



# Customer Loyalty: Bibliometric Analysis Based on Scopus Data

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**Abstract.** Customer loyalty remains an intriguing and relevant subject of investigation among academics and practitioners. This study aims to provide a comprehensive bibliometric analysis of patterns and trends in the scholarly literature on customer loyalty. The research employs scientific search techniques on the Scopus database, filtering articles and conference papers from 2019 to 2023. Utilizing Biblioshiny, a web-based tool developed in R-studio and part of the Bibliometrix package, this study identifies leading journals, authors, countries, articles, and prominent themes through an automated workflow. The research findings reveal that China is the most prolific country in publishing "customer loyalty" research, with Sustainability being the most productive journal. According to the h-index, the Journal of Retailing and Consumer Services stands out as the most influential publication. Bina Nusantara University emerges as the top affiliation among authors, with Wang X being the most prolific article author. Works by Baabdullah, Abdullah M., Abdallah, Ali, Rana, Nripendra P., Kizgin, Hatice, and Patil, Pushp are the most frequently cited. "Sales" is the most commonly used keyword category, followed by "Customer Loyalty," "Customer Satisfaction," and "Electronic Commerce." This study serves as a valuable reference for researchers conducting bibliometric research on the theme of customer loyalty, providing information about top authors, journals, affiliations, countries of origin, and leading keywords in this field. Furthermore, the study's outcomes facilitate researchers in exploring extensive academic collaborations in this domain.

**Keywords:** Customer loyalty, Bibliometric analysis, Scopus

## 1 Introduction

Customer loyalty remains a relevant theme in marketing literature over the past five years. It has long been a subject of study in marketing literature, and its enduring popularity is evident due to the sustained interest in customer loyalty, proving to be instrumental in a company's success (Siemieniako, 2018). The concept of customer loyalty remains a subject of ongoing debate and has been defined in various ways (Eddine et al., 2023). In marketing literature, customer loyalty has been widely

supported as a crucial element in securing a competitive edge in business-to-consumer environments. In terms of attitude and behavior, loyalty offers significant benefits for differentiation. Enhancing knowledge on securing customer loyalty remains an important area of exploration in business and marketing literature. Customer loyalty is an intriguing topic for marketing scholars due to its significance in achieving sustainable competitive advantage and financial outcomes (Tartaglione et al., 2019). Maintaining loyal customers is as important, if not more so, than acquiring new ones (Mansouri, Boroujerdi, and Husin, 2022). Customer loyalty is an aspiration for every organization. It's observed that loyal customers are more profitable compared to new ones. Additionally, it's observed that acquiring new customers is significantly more challenging than retaining existing ones within an organization (Zia, 2022).

The objectives of loyalty encompass repeat purchases. Clients often buy from the same company because they consider the services/products unique and of superior quality (Palazzo, Politiche, and Ferri, 2021). Understanding the factors influencing customer loyalty is a primary strategy for enhancing competitive advantage and profitability (Mansouri, Boroujerdi, and Husin, 2022). Factors that enhance customer loyalty include trust, satisfaction, image, religiosity, cost, perception, philosophy, and commitment (Moosa, Riyad, Kashiramka, 2022)."

Moreover, the relevance of the customer loyalty theme can be observed through the implementation of loyalty program management aimed at fostering and enhancing customer loyalty by rewarding repeat purchases. Members of loyalty programs stand to gain numerous benefits such as discounts, coupons, and rebates for previous purchases, offering a more convenient shopping experience (Kimura, 2022).

However, with changes in consumer behavior influenced by digital technology, social media, social changes, the impact of technological shifts, global pandemics, and changes in social and cultural values, new questions have emerged that require further research. To bridge this knowledge gap and comprehend the latest research trends in the customer loyalty domain, bibliometric analysis is a powerful tool. The aim of this bibliometric analysis is to offer a comprehensive overview of recent developments in customer loyalty research, identify significant research contributions, and pinpoint areas necessitating further investigation. Hence, this study will make a valuable contribution to a deeper understanding of the customer loyalty concept in continually evolving business environments. The findings from this bibliometric analysis identify current research trends, which can help shape the direction of future research. Consequently, this bibliometric analysis will provide deeper insights into the role of customer loyalty in modern business strategies and encourage the development of more effective strategies in retaining and enhancing customer loyalty.

## **2 Literature Review**

The concept of behavioral loyalty was first defined in the 1950s and was measured by the proportion of total purchases for one or two brands. Attitudinal loyalty is defined as a customer's inclination towards a brand, which is a function of psychological processes. The most commonly used definition in the literature is a combined

definition comprising cognitive and behavioral elements measured through preferred attitudes, intentions, and repeat purchases (Siemieniako, 2018).

Customer loyalty is the commitment of customers to consistently repurchase or resubscribe to preferred products or services in the future, marked by the intention to repurchase combined with a positive attitude towards the brand. Beyond the expected impact on profitability, long-term relationships with customers provide a competitive advantage that is difficult for competitors to comprehend, imitate, or replace. Loyalty stands as an asset for companies and is a central variable in business strategy and success, offering long-term competitive advantage (Barbosa, Shojaei, and Miranda, 2023).

Customer loyalty is a primary outcome that contributes to a company's success. In this research, loyalty encompasses not only repeat visits but also positive word-of-mouth recommendations and endorsements. The conceptualization and expansion of loyalty have significant implications for companies; firstly, loyalty signifies greater trust and a stronger relationship with a brand or company, enabling higher customer expenditure, increased profit margins, and reduced marketing costs. In today's environment, this loyalty concept is likely to facilitate advocates on social media, leading to various electronic word-of-mouth promotional avenues (Thielemann, Ottenbacher, and Harrington, 2018).

Loyal customers can repurchase products or services, spread positive word-of-mouth, and recommend others to make purchases. The level of loyalty is closely associated with customers' intention to repurchase (Ding and Jiang, 2021). Customer loyalty is the intention of customers to make repeated purchases of any product or service (Kalia, P, Kaushal, R, Singla, M, & Parkash, 2021). Consumer or customer loyalty can be defined in terms of repeat purchasing behavior or as a consumer's attitude towards a brand or company (Monferrer et al., 2019).

Customer loyalty is defined as frequent purchasing considering behavioral dimensions such as repeat purchases, share-of-wallet, or longevity and frequency of purchases, along with an attitude of steadfast commitment to repurchase a specific product, service, or brand. This is associated with a sense of commitment and emotional and psychological attachment, as well as a combination of attitude and behavior (Elina et al., 2020).

Customer loyalty refers to the extent to which customers remain faithful to a specific brand, product, or service over time. It reflects the level of customer satisfaction with the services they receive from the service provider. Loyalty behavior indicates a customer's confidence in saying positive things about the services they receive to other individuals who could also become customers. Loyal customers also have the intention to encourage their friends and relatives to do business with the service provider (Makudza, 2021).

Customer loyalty is the measure of a buyer's commitment to a product, service, brand, or organization. It also defines a customer's intention to stay with an organization (Mohammed, Abdulalem, Al-Swidi, 2019).

The concept of loyalty can be defined from two perspectives: the attitudinal perspective through relationship maintenance in the future and the behavioral perspective through repetition patterns. Various studies have explored various

antecedent variables to loyalty, identifying satisfaction and perceived value as precursor variables (Valverde-roda et al., 2022).

Customer Loyalty is the primary outcome that leads to success for a company. In this research, loyalty encompasses not only return visits but also positive word-of-mouth recommendations and endorsements. Its conceptualization and extension have significant implications for companies. Firstly, loyalty reflects greater trust and stronger relationships with a brand or company, and research indicates that this facilitates higher customer spending, higher profit margins, and lower marketing costs per customer. In today's environment, the concept of loyalty is likely to empower social media evangelists, resulting in various electronic word-of-mouth promotion channels (Thielemann, Ottenbacher, and Harrington, 2018).

Loyalty can be described as a strong intention to repeatedly purchase or support preferred services or products continuously in the future (Mntande, Stiehler-mulder, and Roberts-lombard, 2023). Loyalty is about satisfying the right customers for whom you can provide services of the highest quality so that they return to avail of the services (Satti et al., 2020).

3 Methods

3.1 Bibliometric Analysis

This research employs bibliometric analysis utilizing the Bibliometrix library and the Biblioshiny platform from RStudio. These software tools facilitate comprehensive analysis involving data deconstruction and visualization. On the other hand, Bibliometrics is a public software aiming to resolve the deconstruction and mapping of knowledge, enabling seamless integration with various bundles. However, it is readily accepted by researchers and is highly applicable in intense bibliometric deconstruction workflows. This review examines the functionality of Biblioshiny data operations, a practical exercise conducted within the Bibliometrix package. (Medias et al., 2023).

3.2 Data Collection

Data for this research was collected between 2019 and 2023 from the Scopus scholarly publication database, focusing on the theme of customer loyalty by searching the keyword 'customer loyalty'. Scopus database was selected for the bibliometric analysis due to its larger volume of journals compared to other scholarly databases such as WoS. Keywords and specific information from the bibliometric analysis of journal articles (authors, titles, abstracts, keywords, citations, and affiliations) were utilized to explore the topic's relevance in recent years (Medias et al., 2023).

Table 1. Main Informasi

|             |         |
|-------------|---------|
| Description | Results |
|-------------|---------|

|                                 |           |
|---------------------------------|-----------|
| MAIN INFORMATION ABOUT DATA     |           |
| Timespan                        | 2019-2023 |
| Sources (Journals, Books, etc)  | 937       |
| Documents                       | 2468      |
| Annual Growth Rate %            | -3.8      |
| Document Average Age            | 2.07      |
| Average citations per doc       | 8.354     |
| References                      | 1         |
| DOCUMENT CONTENTS               |           |
| Keywords Plus (ID)              | 4104      |
| Author's Keywords (DE)          | 5580      |
| AUTHORS                         |           |
| Authors                         | 6542      |
| Authors of single-authored docs | 251       |
| AUTHORS COLLABORATION           |           |
| Single-authored docs            | 263       |
| Co-Authors per Doc              | 3.14      |
| International co-authorships %  | 23.5      |
| DOCUMENT TYPES                  |           |
| Article                         | 2015      |
| Conference paper                | 453       |

Source(s): Authors' Elaboration in Bibliometrix R Studio

## 4 Results and Discussion

### 4.1 Descriptive Analysis

Text analysis was conducted using R-Studio software and Biblioshiny, developed by Massimo Aria and Corrado Cuccurullo from the University of Naples, and Luigi Vanvitelli from the University of Campania (Italy). The analyzed texts were further examined for frequently occurring words related to the theme of customer loyalty. This was intended to enrich the reference material for the development of customer loyalty based on existing studies worldwide. Table 1 describes the documents used in the study using the keyword "customer loyalty," applying a search filter limited to a 5-year period from 2019 to 2023, focusing solely on journals and conference proceedings, wherein the overall findings were presented from the R-Studio software analysis. The publication period from 2019 to 2023 was identified, with an annual growth rate of -3.8%. Document types, authors, and collaborations over time were also investigated. According to the statistical analysis presented in Table 1, this customer loyalty topic comprises 2,468 publication documents, consisting of 2,015 articles and 453 conference papers published by 6,542 authors from various countries worldwide, with an average citation (AC) per year of 8.354.

4.2 Source Analysis

Figure 1, illustrates the quantity of research articles published in each journal based on their relevance to the customer loyalty theme. The data presents a list of the most frequently published journal titles and the range of the number of articles published using a bar graph. The darker the shade, the higher the quantity and relevance to the research theme, indicating the number of articles published in those journals. Sustainability emerges as the top-ranked journal, publishing a total of 95 articles, given its relevance to the discussed theme. Following closely is the Journal of Retailing and Consumer Services, with 47 published articles, and the ACM International Conference Proceeding Series ranks third with 31 articles.

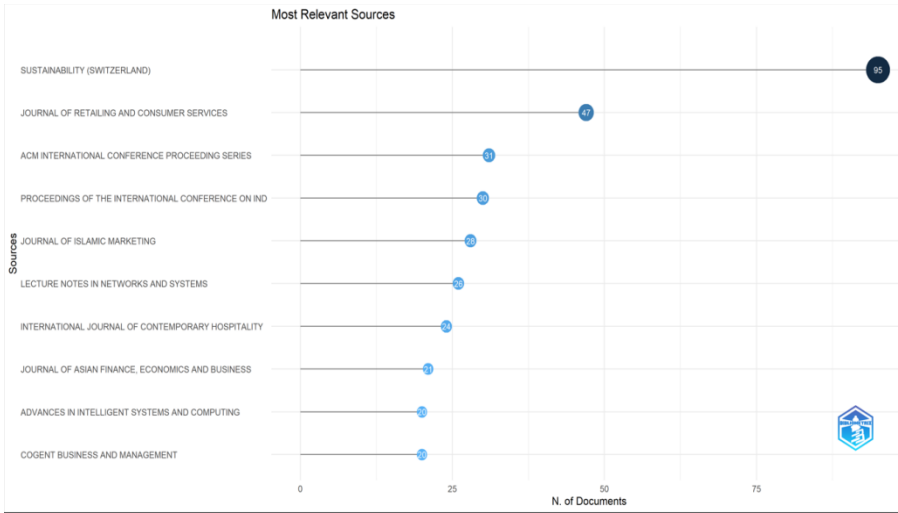


Fig. 1. Most relevant sources

The assessment of journals is not solely based on the produced quantity or their relevance. This research also examines the impact of journals publishing papers on the customer loyalty theme by referencing their h-index, depicted in the bar graph. In addition to showing the obtained h-index value, the diagram also displays the impact generated by the journals through the displayed colors. The darker the color on the chart, the more significant the impact of the journal. The h-index range of the journals in this research, shown in Figure 2, ranges from 0.0 to 22.0. The Journal of Retailing and Consumer Services ranks first with an h-index of 22, followed by Sustainability in the second position with an h-index of 16, and the International Journal of Contemporary Hospitality Management in the third position with an h-index of 14.

This research also delves into the development of journals serving as sources for research on the customer loyalty theme. The curve depicted in Figure 3, displays the annual evolution of each journal from 2019 to 2023, enabling an understanding of whether the journal publications concerning customer loyalty have shown an increase or decrease based on the trend lines during the research period. The curve illustrates

that research on the theme of customer loyalty tends to exhibit an increasing publication trend.

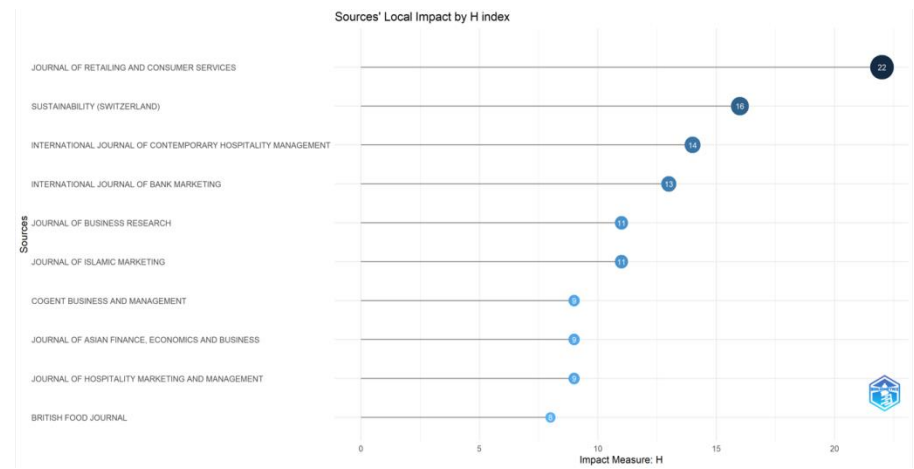


Fig. 2. Source impact

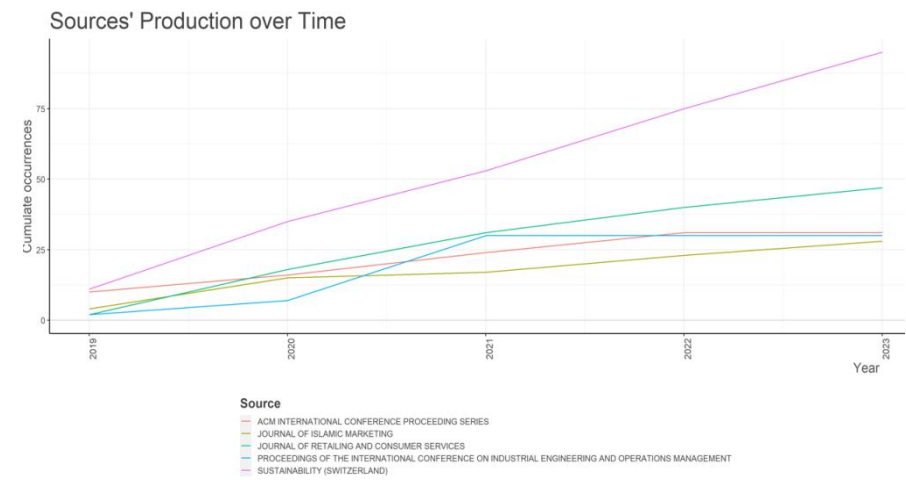


Fig. 3. Source growth

4.3 Author Analysis

Figure 4, illustrates the quantity of research publications by respective authors relevant to the customer loyalty theme. The data displays a list of the most frequently published authors and the range of the number of published documents using a bar graph. The darker shades indicate greater quantity and relevance to the research theme, ranging from 0 to 15.0 documents published across all journals. Author Wang X stands at the top position, with a total of 15 published documents represented in the

dark-shaded bars compared to other journal bars, given the relevance to the discussed theme. Several authors following the top position are shown in dark blue bars in the graph, namely: Prentice C, Li Y, Zhang L, Sharma S, Suhartanto D. As for authors at the bottom with fewer publications, four authors—Chen J, Han H, Le TT, and Roberts-Lombard M—are indicated in light blue. This suggests their quantity and relevance to the customer loyalty theme are comparatively lower.

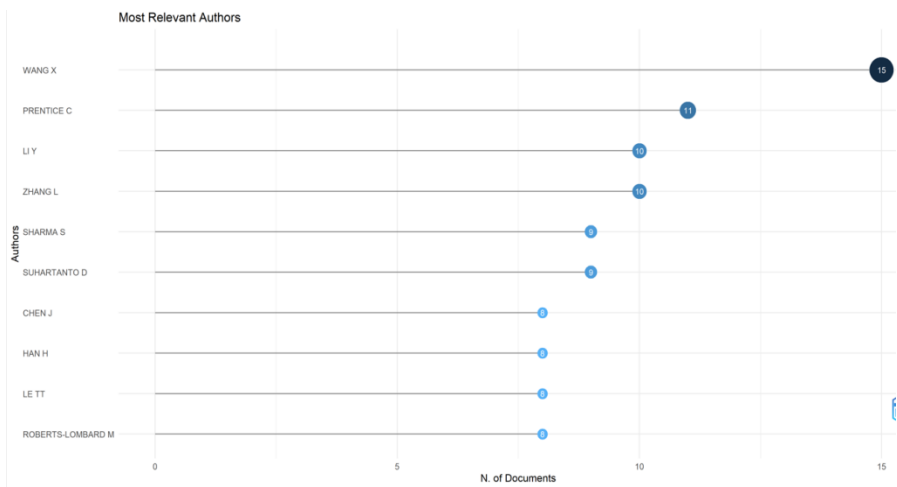


Fig. 4. Most relevant authors

Figure 5 displays the productivity of some top authors during the research period from 2019 to 2023. The red line represents their productivity, indicating the publications by authors in the last year. Additionally, the circles on the red line show the number of papers published according to the respective years. The figure provides an overview of authors who have been contributing to research on the customer loyalty theme over the past few years. Authors such as Wang X, Li Y, Sharma S, and Le TT have been consistently publishing and have a longstanding track record each year from 2019 to 2023 in customer loyalty-related research.



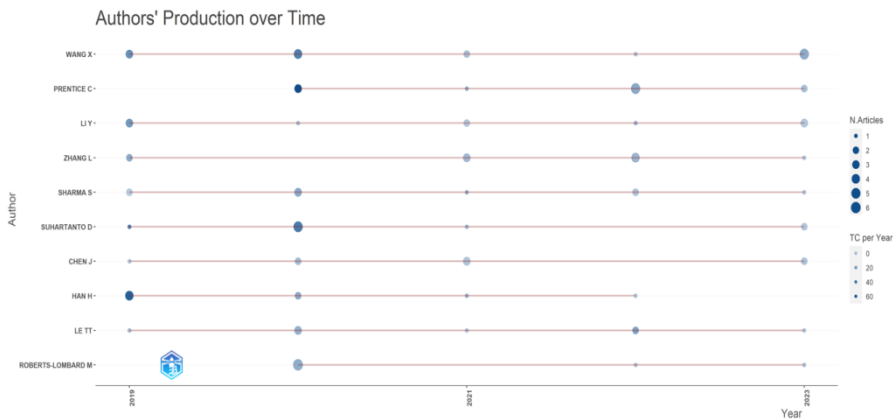


Fig. 5. Top author's production over the time

Figure 6, displays the number of research documents on the theme of customer loyalty based on author affiliations. It lists the top 10 affiliations and the range of document intervals published in a blue bar chart. The darker the color presented, the more affiliated the researchers are. The number of published documents ranges from 0 to over 64. Bina Nusantara University holds the top position among author affiliations with over 64 published documents. Islamic Azad University ranks second with 43 documents, followed by the University of Johannesburg in third place with 31 documents.

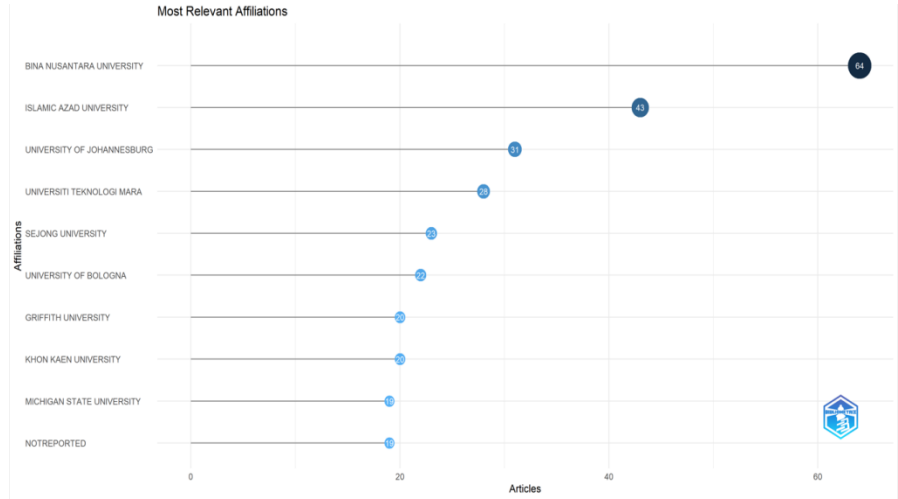


Fig. 6. Most relevant affiliations

Figure 7, presents the author-country correspondence in each article by calculating the total collaborations among single-country collaboration, single-country and multi-country collaborations, or multi-country collaborations. This data includes the top 19

countries and the quantity intervals of documents published on the customer loyalty theme, ranging from 0 to over 200 documents. As a result, China leads as the country with the most corresponding authors, with over 200 articles published. Following China, Indonesia takes the second position, succeeded by India, the USA, Korea, Malaysia, Spain, Australia, the UK, and Iran rounding up the top ten. The illustration indicates that all these countries engage in multi-country collaborations.

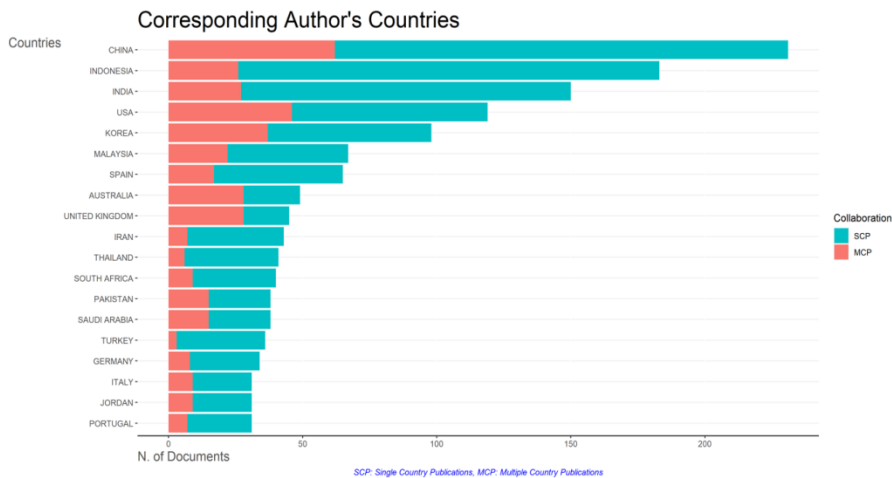
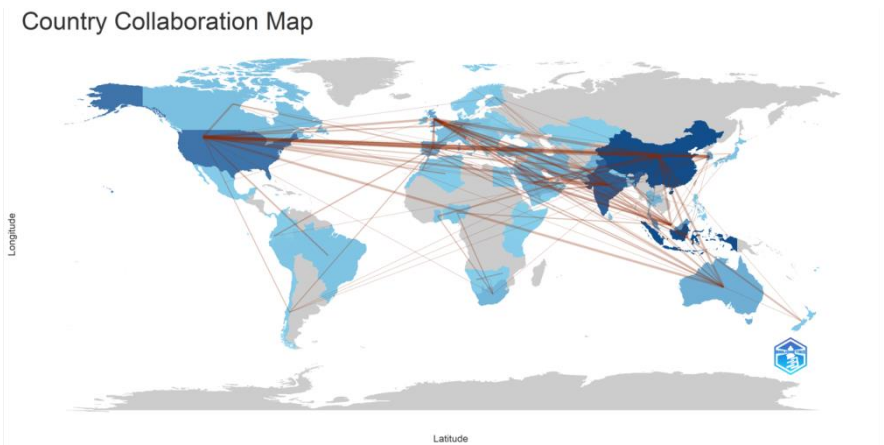


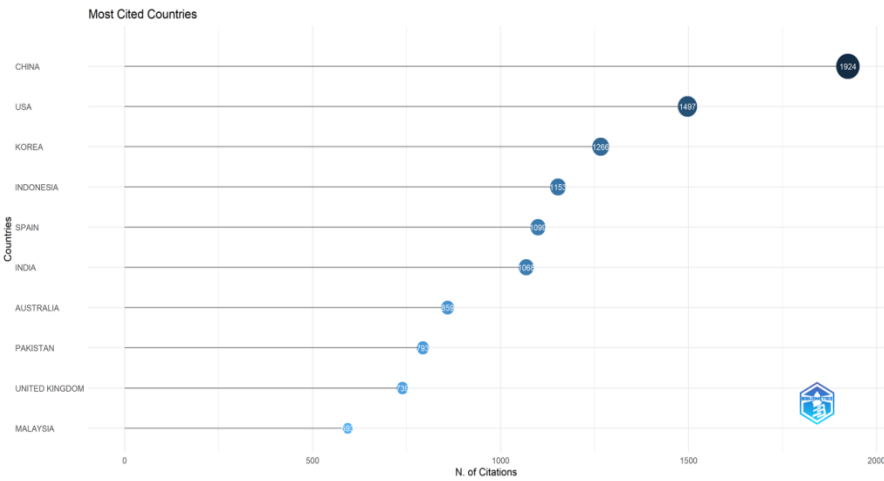
Fig. 7. Corresponding author’s country

Figure 8, showcases the collaboration map of each country worldwide, highlighting joint research efforts with various institutions from different nations. Blue indicates the research output of a particular country, while gray signifies a lack of publications from that country. The collaborative network among publishing countries is depicted by the red lines. Figure 8, implies extensive international collaborations for the customer loyalty theme, emphasizing intense collaboration among countries such as China, Indonesia, India, the USA, Korea, Malaysia, Spain, Australia, the UK, and Iran.



**Fig. 8.** Corresponding author’s country

Figure 9 classifies research on the theme of customer loyalty based on the countries of the most cited authors. The quantity of cited document citations is shown through a bar chart. The color gradation signifies that darker shades represent a higher number of citations for research on the customer loyalty theme. There are several counts ranging from 0 to over 1924 citations. The top 10 listed countries are compared based on the number of citations and their relevance to the customer loyalty theme. According to the graph, the five countries with the most cited articles are as follows: China leads with 1924 citations, followed by the USA with 1497 citations, Korea with 1266 citations, Indonesia with 1153 citations, and Spain with 1099 citations.



**Fig. 9.** Most cited countries

The relationship between authors, keywords, and authors' countries of origin is another important aspect in understanding the intellectual structure. To achieve this, we conducted an analysis using three plots through the Biblioshiny package in RStudio. Several authors have made significant contributions to customer loyalty, so it's crucial to understand which authors have made substantial contributions to this field. To do so, we plotted three fields using Sankey diagrams. The Sankey diagram is a type of flow diagram where the width of the arrows is proportional to the flow rate. In Figure 10, the authors are listed in the middle, the left side of the diagram shows the authors' keywords, and the right side displays the countries of origin. The top five keywords are: Customer Loyalty, Customer Satisfaction, Loyalty, Satisfaction, and Service Quality. The top five authors are Wang X, Zhang I, Suhartono D, Kumar A, and Prentice C. The top countries of the authors' origin are China, India, USA, United Kingdom, Indonesia, and Australia.

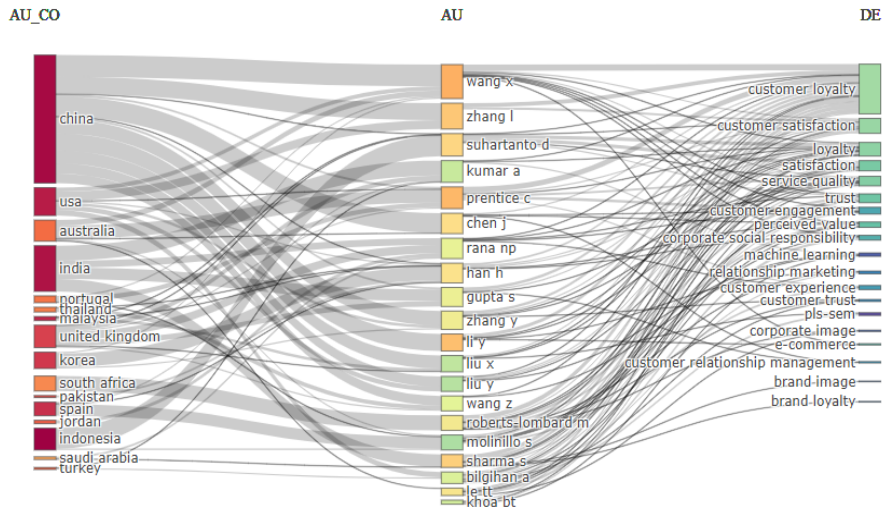


Fig. 10. Three-field plot

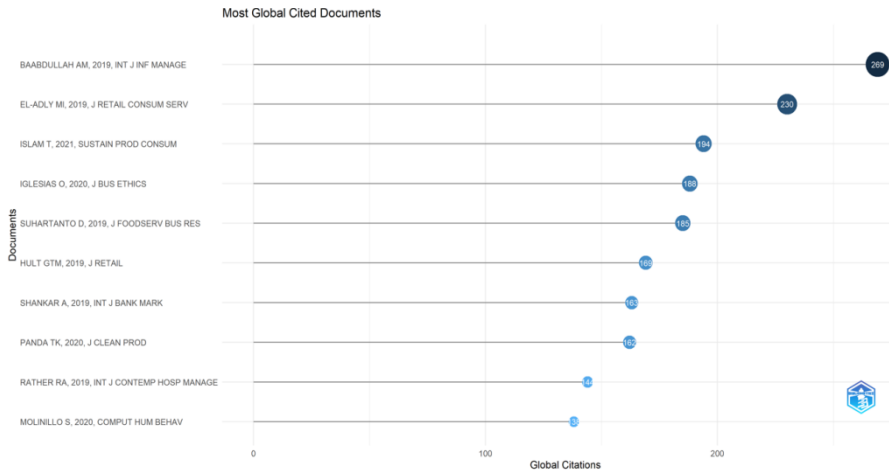


Fig. 11. Most cited documents

#### 4.4 Document Analysis

Figure 11, displays the most cited documents in the order of citation data for articles on the theme of customer loyalty. It shows the author's names, publication years, and the journals they were published in through a blue bar chart. The darker the shade, the higher the number of citations, ranging from 0 to over 269. The article by Baabdullah A.M et al. (2019) holds the highest number of citations, with 269 citations for their article titled "Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model." The second position is held by El-Adly MI (2019) with 230 citations for the article "Airline Brand Equity: Do Advertising And Sales Promotion Matter? An Empirical Evidence From UAE Traveler's Perspective," and the third position is occupied by Islam T (2021) with 194 citations for the article "The Impact Of Corporate Social Responsibility On Customer Loyalty: The Mediating Role Of Corporate Reputation, Customer Satisfaction, And Trust."

Figure 12 illustrates the 25 most relevant words used in the research theme of customer loyalty. The top word with the highest frequency and relevance to the keyword customer loyalty is "sales," with an occurrence of 421 times. The second most relevant word is "customer loyalty" with 322 occurrences, followed by the third most relevant word, "customer satisfaction."

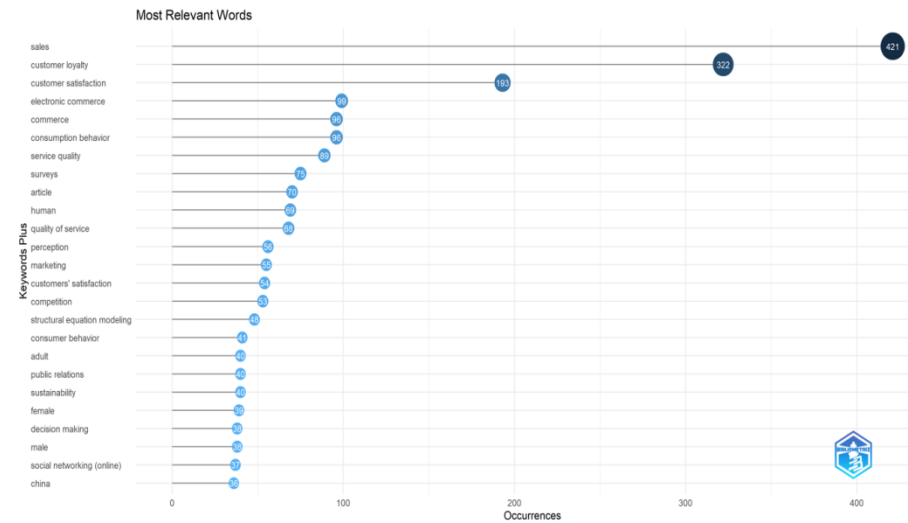


Fig. 12. Most relevant words

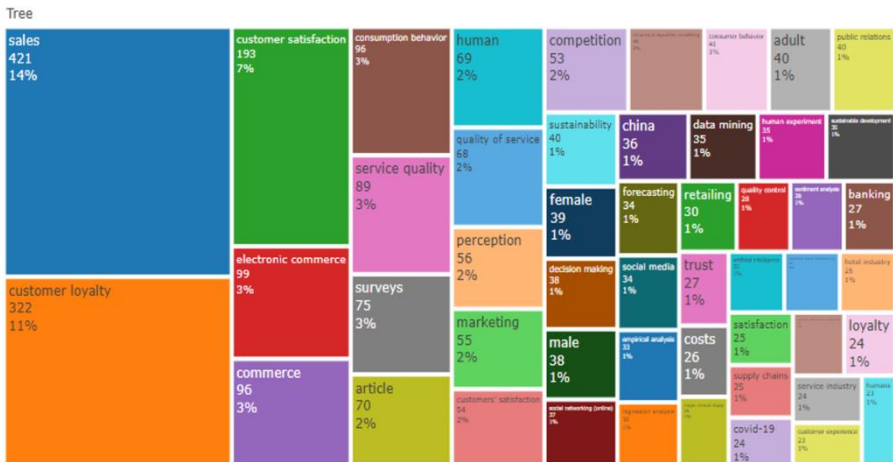
Words relevant to the research theme of customer loyalty are presented in Figure 13, in the form of a word cloud. The "cloud" depicts words frequently appearing in the dataset of articles investigated using keywords from titles related to customer loyalty. The word cloud displays word images in various sizes according to their frequency. Placement within the word cloud is generally random, but dominant words are centered for greater visibility with relatively larger sizes. In this study, the word cloud results were obtained based on document keywords.

Furthermore, a word cloud serves as an additional bibliometric tool to visualize the dominant themes in a field of study. It also reveals focal points of research and emerging investigative paths. Dominant terms within the word cloud in Figure 13, related to the keyword "customer loyalty," include Sales, Customer Loyalty, Customer Satisfaction, Commerce, Consumption Behavior, Electronic Commerce, and Service Quality.



**Fig. 13.** Word cloud

Additionally, relevant words within the research on the customer loyalty theme are displayed in Figure 14 within the abstract documents using a word treemap. The Word Treemap exhibits frequently occurring words in boxes resembling regions on a map; the larger the frequency of a word, the larger the area it covers. According to Figure 14, the top ten most frequent words in studies concerning customer loyalty are Sales 421 times (14%), Customer Loyalty 322 times (11%), Customer Satisfaction 193 times (7%), Electronic Commerce 99 times (3%), Commerce 9 times (3%), Consumption behavior 96 times (3%), Service Quality 89 times (3%), Surveys 75 times (3%), Article 70 times (2%), and Human 69 times (2%).



**Fig. 14.** Word tree map

According to Figure 15, the analysis of keyword occurrences in customer loyalty-themed research is represented in an annual development curve. This illustrates the average quantity of these keywords in the data gathered for customer loyalty research each year. The data in Figure 15, displays that the most frequently appearing words began increasing from 2019 to 2023. Based on the trend in Figure 15, it can be concluded that the most dominant increased occurrences in research are related to the keywords "Sales," "customer loyalty," and "customer satisfaction."

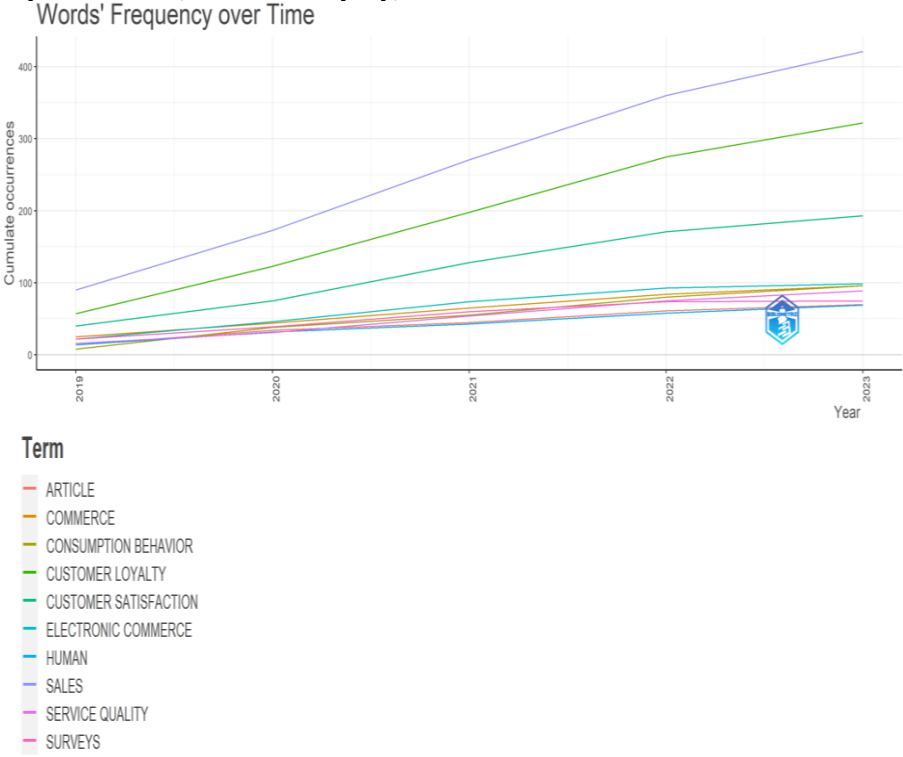
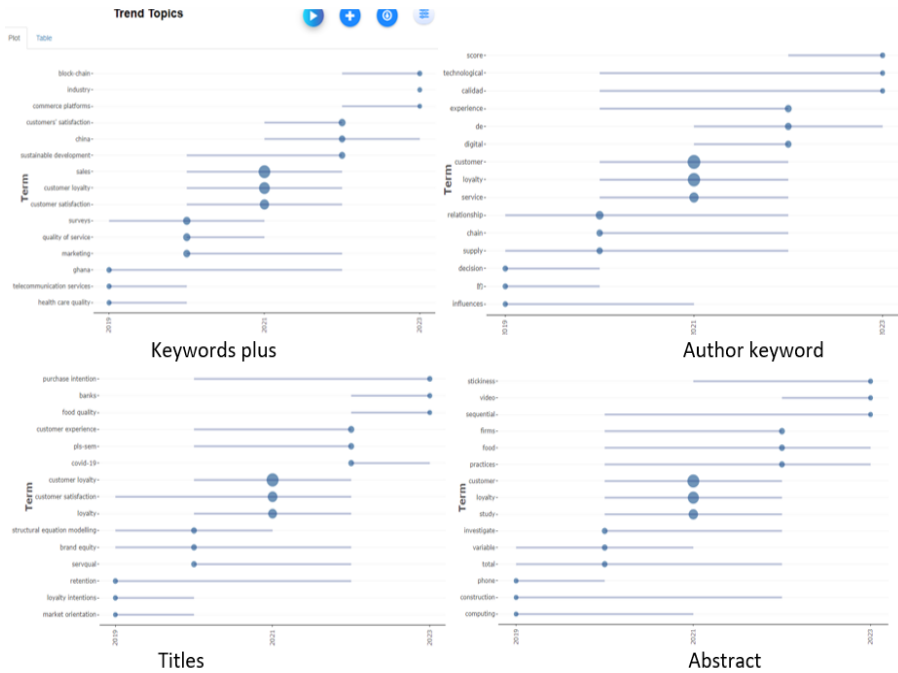


Fig. 15. Word dynamic

Examining topic trends is a crucial component of this study. It investigates the trends in document titles related to research focused on customer loyalty. Figure 16 illustrates the progression of topics concerning customer loyalty over time, distributed by year, identifying the topics that have been long-standing and those that are recently emerging. This topic trend analysis also considers the frequency value of each word shown on the log axis. Apart from examining yearly trends, the occurrence of topics is also adjusted according to the frequency of the words within the customer loyalty research theme. The higher the position, the more frequently the word is used, and the further to the right, the newer the term is. According to the provided data, the newest and most utilized topics related to customer loyalty include commerce platforms based on keywords plus, calidad or quality based on author keywords, purchase intention based on titles, and stickiness based on abstracts.





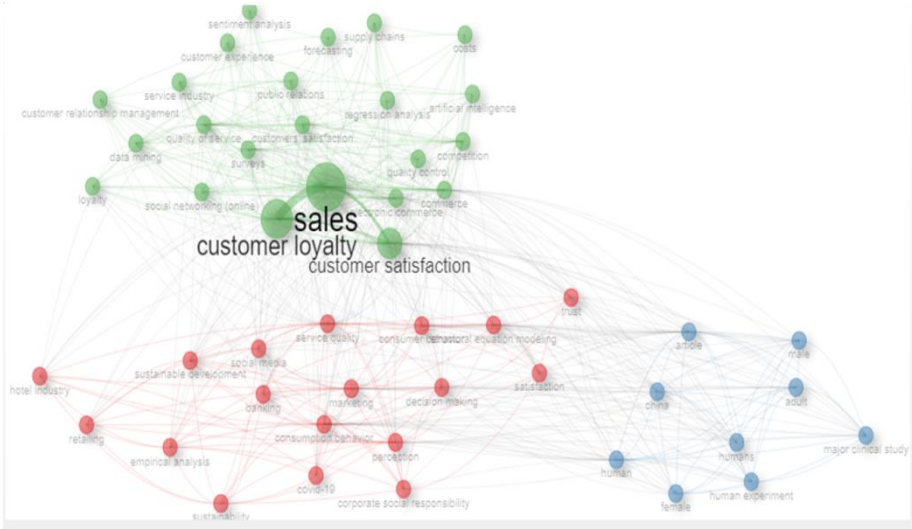
**Fig. 16.** Trending topics

These emerging topics hold potential for further development in the future. The co-occurrence network, depicted in Figure 17, exhibits words related to the document's keywords concerning the customer loyalty theme in a cluster form, considering the interrelationships between different words. Several keywords that frequently appear in research on customer loyalty are divided into three clusters:

Cluster 1 (Sales) includes keywords such as Sales, customer loyalty, customer satisfaction, customer relationship management, loyalty, data mining, service industry, quality of service, social networking (online), customer experience, sentiment analysis, surveys, public relations, customer satisfaction, forecasting, supply chains, regression analysis, electronic commerce, quality control, commerce, competition, artificial intelligence, and costs.

Cluster 2 (Service Quality) comprises keywords like Service quality, hotel industry, retailing, empirical analysis, sustainable development, sustainability, social media, banking, COVID-19, consumption behavior, marketing, perception, corporate social responsibility, consumer behavioral, decision-making, structural equation modeling, satisfaction, and trust.

Cluster 3 (Human) consists of keywords such as Human, China, Female, Article, Humans, Human experiment, adult, male, and major clinical study.



**Fig. 17.** Co-occurrence network

Figure 18 demonstrates a thematic map analysis based on density and centrality, presenting four quadrants. This outcome was obtained through a semi-automatic algorithm, reviewing the titles of all reference objects in the research.

The upper-left quadrant represents themes that are highly evolving and isolated. This quadrant displays specific and seldom-studied themes but with high growth, marked by high density and low centrality. Themes within this quadrant include information quality, reliability, sentiment analysis, reputation, and engagement.

The lower-left quadrant represents themes that emerge or decline. It signifies themes that have been long-standing but are experiencing increased or decreased trends, with low density and centrality. Themes in this quadrant include data mining, e-loyalty, and e-service quality.

Although the upper-right quadrant embodies high-density and high-centrality motor or drive themes, this quadrant requires development and is crucial for further research. Themes in this quadrant include attitudinal loyalty, behavioral loyalty, consumer loyalty, supply chain management, digital transformation, brand loyalty, brand equity, and brand trust.

Finally, the primary and transversal themes in the lower-right quadrant are characterized by high centrality but low density. These themes are crucial to include in research due to being commonly used. Themes in this quadrant encompass customer loyalty, customer satisfaction, service quality, customer experience, COVID-19, service recovery, machine learning, artificial intelligence, big data, loyalty, satisfaction, trust, customer relationship management, marketing, social media, e-commerce, online shopping, and CSR.

Top of Form

Bottom of Form

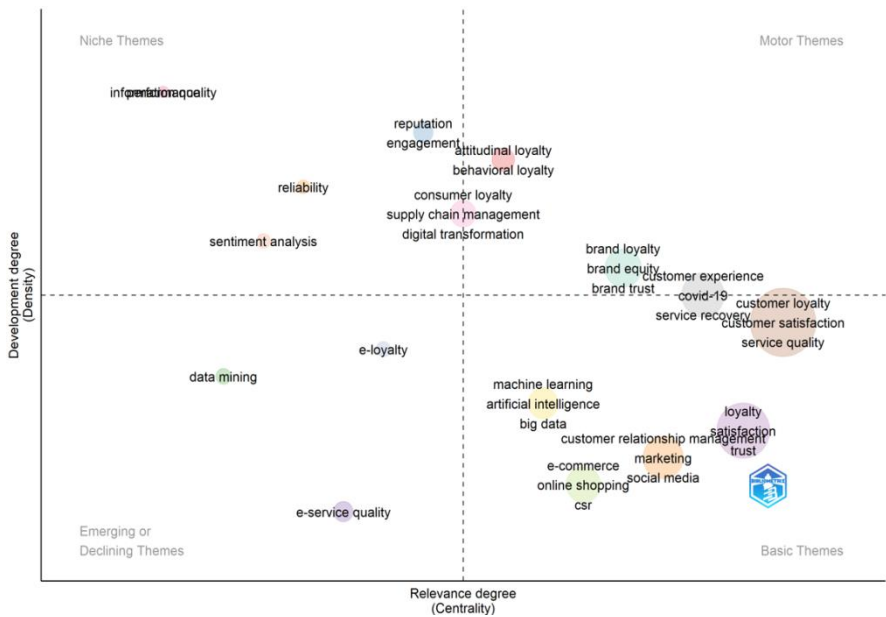


Fig. 18. Thematic map

The themes used in the paper are described in Figure 19, and continue to evolve, especially in newly published papers compared to those published earlier. This evolution is demonstrated and analyzed based on customer loyalty-related themes represented in rectangular shapes where the larger size signifies higher usage. Despite the research theme being customer loyalty, the data indicates several widely used sub-themes.

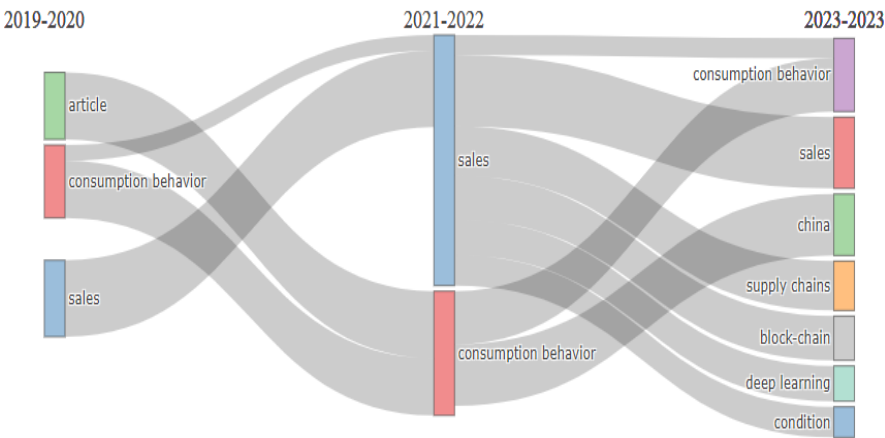


Fig. 19. Thematic evolution

The thematic evolution is divided into three sections. The left side depicts several heavily used themes from 2019 to 2020, with seven themes listed in different sizes based on their usage quantities. Sales ranks first, followed by consumption behavior in the second position, and article in the third position. The middle section displays the most frequently used themes from 2021 to 2022. Two themes are evolutions from the preceding period, namely Sales and consumption behavior, an extension of themes shown in the colorful plot. The last section, or right side, exhibits the most widely used themes from 2023 to the present. Seven themes are presented, where two themes are evolutions from the previous period: Sales and consumption behavior, extending the prior themes. The following themes are China, supply chains, block chain, deep learning, and condition.

## 5 Conclusion

The study aimed to establish a framework for both academics and practitioners, allowing them to comprehend the progression of research on customer loyalty from 2019 to 2023. It also serves as a guide for researching prospects, employing bibliometric analysis to study publication trends in terms of writing, citations, sources, influential paper authors, international collaboration among authors from various countries, as well as identifying research gaps, innovations, and future thematic developments. This contribution to research compiled existing literature from the Scopus database, emphasizing sources, authors, and essential documents. The Bibliometrix R package, with its adaptability and simplicity, was a valuable tool for bibliometric application. The RStudio's Biblioshiny platform was used to evaluate a dataset for this research, comprising 2,015 articles and 453 conference papers authored by 6,542 contributors worldwide, with an average citation count of 8.354 per year.

Descriptive findings revealed China as the most prolific publisher of research concerning "customer loyalty". The Sustainability Journal demonstrated the highest productivity in publishing on customer loyalty. The Journal of Retailing and Consumer Services had the highest h-index, making it the most significant publishing outlet. Bina Nusantara University appeared as the university with the most author affiliations. Wang X emerged as the most prolific author in the field of customer loyalty. An article titled "Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model" authored by Baabdullah, Abdullah M., Abdallah, Ali, Rana, Nripendra P., Kizgin, Hatice, Patil, Pushp was the most frequently cited publication. "Sales" was the most commonly used keyword category, followed by "Customer Loyalty," "Customer Satisfaction," and "Electronic Commerce".

The bibliometric study on customer loyalty has certain limitations, such as relying solely on the Scopus database, which, despite being a prominent publication source, might not encompass all papers on the topic. Therefore, researchers should explore other databases like WoS and Google Scholar. Future research on customer loyalty themes could involve variables derived from bibliometric analyses, like trending topics such as commerce platforms, quality, purchase intention, and stickiness. Based

on the Thematic Evolution, themes such as sales and consumption, China, supply chains, blockchains, deep learning, and condition could be linked to changing consumer behavior influenced by digital technology, social media, societal changes, the impact of technological change, global pandemics, and shifts in social and cultural values, necessitating further study.

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