







Customer Knowledge Management: Micro, Small and Medium - Sized Enterprises in Bogotá - Colombia

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Abstract. The idea of Customer Knowledge Management (CKM) is quite new, especially linked to operations within an organization. In this context, it is required to recall 80's worldwide concepts as Customer Relation Ship (CRM) or Customer Lifetime Value (CLV). CRMs were complex and focused on large companies in the 90's. At the beginning, CRMs worked through connections in infrastructures; nonetheless, from 2010 it was normal to use Cloud Computing versions. CRMs arose in Colombia firstly in large companies, now it is available for micro, small and medium enterprises (MSME). There are approximately 2.5 million MSME operating in a competitive environment, pursuing their market share. Besides, customer loyalty appears to be a difficult issue as well. Hence, the present paper aims to identify the Customer Knowledge Management Strategies developed by Colombian MSME. The methodology incorporates primary data, through a validated instrument by experts. Research results confirm that MSME work on customer loyalty strategies without systematization or measurement technology. Thus, an opportunity emerges for MSME regarding the use of cloud computing or CKM.

Keywords: Customer Knowledge Management - CKM · Customer Relationship Management - CRM · Cloud computing · Customer retention · Customer satisfaction

1 Introduction

Colombian MSMEs are basic for the economy of the country. According to the Ministry of Commerce, Industry and Tourism (MINCIT), there are 2.518.120 MSMEs, representing nearly 98% of total Colombian enterprises and 80.8% of national employment [1]. Despite of its significance, there is a lack of resources to access to technology and innovation. Therefore, MSMEs currently compete through two main factors: customer service and quality [2]. Large companies play acceptable in this scenario, while MSMEs in Bogota do not. According to the Chamber of Commerce

Network (CONFECAMARAS), 90.000 enterprises failed in 2016 [3] and the Business Survival Rate was just around 30%.

In November 2017, MINCIT launched the “Productive Colombia” Program, aim to help MSMEs to boost their competitiveness, efficiency and export capacity. The strategy has five key ideas to reduce energy consumption, raw material waste, delivery timing, customer claims, staff turnover and unsatisfied customers or defective products [4]. Most of these matters, without a doubt, favour customer loss.

The formulated hypothesis stands that MSMEs are not developing CKM strategies to foster customer loyalty; consequently, they are risking their profits and the opportunity to survive. The main objective of this research is to identify the Customer Knowledge Strategies used by the MSMEs in Bogota, representing 30% of total Colombian MSMEs.

The article structure is as follows: Sects. 2 and 3 describe the CKM concept (nature, characteristics and typology) and Micro, Small and Medium – Sized enterprises in Colombia; Sect. 4 defines the research methodology and the instrument design; Sect. 5 displays and studies the results of research; Sect. 6 include discussion about research; Sect. 7 define an adaptation roadmap for MSMEs; Finally, Sect. 8 disclosures conclusions and future research proposals.

2 Customer Knowledge Management

In 1990, authors as Karl Erik Sveiby and Leif Edvinson were interested in defining processes in order to describe how companies transfer, share and appropriate knowledge for continuous improvement. The CKM concept is quite recent, for that reason, it is mandatory to define the previous concepts, in order to set an appropriate context as a research basis.

Customer Relationship Management: CRM is a business strategy aim to create and sustain profitable customer relationships, in the long term. These initiatives rise on the company’s strategy and philosophy and should be customer focus [5].

Collaborative CRM: Its objective is to optimize the customer contact, meaning e-mail, conferences or websites. Besides, Customer Lifetime Value establishes a relationship with society [6–8].

Operational CRM: It gives access to relevant customer data to Sales and After-Sales Departments.

Customer Knowledge: Integrates the customer and customer knowledge within the organization processes. This concept develops 3 key elements: knowledge about customer, specifically information linked to sales, payment behaviour, demand habits [9]; knowledge from customer, meaning customer experience about products, services and processes and expectations [10]; and knowledge for customer, which identifies customer knowledge gaps [11].

Co-creation: It is de key strategic element of CKM. It is a strategy to create value from the customer. It recalls a new customer role in innovation which creates value for

the company and it self [12]. Without doubt, the innovation needs ideas from customers who are engaged with the products or services. They use products or services, hence, they probably can give ideas about improvement of products or service more easily than the employees or company o product research department.

Bigdata: It is management and analysis of big amount of data of different kind in order to make decisions. This is an important tool for identifying expectations of customers [12].

3 Micro, Small and Medium – Sized Enterprises in Colombia

In Colombia, according to Law 905/2004, Colombian Enterprises Typology is based on two criteria: number of employees and assets [13] (See Table 1).

Table 1. Enterprise classification

Size	Work unit or total assets \$COP
Micro	Work <= 10 employees, or total assets, excluding house <= \$368.858.500
Small	Work >= 11 and <= 50 employees, or total assets > \$368.858.500 and <= \$3.688.585.000
Medium	Work >= 51 and <= 200 employees, or total assets > \$3.688.585.000 <= \$22.131.510.000
Large	Work > 200 employees, or total assets > \$22.131.510.000

Source [13]

Micro-Companies generate 50.3% of employment, while Small and Medium create 30.5% of it. MSMEs are mostly concentrated in Bogota, Antioquia, Valle del Cauca, Atlántico and Santander regions. Exports grew up to \$1.437 million in 2016, experienced a contraction, by 5.7% since 2015. United States of America and Ecuador are the most relevant Colombian products importers. Indeed, industrialists represent about 90.6% of exports. Regarding legal aspects, 40% of businesses establish as companies' society and 60% operates under legal natural person.

Furthermore, “Productive Colombia” Program refers to current situation for MSMEs, aiming efficiency. According to MINCIT, MSMEs require double employees to generate the average value of a large company. Because of this situation, MINCIT objectives for 2032 remain in competitiveness. Data confirm that MSMEs are key to achieve this goal [14].

3.1 MSMEs Weaknesses

Colombian MSMEs weaknesses are similar to other countries: poor use of technology (see Fig. 1), lack of experience in technology of information and communication and unawareness of real opportunities given by the State or market. As a result of this, MSMEs are operating under low efficiency and competitiveness rates [15].

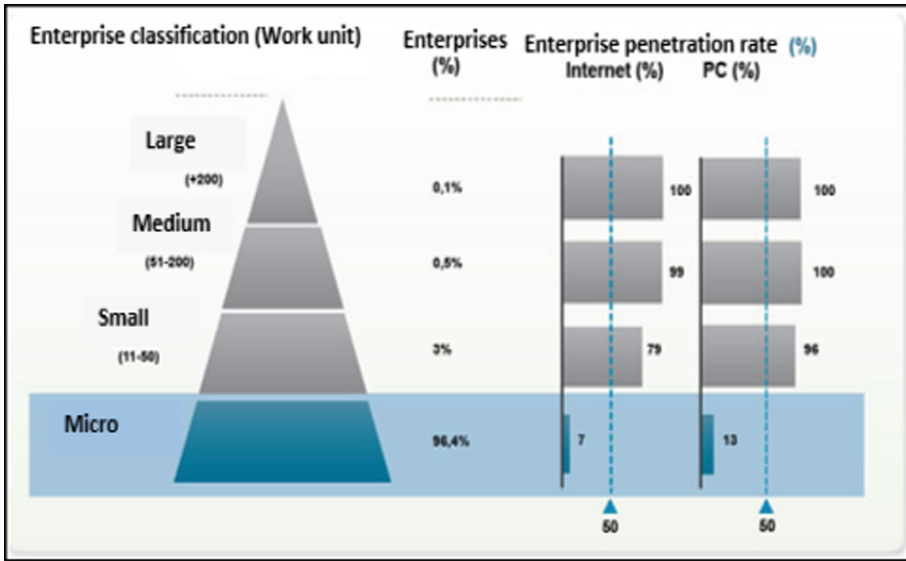


Fig. 1. Internet penetration rate for enterprises. Source [15]

3.2 MSMEs Strength

Access to credit is one of the most relevant advantages for Colombian MSMEs. According to the World Bank “Doing Business, 2017” Report, Colombia scores second at this dimension, overpassed by New Zealand [16]. In addition, MSMEs size favour flexibility and quick change.

4 Study

The study aims to identify strategies and mechanisms used by Colombian MSMEs, in Bogota, in order to reach customer loyalty. To define universe of study, it was taking into account criteria from Law 905/2004. Since, the Study incorporates 102 MSMEs. This sample integrates different economic sectors.

4.1 Research Methodology

This Study uses the quantitative methodology to achieve the research objective, through a validated instrument (on-line survey) by experts. The goal is to confirm the research assumption. For the calculation of the sample, the probabilistic sampling, simple random technique was used. For this purpose and in order to make the sample representative, in the universe of the one hundred and two companies, it was taken into account that they were heterogeneous in terms of economic sectors: manufacturing, services, commercial.

4.2 Research Design

The on-line survey integrates 14 questions. The questions of survey come from, mainly, concepts about CKM and CRM. It was sent to general managers and sales managers, bearing in mind these are profiles aware of the importance of customer loyalty for company's results. Each participant received a unique username and password, valid for just one attempt. This reinforces the research reliability.

The on-line survey was structured as follows: three questions about general aspects (Economic sector, Time, Number of employees); then, eleven questions regarding CKM (see Table 2).

Table 2. Survey

No.	Question	Answer options
1	What is the economic sector of the company?	Manufacturing, Services, Commercial, Extractive, Farming
2	How long was the company established?	4-5, 6-10, 11-15, 16-20, 21-30, 31-100 years
3	What is the numbers of employees of the Enterprise?	1-10, 11-50, 51-200 employees
4	Does the company have frequency and loyalty programs?	Yes, No
5	Does the company have reward programs?	Yes, No
6	Does the company offer customized products?	Yes, No
7	Does the company offer products for different market segments?	Yes, No
8	Does the company measure the customer retention?	Yes, No
9	Does the company publicize its products or services?	Yes, No
10	What is the means used to advertise your products or services?	This question is multiple choice. Radio, TV, Press, Home visits, Leaflet, voice to voice, Phone, Coupons, E-mail, Poster, Telemarketing, none
11	Does the Enterprise use some technological tool for customer knowledge management with the aim of monitoring them, to retain them or to learn of them?	Yes, No
12	Does the Enterprise ask about customer needs?	Yes, No
13	Does the company carry out satisfaction studies?	Yes, No
14	Does the company analyse the studies results?	Yes, No

4.3 Research Question

The question that conduct this research is: what strategies of Customer Knowledge Management are developed by Colombian MSME?

5 Survey Results

The next table shows the result of survey applied to the 102 enterprises (See Table 3).

Table 3. Obtained responses

Question	Responses
1	Regarding the company's economic sector, 52% of companies belong to commercial sector, 35% to manufacturing, 13% to services sector
2	Regarding the company's age, 54% of survivor companies are 4–5 years old, 39% are 6–10, 7% are 1 a 15. All enterprise are considered mature enterprises
3	Regarding the number of employees of the companies, the result shows that the majority of survivor companies correspond to micro (81%) and small (10%) and medium-sized (9%) companies
4	Regarding the question of whether the company has frequency and loyalty programs, 90% of the surveyed companies states that they do not use incentive programs for the frequency and loyalty of clients. Only, 10% reports to have this programs
5	When inquiring about reward programs, 57% of companies reports that they have reward programs for purchases. The remaining 43% indicate that they do not
6	34% of survivor companies reports that they develop customized products according to the needs of the clients. 66% of companies reports that they do not develop customized products
7	77% of survivor companies state that they do not develop products for different customer segments, that is, they are specialized in a single market segment. The remaining 23% indicate that they do
8	82% of companies indicate that they do not measure the customer retention
9	95% of survivor companies state that they publicize its products or services. The remaining, 5% report that they do not
10	When inquiring about means used to advertise your products or services, the leaflet is used by 60% of survivor companies. Poster by 53% of companies, 41% voice to voice, 7% phone, 6% e – mail, 5% none, 1% home visit, and 1% of companies use telemarketing
11	77% of survivor companies report that they do not use of technological tools (widely interpreted) to Customer Knowledge Management
12	77% of survivor companies report that they do not ask about customer needs
13	85% of survivor companies indicate that they do not carry out satisfaction studies
14	85% of survivor companies report that they do not analyse studies results

As can be seen, most of the companies studied belong to commercial economic sector, have less than 5 years of established, and belong to micro enterprises sector, that is to say, equal or less than 10 employees. Most of them, do not use incentive programs for the frequency and loyalty of clients, neither develop customized products, neither measure customer retention. Regarding the use of technological tools, most of them report that they do not use of technological tools to Customer Knowledge Management. In addition, most of them use informal means to advertise its products or services.

This scenario is very coincides with the characteristics of companies throughout the country in general. Moreover, is a risky scenario in terms of survival. Obviously, there is no CKM. It only recognizes some CRM initiatives, such as reward programs, which are very common in Colombian culture.

6 Discussion

Despite the opportunities that MSMEs have in the Colombian economy, represented in financial leverage, availability of technological tools and support in productive processes, these are not taken advantage of to deploy aspects such as customer loyalty strategies, client linkage in processes of innovation and anticipation of the client's needs, which, without a doubt, would strengthen them to reduce the gap with the large company, making them more efficient, effective and competitive. The misuse of opportunities is due to ignorance on the part of MSMEs, in which there is a shortage of qualified personnel [17].

The study shows that MSMES in Bogotá do not formally apply the concept of CKM, which includes three topics associated with the client (knowledge about the client, from the client and for the client); the analysis shows that the companies surveyed only manage information about the client -CRM-, but do not consider the other two elements that are necessary to identify and comprehensively address the client's needs, that is, they do not use CKM, but CRM.

Therefore, in order to move from customer relationship management to customer knowledge management in MSMES, it is necessary to aggressively enter into permanent training programs, process socialization and monitoring of the use and appropriation of technologies.

Although at this time MSMEs partially manage the CKM, they are considered to be in the correct sequence and can capitalize on the strategies developed to strengthen their knowledge management of the client, adding knowledge management programs where the client is linked and identifying deficiencies that the client does not know, integrating the elements that make up the CKM.

7 Adaptation Roadmap

Based on the current study and theoretical framework – mainly PDCA of Demming - we propose this step in order to incorporate customer knowledge management in organization MSMEs in Bogotá (see Fig. 2).

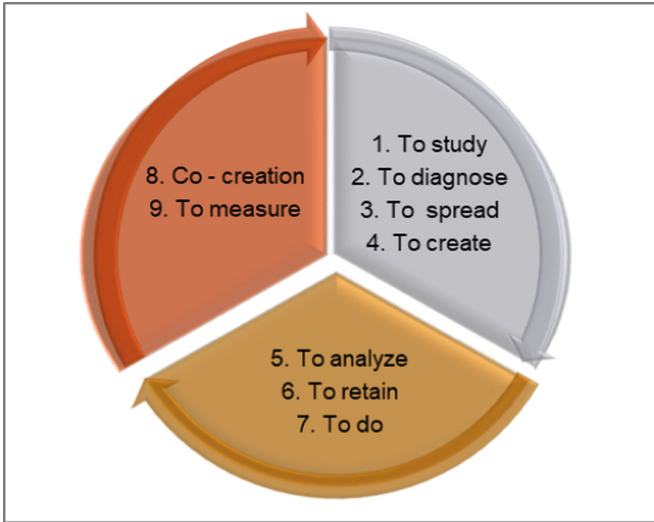


Fig. 2. Adaptation Roadmap. Source: Author

The details of the step of roadmap for MSMEs are:

- Step 1: To study about Customer knowledge management.
- Step 2: To diagnose current situation of enterprise related to CKM.
- Step 3: To spread results within company.
- Step 4: To create database with information about customers.
- Step 5: To analyze database in order to segment customers.
- Step 6: To retain customer through frequency, loyalty, reward, and customization programs.
- Step 7: To do satisfaction survey.
- Step 8: to engage customers in creation of new products or services.
- Step 9: To measure the CKM Strategy.

The proposal of new knowledge to strengthen the management of clients in the organizations under study, can be described in the development of a systemic procedure to support the proposal in the construction and appropriation of new knowledge, which is developed from the identification of the entry of triggers related to the detailed and relevant information of the clients, which in one way or another, are taken into account to increase their benefits and, as a consequence, the productivity of the organization, these are: products, services, preferences, integration and others (see Fig. 3) [18, 19].

With these triggers and their management process to meet expectations, it is expected to strengthen the management of customer knowledge, loyalty to the organization, as well as the design of personalization strategies in the service.

The analysis of the knowledge management of the client supports the decision making process that strengthens the productivity of the organizations, generating greater benefits for the organization, but above all and especially for the clients.

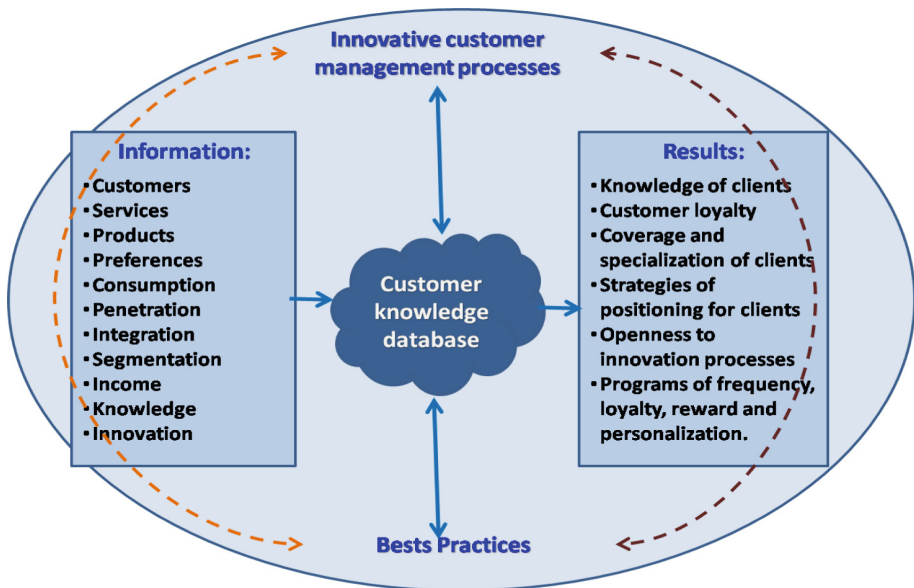


Fig. 3. Procedures to strengthen customer management. Source: Author

8 Conclusions and Future Works

Nowadays, the rules of the game have changed, the customer – enterprise relationship goes in double way. Customer can be both, user of products or service or supplier of ideas. If companies do not engage their customers in their value chain, it is most difficult to satisfy them.

The research carried out allows us to reach the following conclusions:

- Most companies use Customer Knowledge Management strategies regarding information about the CRM customer, nor systematically or using the use of significant technology.
- Most Colombian MSMEs have never implemented a CRM project within their organization.
- In most cases, the implementation is five years or less, this is most likely associated with the emergence of versions of CRM, open source and cloud computing technologies.
- CRM projects have been successfully implemented; therefore, the experience can be replicated by other MSMEs.
- The study shows that the tools used are free or low cost. This allows lower that there is sensitivity to the price. To the extent that MSMEs know the benefits and affordable cost of some CRM tools, they will most likely opt for its implementation.
- The studied companies seek to have information about the client, but not from and for the client. Companies do more Customer Relationship Management than Customer Knowledge Management. Evolution is not yet mature.

- Future work needed to confirm and reinforce project conclusions. In the future, it is necessary to expand the study to more Micro, Small and Medium - Sized Enterprises in Bogota and another region in Colombia. In this study it was a limitation due to it was developed only in Bogotá city.

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