress on Engineering 2010*, 1, WCE 2010, June 30 - July 2, 2010, London, U.K.
24. Su, Chao-Ton., Chen, Yung-Hsin., Sha, D.Y. (2006). Linking innovative product development with customer knowledge: a data-mining approach. *Technovation*, 26, 784–795.
25. Trejo, J.M., Gutierrez, J.S. and Guzman, G.M. (2016). The customer knowledge management and innovation. *Contaduria Administracion*, 61, 456–477.
26. Vasireddy, P. (2016). Customer Knowledge Management in organizations: Developing a practice framework to achieve 360o view of customer. (Unpublished Doctoral Dissertation). University of Bolton, UK.
27. Wu Jiebing, Guo Bin, Shi Yongjiang (2013). Customer knowledge management and IT-enabled business model innovation: A conceptual framework and a case study from China. *European Management Journal*, 31, 359– 372.
28. Zanjani, M.S., Sakhaee, N., and Shahbaznezhad, H. (2009). Mechanisms of Customer Knowledge Management in E-Commerce Websites. *Research Journal of Information Technology*, 1, 86-93.