Is it interesting what customers know?
The state of current research and future perspectives
of Customer Knowledge Competence

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Abstract

Customers know or do a variety of things that contribute value to a firm. The marketing literature describes selected customer knowledge manifestations but pays scant attention to the whole customer knowledge competence view. This implies there is no customer knowledge competence theory. This study defines Customer Knowledge Competence as a combination of what customers know, can do or can create, and analyses the state of current research and future perspectives. A systematic analysis of the literature shows that with no comprehensive theory, research efforts on Customer Knowledge Competence decrease year by year, playing a servant role for the variety of customer knowledge-oriented theories. Linking to customer performance metrics would contribute significantly to Customer Relationships Management theory.

Keywords: *Customer Knowledge, Customer Knowledge Competence, Customer Relationship Management, Systematic Literature Review*

Track: *Customer Satisfaction – CRM*

1. Introduction and Objectives

Customers have different levels of knowledge about the offerings of firms they use, related industrial conditions or how to use the products or services they buy. Those consumers whose knowledge is greater than others and who want to collaborate with firms are lead users and participate in firms' development of offerings (Urban, Hippel, & May, 2007; von Hippel, 1986; von Hippel & Riggs, 1996). This behaviour occurs especially in the process of new product/service development (NPD/NSD) (Fang, 2008; Nambisan, 2002). Other customers may be passive, even when they know much or because they don't know as much as the first group does (Konu, 2015).

The issue of what customers know is fundamental for Customer Relationship Management (CRM) theory, which is based on the dialogue between firms and customers. The level of knowledge between participants in the exchange process can impact the shape of the relationships (Prahalad, Ramaswamy, 2004). In the field of CRM this means the knowledge customers have could determine their attitudes towards the firm and could shape their willingness to buy, their level of loyalty, customer lifetime value (CLV) or other CRM metrics. But do marketing researchers take up this issue in their research studies? This article aims to address the problem by conducting a systematic literature review (SLR) of peer-reviewed articles, in which I observe the customer knowledge research trend over time, analyse its impact and estimate its future development.

2. Conceptual Background

Customer knowledge is an ambiguous term that embraces knowledge *about*, *for* and *from* customers. Knowledge *about* customer is knowledge a firm holds and can use for its marketing purposes. Knowledge *for* customers is the knowledge a firm possesses which it can transfer to its customers, who treat such knowledge as a value. Knowledge *from* customers is understood as the knowledge residing in customers, which can be valuable for a firm's marketing purposes (Gebert, Geib, Kolbe, & Brenner, 2003). The knowledge firms can get from customers can be knowledge *about* (e.g., what customers know about an offer or can do with it) or knowledge *from* (e.g., customer feedback or suggestions) (Desouza & Awazu, 2005; García-Murillo & Annabi, 2002). This leads to the broad definition that all customer knowledge manifestations are what the customer knows (*I know*), can do (*I can*), and what the customer can create (*I create*), and what a firm can identify and apply for its business purposes. This creates a concept for which I propose the name Customer Knowledge Competence (CKC).

First, customers get to know the offer, brand or product category from a variety of knowledge sources; for example, customers know about different smartphone models so they can buy the one most appropriate for their purposes; they know the prices, know where to buy, know the competitors or the industry jargon. The current study calls this the *I know* type of knowledge, which is **passive**. Secondly, customers can use the offer, for example, they withdraw money from an ATM or drive a car. The study calls this the *I can* type, which is **active**, since customers have the skills required for how to do something. Thirdly, customers participate in offer creation/modification based on their preferences, and participate in the new offer creation/modification process (e.g., propose a new ice cream taste, design and test it). The study calls this the *I create* type, which is **creative**, since customers create or participate in the creation/modification process.

Several concepts and theories describe different aspects of the CKC phenomenon from different angles (Gibbert, Leibold, & Probst, 2002b), including lead user innovation (von Hippel & Thomke, 2007), customer co-creation (Koniorczyk, 2015) and customer co-creation

in the new product development process (Hoyer, Chandy, Dorotic, Krafft, & Singh, 2010), communities of creation (Sawhney, Verona, & Prandelli, 2005), co-production (Etgar, 2008), innovative users (Abrell, Pihlajamaa, Kanto, vom Brocke, & Uebernickel, 2016), prosumerism (Toffler, 1980) or collaborative product development (Eslami & Lakemond, 2016). However, none of them analyse the whole CKC perspective, which means the Customer Knowledge Competence phenomenon does not have its own theory but it is only an unstructured concept derived from different concepts or theories.

3. Research Question

The research question stated based on the above observations is: What is the current state of Customer Knowledge Competence and its research perspectives?

4. Method

To answer the research question, this study used the SLR methodology in the theoretical scheme version of Tranfield, Denyer, and Smart (2003), and its practical implementation by Crossan and Apaydin (2010) in terms of its bibliometric part, with necessary modifications. This allowed the author to provide highly reliable and comprehensive evidence based on the topic. The paper concentrates on the CKC aspects independently from the theoretical concepts that are behind the particular article under analysis. This is to avoid the risk of ambiguity regarding these concepts.

The study focused on an analysis of English publications included in the EBSCO, Proquest, Emerald, ScienceDirect and JSTOR databases. The study was up to date as of March 2017, but the papers included were published until the end of 2016. The year 2017 is excluded, since the analysis covers only its first quarter, which would interrupt the clear, yearly view of the analysis.

5. Findings

First, the article conducted a <u>literature identification</u>. The collection included data from peer-reviewed academic journal full papers, driven by the following keywords: *customer knowledge*, *customer knowledge management* and *customer knowledge value* in the title, abstract or keywords.[1] The research resulted in an initial sample of 199 articles. The sample set was then fixed as the basis for all future analysis.

Secondly, the <u>literature selection</u> phase resulted in three groups of articles. The detailed analysis of the set showed that 107 of them referred to other topics only, with small parts devoted to broadly understood CKC, so they were considered irrelevant. Fifty-one of the articles are general customer knowledge ones or refer to knowledge *for* or *about* customers, with no possibility of dividing them into CKC parts. Forty-three papers were strictly concerned with the CKC area.

Third, the research conducted a <u>snowball analysis</u> to complete the set. CKC's articles' references analysis identified a further 141 papers relevant to the topic, so, finally, the research discovered 184 papers that concentrate on CKC. They were split into six groups (see Table 1).

Insert Table 1 approximately here

The research categorized papers into conceptual, methodological, empirical and valuation papers as a separate category when the last was both conceptual and empirical. The

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[1] Except JSTORE, where we use the option *title, abstract, and caption* and ProQuest, where the option *keywords* was disabled.

article categorization, combined with the dates of publishing, allowed me to follow the concept lifecycle analysis.

Bibliometric analysis shows that there is a trend consistent with product lifecycle (PLC) theory. This theory states that each product's lifecycle is divided into four stages: introduction, growth, maturity and decline. The assumption that the number of articles published is a product allows this theory to follow the CKC evolution through time. Schematically, PLC may be approximated by a bell-shaped curve divided into the four above-mentioned stages (Rink and Swan 1979) (see Figure 2).

Insert Figure 1 approximately here

The introduction phase covers the years 1977-2001. The analysis shows that the first CKC paper appeared in 1977.[2] The initiative trend started with three seminal conceptual works by Von Hippel, which could be regarded as classics today. Some single, mostly empirical, papers appeared in the mid-80s. A few publications followed until 1997, when user involvement in the NPD/NSD concept started to become more attractive. The tendency to increase the number of papers proves that the CKC research field became explicit, and was extracted from the general knowledge management area. The regular trend started in the mid-90s, likely due to the Internet revolution, which allowed people to share knowledge and benefit from it on a large scale. A significant share of the papers analysed deals with e-commerce or industries that use the Internet as a customer relationships environment or distribution channel. Empirical and methodological papers dominate.

The growth phase covers the years 2002–2004, and indicates that CKC started to become a separate research field. The period can be called the second youth of the concept, because researchers still made empirical articles, but got back to conceptual ones. The most popular theories at that time were new product or service development, lead-user theory, product/service co-creation theory, community of users, and prosumerism (Gibbert, Leibold, and Probst, 2002).

The maturity phase covers the years 2005–2012. Qualitative research dominated between 2005 and 2008 and quantitative research between 2009 and 2012, which confirms that the CKC concept started to become well grounded and deeply explored.

The decline phase covers the years 2013–2016. The growing trend started to decrease in 2011 (with the exception of 2015) probably because the area had been sufficiently explored in its present form and scholars ran out of new ideas. The way to bring it back alive could be by getting a new perspective, especially in view of the fact that CKC papers stopped generating impactful papers. Figure 3 presents the analysis of the CKC papers' impact.

Insert Figure 2 approximately here

Each circle represents an article,[3] and the most cited ones are from the introduction to early maturity phase, with a tendency to decline from 2011. The most impactful articles belong to the early stages of the concept's lifecycle, which means the most important discoveries were made during the early evolution of the concept. This leads to the question of how the publication trend is going to look in the future, when all the current interesting things have been written so far. To illustrate the diffusion of articles over time, this study uses the cumulative number of articles from 1977 to 2016 to estimate a Bass Diffusion Model (Bass, 1969), which is presented in Figure 3.

Insert Figure 3 approximately here

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[2] Von Hippel, Eric (1977). A customer-active paradigm for industrial product idea generation. *Research Policy*, *7*(3), 240-266.
[3] The circles may overlap when two or more papers received the same citation number in a particular year.

As shown in Figure 3, the predicted cumulative number of articles based on this model indicates that the growth slowed down, which is consistent with the number of newly published papers presented in Figure 2. The increase in the number of articles dealing with CKC is expected only for the next eight or 10 years, which means that after about 2030, no CKC papers are likely to be published, so the research area looks almost exploited, which is in line with the papers' interpreted distribution.

6. Discussion

The analysed papers don't come from one existing CKC theory, because actually there is no theory. The papers come from different knowledge concepts or theories with one common element underlined in this paper, which is customer knowledge competence.

The three-way statistical analysis gives the overall picture of CKC trends. The distribution of the CKC papers' citations shows that several extraordinary, highly cited publications were published from 1985 to 2006 and are independent from the lifecycle of the concept. This means there has been a group of high-impact papers that have shaped the direction of CKC research independently from the trend. From 2007 the number of papers and citations have gone hand in hand.

This study found that the lifecycle of CKC papers started in the late 1970s, reached its peak in the first decade of the 2000s, and is now declining. The Internet revolution supports the possibilities of CKC use, thanks to collaboration between firms and customers. Its lifecycle correlates with the Internet revolution and decreases when the revolution, measured by the number of users, is still increasing (Internet Users in the World, 2018). This means the revolution is going forward and CKC is not.

7. Conclusions

This discussion concludes that the interest in CKC has declined systematically from 2003 and nothing will happen until the scope of the research changes. Hypothetically, all of the CKC types contribute to firm/customer value, but it is not known when, how and to what extent they do so. CKC does not have its own theory, so the instrumental use of its potential components (*I know, I can, I create*) has resulted in its relatively lesser popularity, since scientists concentrate on different theories.

Starting work on the CKC theory could move the research forward and could make a variety of contributions to CRM. Firstly, the separated theory makes it possible to concentrate on the CKC itself, with no side stories. This would open up the opportunity to capture breakthrough discoveries, which could raise the level of interest in the CKC concept. Secondly, treating CKC as a whole or with its elements separately would test them as antecedents/determinants of key CRM metrics such as customer loyalty or CLV. Thirdly, if CKC could be valuated, this would contribute to CRM as a source of the customer engagement value (CEV) concept (Kumar et al., 2010).

8. Limitations

The main limitation of this study is that probably not all of the papers from the field have been included. This is a problem with all SLR-type papers, especially when the analysis is limited to keywords-based searching. To partly avoid the problem of omitting relevant papers, snowball analysis has been conducted. The second limitation is that all of the journals meeting the searching criteria have been included, which has resulted in an outcome based on

ambiguous content. However, in this research based strictly on bibliometric analysis, the number of papers is a more important indicator that the quality of their content.

9. Further Research

To start working on CKC, marketing researchers first need to operationalize its elements (*I know, I can, I create*) by proposing marketing scales (subjective knowledge) or tests of competences (objective knowledge). Afterwards, future works could concentrate on CRM hypothesis verification to identify the relationships between CKC and willingness to buy, customer loyalty, CLV and other significant metrics. Finally, valuating CKC should fulfil Kumar et al.'s postulates of engaging customer knowledge value (CKV) with CEV.

10. Managerial Implications

CKC analysis may help firms provide potentially significant customer relationship predictors. CRM hypothesis verification and CKV estimation can protect firms against customer undervaluation and lead to more accurate customer segmentation and marketing resource allocation. Furthermore, this may allow for the shaping of individual relationships, not only with the most intellectual contributing customers, who co-create firms' offerings, but also with active users who can do something, or passive non-creators who know little about the offering. The research results may allow us to find CKC as a CLV and customer behaviour determinant, answering such questions as: Do customers who know more than others buy more frequently? Do they pay more? Do they pay earlier? Are they more loyal?

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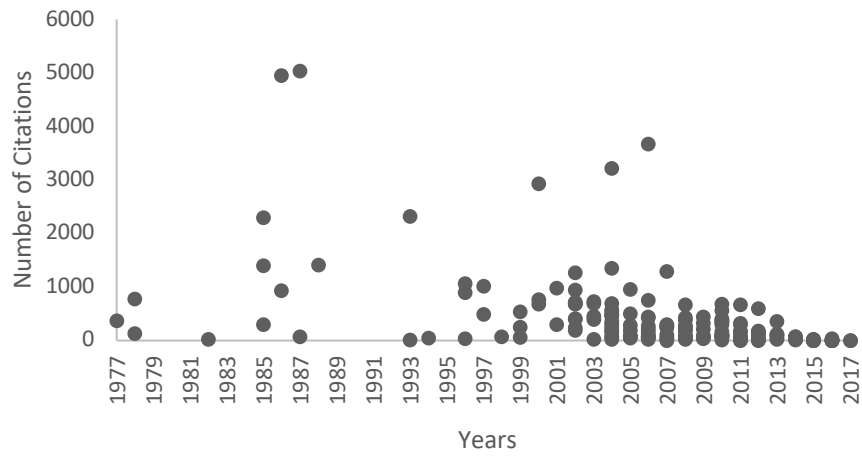
Table 1: Knowledge from Customers' Papers Grouping

Customer Knowledge Competence Articles					CKC valuation
Conceptual	Methodological	Empirical			
		Qualitative	Quantitative	Multimethod	
40	5	55	80	1	3

Figure 1: Distribution of Customer Knowledge Competence Papers
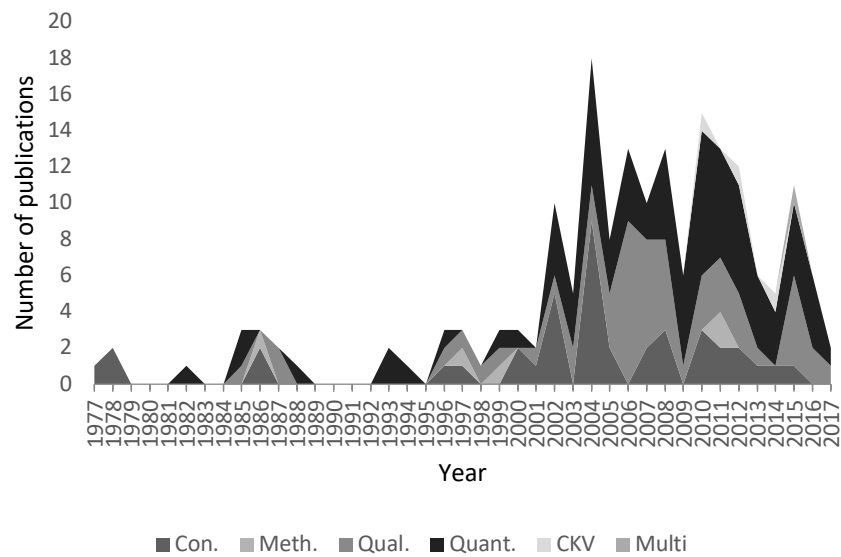
Figure 2: Distribution of CKC Papers' Citations

Figure 3: CKC Papers' Bass Distribution