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This paper must be cited as:

Guerola-Navarro, V.; Gil Gómez, H.; Oltra Badenes, RF.; Sendra-Garcia, J. (2021). Customer relationship management and its impact on innovation: A literature review. *Journal of Business Research*. 129:83-87. <https://doi.org/10.1016/j.jbusres.2021.02.050>



The final publication is available at

<https://doi.org/10.1016/j.jbusres.2021.02.050>

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Additional Information

Customer relationship management and its impact on Innovation: A literature review

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Keywords

Customer relationship management; CRM; Innovation; Relationship marketing; Literature review; State of the art

Abstract

In today's dynamic, changing market, customer relationship management supported by a powerful technological solution for business management such as Customer Relationship Management (CRM) is essential for business success. It has proven to be one of the fastest growing technological solutions due to the impact of its implementation on the return on investment. This article presents an exhaustive review of previously published findings and studies the reality of CRM in business through a qualitative, descriptive approach, reviewing the present-day literature on the impact of CRM in the modern business environment. This article reviews the 17 most recent and most relevant studies on how CRM affects the development of Business Innovation policies, focusing on the period from 2015 to 2019.

1.- Introduction

When the dynamism of the market causes constant changes in customer expectations, a customer-centered approach to business strategy is required, where the value chain begins and ends with the customer (Díez de Castro et al., 2002). This business approach can be achieved using technological tools for business (Guerola-Navarro et al., 2020b; Oltra-Badenes et al., 2019) such as Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM).

Among the technological solutions for business management, CRM is essential for establishing effective channels and methods for customer-centric information management. Its main objective is to improve the management of customer relationships to facilitate better commercial results for companies (Guerola-Navarro et al., 2020a). The need for consistent management of customer information is essential for business decision makers (Payne and Frow, 2005), which makes CRM a fundamental tool. Gil-Gomez et al. (2020) corroborate the importance of CRM as a key tool in the digital transformation of the business world, not only due to its potential to improve current management (and exploitation), but also because of its potential to develop the capacity for innovation (and exploration). Existing models to measure the impact of the use of CRM on firm performance are based on the intermediate variable of Innovation Capacity (Guerola-Navarro et al., 2020c).

This proposal to study the reality of CRM through scientific research seeks to effectively demonstrate that CRM is one of the most powerful modern tools to manage the business reality of customer relationships. It emerged in the 1970s as a technological solution for companies to automate the management of the internal sales force (Buttle, 2004). Currently CRM is much more than sales force automation, having become one of the most powerful channels to sustainably manage (currently and in the future through continuous innovation) a 'customer-centered' business reality.

In order to establish the playing field on which CRM has been developed as a technological management solution with high impact and great interest in scientific study, the authors follow Hernández Sampieri et al.'s (1996) complementarity theory, using a quantitative approach to the analysis of the publications and citations referring to the area under study, together with the qualitative analysis of the most relevant publications.

The quantitative approach was presented by Guerola-Navarro et al. (2020b) through a bibliometric study in which the most relevant methods used in the study of CRM as business management technology are analysed and presented in a quantified and evolutionary manner. To this end, the authors, entities, countries, etc. were identified and shown as the most productive (with the greatest number of publications in this regard) and the most influential (with the greatest number of citations), with official registries in the most recognized scientific databases.

Systematic reviews of the CRM literature are part of the qualitative approach to analysis, as seen in Ngai's (2005) review of academic literature on CRM from 1992 to 2002 and in the work of Ngai et al. (2009), who built an academic database of literature for the period 2000 to 2006 and proposed a technique to classify these articles. More recently, Soltani and Navimipour (2016) systematically reviewed the cutting-edge literature on CRM mechanisms and offered recommendations for future research.

There is no study in the existing literature that encompasses the most recent findings on the impact of CRM together with Business Innovation. This gap in the research on CRM and its relationship to Innovation arouses a great deal of interest in carrying out a new, extensive review of the literature on this subject (CRM and Innovation).

This article addresses this research gap, complementing the existing bibliometric studies on CRM through a qualitative, descriptive study, analysing the business reality of CRM through a focus on Innovation. This qualitative approach, together with the quantitative approach to bibliometric analyses, establishes a comprehensive review of the literature that can be used to support future research on the use and impact of CRM systems.

In order to present a picture that structures the most relevant focuses of the joint study of CRM and Innovation, as two of the most relevant factors in the search for improvements in firm performance, the Research Methodology used is presented below, as well as the Classification Methodology that was followed with the papers identified as relevant for the study. The results are presented below, structured in the tables, with analyses provided in the comments, leading finally to the conclusions.

2.- Research methodology

There are several approaches to define a literature review for a specific research theme and various methods for conducting it. Snyder (2019) notes that a 'literature review can be broadly described as a more or less systematic way of collecting and synthesizing previous research', raising questions about the quality and trustworthiness of classical literature review studies and establishing guidelines for new methods.

There are several types of systematic review (Callahan, 2010):

- structured reviews focusing on widely used methods, theories, and constructs
- framework-based studies
- hybrid-narrative studies with a framework for setting the future research agenda
- theory-based reviews
- meta-analyses
- bibliometric reviews
- reviews aimed at model or framework development

Following the **semi-systematic review** procedures (Snyder, 2019), this paper has four stages:

1. **Design** the review. The bibliometric studies analysed show a growing interest in the use of CRM in modern, competitive companies. The aim of this study is to discern, in a qualitative way (and complementary to bibliometric studies), which are the most significant and relevant areas that mark the interest in CRM as business management technology. For this purpose, the Web of Science Core Collection database for the period 2015 to 2109 was used.
2. **Conduct** the review. The publications in impact journals were identified, all of which refer to the interaction between CRM and Innovation. For this purpose, 'CRM' and 'Innovation' were used as search keywords, and subsequently those publications that were not relevant to the field of study were eliminated. The resulting publications were then read very carefully.

3. **Analyse.** Through the complementary use of bibliometric studies and related previous literature reviews, the most appropriate dimensions and elements were selected for the study of the reality of CRM and Innovation, carefully analysing each of the publications selected in the previous section.
4. **Structure and write** the review. This study follows the good practices of scientific literature, including an introduction to the object and scope of the work, a description of the methodology used, an orderly and categorized presentation of results, and finally, the conclusions of the study.

In this case, the database chosen was the **Web of Science (WoS)**, which is owned by Thomson Reuters. In the field of scientific research, it is generally assumed that the WoS contains only high-quality journals characterized by timely publication and reviews of papers, scientific criteria for the peer review process, broad dissemination through the Internet and the most widely used channels for the publication of scientific research. Therefore, WoS was considered the most appropriate database for this study.

The **Web of Science Core Collection** database, which is the main and most comprehensive one in WoS, formed the core database for this study. The search in the remaining databases accessible from the Web of Science and from the Scopus database did not provide papers relevant for this study; thus, the query in the WoS Core Collection was accepted as appropriate for the purpose of this paper. The period used in the literature search for this study was 2015 to 2019, with the aim of analysing the most relevant publications in the field for the last 5 complete years. It was based on the search strings '**customer relationship management**', '**CRM**' and '**Innovation**'. The search returned **130 results** from the Web of Science Core Collection in these areas for this timeframe. *Document Type* was the second filtering criteria (Merigó et al., 2015; Guerola-Navarro et al., 2020b), considering: **articles**, **reviews**, **notes**, and **letters**, obtaining a total of **98 results**.

Trying to refine the results by highlighting the business impactful related articles, the following **WoS categories** were selected as additional filter criteria: business, management, operations research management science, computer science information systems, information science, library science, computer science interdisciplinary applications, and economics. The result provided **79 articles**.

The final criteria for discarding the irrelevant articles for our study was, after reading all of them carefully, to eliminate from our study database:

- Articles whose content is not relevant for the study
- Articles that may be relevant to CRM but not to Innovation, and those relevant to Innovation but not to CRM.
- The articles that were more technical than business-focused, given that this paper pursues a clear business orientation.

The study was finally conducted based on the **17 articles** that resulted from the above criteria used in WoS. The methodology that was used to classify these articles is now described in the following section.

3.- Classification methodology

The first step in classifying the relevant articles for the CRM and Innovation interaction area was to identify the dimensions that characterize CRM and Innovation, following previous relevant studies (Ngai, 2005; Liao et al., 2007; Damanpour, 1996).

3.1.- CRM dimensions

In order to classify the articles selected for this study based on the CRM dimensions proposed by previous studies when defining CRM as a tool to identify the most valuable clients, attract them as trusted clients, retain them with loyalty policies, and develop a lasting partnership with them, in this paper the following dimensions were used (Ngai, 2005):

- **Customer identification:** identifies the actions coordinated and directed by the company to find out which individuals may interest the company as potential customers. It normally includes target customer analysis and customer segmentation.
- **Customer attraction:** identifies the steps that a company can take to attract customer interest in their goods and services. Marketing action planning is the most accurate strategy for this stage.
- **Customer retention:** it includes any business strategy aimed at building customer loyalty, and establishing long-term and trustworthy business relationships with customers, with the aim that these customers maintain a sustainable level of repetitive purchases from the company. A good level of customer service and support is a very valuable tool for achieving this objective.
- **Customer development:** refers to any effort to expand commercial and trust relationships with existing customers to secure new lines of business shared with customers. Customer lifetime value analysis, Upselling and cross-selling, and Market Basket Analysis are activities included in this framework.

These four CRM dimensions proposed by Ngai (2005) were used to classify the relevant selected articles that cover the research study of CRM and Innovation capabilities for the selected timeframe.

3.2.- Innovation dimensions

In addition to the dimensions used for CRM and given that Innovation is the second basic pillar of this study, the literature was reviewed to identify which dimensions of innovation capacity are the most appropriate to classify the selected articles.

In search of the most relevant studies on the dimensions of Innovation, and within the context of business management, Ru - Jen et al. (2010) highlight the innovation capabilities that influence the area of impact of CRM on strategy and business results (Liao et al., 2007; Damanpour, 1996):

- **Product Innovation:** refers to the development of new products and innovative features for existing products
- **Process Innovation:** procedural changes in the production area to achieve better results through improved goods and services for customers
- **Administrative Innovation:** any strategy to improve internal or external processes that result in better, more comprehensive management of the company

- **Marketing Innovation:** all those activities focused on identifying how to make marketing campaigns more effective by improving transmission of the added value of the supply of goods and services to customers.
- **Service Innovation:** in line with achieving customer loyalty and long-term commitment, any impact activity such as customer service and support.

As in the previous analysis of CRM dimensions, these Innovation dimensions were used to classify the selected articles.

3.3.- Classification process

The objective of the article is to classify the selected articles based on the dimensions identified for CRM and Innovation. Therefore, each article was carefully read and those that were not closely related to CRM were discarded. Next, the dimensions of CRM that were relevant for the study were identified from the selected articles. The same process was followed for Innovation capacity; the most relevant innovation dimensions of each article were identified. Finally, the resulting tables were analysed to draw conclusions that can be used in the design of a future research agenda on the impact of CRM and Innovation.

4.- Results

Following the proposed classification methodology, the most relevant CRM and Innovation dimensions were identified for each of the 17 articles selected in this study. The next step of result analysis involved the classification of articles based on the combination of CRM dimensions first, and Innovation dimensions second. This classification, with the combinations of dimensions that have at least one result is:

- Customer attraction:
 - Process Innovation: Rezazadeh & Nobari (2018)
 - Marketing Innovation: Mehrabi et al. (2019)
 - Service Innovation: Bucic et al. (2017)
- Customer development:
 - Process Innovation: Chierici et al. (2019); Hollebeek et al. (2019); Vargha (2018)
 - Service Innovation: Kamboj et al. (2016)
- Customer retention:
 - Process Innovation: Cruz-Jesus et al. (2019); Elfarmawi (2019); Von Krogh et al. (2018); Zand et al. (2018); Oderanti & Li (2018); Valmohammadi (2017); Fidel et al. (2016)
 - Administrative Innovation: Khosravi & Nilashi (2018)
 - Marketing Innovation: Büyükdağ et al. (2019)
 - Service Innovation: Tsou & Chen (2019)

The combinations of CRM and Innovation dimensions that do not appear in this study were not relevant to the selected publications. Next, the classified articles were analysed from different points of view, based on their key dimensions.

4.1.- Distribution of the selected articles by CRM dimension and Innovation dimension

Based on the previous classification and moving on to the quantitative analysis of the classification articles, Table 1 shows the quantitative vision of the results. The reference to each dimension indicates the number of results and the percentage (in brackets) of the total of 17 articles.

Table 1. Distribution of the selected articles by CRM dimension and Innovation dimension. Source: the authors

Table 1 shows that the CRM dimension 'Customer Retention' encompasses more than half of the cases analysed, specifically 10 out of the total of 17 cases, which represents 58.82% of the total. It is followed by Customer Development with 4 cases and 23.53% of the total, and Customer Attraction with 3 cases and 17.65% of the total. The Customer Identification dimension did not appear in any case.

To gauge the importance of each Innovation dimension, Table 2 was constructed, in which the 17 articles selected are classified according to their Innovation dimension.

Table 2. Distribution of the selected articles by Innovation dimension. Source: the authors

As can be seen in Table 2, the most relevant Innovation dimension in the selected articles is Process Innovation, with 11 occurrences – 64.71% of the total occurrences. No occurrence of Product Innovation appears, and the rest are far from the first in relevance.

4.2.- Distribution of the selected articles by year of publication

Table 3 shows the selected articles, classified according to their year of publication.

Table 3. Distribution of the selected articles by year of publication. Source: the authors

There is clear and growing interest in the interaction between CRM and Innovation, increasing from 0% in 2016 to more than 42% in 2019. This growing interest increases the relevance of this study.

4.3.- Distribution of the selected articles by journal and number of citations

Looking at the records of the 17 selected publications, exactly 17 Journals appear with one article each, which shows that in recent years there is no journal that has specifically specialized in the study of the convergence of CRM and Innovation.

Regarding the distribution of the selected articles by number of citations, Hollebeek et al. (2019) clearly have the maximum number, with 169 citations, constituting approximately 90% of the

total citations of the 17 selected articles. The rest of the publications have a maximum of 15 citations, which makes them much less influential than Hollebeek et al. (2019).

5.- Conclusions

This paper constitutes, together with the bibliometric studies on CRM, one of the most contemporaneous analyses on the relevance of CRM among the most-used business solutions with the greatest projection today.

Among all the dimensions used to classify the most relevant articles that combine CRM with Innovation, Customer Retention stands out with more than half of all relevant references on CRM. In terms of Innovation, the Process Innovation dimension appears as the most significant.

Considering the dominant dimensions, most of the publications referring to the joint impact of CRM and Innovation focus on how to help companies retain customers, which is consistently presented as the best business strategy in the current economic world, characterized by dynamism and constant change. This is closely related to the power of constant improvement through Process Innovation, a powerful tool for adapting to the environment.

On the other hand, seeing the evolution of the selected publications with time, an increase in interest in the subject is evident, with almost half of the total articles published last year. On the other hand, there is no relevant and distinctive indication in this regard in any of the journals reviewed.

These results show the relevance of CRM as a key tool for customer loyalty reinforcement (with the subsequent improvement in firm performance) and for implementing Process Innovation to adapt to the changing business environment. Both sides of CRM reality make CRM one of the most impactful business tools for successful companies in the present business world.

The value of this study, from a practical point of view, is the identification of the most relevant aspects that make CRM an extremely valuable business management solution. The identification of these elements can help business decision makers to define the decision criteria on the CRM system to be implemented, based on their convenience in terms of the impact on organizational performance, together with the deployment of innovation strategies in the companies.

References

- Bucic, T., Ngo, L. V., & Sinha, A. (2017). Improving the effectiveness of market-oriented organisation: Empirical evidence from an emerging economy. *Australian Journal of Management*, 42(2), 308-327
- Buttle, F. (2004). *Customer Relationship Management. Concepts and Tools*. Oxford: Elsevier Butterworth-Heinemann.
- Büyükdag, N., Kaya, A., & Kitapci, O. (2019). The Effect of Marketing Expenditures on Business Performance: Time Series Analysis on Causality. *Journal of Applied Economics & Business Research*, 9(4)
- Callahan, J. L. (2010). Constructing a manuscript: distinguishing integrative literature reviews and conceptual and theory articles. *Human Resource Development Review*, 9(3), 300-304.
- Chierici, R., Mazzucchelli, A., Garcia-Perez, A., & Vrontis, D. (2019). Transforming big data into knowledge: the role of knowledge management practice. *Management Decision*
- Cruz-Jesus, F., Pinheiro, A., & Oliveira, T. (2019). Understanding CRM adoption stages: empirical analysis building on the TOE framework. *Computers in Industry*, 109, 1-13
- Damanpour, F. (1996), "Organizational complexity and innovation: developing and testing multiple contingency models", *Management Science*, Vol. 42 No. 5, pp. 693-716
- Díez de Castro, E., Galán González, J. L., & Martín Armario, E. (2002). *Introducción a la economía de la empresa*. I. Madrid: Pirámide.
- Elfarmawi, W. (2019). Correlation Between Customer Relationship Management System Usage, Product Innovation, And Customer Satisfaction. *Foundations of Management*, 11(1), 23-32
- Fidel, P., Cervera, A., & Schlesinger, W. (2016). Customer's role in knowledge management and in the innovation process: effects on innovation capacity and marketing results. *Knowledge Management Research & Practice*, 14(2), 195-203
- Gil-Gomez, H., Guerola-Navarro, V., Oltra-Badenes, R., & Lozano-Quilis, J. A. (2020). Customer relationship management: digital transformation and sustainable business model innovation. *Economic Research-Ekonomska Istraživanja*, 33(1), pp. 2733-2750, DOI: 10.1080/1331677X.2019.1676283
- Guerola-Navarro, V., Oltra-Badenes, R. y Gil-Gomez, H. (2020a). Análisis de la relación entre el grado de introducción de CRM y los beneficios de la empresa a través del Desempeño Organizacional y la Innovación Empresarial. *3C Empresa. Investigación y pensamiento crítico*, 9(1), 65-63.
- Guerola-Navarro, V., Oltra-Badenes, R., Gil-Gomez, H., & Gil-Gomez, J. A. (2020b). Customer relationship management (CRM): a bibliometric analysis. *International Journal of Services Operations and Informatics*, 10(3), pp. 242-268, DOI: 10.1504/IJSOI.2020.108988.
- Guerola-Navarro, V., Oltra-Badenes, R., Gil-Gomez, H., & Gil-Gomez, J. A. (2020c). Research model for measuring the impact of customer relationship management (CRM) on performance indicators. *Economic Research-Ekonomska Istraživanja*, 1-23.

- Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (1996). Metodología de la Investigación. XXVI Mc. Graw Hill.
- Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2019). SD logic–informed customer engagement: integrative framework, revised fundamental propositions, and application to CRM. *Journal of the Academy of Marketing Science*, 47(1), 161-185
- Kamboj, S., Yadav, M., Rahman, Z., & Goyal, P. (2016). Impact of social CRM capabilities on firm performance: Examining the mediating role of co-created customer experience. *International Journal of Information Systems in the Service Sector (IJISSS)*, 8(4), 1-16.
- Khosravi, A., & Nilashi, M. (2018). Toward software quality enhancement by Customer Knowledge Management in software companies. *Telematics and Informatics*, 35(1), 18-37
- Liao, S.H., Fei, W.C. and Chen, C.C. (2007), "Knowledge sharing, absorptive capacity, and innovation capability: an empirical study of Taiwan's knowledge-intensive industries", *Journal of Information Science*, Vol. 33 No. 3, pp. 340-59
- Mehrabi, H., Coviello, N., & Ranaweera, C. (2019). Ambidextrous marketing capabilities and performance: How and when entrepreneurial orientation makes a difference. *Industrial Marketing Management*, 77, 129-142
- Merigó, J. M., Gil-Lafuente, A. M., & Yager, R. R. (2015). An overview of fuzzy research with bibliometric indicators. *Applied Soft Computing*, 27, 420-433
- Ngai, E. W. (2005). Customer relationship management research (1992-2002) An academic literature review and classification. *Marketing intelligence & planning*, 23(6), 582-605.
- Ngai, E. W., Xiu, L., & Chau, D. C. (2009). Application of data mining techniques in customer relationship management: A literature review and classification. *Expert systems with applications*, 36(2), 2592-2602.
- Oderanti, F. O., & Li, F. (2018). Commercialization of eHealth innovations in the market of the UK healthcare sector: A framework for a sustainable business model. *Psychology & Marketing*, 35(2), 120-137
- Oltra-Badenes, R., Gil-Gomez, H., Guerola-Navarro, V., & Vicedo, P. (2019). Is It Possible to Manage the Product Recovery Processes in an ERP? Analysis of Functional Needs. *Sustainability*, 11(16), 4380.
- Payne, A., & Frow, P. (2005). A strategic framework for customer relationship management. *Journal of marketing*, 69(4), 167-176.
- Rezazadeh, A., & Nobari, N. (2018). Antecedents and consequences of cooperative entrepreneurship: A conceptual model and empirical investigation. *International Entrepreneurship and Management Journal*, 14(2), 479-507
- Ru-Jen, L., Rong-Huei, C., and Kuan-Shun, K. (2010) "Customer relationship management and innovation capability: an empirical study", *Industrial Management and Data Systems*, Vol. 110 Issue: 1, pp.111-133, <https://doi.org/10.1108/02635571011008434>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339.

Soltani, Z., & Navimipour, N. J. (2016). Customer relationship management mechanisms: A systematic review of the state of the art literature and recommendations for future research. *Computers in Human Behavior*, *61*, 667-688.

Tsou, H. T., & Chen, L. J. (2019). The Influence of Service Innovation Capability for Self-Service Technology Investment. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, *36*(4), 544-558.

Valmohammadi, C. (2017). Customer relationship management: Innovation and performance. *International Journal of Innovation Science*

Vargha, Z. (2018). Performing a strategy's world: How redesigning customers made relationship banking possible. *Long Range Planning*, *51*(3), 480-494

Von Krogh, G., Netland, T., & Wörter, M. (2018). Winning with open process innovation. *MIT Sloan Management Review*, *59*(2), 53-56

Zand, J. D., Keramati, A., Shakouri, F., & Noori, H. (2018). Assessing the impact of customer knowledge management on organizational performance. *Knowledge and Process Management*, *25*(4), 268-278

Tables

CRM Dimension	Innovation Dimension
Customer attraction: 3 (17.65%)	Process Innovation: 1 (5.88%)
	Marketing Innovation: 1 (5.88%)
	Service Innovation: 1 (5.88%)
Customer Development: 4 (23.53%)	Process Innovation: 3 (17.66%)
	Service Innovation: 1 (5.88%)
Customer Retention: 10 (58.82%)	Process Innovation: 7 (41.18%)
	Administrative Innovation: 1 (5.88%)
	Marketing Innovation: 1 (5.88%)
	Service Innovation: 1 (5.88%)

Table 4. Distribution of the selected articles by CRM dimension and Innovation dimension. Source: the authors

Innovation dimension	Occurrences (percentage)
Product Innovation	0 (0%)
Process Innovation	11 (64.71%)
Administrative Innovation	1 (5.88%)
Marketing Innovation	2 (11.76%)
Service Innovation	3 (17.65%)

Table 5. Distribution of the selected articles by Innovation dimension. Source: the authors

Year of publication	Number of articles and percentage
2015	0 (0%)
2016	2 (11.76%)
2017	2 (11.76%)
2018	6 (35.29%)
2019	7 (41.18%)

Table 6. Distribution of the selected articles by year of publication. Source: the authors