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## A Bibliometric Review of Research Trends in Social CRM

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**Abstract:** Social customer relationship management (social CRM) is a relatively new domain, numerous studies have begun to emerge along the border between CRM and social media. This study uses the method of bibliometrics to sort out and analyze the development of social CRM study, and conducts statistical analysis and co-citation network of the literature sample. There has been a significant growth in the social CRM literature with America, China and England being the main contributors. The newest social CRM hotspots focus on the value creation and technical approach of social CRM. The research ideas and conclusions of this paper are of some enlightenment to the academic research and practical application of social CRM.

Keywords: social customer relationship management (social CRM); bibliometrics; social media; co-citation network

### 1. INTRODUCTION

With the development and popularization of Internet, social networks have changed the traditional customer relationship management ecosystem. Today, many experts use social CRM as a new paradigm of enterprise and customer communication and exchanges, and many companies are adopting social CRM successively, or are putting social CRM into the agenda. Marketing scholars Greenberg's definition of social CRM in 2010 is generally accepted <sup>[1]</sup>, social CRM as the integration of customer-facing activities, including processes, systems, and technologies, with emergent social media applications to engage customers in collaborative conversations and enhance customer relationships. While extant literature provides a firm footing upon which to base social CRM research, little research has yet reviewed the social CRM, including Yawised <sup>[2]</sup>, Alalwan <sup>[3]</sup>. Yawised etc. (2015) reviewed the academic and practitioner literatures on social CRM, and make a broad comparison between the two literatures, but they do so without a clear picture to describe trends of academic publications on social CRM.

Bibliometrics could provide an answer by applying quantitative analysis and statistics to describe trends of academic publications and their citation counts. It allows us to map the overview of the specific literature, identify the most productive authors within the field and evaluate journal performances. It has been extensively employed to evaluate research trends in various fields <sup>[4]</sup>. Based on bibliometrics, this paper establishes an objective and systematic literature review framework to sort out and analyze the development of social CRM. The specific operation process is shown in Figure 1. This paper statistics the overall growth trend, research region, research domain of social CRM, and then constructs citation clustering with co-citation network, and analysis the research hotspot and the future research direction of social CRM. The conclusion shows that the research scale of social customer relationship management shows an exponential growth trend in recent years, and the research fields are gradually diversified. The latest hot topics in CRM research focus on the value creation and technical methods of social CRM.

### 2. STATISTICAL ANALYSIS OF SOCIAL CRM LITERATURE

The study was based on data provided by the Web of Science (WoS) Core Collection. The WoS Core Collection is an important database for access to global academic information. We searched the database for literatures using 'social\* CRM\*' or 'social\* customer\* relationship\* management\*' as the subject, and downloaded the relevant literature from 1997 to 2017, followed by a manual initial screening, finally obtained

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1055 data records.

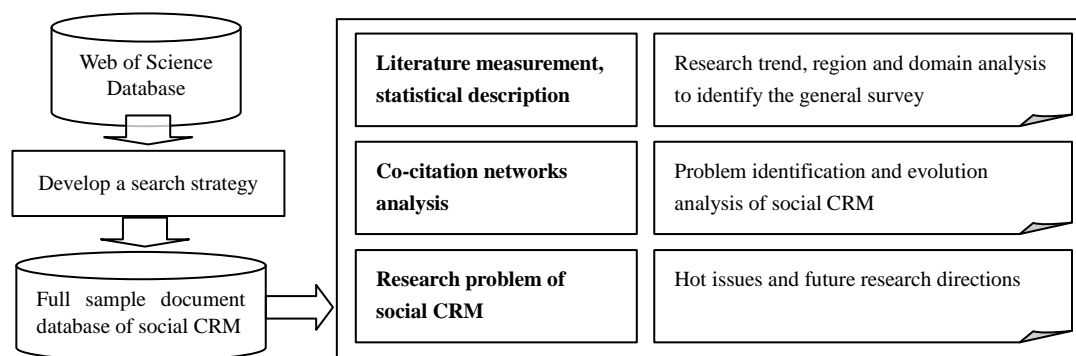


Figure 1. Literature review framework

### 2.1 The overall growth trend analysis

The growth of scientific knowledge and its rules are closely linked, and the changes in the number of paper directly reflect the changes in the amount of scientific knowledge. This section analyzes the overall growth trend of the research on social CRM by counting the number of published literatures and citation frequency in a period of time.

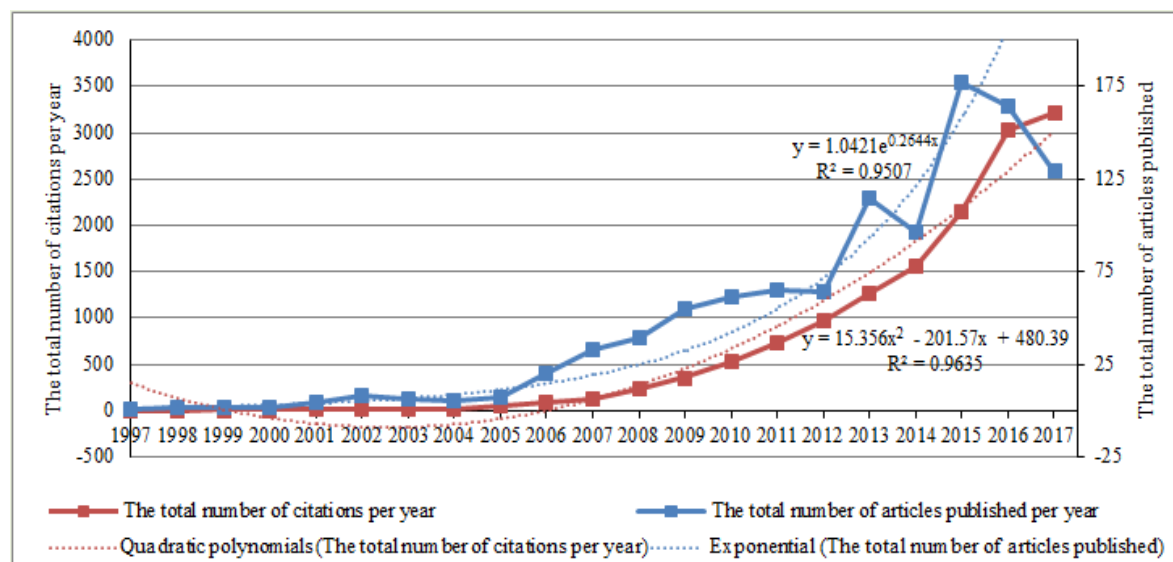


Figure 2. The number of papers published in each year and citation statistics

Figure 2 shows the statistics of the number of published papers and the total number of citations in each year. It can be seen that the large-scale growth of social CRM after 2006 is in line with the scholars' understanding of the craze of social CRM and the development of mobile Internet technology in the early 21st century. In 2015, the number of published papers reached a peak, including 177 articles, and reflecting the high attention of the academic community to social CRM in recent years. At the same time, the cited number of social CRM related literature is also rapidly increasing, reaching 3218 by 2017. In the sample of the literature, the most cited one is [5]. Kevin etc. [5] (2016) studied customer satisfaction partially mediates the relationship between corporate social responsibility and firm market value. As of 2017, this article has been cited 671 times, which is a foundational research in the field of social CRM. According to the curve fitting of the number of articles published and the number of citations each year, we found that the R-squares of the curve fitting are 0.951 and 0.964 respectively. The curve of the total number of articles published each year approximates the exponential function ( $Y = ae^{\beta x}$ ), and the total number of citations per year accords with the trend of quadratic polynomials. This shows that the influence of social CRM in academia continues to grow in recent years.

The exponential growth trend of social CRM research indicates that social CRM research as a newly emerging research field, and gradually transiting from the birth of the discipline to the development of the discipline. The reason is that with the deepening of the global integration process and the popularization and development of mobile Internet technology, the rapid changes in the economic environment, enterprises need to understand and apply social CRM urgent. Scholars gradually realized that the transformation and innovation of enterprise information needs the support of social CRM theory, and the problem of enterprise practice drives the rapid development of social CRM research.

## 2.2 The region analysis involved research literatures

The regional distribution of the research papers can help researchers understand their international position in the field and find benchmark countries for more effective learning the study. This paper directly uses the retrieval results analysis tools in WoS for regional distribution analysis, and then summarizes the results as shown in Table 1. The results show that in the field of social CRM, China is second only to the United States in the amount of the published literature. Foreign scholars earlier conducted research on social CRM, which mainly focused on the origin and connotation of the research on social CRM, and the relatively mature achievements in the practical significance and application of social CRM<sup>[6]</sup>. In addition, quantitative research is also gradually enriched, including the content, type, and evaluation of social CRM, etc. China for social CRM research more focused on empirical research, including the application of precision marketing, the application in the automotive industry, the construction of management systems, etc<sup>[7]</sup>. Compared with other countries, there is still a big gap between theoretical research and practical application in China. In future research, China can learn from the research methods and scientific achievements of the United States in this field so as to enhance its social CRM Analysis and Application Capabilities.

**Table 1. Regional distribution of papers related to social CRM in WoS**

	Country / Region	Records	Percentage
1	USA	270	25.6%
2	PEOPLES R CHINA	163	15.5%
3	ENGLAND	105	10.0%
4	TAIWAN	68	6.4%
5	SPAIN	64	6.1%
6	AUSTRALIA	62	5.9%
7	GERMANY	55	5.2%
8	SOUTH KOREA	55	5.2%
9	FINLAND	33	3.1%
10	CANADA	32	3.0%

## 2.3 The disciplines analysis involved research papers

By analyzing the disciplines field of papers, we can effectively grasp the focus of research content and find core research content. In this paper, we analyze the research direction by using the search results analysis tools in WoS. The article selects the top ten results, as shown in Table 2. As the research direction of most of the literature crosses each other, the proportion of all research directions is more than 100% .It is easy to see that the research directions of social CRM are mainly in the areas of BUSINESS ECONOMICS, COMPUTER SCIENCE, SOCIAL SCIENCES OTHER TOPICS , ENGINEERING and other areas. Social CRM research shows significant multidisciplinary and disciplinary integration characteristics.

**Table 2. Disciplines distribution of papers related to social CRM in WoS**

	Research direction	Records	Percentage
1	BUSINESS ECONOMICS	643	60.9%
2	COMPUTER SCIENCE	194	18.4%
3	SOCIAL SCIENCES OTHER TOPICS	129	12.2%
4	ENGINEERING	115	10.9%
5	OPERATIONS RESEARCH MANAGEMENT SCIENCE	71	6.7%
6	PSYCHOLOGY	52	4.9%

7	INFORMATION SCIENCE LIBRARY SCIENCE	49	4.6%
8	ENVIRONMENTAL SCIENCES ECOLOGY	45	4.3%
9	COMMUNICATION	29	2.7%
10	SCIENCE TECHNOLOGY OTHER TOPICS	29	2.7%

Statistics on the highly cited social CRM literature publishers can further analyze the hot areas of social CRM research and design and the quality of research achievements. This paper uses impact factors to evaluate the combined impact of journals. Impact factor is a commonly used periodical evaluation index in the world. It refers to the total number of citations of papers published in the first two years of a journal divided by the total number of papers published by the journal in these two years. All journals in Table 3 have an impact factor greater than 2 and all journals are SSCI journals. In addition, most of the achievements in social CRM research are concentrated in journals such as JOURNAL OF BUSINESS ETHICS, JOURNAL OF MARKETING and other fields of enterprise economic management and social science theory, which shows that in recent years, the social CRM research has had a high quality research results that impact on the development of theoretical research in economic management.

**Table 3. High cited literature published journal statistics**

	Cited frequency	Number of published papers	Journal name	impact factor(2016)	H index
1	951	24	JOURNAL OF BUSINESS ETHICS	2.354	13
2	873	9	JOURNAL OF MARKETING	5.318	8
3	632	7	JOURNAL OF SERVICE RESEARCH	6.847	6
4	435	6	JOURNAL OF PRODUCT INNOVATION MANAGEMENT	3.759	4
5	403	7	DECISION SUPPORT SYSTEMS	3.222	7
6	380	8	JOURNAL OF THE ACADEMY OF MARKETING SCIENCE	5.888	6
7	365	8	INFORMATION SYSTEMS	2.777	7
8	362	19	JOURNAL OF BUSINESS RESEARCH	3.354	9
9	352	4	JOURNAL OF OPERATIONS MANAGEMENT	5.207	5
10	322	5	JOURNAL OF INTERACTIVE MARKETING	5.026	4

### 3. CO-CITATION ANALYSIS OF THE LITERATURE ON SOCIAL CRM

The statistical analysis of social CRM focuses on identifying the most influential disciplines and institutions in the field of social CRM, while co-citation analysis focuses on the contribution and role of specific literature. This section adopts Citespace to construct the citation network of social CRM, and conducts citation clustering analysis to identify the development process and hotspot issues of social CRM research. In order to reduce the number of unnecessary clusters and ensure the visualization effect, the paper was screened twice, retaining only the 10 related categories such as Business, Management, Computer Science Information System, Operations Research and Management Science in the WoS category. The number of subsamples obtained is 844, and the citation network and cluster analysis are performed on the subsamples.

#### 3.1 Citation clustering analysis

Co-citation network based clustering analysis is a specific application of clustering analysis in co-cited domain, mainly refers to the co-cited strength as a basic unit of measure, and the quantitative processing techniques for classifying aggregates of a given set of citations or cited literatures. This technique can aggregate closely related essays into a cluster of literatures, and quantitatively gives the degree of connection between clusters and clusters according to relevant network indicators, and then generates a cluster analysis network of a discipline dissertation<sup>[8]</sup>. Citespace first clustered the literatures in different time divisions, and then merged the sub-clusters to form a unified visualization view.

Figure 3 is the social CRM literature citations knowledge network and clustering results. The node size in the figure shows the citation rate. The higher the cited frequency is, the larger the nodes in the figure are. The connection to the two nodes represents that two literatures have been common reference. The colors of nodes and connections correspond to the timeline above Figure 3 (the right side of the timeline represents 2017 and the



Figure 3. Social CRM literature citation network and clustering

left side represents 1997). Figure 4 is a time-domain graph of literature clustering results. The clustering which label is 0,1,3,8 co-citation time is around 2003, and the clustering which label is 2,4,5,6,10 co-citation time is around 2010 or so, representing the different stages of social CRM research knowledge frontier. Table 4 summarizes the basic situation of the citation clustering. Clustering labels are feature words extracted according to the title of highly cited literatures in each cluster. The research focuses in Table 5 are summarized based on the frequently occurring keywords in each cluster and the research direction of highly cited literatures. The result of citation clustering shows that there are 9 clusters in social CRM citation network, corresponding to different research hotspots in different periods.

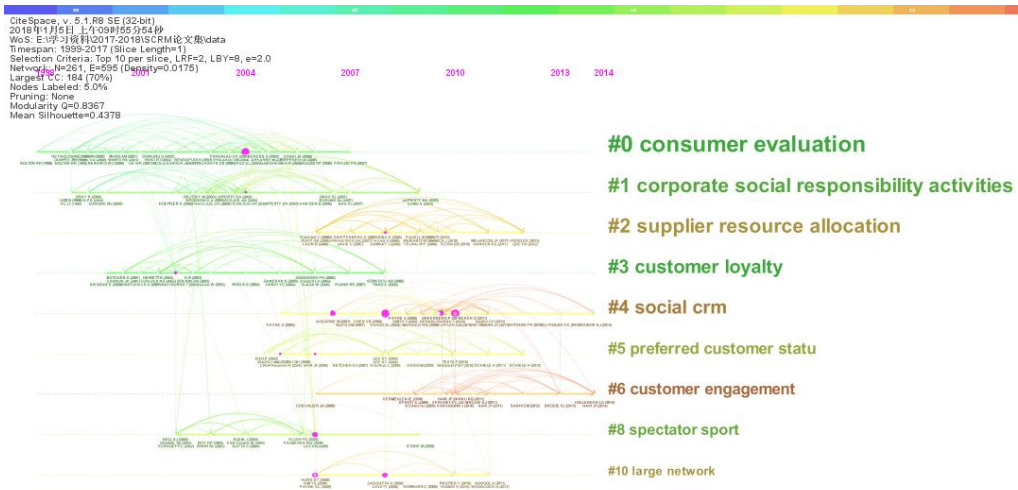


Figure 4. Time-domain graph of literature clustering

Table 4 details the cluster ID, cluster label, size, mean of publication years and research priorities of the nine citation clusters, and the research priorities is based on the frequency of the key words. There are totally 90 literatures in the cluster labeled with 2, 4, 5, 6 and 10. The cited time of these literatures is about 2010, and the research direction is the value creation and brand innovation of social CRM, focusing on the environment and experience of the customer created by social media, and representing the latest research hotspots of social CRM in recent years. For example, Looy<sup>[9]</sup> (2016) discussed the use of social CRM and how it can generate business value. Clustering label of 0, 1, 3, and 8 of the literature cited time are around 2003, with 94 articles in total. The research focuses on the business case analysis and service innovation of social CRM, which represent the early

research hot spots. By analyzing the members of the cluster, we can see that there are quite some inspiring achievements in the early social CRM research. For example, Richardson etc.<sup>[10]</sup> (2003) focused on case analysis of CRM systems in call centres in the UK, and analyzed their relationship to knowledge management and their use in call centres.

**Table 4. Details of citation network clustering to social CRM**

Cluster ID	Cluster Label	Size	Mean(Year)	Research priorities
0	Consumer evaluation	32	2002	consumer review, brand experience, managing service innovation
1	Corporate social responsibility activities	25	2003	corporate social performance, social sustainability, business case
2	Supplier resource allocation	24	2008	b2b sales, service support, branding co-creation
3	Customer loyalty	23	2003	satisfaction, emotional value, service innovation
4	Social CRM	22	2009	customer networks, customer relationship management, social media strategy
5	Preferred customer status	17	2007	buyer behavior, customer attractiveness, customer knowledge development
6	Customer engagement	17	2010	online community, consumer brand engagement, SCRM adoption
8	Spectator sport	14	2004	cause-related marketing, stakeholders and market value, customer lifetime value
10	Large network	10	2008	social network analysis, mobile provider, diffusion process

### 3.2 Research hotspots on social CRM

This paper select the cluster which cluster ID is 4 and cluster label is social CRM, and calculate the highly cited literatures of this cluster by using scientific bibliometric method of citespace, as shown in Table 5. By analyzing these highly cited literatures, the study find that their authors have 4 to 5 papers, including Malthouse, Haenlein, Zhang, Xueming, Dirk, Wang, etc.<sup>[11]</sup> These authors are also core authors in the study of social CRM, where there has been cooperation between Haenlein and Zhang, they examined how CRM needs to adapt to the rise of social media, and convergence of social media and CRM creates pitfalls and opportunities, which are explored. The research hotspots of social CRM focus on the value creation and technical approach of social CRM. (1) Value creation. Social CRM can create value for enterprise, such as better understanding of customer needs, more responsive to customer needs and improved customer experience, and more efficient knowledge sharing. Social CRM can give insights, among others, to evaluate and refine an organization's marketing efforts, to proactively build relationships with (potential) customers, and to avoid a crisis. Many scholars use structural equation modeling to study the social CRM, such as Trainor<sup>[12]</sup>, Hudson<sup>[13]</sup> etc. Trainor etc. (2014) analyzed data from 308 organizations using a structural equation modeling approach, and find social media technology usage and customer-centric management systems contribute to a firm-level capability of social customer relationship management. (2) Technical approach. The technology for social CRM mainly can be divided into four categories. First, social listening, monitoring, and analytics technology (i.e., as a traditional helpdesk); second, fan marketing and profile management technology (i.e., as a fan database); third, social sales and marketing automation technology (i.e., to automatically send and manage deals); finally, community and collaboration technology. Kietzmann etc.<sup>[14]</sup> (2011) presented a framework that defines social media by using seven functional building blocks: identity, conversations, sharing, presence, relationships, reputation, and groups. As different social media activities are defined by the extent to which they focus on some or all of these blocks, they explained the implications that each block can have for how firms should engage with social media.

**Table 5. High cited literatures of social CRM**

First author (year)	Literature title	Published journal	Cited frequency
Kaplan AM(2010) <sup>[6]</sup>	Users of the world, unite! The challenges and opportunities of Social Media	Business Horizons	44
Trainor K J(2014) <sup>[12]</sup>	Social media technology usage and customer relationship performance: A capabilities-based examination of social CRM	Journal of Business Research	16

Baird C (2011) <sup>[15]</sup>	From social media to social customer relationship management	IEEE Engineering Management Review	15
Kietzmann J H(2011) <sup>[14]</sup>	Social media? Get serious! Understanding the functional building blocks of social media	Business Horizons	15
Skiera B (2010) <sup>[16]</sup>	The Impact of New Media on Customer Relationships	Journal of Service Research	13
Malthouse E C(2013) <sup>[11]</sup>	Managing Customer Relationships in the Social Media Era: Introducing the Social CRM House	Journal of Interactive Marketing	13

### 3.3 Future research directions on social CRM

This paper select the cluster which cluster ID is 4 and cluster label is social CRM, and calculate the frontier literatures of this cluster by using scientific bibliometrics method of citespace, as shown in Table 6. Literature for future research directions on social CRM could be categorised into six main themes: social CRM and advertising; social CRM and e-WOM; and adoption of social CRM; social CRM and customers' perception and behavior; social CRM and brand issues; social CRM from the firms' perspective. For instance, a number of studies concentrated on the effective use of social media for word-of-mouth and advertising activities [i.e. 13, 17], there is a need to consider different word-of-mouth and advertising activities could be different from one platform to another. Rosenberger etc. <sup>[18]</sup> (2015) explored 40 user behavior types are compared with actual features of ten social media sites, they found out that reducing the complexity of integrating multiple social CRM systems can improve the adoption of social CRM. Roberts etc. <sup>[19]</sup> (2013) pointed that utilizing input from social CRM can increase innovation project performance, as firms get access to novel market insights and innovative technical solutions.

**Table 6. Frontier cited literatures of social CRM**

First author (year)	Literature title	Published journal/book/ Conference
Hudson S (2015) <sup>[13]</sup>	The effects of social media on emotions, brand relationship quality, and word of mouth: An empirical study of music festival attendees	Tourism Management
Rafiee V B (2013) <sup>[17]</sup>	Social Media Marketing: The Unavoidable Marketing Management Tool	21st IBIMA Conference on Vision 2020
Rosenberger M (2015) <sup>[18]</sup>	Conceptualising and Exploring User Activities in Social Media	Open and Big Data Management and Innovation
Dou Y (2013) <sup>[20]</sup>	Engineering Optimal Network Effects via Social Media Features and Seeding in Markets for Digital Goods and Services	Information Systems Research
Roberts D L(2013) <sup>[19]</sup>	Mapping the Impact of Social Media for Innovation: The Role of Social Media in Explaining Innovation Performance in the PDMA Comparative Performance Assessment Study	Journal of Product Innovation Management
Alalwan A A(2016) <sup>[5]</sup>	A Systematic Review of Extant Literature in Social Media in the Marketing Perspective	Social Media: The Good, the Bad, and the Ugly

## 4. CONCLUSIONS AND INSPIRATION

Bibliometrics information provides scholars with useful indications about the current status of the social CRM research field and its key journals. After analyzing a lot of literature, it could be concluded that research publications relevant to the social CRM have been expanding and gaining impact. Through the citation network and cluster analysis, we can see that social CRM is an interdisciplinary subject. The hot issues of SCRM research are concentrated in the two fields of value creation and technical methods. The literature on these two fields is mainly published after 2010. The future research directions on social CRM include six main themes: advertising, e-WOM, and adoption of social CRM, customers' perception and behavior, brand issues, and social CRM from the firms' perspective.

Through the bibliometrics analysis of this article, we can identify and grasp the development process and frontier hotspots of social CRM research in the past 20 years, provide some references for scholars and practitioners concerned with social CRM research. Due to the limitations of the search database, the sample of this study is mainly confined to the English literature, and the social CRM research on domestic scholars is seldom studied. Further research may compare the major achievements and frontier hotspots of social CRM



research both at home and abroad.

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