

Bibliometric Analysis of Online Customer Loyalty

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ABSTRACT

This study aims to examine the intellectual structure, thematic evolution, and emerging trends in online customer loyalty research through a bibliometric approach. Data were collected from the Scopus database using relevant keywords related to online customer loyalty, covering publications over a defined period. The analysis was conducted using VOSviewer to perform performance analysis and science mapping, including co-occurrence and density visualizations. The findings reveal that customer satisfaction, customer loyalty, and sales constitute the core of the research domain, indicating a strong emphasis on the relationship between satisfaction and transactional outcomes. In addition, variables such as trust, service quality, and perceived value emerge as key relational drivers that strengthen loyalty formation in digital environments. The temporal analysis shows a shift toward technology-oriented themes, including machine learning, data mining, and sentiment analysis, reflecting the growing role of digital analytics in understanding customer behavior. This study contributes by providing a comprehensive mapping of the field and highlighting the transition from traditional relationship marketing perspectives to more integrated and data-driven approaches. The results offer valuable insights for both academics and practitioners in developing strategies to enhance customer loyalty in increasingly competitive online markets.

Keywords: *Online Customer Loyalty, Customer Satisfaction, E-Loyalty, Trust, Service Quality, Perceived Value*

1. INTRODUCTION

The rapid expansion of digital technologies has fundamentally transformed the way businesses interact with customers, giving rise to a highly competitive online marketplace. In this environment, customer loyalty has emerged as a critical determinant of long-term business success. Unlike traditional settings, online platforms enable customers to easily compare products, switch brands, and share experiences, making loyalty more complex and dynamic. As a result, understanding how customer loyalty develops in digital contexts has become an essential concern for both researchers and practitioners [1].

Online customer loyalty is often conceptualized as a combination of attitudinal and behavioral dimensions, including repeat purchases, positive word-of-mouth, and emotional attachment to a brand or platform. Factors such as website quality, trust, perceived value, personalization, and customer satisfaction play significant roles in shaping loyalty. Over time, scholars have proposed various theoretical frameworks to explain these relationships, drawing from disciplines such as marketing, information systems, and psychology. This interdisciplinary nature has led to a growing body of literature that is rich but fragmented [2]. The increasing volume of research on online customer loyalty necessitates systematic methods to evaluate and synthesize existing knowledge. Bibliometric analysis has become a valuable tool in this regard, as it enables researchers to map the intellectual structure of a field, identify influential authors and publications, and uncover emerging trends. By analyzing patterns in academic publications, such as citation networks, keyword co-occurrence, and publication outputs, bibliometric studies provide a comprehensive overview of research development over time [3].

Despite the abundance of studies on online customer loyalty, there remains a lack of integrative research that systematically examines the evolution of this field. Many existing studies

focus on specific variables or industries, such as e-commerce, banking, or hospitality, without providing a holistic perspective. Furthermore, the rapid advancement of technologies such as artificial intelligence, mobile applications, and social media platforms continues to reshape customer behavior, creating new dimensions of loyalty that require further exploration [4]. Given these challenges, a bibliometric analysis of online customer loyalty is both timely and necessary. Such an analysis not only helps consolidate fragmented knowledge but also identifies research gaps and future directions. By examining the patterns and trends in scholarly publications, this study aims to contribute to a deeper understanding of how online customer loyalty has evolved and where it is heading. Ultimately, this research can support academics in advancing theoretical frameworks and assist practitioners in designing more effective customer retention strategies.

Although the concept of online customer loyalty has been extensively studied, the literature remains dispersed across various disciplines, methodologies, and contexts, making it difficult to obtain a unified understanding of the field. There is limited comprehensive analysis that maps the intellectual structure, key contributors, and thematic evolution of online customer loyalty research. Without such a systematic overview, it becomes challenging to identify dominant research streams, emerging topics, and potential gaps that require further investigation. Therefore, the main problem addressed in this study is the lack of a structured and integrative bibliometric evaluation of the existing literature on online customer loyalty. The objective of this study is to conduct a bibliometric analysis of online customer loyalty research in order to systematically map its development, structure, and trends.

2. METHODS

This study employs a bibliometric analysis approach to systematically examine the development of research on online customer loyalty. Bibliometric analysis is a quantitative method used to evaluate academic literature through statistical techniques, enabling the identification of patterns, trends, and relationships within a specific research field [3]. The study adopts a descriptive and exploratory design, aiming to map the intellectual structure and evolution of the topic. By focusing on measurable indicators such as publication output, citation analysis, and keyword occurrence, this method provides an objective and comprehensive overview of the existing body of knowledge.

The data for this study are collected from a reputable academic database, such as Scopus or Web of Science, which ensures high-quality and peer-reviewed sources. The search process is conducted using relevant keywords, including "online customer loyalty," "e-loyalty," and related terms, applied to titles, abstracts, and keywords. Inclusion criteria are defined to ensure consistency, such as limiting the documents to journal articles written in English and published within a specified time frame. After the initial search, the data are refined by removing duplicates and irrelevant records. The final dataset is then exported in compatible formats for further analysis.

firms leverage CRM systems and digital infrastructures to manage customer interactions and drive repeat purchases.

3.1 Overlay Visualization

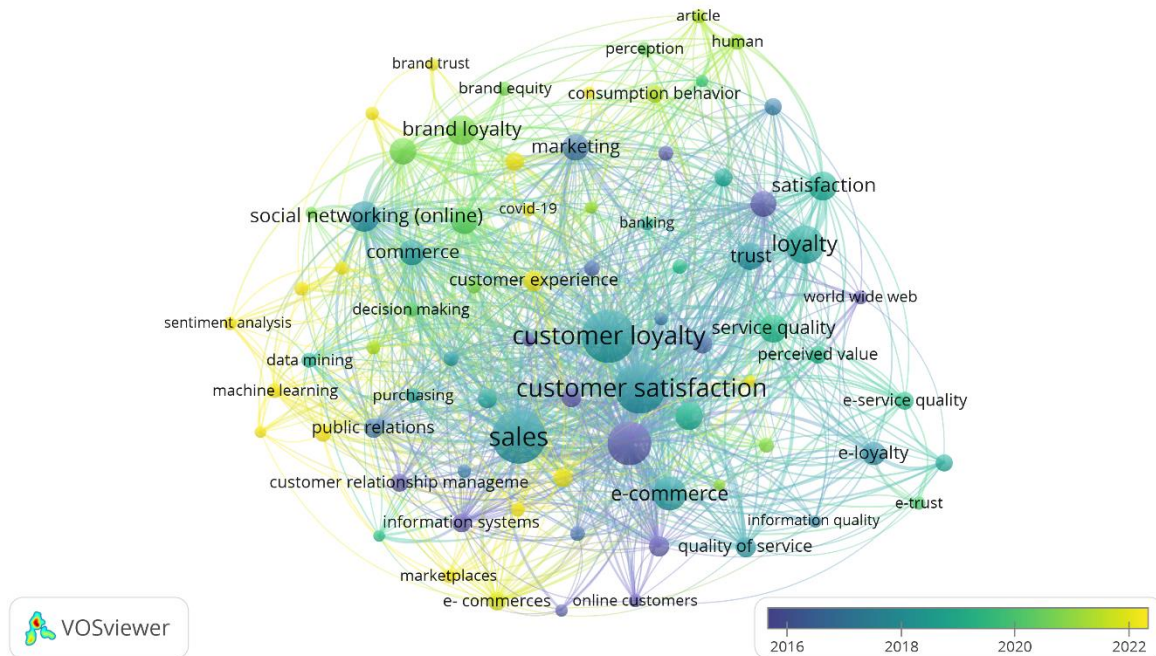


Figure 2. Overlay Visualization
 Source: Data Analysis Result, 2026

Figure 2 shows the temporal evolution of online customer loyalty research, where color gradients indicate the average publication year of each keyword. Earlier studies (around 2016–2018, shown in darker blue/purple) are concentrated on foundational constructs such as sales, e-commerce, customer satisfaction, and loyalty. This suggests that early research primarily focused on transactional outcomes and the basic relationship between satisfaction and loyalty in digital commerce environments, often emphasizing efficiency, usability, and initial adoption of online platforms. As the field progresses into the middle period (around 2018–2020, shown in green tones), the focus expands toward relational and service-oriented variables such as service quality, perceived value, trust, and customer experience. This indicates a shift from purely transactional perspectives to a more holistic understanding of customer relationships in online settings. Researchers begin to explore how digital service interactions, system quality, and emotional responses shape long-term loyalty, reflecting the growing maturity of e-commerce ecosystems and increasing competition among platforms. More recent studies (around 2020–2022, shown in yellow tones) highlight emerging themes such as social networking (online), machine learning, data mining, and sentiment analysis. These topics signal a clear transition toward data-driven and technology-enabled approaches in understanding customer loyalty. The integration of AI and social media analytics suggests that contemporary research is moving beyond traditional models, focusing instead on predictive insights, real-time engagement, and personalized experiences.

3.2 Citation Analysis

Table 1. The Most Impactful Literatures

Citations	Authors and year	Title
1674	[5]	Customer loyalty in e-commerce: An exploration of its antecedents and consequences

Citations	Authors and year	Title
1667	[6]	eTailQ: Dimensionalizing, measuring and predicting etail quality
1412	[7]	Customer perceived value, satisfaction, and loyalty: The role of switching costs
1151	[8]	An empirical analysis of the antecedents of electronic commerce service continuance
1071	[9]	Customer satisfaction and loyalty in online and offline environments
1065	[10]	The role of live streaming in building consumer trust and engagement with social commerce sellers
1052	[11]	Understanding customers' repeat purchase intentions in B2C e-commerce: The roles of utilitarian value, hedonic value and perceived risk
981	[12]	The four levels of loyalty and the pivotal role of trust: A study of online service dynamics
759	[13]	eWOM: The impact of customer-to-customer online know-how exchange on customer value and loyalty
756	[14]	Customer engagement in a Facebook brand community

Source: Scopus, 2026

3.3 Density Visualization

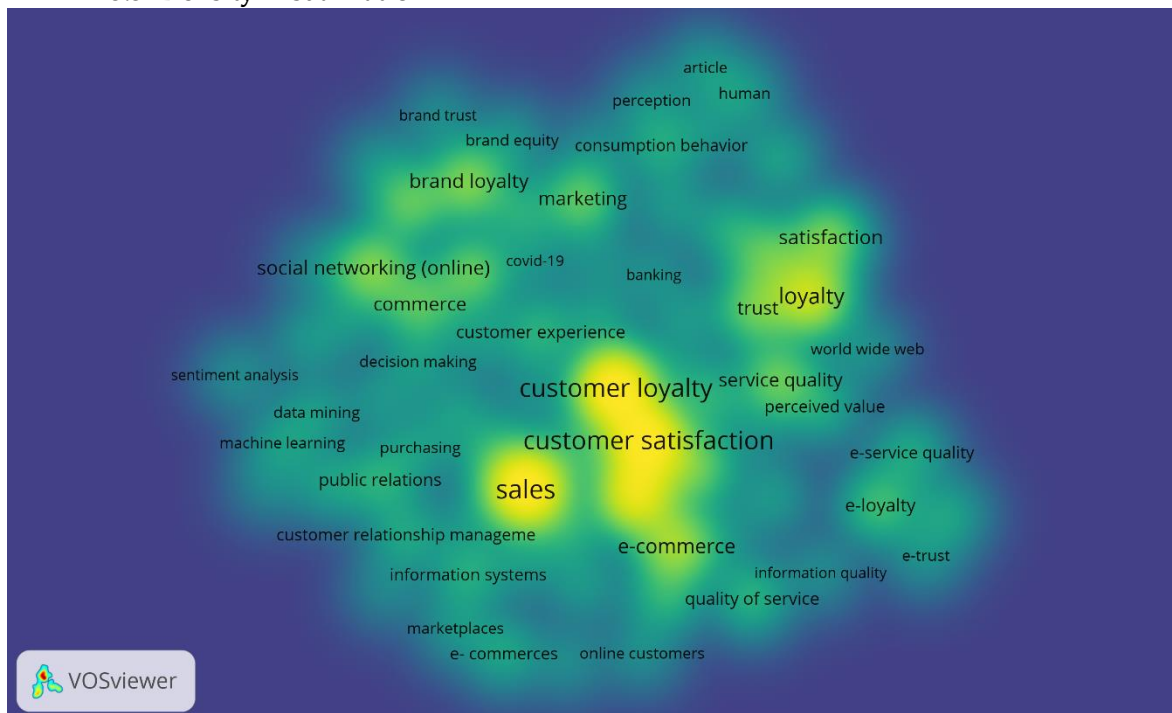


Figure 3. Density Visualization

Source: Data Analysis Result, 2026

Figure 3 highlights the most intensively studied areas in online customer loyalty research, where brighter yellow regions indicate higher concentrations of keywords and stronger co-occurrence relationships. The map shows that customer satisfaction, customer loyalty, and sales form the primary hotspot, suggesting that the literature is heavily centered on the linkage between satisfaction-driven experiences and transactional outcomes. This concentration reflects a dominant research focus on how satisfaction translates into repeat purchasing behavior and revenue generation, particularly within e-commerce environments. The close proximity of these terms also

indicates that many studies treat them as part of an integrated framework rather than isolated constructs.

Beyond the core, surrounding areas with moderate density (green tones) include variables such as trust, service quality, perceived value, and e-loyalty, which function as key drivers or mediators in the loyalty formation process. More peripheral and lower-density regions (blue tones) contain emerging or specialized topics such as machine learning, data mining, and sentiment analysis, indicating that while these areas are gaining attention, they are not yet as central as traditional constructs.

Discussion

The findings of this bibliometric analysis indicate that research on online customer loyalty remains strongly anchored in the interplay between customer satisfaction, customer loyalty, and sales outcomes. The density and co-occurrence patterns show that these constructs form the conceptual core of the field, suggesting that most studies continue to position satisfaction as a primary pathway through which loyalty is developed and translated into repeat purchasing behavior. This reinforces the enduring relevance of relationship marketing logic in digital environments, where transactional outcomes are still closely tied to customers' evaluative judgments of their experiences.

At the same time, the clustering structure reveals that the formation of online customer loyalty is not driven by satisfaction alone but is shaped by a broader set of relational and service-oriented variables. Constructs such as trust, service quality, perceived value, and e-service quality consistently appear as central connectors within the network, indicating their role in strengthening the relationship between firms and customers in digital contexts. This pattern reflects a shift toward a more integrated perspective, where loyalty emerges from a combination of functional performance and relational assurance, particularly in environments characterized by uncertainty and limited physical interaction.

The temporal evolution further suggests that the field is undergoing a gradual transition toward more technologically embedded approaches. Recent keywords such as machine learning, data mining, and sentiment analysis point to an increasing interest in leveraging digital data to understand and predict customer behavior. This development indicates that online customer loyalty is no longer examined solely through traditional survey-based models but is increasingly informed by real-time data, behavioral tracking, and advanced analytics. As a result, the conceptualization of loyalty is expanding to include dynamic and data-driven dimensions that reflect the complexity of digital ecosystems.

These findings suggest that future research should move beyond isolated constructs and adopt a more holistic and adaptive framework for understanding online customer loyalty. There is an opportunity to integrate traditional relational variables with emerging technological capabilities, particularly in exploring how personalization, platform dynamics, and digital engagement reshape loyalty formation. Such an approach would not only strengthen theoretical development but also provide more actionable insights for practitioners seeking to build sustainable customer relationships in increasingly competitive and data-intensive online markets.

CONCLUSION

This study maps the intellectual structure and evolution of online customer loyalty research, showing that the field remains centered on the relationship between customer satisfaction, loyalty, and sales outcomes while increasingly incorporating relational drivers such as trust, service quality, and perceived value. The findings also reveal a gradual shift toward data-driven approaches, where technologies like machine learning and sentiment analysis begin to complement traditional models of customer behavior. The literature reflects a transition from transactional perspectives to more integrated and dynamic frameworks, highlighting the need for future research to bridge classical

relationship constructs with emerging digital capabilities in order to better understand and manage customer loyalty in evolving online environments.

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