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AI-Based Social CRM: From Sentiment to Strategic Action

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ABSTRACT
The adoption of Artificial Intelligence (AI) in Social Customer Relationship Management (SCRM) is transforming the way companies understand customer sentiment and translates their insights into strategic behaviours. Although the study of SCRM has reached maturity in the last decade, the body of knowledge on AI-based S-CRM is still divided among marketing publications, information systems and data science platforms. The bibliometric analysis of peer-reviewed publications (2010, 2025) on AI-based SCRM presented in this paper was performed using Google Scholar (via Publish or Perish) as the main source. Based on VOSviewer, we investigate performance metrics (publications, citations, sources, countries), and science mapping (cocitation, cooccurrence, thematic evolution) to pinpoint intellectual underpinnings and research frontiers of AI-based SCRM. Emerging studies indicate that early S-CRM research focused on sentiment analysis and social listening (e.g., He et al., 2013), whereas current groups focus on predictive analytics, chatbots, agentic AI systems and trust/privacy in AI adoption (Del Vecchio et al., 2020; Mohammed et al., 2024). Thematic evolution has moved to a scenario of monitoring customer opinions to strategic orchestration of customer engagement through AI. This is one of the first bibliometric mappings of AI-driven S-CRM. It synthesises scattered studies, outlines the most urgent gaps (ethics, explainability, SME adoption), and suggests a further agenda based on believable, strategic, and contextual AI-SCRM ecosystems.

Keywords: Social CRM; Artificial Intelligence; Sentiment Analysis; Predictive Analytics; Customer Engagement; Bibliometric Analysis.

INTRODUCTION:

Customer Relationship Management (CRM), has been known to be a strategic capability that helps firms to acquire, retain and nurture customer relationships. As Web 2.0 technologies and social media sites emerged, CRM has become Social CRM (S-CRM) a framework that lays stress on interactive participation, community development, and value co-creation with customers (Choudhury & Harrigan, 2014; Trainor et al., 2014). The initial empirical studies have shown that the positive application of social media technologies was capable of bettering customer relationship performance by improving the ability of firms (Trainor et al., 2014). Likewise, literature has also pointed out the adoption of new technologies into CRM activities as a shift towards S-CRM that offsets the relationship-oriented strategy and transactional approaches (Choudhury & Harrigan, 2014).

With the rapid digital transformation, Big Data analytics became the focus of using customer information. Wamba et al. (2017) showed that big data analytics-induced dynamic capabilities directly translate into firm performance, providing a basis to data-based S-CRM strategies. However, conventional S-CRM was more about performance in terms of gauging customer feeling instead of converting knowledge into strategic behaviours.

The emergence of Artificial Intelligence (AI) has radically changed this paradigm. AI techniques, particularly machine learning and natural language processing, now enable predictive modeling, real-time personalization, and automation of customer interactions. Syam and Sharma (2018) emphasized that AI can lead to a sales renaissance in the fourth industrial revolution and Dwivedi et al. (2021) emphasized that AI shows the transformative potential in the fields, calling to investigate its business, ethical and societal implications.

The latest literature puts AI in the context of CRM directly. A systematic review by Choudhury and Harrigan (2022) demonstrates that AI has profoundly changed the definition of customer engagement processes with the focus no longer on the analysis of data, but on the organizational strategic coordination of customer experiences. To this end, Mohammed et al. (2024) present a novel AI-based CRM model in the digital ecosystem which has placed importance on the integration of organizational enablers, digital maturity and trust mechanisms.

In spite of these developments, AI-based S-CRM has been scattered in marketing, information system and management. What is lacking is a unified body of knowledge of the way the field has changed-early works which were concerned with the adoption of technology

and social media participation to more recent works that have looked at AI-assisted strategic action and digital ecosystems.

Hence, the literature review of AI-based S-CRM studies (2010-2025) is used to achieve three goals: (1) determine the intellectual background and the most significant contributions to the market, (2) trace emerging themes and clusters concerning AI in S-CRM, and (3) suggest a research agenda on the future of sentiment analysis and strategic customer engagement.

LITERATURE REVIEW

Social CRM Capabilities and Drivers

Social interactions and technology development are exerting more influence in customer relationship in the current digital economy. Competitions have ceased to be based on products or services and the capacity of organizations to communicate with customers through various channels and make them experience something meaningful. In that regard, Social Customer Relationship Management (S-CRM) has become an urgent practice, combining social media platforms, sophisticated analytics, and involvement in collaboration to intensify the interactions between firms and customers (Trainor et al., 2014).

The success of S-CRM lies in the capabilities and drivers that underlie it and go beyond the technological adoption. Companies have to make the skill of acquiring, processing, and utilizing social network data on customers and at the same time building trust, engagement, and co-creation. Such features enable companies to make the traditional CRM a more dynamic and interactive experience which directly impacts customer loyalty, advocacy and overall performance.

The other essential S-CRM effectiveness driver is data analytics and artificial intelligence (AI). Wamba et al. (2017) show that the ability to use big data analytics, which includes infrastructure, data management, and analytical talent, also leads to the agility and performance of firms based on dynamic capabilities. On the same note, Syam and Sharma (2018) assert that AI tools complement CRM as they allow predictive and prescriptive decision-making in sales and marketing. These tools enable organizations to feel a customer need and make interactions personal as well as maximize the engagement strategies on the scale.

Additionally, the customer engagement paradigm has changed to value co-creation. It is not only a way of involvement but also a cognitive, emotional, and behavioral aspect (Brodie et al., 2011). Customers are involved actively through social platforms in crafting brand narratives, feedback and influencing communities. Companies that succeed in incorporating this engagement in their CRM programs gain trust, loyalty and advocacy.

Lastly, the influence of privacy and trust as elements of governance come into play and moderate the effects of S-CRM. According to Aguirre et al. (2015), the paradox of personalization-privacy is when the intrusive data practices decrease the level of engagement, and the open and ethical governing increases customer confidence. Hence, the strategic issue of firms is to find the balance between individualization and responsible utilization of data.

Theory-Grounded Perspective: Resource-Based View and Dynamic Capabilities

The present research is based on the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV), which in combination explains how the organization can turn technological resources into sustainable competitive advantage in dynamic conditions.

According to the RBV, the competitive advantage is based on the resources that are considered valuable, rare, inimitable, and non-substitutable (Barney, 1991). In the framework of Social Customer Relationship Management (S-CRM), such resources are customer information, analytics systems, AI-based CRM solutions, and knowledge management (KM) in the use of the digital touchpoint. Recent reports attest to the fact that AI-based CRM systems enhance the level of organizational competitiveness by turning these resources into enhanced customer engagement and personalization (Al-Qirim et al., 2024). RBV has however, been criticized as being too statical in its orientation since it fails to effectively explain how firms adjust to the fast changing digital environments.

The DCV builds on this line of thought, by highlighting how the firm is able to feel both opportunity and threat, utilize it through the mobilization of strategic resources that creates structures and routines, which are able to maintain sustained advantage (Teece, 2007). Sensing in S-CRM takes place in the form of social listening, sentiment analysis with the assistance of AI, and customer journey monitoring; seizing is seen in the form of personalized offers, automated reactions, and co-creation programs; transforming refers to the constant reorganization of the CRM processes, technological platforms, and governance processes in accordance with the changing customer expectations and regulatory requirements (Dubey et al., 2023; Mariani & Borghi, 2023).

It is also valuable to relate these theoretical views to the bibliometric approach used in the given research. Bibliometric analysis plots the intellectual topography of the area and determines the groups of resources, abilities, and mechanisms which have been the most focused in the current scholarship. Bibliometric techniques show patterns of co-citation, co-occurrence of keywords, and clusters of themes, and can be used to determine the development of the RBV-relevant and DCV-relevant constructs (e.g., resources, sensing, seizing, transforming) throughout the literature. This enables the paper to not merely point out the prevailing theoretical foundations of S-CRM but render previously overlooked cross-sections, including the use of AI as an

enabler of dynamic capabilities or the conflict between personalization and privacy of data.

Through this, both the theoretical framework (RBV and DCV) and methodological approach (bibliometrics) support each other. The theories offer a prism according to which identified clusters of research could be viewed, and the bibliometric analysis could be used to find an empirical ground with which the mobilization of these theoretical constructs, their further development, and discussions could be traced. This two-fold contribution to the study enhances the analytical quality of the research and the theoretical discussion has its base in the wider direction of the field.

METHODOLOGY

3.1. Research Design: The proposed paper uses a bibliometric approach to review and map the development of the research on AI-based Social CRM (S-CRM) during 2010-2025. Bibliometric techniques offer a quantitative description of the literature through analysis of pattern of publications, citation, co-authorship relationships and thematic groupings (Aria & Cuccurullo, 2017). This will allow identifying the intellectual basis of the field and the identification of the new themes (van Eck & Waltman, 2010).

3.2. Data Collection:

The data collection was carried out in two stages:
Database Selection. Publications were retrieved primarily from Google Scholar, using the software Publish or Perish (PoP), which provides extensive coverage of both academic and practitioner-oriented works.

Search Strategy. Keywords were selected to capture the intersection of AI and Social CRM. The main query strings included:

- "Artificial Intelligence" AND "Social CRM"
- "AI" AND "Customer Relationship Management"
- "Machine Learning" AND "Social CRM"
- "Predictive Analytics" AND "CRM"

Inclusion/Exclusion Criteria.
Inclusion: peer-reviewed journal articles, conference papers, and highly cited book chapters (2010–2025).
Exclusion: non-English papers, non-peer-reviewed reports, duplicates, and works outside the CRM/AI context.

The initial search retrieved 500 documents (2010–2025). After screening for relevance and duplicates, the final dataset comprised 461 publications.

E. Validity and Reliability

Citation Thresholds: To avoid introducing bias by uncited or marginal publications, only documents with at least 10 citations were used in co-citation analysis.

Temporal Analysis: Results have been split into two phases: emergent stage (2010-2016), expansion stage (2017-2021), AI-driven maturity stage (2022-2025).

DATA ANALYSIS AND RESULTS

The research in the area of AI-based Social CRM used in this study employed a bibliometric method to learn the trends of research, thematic grouping, and contributions made in this field. Publish or Perish was used to extract citation data and VOSviewer was used to create network visualizations. The review identified peer-reviewed articles published in 2010-2025.

4.1 Bibliometric Trends and Publication Growth

The bibliometric sweep returned 500 papers and 27,308 citations covering 2010–2025; the field shows a high average citation per paper (≈54.6) and a strong h-index (65), indicating a concentrated set of influential works driving the domain. Key PoP summary metrics: total papers = 500; total citations = 27,308; citations/paper = 54.62; h-index = 65; g-index = 161 (see table in below).

Metrics	
Publication years:	2010-2025
Citation years:	15 (2010-2025)
Papers:	500
Citations:	27308
Citations/year:	2100.62 (acc1=364, acc2=316, acc5=240, acc10=159, acc20=101)
Citations/paper:	54.62
Citations/author:	9567.56
Papers/author:	227.60
Authors/paper:	2.79/3.0/3 (mean/median/mode)
Age-weighted citation rate:	8157.24 (sqrt=90.32), 3088.01/author
Hirsch h-index:	65 (a=6.46, m=5.00, 23058 cites=84.4% coverage)
Egghe g-index:	161 (g/h=2.48, 26179 cites=95.9% coverage)
PoP hI,norm:	41
PoP hI,annual:	3.15
Fassin hA-index:	46

Source: publish and perish

Publication growth (annual trend):

- -Early (2010-2015): small and gradual development mainly led by the underlying CRM, social media, and text-mining (sentiment analysis, social listening) efforts.
- -Expansion phase (2016-2021): increased publication rates because the Big Data and analytics techniques (machine learning, NLP) entered the CRM research.
- -AI-maturity (2022-2025): a steep rise in publications and citations related to AI, generative models, chatbots, and ethical/regulatory issues, as the dataset has many high citations/year and numerous review articles (2021-2024) harvested by PoP.

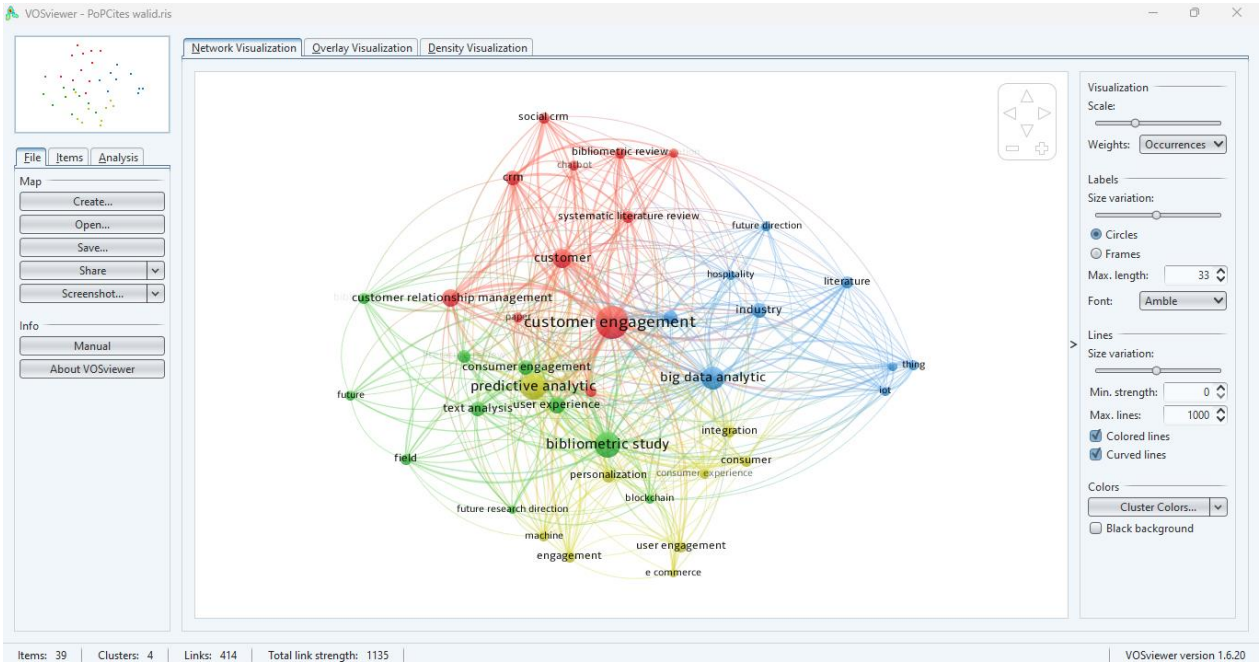
The paradigm shifted to prescriptive and predictive AI-enabled CRM (post-2018) out of descriptive social listening (2010s) with the most significant increase after 2020.

The high h-index and average citations/paper indicate both (a) influential, highly cited review/method papers and (b) fast coverage of AI applications (lots of systematic reviews and bibliometric research are prominent among the most frequently cited entries).

Thus, the most viewed individual articles in your export are broad, high impact review and method articles (e.g. BI/analytics and AI in marketing reviews). These high-impact items act as intellectual anchors for AI-SCRM scholarship. The PoP report carries the top donating contributions and various review articles (2017-2024) which act as nodes on the citation network.

4.2 Thematic Clusters and Research Focus

The VOSviewer keyword co-occurrence analysis produced four main clusters, each representing a distinct thematic focus in the AI-based Social CRM literature (figure below).



Cluster 1 - CRM Foundations, Social CRM, and Automation (11 items)

Keywords: automation, bibliometric review, chatbot, CRM, customer, customer engagement, customer relationship management, research agenda, social CRM, systematic literature review.

This group represents the baseline layer of the Social CRM research, in which the emphasis is put on the perception of CRM as a field, the process of its digital transformation, and the emergence of automation and chatbots as the instruments of the interaction with the customers. The use of such words as systematic literature review and research agenda proves that scientists are unifying the knowledge and establish the directions of the new research. Notably, the association of chatbots and automation implies the promotion of operational effectiveness and the expansion of customer interaction opportunities with the help of AI-based tools.

Cluster 2 - Bibliometric and Methodological Advances (10 items)

Cluster 2 highlights the methodological and conceptual development of AI-SCRM research. The prevalence of such terms like "bibliometric," bibliometric study, literature review proves a tendency to get a better systematization of the field. The insertion of the term blockchain is an indication of experimental attempts to connect distributed ledger technologies to the ideas of trust, transparency, and safe data management in customer relationships. The section on future research direction indicates that this cluster is the intellectual guide to the future AI-SCRM studies.

Cluster 3 - Big Data, IoT, and Tourism Applications (9 items)
Keywords: big data analytics, future direction, hospitality, industry, internet, IoT, literature, things, tourism.
The focus of this cluster is on implementation of big data and IoT technologies in Social CRM with a specific concentration in hospitality and tourism sectors. Such keywords as big data analytics, IoT, and internet underline the technological enablers, whereas keywords such as hospitality and tourism show applications of the technology within the sector. The cluster focuses on the fact that data-driven insights and connected devices are revolutionizing the customer experience management of service-oriented industries, and thus, these industries serve as a testbed of AI-SCRM innovation.

Cluster 4 - Consumer Experience, Personalization, and Predictive Analytics (9 items)
Keywords: consumer, consumer experience, e-commerce, engagement, integration, machine, personalization, predictive analytics, user engagement.

Cluster 4 is the consumer-focused use of AI in S-CRM and its use in e-commerce to personalize customers, predictive analytics, and improve customer experiences. The link between predictive analytics and personalization emphasizes the use of AI in predictive consumer behavior and on-the-fly ways to respond to and customize interactions. This category mirrors the strategic aspect of AI-SCRM, in which companies use modern analytics and machine learning to create greater depth of interaction and create long-term loyalty.

- Combined, the four clusters demonstrate how AI-SCRM research has developed:
- Cluster 1 (Foundations and Automation): Prepares the conceptual and operation base.
- Cluster 2 (Methodology and Blockchain): Knowledge consolidation and exploration of technologies in the name of trust building.
- Cluster 3 (Big Data & IoT in Tourism): exemplifies the applications of the sector in service industries.
- Cluster 4 (Consumer Experience & Personalization): Highlights the shift toward AI-driven strategic engagement and hyper-personalization.

This thematic framework corroborates a shift that is not descriptive monitoring (literature reviews, sentiment studies) but prescriptive and predictive AI-driven action (automation, personalization, predictive analytics), which is framed in the paper as From Sentiment to Strategic Action.

DISCUSSION & CONCLUSION

Our paper traced the development of AI-based Social CRM (S-CRM) between 2010 and 2025, which shows that there is a transition of previous sentiment-oriented models to more advanced, AI-assisted methods of customer interaction. The first cluster, which is concerned with foundational reviews, systematic literature maps, and automation via chatbots, is indicative of the evolution of the field away from descriptive frameworks to operational tools that run on automation. Early sentiment analysis prototypes have been varied; such as recent systems can apply state-of-the-art machine learning models (e.g., BERT, XGBoost) to both predictive analytics and real-time interaction with users, as with new AI-based CRM systems (Gaidhani et al., 2025; Trainor et al., 2014).

The second large cluster was formed on the methodological advancement as themes advanced. The presence of bibliometric research and investigations into the potential of blockchain to make the systems more trustworthy and transparent demonstrates growing scholarly interest to map the structure of the field in a rigorous manner and to consider the governance consequences of AI-driven systems. Moreover, the exploration of blockchain's potential in CRM marks an early integration of secure, decentralized technologies into customer relationships (Dwivedi et al., 2021).

Industry-specific applications, particularly in the tourism and hospitality sectors, form another thematic strand. In this case, AI overlaps with big data analytics and IoT to provide context-aware services, i.e., smart recommendation systems and location-based interaction, showing how service industries become a promising area to implement and test AI-SCRM innovations (Del Vecchio et al., 2020; Mohammed et al., 2024).

The strongest thematic group is the theme of consumer experience improvement with the help of personalization and predictive analytics. The contributions of AI in personalizing engagement - through real-time customization, dynamic collections, behavior forecasting, etc. - have changed CRM into a proactive tool rather than a reactive one. Industry analyses also suggest that personalization through AI (e.g., dynamic messages and product recommendations) is quickly turning into a strategic differentiator among

brands and is allowing them to scale but still emotionally appealing customer experiences (TechRadar Pro, 2025). With technological progress, there are ethical, transparency, and trust issues, albeit with concerns expressed by both the users and scholars. The ethics-related keywords, albeit not reflected in a specific cluster, are on the rise and, ideally, indicate that researchers are now more worried by the need to ensure that AI systems do not make customers lose their trust and comply with the new regulatory requirements. Responsible AI models highlight the fact that transparency and fairness are not only a requirement of the law, but also a competitive need to ensure long-term customer relationships (TechRadar Pro, 2024).

This thematic analysis and bibliometric analysis demonstrate that S-CRM is not only becoming an AI-fueled field but also that its future is being influenced by the ethical aspect of the field, its applications in sectors and the methodological advancements. This combination of themes highlights how the field is moving beyond sentiment tracking to strategic coordination, on data, artificial intelligence, and, more and more, ethical consciousness.

In this research paper, a subtle bibliometric mapping of AI-based S-CRM is provided. We show the evolution of the field to sentiment analysis as a stepping stone to automation, predictive analytics and personalization, and new interest in trust and governance. Practitioners are advised to keep an eye on the rising centrality of AI features, like chatbots and personalization engines, though these should be accompanied by open and ethical design. As a platform developer, the user acceptance and regulatory compliance will depend on the ability to integrate explainable AI capabilities, privacy-first architecture.

The weaknesses are that there may be coverage bias due to use of Google Scholar and qualitative interpretation of clusters. The thematic findings should be confirmed by future research using survey, or case studies especially in less represented geographic and sectoral settings.

Future Directions ought to consider frameworks of explainable AI in S-CRM, hybrid AI, which combines AI effectiveness with human empathy, generative AI, which can be applied to content personalization, and sound trust frameworks that instill fairness, transparency, and privacy in CRM technologies.

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