

Mapping CRM and Customer Retention Research (2015–2026): A PRISMA-Guided Bibliometric and Methodological Appraisal

Jagriti Ojha¹, Mini Arrawatia²

¹PhD Scholar (Management), Jayoti Vidhyapeeth Women's University, Jaipur, Rajasthan, India

²Associate Professor, Faculty of Management, Department of Management, Jayoti Vidhyapeeth Women's University, Jaipur, Rajasthan, India

Abstract

In the digital economy, customer retention has become one of the most important overall strategic concerns as it is driven by increased competition and the rapid growth of customer-related data. Given this context, research in customer relationship management (CRM) has increasingly focused on the use of analytics, artificial intelligence (AI) and predictive modelling in supporting customer retention. The aim of this study is to systematically review and critically synthesize the existing empirical research in CRM and customer retention that has been published between 2015 and January 2026. The study uses an integrated methodological approach that incorporates bibliometric science mapping, structured evidence synthesis using an adapted PICO framework, and assessment of the methodological quality of reviewed studies with an adapted ROBINS-I tool.

On the basis of a PRISMA-compliant search of the Scopus database, a total of 44 studies were included in the systematic review and bibliometric analysis. Bibliometric analysis results demonstrate a significant increase in analytics and AI-driven CRM research and a clear emphasis on using these tools to predict customer churn and model customer behaviour. The evidence synthesis also revealed that some CRM interventions such as predictive analytics, social CRM and relationship-based strategies are generally associated with improved retention outcomes. However, assessment of methodological bias revealed that most studies have moderate to high bias potential due to confounding factors and the dominance of cross-sectional and observational designs. Thus, while positive relationships between CRM interventions and customer retention are well-documented, there is still limited strong evidence of a causal relationship between these variables.

Keywords: Customer Relationship Management (CRM), Customer Retention, Bibliometric Analysis, PICO Framework, ROBINS-I.

1. Introduction

In the modern form of the global digital economy, we see increased competition among businesses competing for customers and the enormous amounts of customer data now available to them—making customer retention one of the key strategic priorities for a business to grow its long-term profitability (Kumar & Reinartz, 2016). As a result, the evolution of CRM has taken shape into a highly advanced/technologically sophisticated area, focusing on utilizing the many areas of data analytics,

Artificial Intelligence (AI)/machine learning and social media to create lasting relationships with customers (Lipiäinen & Karjaluoto, 2015). The underlying concept is that implementing advanced CRM/emergency management practices will result in increased customer loyalty and retention, which are two of the most important drivers of sustainable performance for any firm (Gill et al., 2023). Since 2021, it has been apparent through the research literature that there is fast-growing/expanding convergence of technological capabilities being integrated into many CRM strategies at an accelerated pace; therefore, it is time to conduct a framework of mapping and synthesis of the rapidly advancing body of knowledge within this area.

Despite the increasing number of publications being produced from 2015 to 2026, there appears to be significant gaps within the current (2015-2026) literature in two main areas. First, there is still very little published research resulting in published science mapping of both the current intellectual structure and cutting-edge frontiers regarding how to leverage digital technology, specifically AI and big data analytics, to improve customer retention strategies (Zheng et al., 2023). The methodological rigor of the new empirical research in this area, particularly that of CRM, has not been evaluated with formal bias assessment tools, adapted from other domains. As a result, these researchers may have inflated self-confidence in their findings (Stevens et al., 2023; Chen & Li, 2024). Current research demonstrates that while some modern CRM interventions (such as predictive churn model, social CRM, etc.), and their effectiveness as a mechanism of retention, do exist, they are not integrated or systematically evaluated; thus, practitioners lack a consolidated body of knowledge regarding the applicability of specific CRM intervention to organizational retention goals.

This study bridges these gaps through the combination of three little-used research methodologies used in business research; (1) a systematic bibliometric mapping of the field; (2) the use of an adapted framework to categorize and visualize the different types of CRM interventions and the related evidence supporting their effectiveness; and (3) a structured method to assess each intervention's methodological rigor and risk of bias, using an adapted tool to evaluate business intervention studies. Together this triadic approach provides a much more comprehensive, holistic and systematically-supported presentation of CRM-retention literature than has been previously delivered.

This study is founded on an integrated theoretical model. The Resource-Based View (RBV) (Barney, 1991) defines CRM capabilities (e.g., AI analytics, integrated data-platforms) as resource assets that create a retention advantage. The Social Exchange Theory (SET) (Cropanzano and Mitchell, 2005), which explains how technology-mediated, individualized interactions promote both trust and reciprocity in the relationship between businesses and customers through customer relationship management (CRM), serve as the foundation for this research. Further, we will be using Evidence-Based Management principles (Barends and Rousseau, 2018) to perform a systematic review of recent data concerning the link between specific CRM practices and customer retention.

This research has three primary aims: First, to map the intellectual foundation of the academic literature regarding CRM practices as they relate to customer retention from 2015 through 2026; Second, to evaluate the methodological rigor of the empirical studies included in this review, as well as the risk of bias in each individual study; and third, to integrate the results of this review into a single framework in order to identify the most effective CRM interventions for improving customer retention. The first two of these aims will result in the following research questions:

RQ 1 - What are the significant research themes and trends in the CRM and customer retention literature from 2015-2026?

RQ 2 - What is the general methodological proficiency and risk of bias of recent non-experimental studies that examine CRM interventions?

RQ 3 - Which CRM interventions emerge as the most promising for customer retention under current methodology?

2. Methods

2.1 Study Design

The research work involved a bibliometric analysis following a systematic review of all existing literature relating to CRM & retention. The systematic review process complied with the PRISMA 2020 statement to ensure systematic, reproducible methods and evaluated evidentiary background through a combination of quantitative bibliometric and qualitative framework-based evidence mapping techniques (Page et al., 2021).

2.2 Search Strategy

The systematic review process used Scopus as the primary source of citations/hyperlinks and was chosen due to its extensive coverage of high-quality peer-reviewed literature in the fields of social science and business, which are typically used for bibliometric analysis (Baas et al., 2020). The search was conducted on January 24 2026. The search strategy was designed by the authors, which includes the combination of the concepts of “customer relationship management” and “customer retention” along with synonyms to capture all relevant empirical studies linking CRM to customer retention. The following Boolean search string was executed: (TITLE-ABS-KEY (("customer relationship management" OR "crm")) AND TITLE-ABS-KEY (("customer retention" OR churn)) AND PUBYEAR > 2014 AND PUBYEAR < 2026) AND (LIMIT-TO (SUBJAREA , "BUSI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")). The time frame of this review search was defined between January 2015 and 24 Jan 2026. The eligibility of the identified records for inclusion in the analysis was assessed based on the following PICO criteria:

- Population: Industries/sectors studied (e.g., banking, telecom, retail, hospitality).
- Intervention: Categorization of studied CRM practices (e.g., analytical CRM, operational CRM, social CRM).
- Comparison: Benchmark algorithms, traditional statistical models, pre–post CRM implementation, cross-sectional comparison between firms or customer groups
- Outcomes: How customer retention/churn was operationalized.

Studies were exclusion criteria from the analysis when studies focus on non- empirical or review based.

2.3 Data Extraction and Quality assessment

Two independent reviewers (Dr JO and Dr MS) conducted the screening of the records generated by the indicated search strategy. The identified records were screened by title and abstract and, after the initial discerning, full texts were retrieved and reviewed. Any disputes in the screening process between the 2 reviewers was resolved by the third author (Dr. VN), acting as an independent reviewer. The variables extracted at this stage served as the foundation for all subsequent analysis. Therefore, dataset extracted was intentionally structured to support bibliographic information and keyword data to become base of bibliometric analysis, enabling the mapping of publication trends, and co-occurrences of authors' keyword. To conduct a PICO-based evidence synthesis, the research was structured by the characteristics of each study's design, intervention, comparator and outcome measure. Consequently, systematic comparisons could be made across a number of studies that were not homogenous. In addition, information

collected on methodology from each of the studies was then incorporated into the adapted ROBINS-I framework to provide an indication of possible sources of bias. Through this integration of data extraction, analysis and interpretation there will be continuity and transparency of those processes.

2.4 Study Selection Process and

The study selection adhered to the PRISMA 2020 flow diagram, as described in Page et al. (2021), and illustrated in Figure 1. The initial search of the selected databases provided 717 records. These were filtered by publication year, subject area, document type, and language, resulting in a total of 97 records. After eliminating duplicates, 96 records were screened by two independent reviewers separately, the identified records were screened by title and abstract. Among the original 96 records, six articles were excluded because of being non-empirical or review articles, which left a total of 90 studies eligible for further, full text review against the PICO criteria to determine eligibility for inclusion. For this study, the population of interest were organizations in the business sector or their customers; the intervention included any formal CRM practice, system, or technology; the comparator was any means of comparison, including model benchmarks and cross-sectional groups of organizations; and the outcome was measured through customer retention, customer churn, customer loyalty, or another closely related construct (such as customer lifetime value (CLV)). With regard to the need for a comparator in order to evaluate studies making evaluation claims, it must be noted that some predictive modeling studies are excluded under this criterion that may be important benchmark studies for evaluating algorithm performance internally (versus comparing against a control), as this review looks to review evidence of CRM's impact versus only having predictive capabilities. 46 articles were removed from consideration as they were either missing a required comparative element, were non-empirical, or were not directly aligned with the PICO guidelines for a total of 44 articles that would be included in a bibliometric analysis, evidence mapping, and quality assessment.

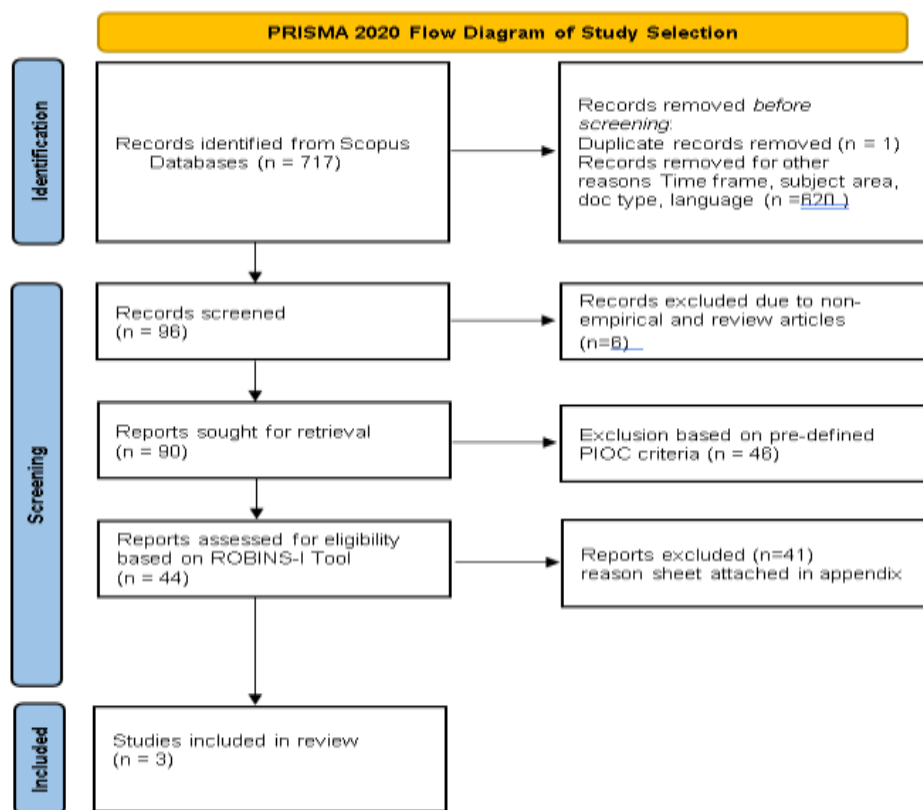


Figure 1: Prisma flow diagram for study selection

2.5 Quality Assessment (Risk of Bias)

An alternative tool for assessing the methodological quality of the non-randomized studies included in this review was the Risk of Bias in Non-randomized Studies-of Interventions (ROBINS-I) tool (Sterne et al., 2016; Stevens et al., 2023). The ROBINS-I tool domains were adapted to apply to the business domain. To assess for consistency of judgments, two reviewers independently assessed a random sample of 30% of the studies using the ROBINS-I tool for each of the ROBINS-I domains. All domains were classified as Low, Moderate, Serious, or Critical risk of bias, and thus, an overall risk of bias was assessed for each study.

2.6 Justification for Adapting PICO and ROBINS-I to CRM Research

This review adapts the PICO (Population, Intervention, Comparator, Outcome) framework as it was used in educational research (Banjar et al., 2023) and re-label STAR (System-Trouble/Treatment-Alternative-Response) approach was used in environmental sciences and environmental sciences and engineering (Célicourt et al., 2025). It provides structure and systematic basis for identifying, screening, and synthesizing relevant studies across disciplines. Additionally, the ROBINS-I tool, based on causal inference theory and its methodical process for assessing bias in observational research, is appropriate for many disciplines outside of medicine. ROBINS-I has been specifically designed to evaluate the seven universal threats to internal validity -- confounding, selection, classification error, violations to protocol, non-complete data, measurement, and selective outcome reporting -- that exist in both management, public policy, and many of the social sciences where RCTs are not always feasible (Sun, F et al 2018). The greatest strength of ROBINS-I is the use of domain-independent, counterfactual reasoning along with directed acyclic graphs (DAGs) to determine the validity of the assumptions that are made regarding unobserved confounding. Therefore, ROBINS-I is far more rigorous than previous tools such as the Newcastle-Ottawa Scale, which do not directly assess if the identified confounding factors that may influence the training determine the way in which data is collected on performance for example (i.e. the performance of the teams impacts the decision of which teams are trained). Evidence gathered from ROBINS-I has also demonstrated that while inter-rater reliability for ROBINS-I may be classified as moderate ($\kappa = 0.20-0.60$), the use of ROBINS-I improves the consistency of judgment, which allows for a reduction of the various biases typically associated with non-medical research, such as an immortal time bias or an imprecision due to a lack of consistent measurement in data collection (Marino-Romero et al., 2024, Ramezani et al., 2022, Minozzi et al, 2019).

2.7 Bibliometric Analysis

A bibliometric analysis was conducted using bibliometric software to map the intellectual structure of the field.

- VOSviewer (version 1.6.20) was used to develop and visualize bibliometric networks (van Eck & Waltman, 2010). Author keyword co-occurrence analysis was conducted to identify dominant clusters in the literature. A minimum number of occurrences of 3 was set for keywords in order to develop a bibliometric network to visually display cluster density and connections.
- The Bibliometrix R-package (Version 4.0) was employed to carry out comprehensive descriptive analytics on scientific literature and perform science mapping according to Aria & Cuccurullo's study (2017). Through the use of this package, analysis of the yearly scientific production for each identified research study, the major sources and authors used to produce those studies based on citation was performed.

2.8 Evidence Synthesis

A narrative synthesis approach was used that was structured by applying the PICO framework. The studies were categorized based on the specific type of CRM intervention investigated (e.g., predictive analytics/AI, social CRM, strategic relationship management). The findings for each category were summarized, in terms of their association with customer retention outcomes, by their directionality, magnitude, and consistency of relationships based on the results of each study in the category. This synthesis of studies also included an assessment of the methodological quality and the risk of bias associated with each study from the ROBINS-I

3. Results

3.1 Study Selection

Following the PRISMA process, 44 articles were identified for the final analysis (See Figure 1). The primary reasons for exclusion during PICO screening full text were the lack of a comparative element (e.g., entirely descriptive case studies or correlational designs without a comparison) and the use of non-empirical study designs.

3.2 Bibliometric Analysis Results

3.2.1 Trends in Publication Output, Influential Sources, and Authors in CRM Research

The annual data on published papers exhibits a stable level of output from 2015-2021 and then an increase starting in 2022. An increased amount of scholarly activity was observed in 2022 and 2025. This trend indicates that there has been an increase in the overall amount of research on the topic over the last couple of years, most likely due to increased use of data analytics and AI related to CRM research (see figure 2). The primary journals in terms of the number of articles published on CRM and customer retention research tend to be published in niche marketing and relationship management journals, as opposed to general applied business journals. Most of these have been published via the International Journal of Electronic Customer Relationship Management and the Journal of Relationship Marketing. Additionally, there are a large number of impactful and interdisciplinary journals publishing in this field, including the Journal of Business Research and the International Journal of Research in Marketing, indicating that theory and methodology are becoming more integrated within the CRM/customer retention discipline (see figure 3). The most influential author based on citation indication that a small number of authors (see figure 4) – particularly de Caigny et al., Xiahou and Harada, and Matuszelański and Kopczewska – have played an outsized role in shaping both the CRM literature and business literature as it relates to customers staying with businesses. Their work, which is well-cited, has been focused heavily on predicting future customer behavior through analysis and modeling things like raw customer data, analyzing reasons for customers leaving, and making data-based decisions. The works that have received some citation but not as heavily have begun to build on existing work by including strategic, behavioral, and managerial aspects of CRM behaviors within businesses. In summary, the research pattern supports that the best research within CRM is very analytical in nature but it continues to expand into relational and organizational aspects over time.

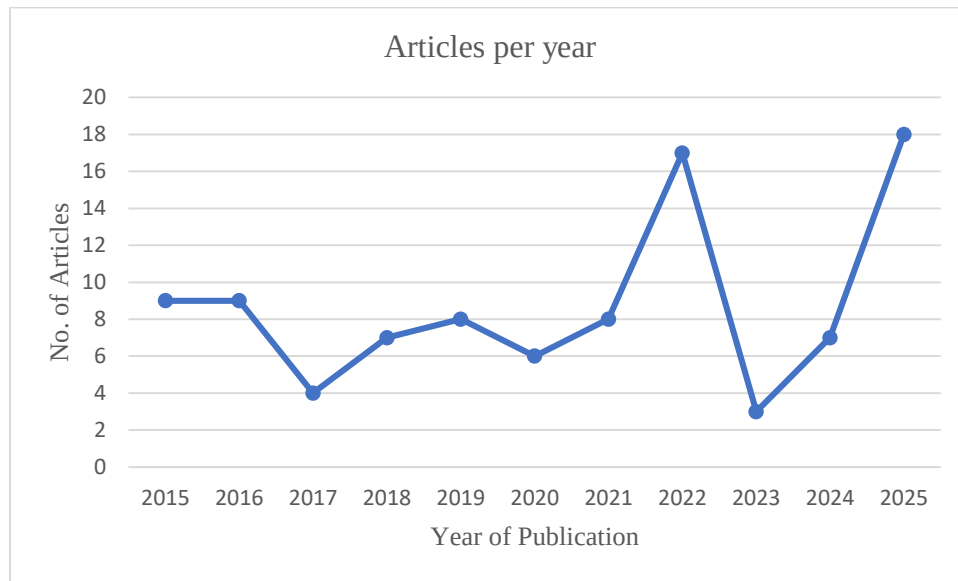


Figure 2: Annual scientific production

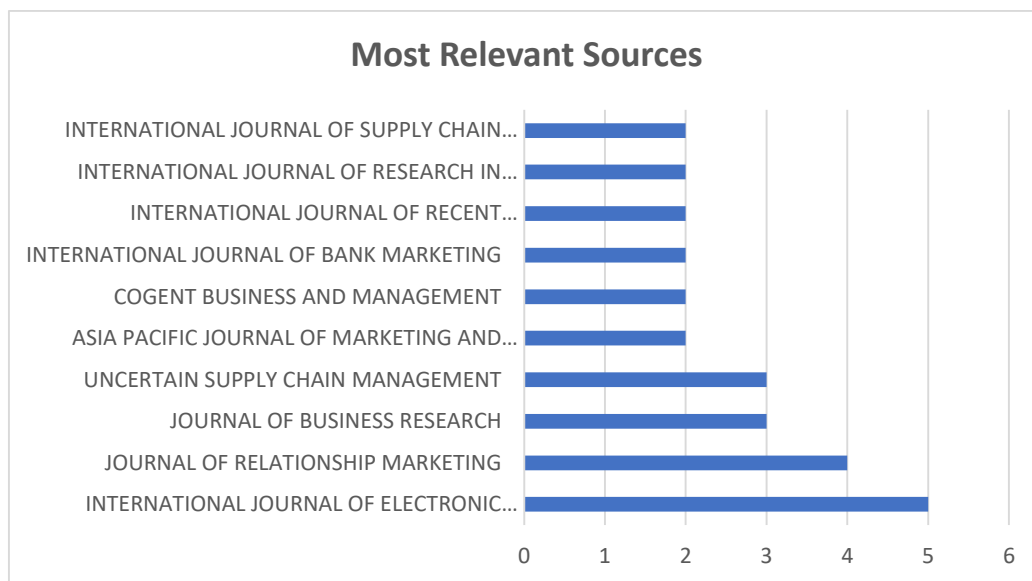


Figure 3: Most relevant source

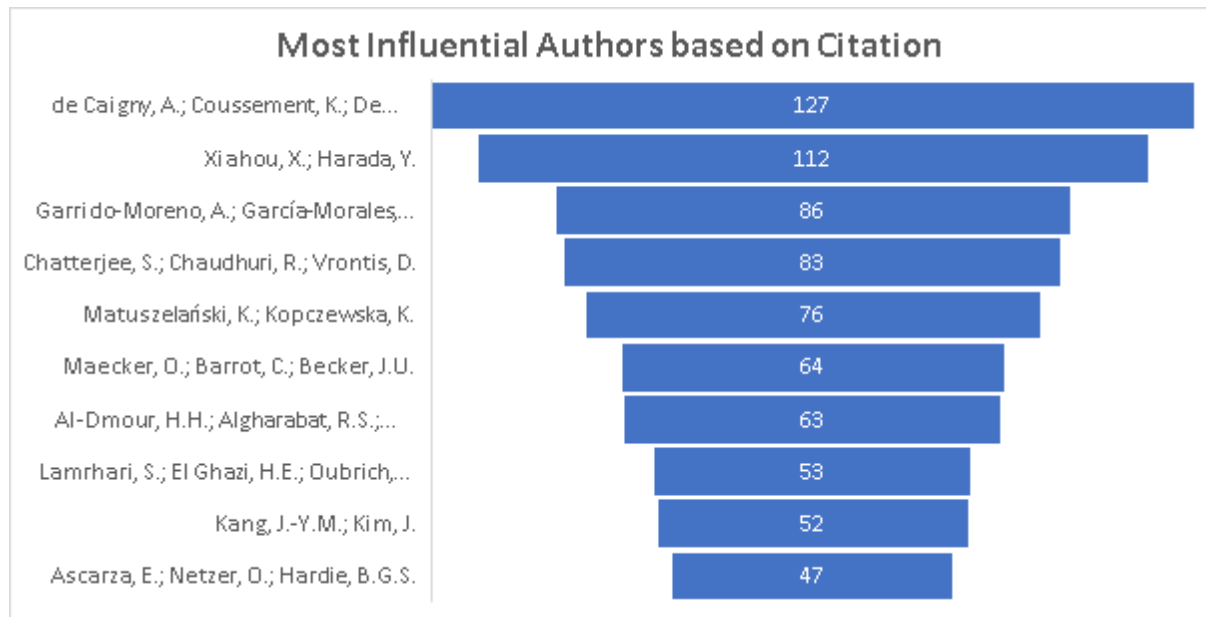


Figure 4: Most Influential Authors and Articles: Based on citation counts.

3.2.2 Science Mapping: Keyword Co-occurrence and Evolution

A network analysis using VOSviewer (Figure 5) identified three major interrelated thematic clusters that comprise the modern CRM literature from 44 author keyword publications. The central point of all three clusters is Customer Relationship Management (CRM), as indicated by several studies (Abbad et al., 2022; Kazemi et al., 2015). The first cluster is comprised of Predictive Analytics and Churn Models, with keywords such as churn prediction, data mining, and machine learning, and represents the methodological evolution of the research discipline (de Caigny et al., 2020; Xiahou & Harada, 2022; Yan & Resnick, 2024). The second cluster consists of Technological Interfaces and Social CRM and includes social CRM and machine learning and displays the merging of AI and social media analytics (Lamrhari et al., 2022; Maecker et al., 2016). The third thematic cluster consists of Relationship Outcomes and Behavioral Dynamics and includes keywords concerning customer satisfaction, loyalty, and retention and represents the ultimate aims of CRM initiatives (Bhattacharyya et al., 2021; Wen et al., 2025; Matuszelański & Kopczewska, 2022). The overlay visualization (Figure 3) shows the average publication date of keywords demonstrating a clear thematic direction. The keywords “artificial intelligence,” “deep learning,” and “social CRM” have a more recent mean average publication date (post-2021), supporting the finding that the field is rapidly moving toward advanced digital and analytical themes, while terms related to earlier work, such as “customer satisfaction” and “loyalty,” show earlier mean average publication dates.

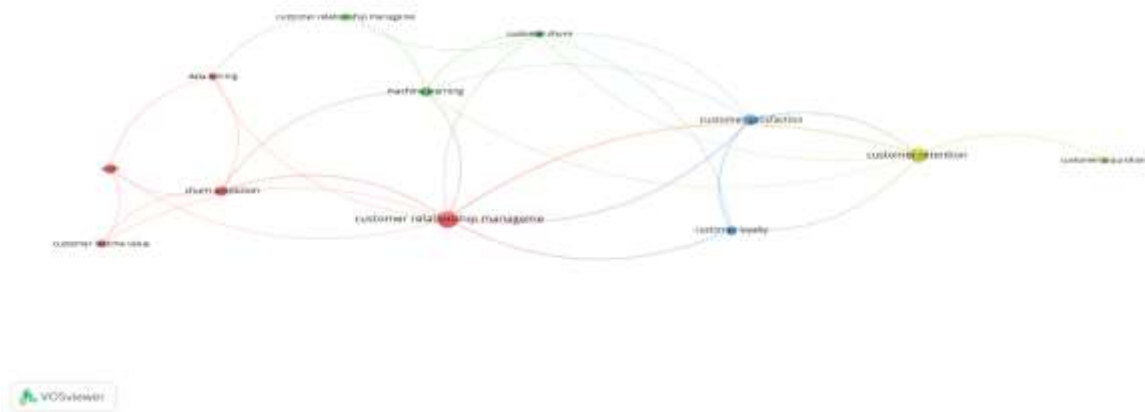


Figure 5: Keyword Co-occurrence Network Visualization

3.3 Characteristics of Included Studies (PICO Summary)

Table-I reports the distribution of the 44 studies included in this review. The majority of studies (54.6%) were carried out in sectors considered to be digital-centric and to have significant customer interaction data (see table 2) —Banking & Financial Services, Retail & E-Commerce, and Telecommunications (Adam et al., 2024; Siddiqui et al., 2024)—which is reflective of the amount of structured customer interaction data generated by those industries. Consequently, the results are overwhelmingly weighted toward Analytical CRM as the primary intervention type (56.8%) due to the concentration of research within these industries (Yan & Resnick, 2024). This technical theme is also evident within the methodology of the research. Modeling and simulation studies account for 50% of the studies included, followed by empirical surveys (29.5%) and field experiments (11.4%) (Wünderlich et al., 2022). As a result, the outcome measures exhibit a bifurcation, with almost half (45.5%) of studies measuring the accuracy of customer churn prediction while only one-third (36.4%) of studies measure actual customer retention (Opoku et al., 2025).

Table-1 Summary of PICO framework

Category	Subcategory	Count	Percentage
Population / Context	Banking & Financial Services	8	18.20%
	Telecommunications	8	18.20%
	Retail & E-commerce	8	18.20%
	Hospitality & Tourism	3	6.80%
	Airlines & Transportation	2	4.50%
	Insurance	2	4.50%
	Manufacturing / B2B	4	9.10%
	Media & Entertainment	3	6.80%
	SMEs & Family Businesses	1	2.30%

	Multi-industry / General	5	11.40%
Interventions (CRM Types)	Analytical CRM (ML, Data Mining)	25	56.80%
	Social CRM (Social Media Integration)	4	9.10%
	Operational CRM (RFM, CLV, Loyalty)	11	25.00%
	Strategic CRM (Frameworks, BSC)	4	9.10%
Study Designs	Empirical (Survey, SEM, Regression)	13	29.50%
	Case Study	3	6.80%
	Modeling / Simulation	22	50.00%
	Experiment (Field / Natural)	5	11.40%
	Mixed Methods	1	2.30%
Outcome Measures	Customer Retention (Direct Metric)	16	36.40%
	Churn Prediction Accuracy	20	45.50%
	CLV / Profitability	6	13.60%
	Satisfaction / Loyalty as Proxy	2	4.50%

3.4 Results of Quality Assessment (Risk of Bias)

An evaluation of methodological bias was guided for all 44 non-randomised studies using the adapted ROBINS-I tool (Stevens et al., 2022). The assessment revealed concerns across the seven domains of bias. Specifically, 40% of the studies are rated as serious or critical risk due to confounding bias and 45% of studies with selection bias at serious or critical risk.

The combined synthesis suggested that the collective risk of bias across the reviewed articles is high (see Table 2). Only a small fraction of studies (6.82%) was rated as having Low risk, while the majority of studies (68.18.5%) had been assessed as having Moderate overall risk typically due to having serious risk in one or two domains (see table 3). Notably, 25% of studies were rated as Serious or Critical overall risk. Robust experimental and quasi-experimental design studies have demonstrated that they consistently have a significantly lower risk rating for studies conducted using various designs (See figure 6 and 7); for example, Mark et al. (2025) completed an effective-field experiment assessing the effectiveness of CRM training. On the contrary, papers utilizing predictive modelling as an assessment tool, including papers validating algorithms on static data sets (i.e., proprietary) or cross-sectional survey data assessing perceptual models, have regularly been rated as Moderate or Serious risk due to the fundamental challenges associated with establishing temporal precedence and eliminating confounding factors.

Table 2: Distribution of Overall Risk of Bias Judgments (N=44)

Overall Risk of Bias	Number of Studies	Percentage (%)
Low	3	6.82
Moderate	30	68.18
Serious	9	20.5
Critical	2	4.5
Total	44	100.0

Figure 6: Summary plot for ROBINS-I

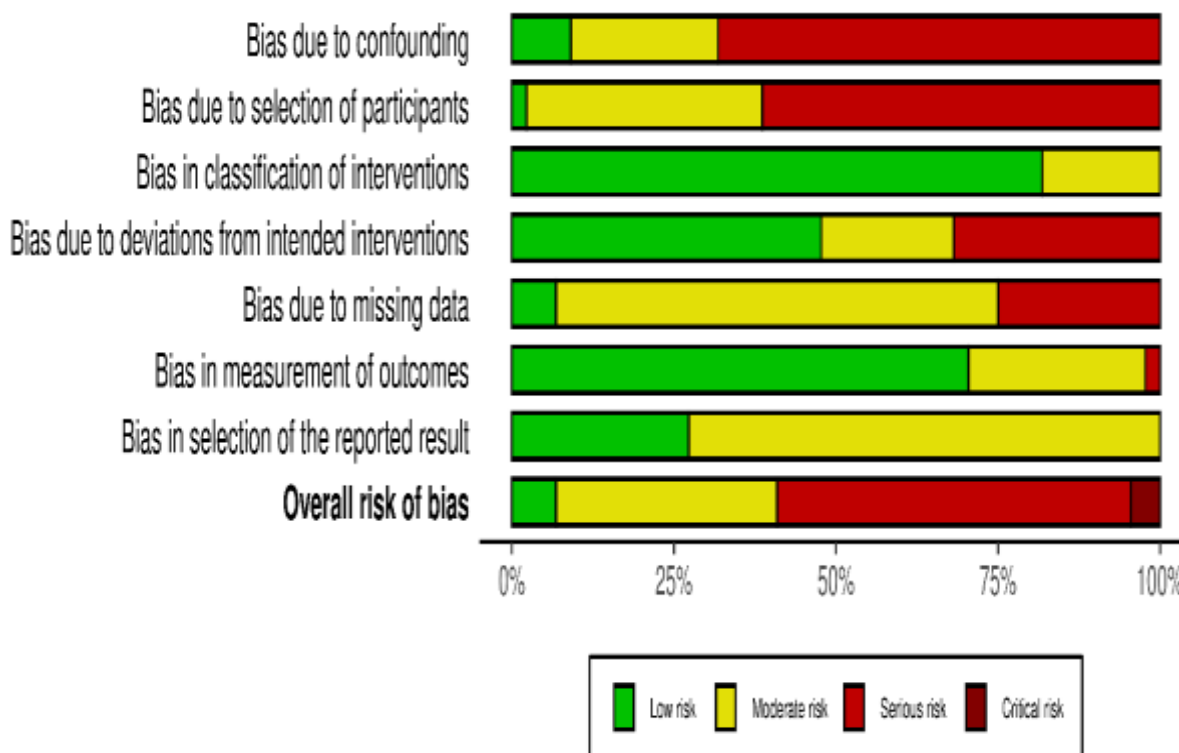
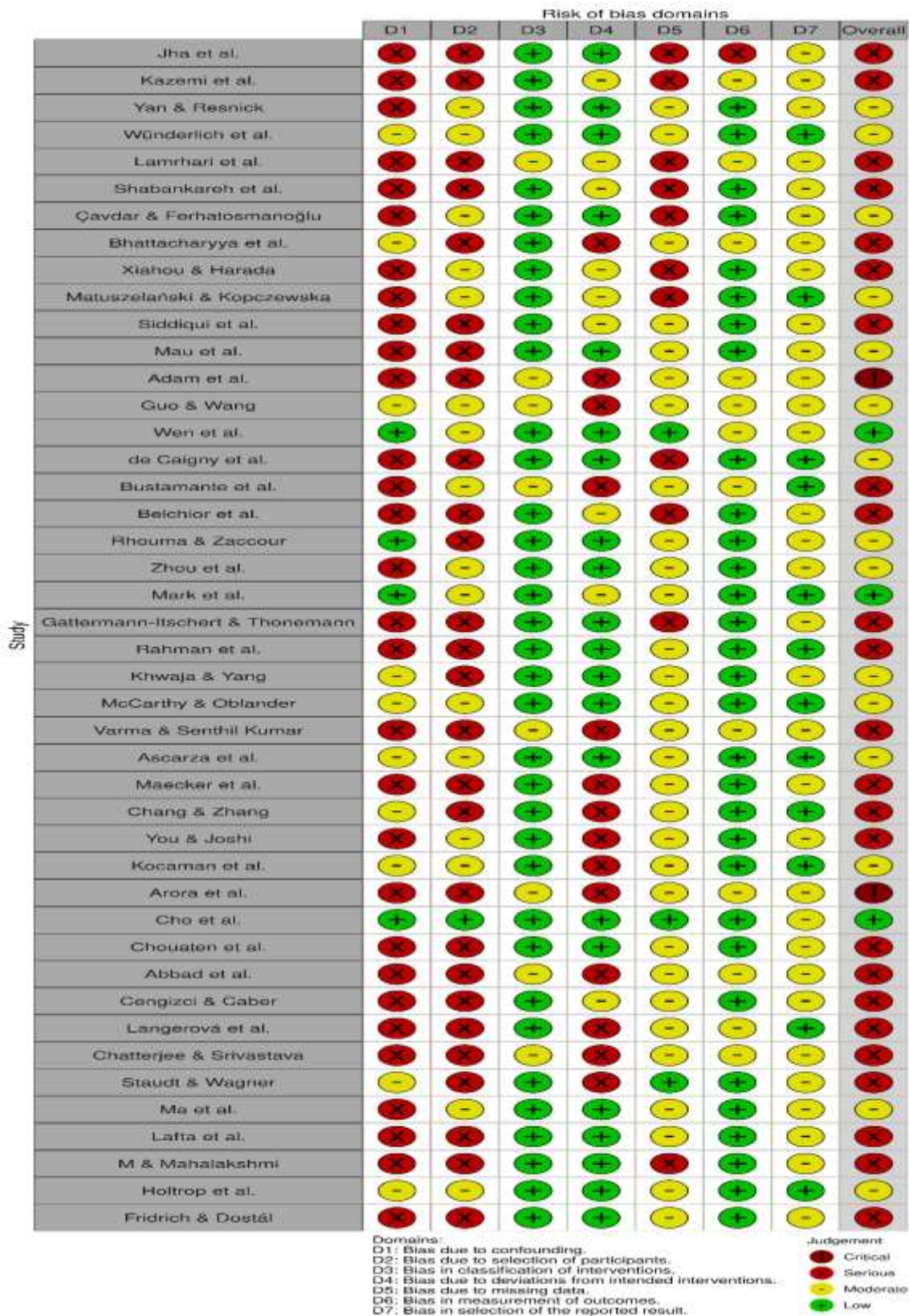


Figure 7: The traffic light plot of ROBINS-I



3.5 The narrative Synthesis: Training, Loyalty, and Competitive Dynamics in Customer Relationship Management: This analysis connects and compares the results of three articles exemplars of low risk of bias see table-3, each of which examines a different but related aspect of customer relationship management (CRM), organizational behavior, and competitive strategy.

Table-3: Descriptive Comparison of Findings

Aspect	Mark et al. (2025)	Wen et al. (2025)	Cho et al. (2022)
Area of Interest	CRM Training, Time/Retention, Decay of Training Impact on Sales.	Impact of Status Demotion on Customer Loyalty; Mechanisms of Psychological Reciprocity, Blame.	Competitive Reactions to Poaching Customers; Latching Versus Unlatching as Strategies.
Key Components	Training Effectiveness, Organizational Alignment, CRM, Acquisition of Customers Versus Retaining Customers.	Blame, Reciprocal Norm of Behavior, Demotion of Status, Erosion of Loyalty.	Competitive Aggression, Poaching of Customers, Relational or Transactional Methods of Responding.
Major Overall Findings	Training for CRM will erode faster than training on how to operate products/systems; CRM Training will provide LT Performance Improvement of approximately 9 months; however, System Training will provide LT Performance Improvement of approximately 14 months;	The Demotion of Status will lead to a Reduction in Loyalty, especially when the organization has Created Blame for the Demotion by that Organization; Reciprocity will moderate the Effect of Status Demotion on Loyalty Reduction.	Organizations Will Either Latch (Retaliate) or Unlatch (Ignore) when a Competitor Poaches their customers; Uses of Relational Strategies Will Reduce the Likelihood of Retaliation.
Context	Using Organizations in the Financial Services Sector (Canada); Data was Collected Through a Longitudinal Study;	Organizations in the Hospitality/Tourism Industry (China) Utilized One Experimental/Scenario Based Design for Data Collection;	Organizations in the Service Industry (Korea); Data Collected Through Surveys and Experimental Designs.
Theoretical base	Organizational Learning and Resource Based Theories were used as the Basis for Research Conclusions;	Typical Uses of Social Exchange Theories and Attributional Theories of Behavior will be used as the Basis for Research Conclusions;	Theories Supporting Competitors' Reaction are Competitive Dynamics and relational Exchange Theories

The findings put together indicates that sustaining customer loyalty requires a multi-dimensional strategy to unify the three internal, psychological, and external competitive factors. Mark et al, (2025) concluded from their study that to enhance CRM's impact on sales performance, not only must companies have continuous, reinforced training; they should also conduct periodic (e.g., weekly) refresher training for CRM skills; because the positive impact of CRM on sales performance diminishes to a greater extent than that of other types of training over time, it is essential that CRM skills are regularly maintained through continuous training (i.e., at least weekly). According to Wen et al, (2025) customer loyalty is affected by how organizations manage customers' perceptions; if customers perceive that they have been demoted in status by the company, they will lose their loyalty to the company, particularly if they attribute the cause of the demotion to an action taken by the firm, which causes customers to perceive that the firm has violated a norm of reciprocity. Cho et al. (2022) extend the CRM perspective to competitors dynamics; the authors argue that firms should respond with relational strategies instead of strictly transactional strategies; it provides more protection for loyalty and minimize retaliation than do transactional strategies. Though each study provides a significant amount of empirical support for its respective area, existence of cross-institutional and cross-cultural limits the generalizability.

4. Discussion and Interpretation of Key Findings

The systematic review and focused synthesis provide a multi-dimensional understanding of customer loyalty in a digital world. Moving beyond a narrow technological perspective of CRM, the findings carry a more integrated framework that enables internal organizational capabilities, psychological mechanisms, and external competitive dynamics.

4.1 Key Interpretive Themes

Loyalty as a Multi-Layered Concept: The synthesis that customer loyalty is not a static end result driven by isolated tactics (or efforts), rather is a dynamic state developed through integration of predictive analytics, technology-driven interfaces; and relationship outcomes. All of which have been substantially corroborated and elaborated upon in the synthesis produced by Mark et al. (2025), Wen et al. (2025), and Cho et al. (2022) with the use of traditional/internal, psychological/relational, and external/competitive perspectives on the multi-level components of loyalty management.

The Decay of CRM Competence: Mark et al. (2025) found that CRM related skills deteriorate more rapidly than other capabilities of organization, showcase the fragility of relational competencies. In terms of theory, CRM capabilities, which Resource-Based View (RBV) says have unique characteristics (valuable, rare, and difficult to imitate) are much more difficult to retain over time than other capabilities. The rapid decay of these capabilities further supports the organizational learning theory's emphasis on continuous learning and reinforces the lack of empirical evidence in most of the CRM implementation studies, which assume that once a capability is installed, that is the end of it.

Psychological Foundation of CRM Effectiveness: The synthesis demonstrated that perceptions of fairness and reciprocity are critical factors influencing the effectiveness of CRM systems. Wen et al. (2025) found that actions based on data and objective accuracy may negatively impact customer relationships if they violate the norms of reciprocity. This reinforces the concept of a "human-in-the-loop" CRM system where psychological factors are integrated into the decision-making process (along with predictions of performance and operational efficiency).

CRM as a Competitive Signaling Mechanism: In their article, Cho et al. (2022) enhance existing CRM Theory by positioning it as a Triadic Model involving Firms, Customers, and Competitors. Competitive

threat problem response enhances relational capital and creates a protective barrier against Poaching. Therefore, this supports the Resource Based View by establishing Customer Relationships as unique and irreplaceable sources of competitive advantage.

Methodological Alignment and Evidence Quality: The risk of bias reveals that majority of CRM empirical research included in this review were used relatively limited causal methodologies were used. Several studies (Mark et al., 2025; Wen et al., 2025; Cho et al., 2022) employed a strong experimental design. As a result, confidence is enhanced regarding their findings and highlight the need for more rigorous research approaches across the study field.

4.2 Theoretical and Practical Implications

The synthesis presented in this research shifts CRM theory from the fragmentation of past relationships (technical or relational) to a focused, human-centered, integrative strategic perspective on CRM. It also expands the Resource Based View (RBV) by adding the consideration of time to CRM capabilities; highlighting the significance of ongoing learning and reinforcements for sustaining a competitive advantage.

The findings also highlight the importance of integrating Social Exchange Theory (SET) into both CRM and information systems (IS) literature; showing that technology does not operate in isolation but rather creates context within which individuals view fairness, trust, and reciprocity. The reinterpretation of CRM as a signaling mechanism for establishing competition provides an added dimension of strategic value and importance to CRM systems beyond the measurement of customer retention toward the measurement of relationship and competitive positioning (Cho et al., 2022).

Organization should invest continuous CRM capability rather than event-oriented training (Mark et al., 2025), incorporate psychological fairness into designing their CRM systems (Wen et al., 2025), and develop relational strategies for addressing competitive threats (Cho et al., 2022). Combined, insights encourage transition from technology-focused CRM implementations to strategic integrative models that connect analytical sophistication with human and relationship considerations.

4.3 Limitations

Although this research offers an exhaustive summary of relevant literature, its results should only be interpreted in relation to the context in which it has occurred. The evidence may have been lost due to only searching through Scopus (Baas, et al.) (2020); a potential source of evidence missing. Therefore, by focusing solely on articles published in English, the generalisability of these findings is limited. The findings are dependent upon the consistency of author keywords (Aria & Cuccurullo, 2017); thus, will also rely upon subjective interpretations by researchers of the evidence base (Stevens, et al.). As a consequence of the strict PICO criteria which required that there was a comparator to be included, secondly adapted ROBINS-I framework enabled a systematic and structural assessment for methodological quality across a wide range of CRM studies. However, it was developed mainly for research fields related to the health service, the adoption of this tool in the management and information systems field required some interpretive judgement. Therefore, the risk-of-bias classification should be interpreted as a guide to help identify possible threats to inferences drawn from studies rather than providing definitive measures of quality (for example, ranking studies or excluding studies based solely on their methodological quality). The purpose of this assessment was intended to provide a more cautious interpretation of study findings.

5. Conclusion

5.1 Theoretical contribution

The literature on CRM and customer retention benefits from the addition of this review, which consolidates existing fragmented empirical evidence using an integrated bibliometric framework that includes PICO-based and ROBINS-I informed elements. This mapping creates a substantial contribution to the intellectual structure of CRM research, as well as provides a systematic categorization of the types and outcomes of interventions. It also serves to clarify key theoretical orientations that dominate CRM research, as well as identify new research trajectories. The findings indicate a clear shift in CRM research toward data-driven and AI-enabled approaches to CRM; conversely, there is a predominance of associative (as opposed to causal) data in the existing CRM research.

5.2 Methodological contribution

This study advances methods for synthesizing evidence across a management discipline by utilizing structured frameworks – typically used in health disciplines – to CRM and marketing research. The combination of bibliometric analysis, PICO-based evidence mapping and a modified ROBINS-I assessment provide a framework for a transparent and replicable approach to the evaluation of heterogeneous empirical literature. The proposed framework allows researchers to better understand reported outcomes in both methodological limitations surrounding the reported data, which can lead to a more informed and responsible interpretation of the evidence.

5.3 Future research agenda

The review suggests multiple avenues for future researchers to explore, including a need for more longitudinal and experimental research studies to support stronger causal conclusions about how well CRM systems work. In addition to more research on traditional causal inferences using longitudinal and experimental studies, researchers will also need to focus on developing standardized measures for outcomes and consistently providing full disclosure on the conditions against which they compared their results. In addition to studying traditional CRM systems, researchers should also start to examine AI-enabled CRM systems for their ethical, organizational, and customer-level effects as they develop in addition to their expected short-term predictive success, and how those systems will affect long-term relational and strategic outcomes.

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