Consumer Preferences in Digital Marketing: A Scientometric Review of Buying Decisions

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Abstract

This study undertakes a bibliometric analysis of digital marketing literature, focusing on consumer preferences and decision-making patterns from 2010 to April 2024. As digital technologies continue to reshape marketing strategies, this study investigates the influence of advancements in artificial intelligence (AI), big data, and personalized approaches on consumer behavior and preferences. The primary objective is to identify emerging research trends, key contributors, and significant areas of interest in the digital marketing field. Analyzing data from Scopus and Web of Science, 6,220 documents were reviewed to assess research growth, collaboration trends, and thematic changes. The findings reveal an increasing emphasis on marketing strategies driven by artificial intelligence, user-generated content, and influencer marketing, with a pronounced focus on personalized customer experiences and interactions on social media platforms. This study highlights the growing importance of consumer preferences and international collaborations in digital marketing research while emphasizing the need for further investigation into digital marketing practices in developing economies. This study contributes to understanding the evolving dynamics in digital marketing by offering a comprehensive review of scholarly contributions in the field. This study provides significant gaps in the current literature, advocating for future research to address challenges related to ethical considerations, technological advancements, and regional variations in digital marketing adoption.

Introduction

Over the past two decades, digital marketing has undergone significant transformations, fundamentally reshaping how businesses interact with consumers' preferences and influencing purchasing behaviors on a global scale (Tang et al., 2023)ease of use, and information quality in digital marketing and consumer satisfaction. Data from 120 respondents were collected via the internet. The results generated from structural equation modelling indicated that the above factors positively influence customer satisfaction with a digital platform empowered with the IVR interior design. It was found that information quality has the most influence among the three factors. Despite numerous scholars having conducted in-depth research on digital marketing, existing research lacks a consumer perspective for examining what factors have the most significant impact on consumers. Moreover, relatively little work has been conducted to determine the customer's perceptions towards the digital marketing approach using virtual interior design and its interactive features. A theoretical model for interactive virtual interior design features for digital marketing is thus proposed.","author":[{"dropping-particle":"","family":"Tang","given":"Yuk Ming","non-dropping-particle":"","parse-names":false,"suffix":""},{"dropping-particle":"","family":"Lau","given":"Yui-yip","non-dropping-particle":"","parse-names":false,"suffix":""},{"dropping-particle":"","family":"Ho","given":"Uen Lam","non-dropping-particle":"","parse-names":false,"suffix":""}],"container-title":"Journal of Theoretical and Applied Electronic Commerce Research","id":"ITEM-1","issue":"2","issued":{"date-parts":[["2023"]]},"page":"889-907","title":"Empowering Digital Marketing with Interactive Virtual Reality (IVR. As reliance on online platforms continues to grow, companies have increasingly adopted digital and personalized marketing strategies to redefine customer experiences and preferences (Freihat, 2023)by diagnosing both the level of digital marketing adoption and the level of customer's happiness achievement, determining the nature of the relationship between digital marketing and customer's happiness, and recognizing the level of effect and contribution of digital marketing dimensions in achieving customer's happiness. This is based on the main idea that digital marketing activities are the main basis for achieving customer's happiness, when designing digital services. Opinions of (360. Recent technological advancements have fundamentally transformed marketing practices, necessitating the adoption of data-driven strategies by businesses (Meyer et al., 2023) to refine their tactics and evaluate their effectiveness. Digital marketing has substantially improved the precision of customer targeting and engagement while simultaneously prompting discussions regarding privacy, ethics, and the

long-term consequences in decision-making processes. (Li et al., 2023). Therefore, researchers and industry professionals must prioritize the investigation of these technological impacts on consumer preferences and brand loyalty.

Despite significant advancements in digital marketing, a considerable gap remains in the literature, particularly regarding the global implementation and adaptation of these technologies. Most research on digital marketing has focused on a limited exploration of how emerging economies have adopted and modified these strategies (Sugandini et al., 2023). Moreover, the growing prevalence of digital marketing has elicited concerns regarding the ethical management of consumer data, issues of privacy, and the implications for consumer trust.(Munir et al., 2023). The issues mentioned earlier underscore the imperative for a more profound understanding of the responsible and practical application of digital marketing across diverse cultural and economic contexts.

Comprehending consumer preferences is critically important in the realm of digital marketing. As organizations increasingly utilize online platforms to engage with consumers (Munir et al., 2023), assessing how digital marketing strategies influence consumers' decisions and brand perceptions is imperative. Bibliometric analysis serves as a valuable methodology for scrutinizing existing literature, identifying research trends, assessing academic contributions, and uncovering new areas of interest within the field (Figueiredo et al., 2021). This method offers a comprehensive overview of the current research on digital marketing and consumer preferences, highlighting key themes, significant contributors, and the evolution of knowledge within the discipline.

The primary aim of this study is to conduct a bibliometric analysis of the literature concerning digital marketing and consumer preferences, with a focus on publications from 2010 to April 2024. This analysis utilizes data from the Scopus and Web of Science databases to examine the evolution of research trends, contributions of leading authors, and the most frequently investigated topics in digital marketing and consumer decision-making. This study addressed the following research questions: 1. What have been the significant trends and advancements in digital marketing research over the past decade? 2. Which authors, institutions, or journals influence this field the most? 3. How has the focus of digital marketing research evolved, and what topics are most commonly explored? 4. What patterns of international collaboration are evident in the research on digital marketing and consumer engagement? Addressing these questions will provide valuable insights into the current landscape of digital marketing research and guide future investigations (Pham et al., 2022).

Evolution of Digital Marketing and Customer Engagement

Over the past decade, digital marketing has undergone a substantial transformation, evolving from traditional promotional methods to data-driven and customer-centric strategies (Li et al., 2023). In its early stages, digital marketing focused mainly on search engine optimization (SEO) and pay-per-click advertising. Search Engine Optimization (SEO) involves improving a website's visibility in search engine results, making it easier for people to find the site when searching for related topics. Pay-per-click advertising (PPC) is a method where advertisers pay a fee each time their ad is clicked. It's a way to buy visits to a website rather than earning them organically. These two approaches were the primary focus of digital marketing efforts when the field was beginning to develop (Tang et al., 2023)ease of use, and information quality in digital marketing and consumer satisfaction. Data from 120 respondents were collected via the internet. The results generated from structural equation modelling indicated that the above factors positively influence customer satisfaction with a digital platform empowered with the IVR interior design. It was found that information quality has the most influence among the three factors. Despite numerous scholars having conducted in-depth research on digital marketing, existing research lacks a consumer perspective for examining what factors have the most significant impact on consumers. Moreover, relatively little work has been conducted to determine the customer's perceptions towards the digital marketing approach using virtual interior design and its interactive features. A theoretical model for interactive virtual interior design features for digital marketing is thus proposed.","author":[{"dropping-particle":" ","family":"Tang","given":"Yuk Ming","non-dropping-particle":"","parse-names":false,"suffix": ""},{"dropping-particle":"","family":"Lau","given":"Yui-yip","non-dropping-particle":"","parse-names":false,"suffix":""},{"dropping-particle":"","family":"Ho","given":"Uen Lam","non-dropping-particle":"","parse-names":false,"suffix":""}],"container-title":"Journal of Theoretical and Applied Electronic Commerce Research","id":"ITEM-1","issue":"2","issued":{"date-parts":[["2023"]]},"page":"889-907","title":"Empowering Digital Marketing with Interactive Virtual Reality (IVR. However, with technological advancements, customer engagement has emerged as the central focus of digital strategies, incorporating artificial intelligence (AI), big data, and personalized marketing (Bryła et al., 2022). The proliferation of digital platforms has enhanced customer interaction, necessitating innovative engagement methods to maintain competitiveness (Hsu, 2023)particularly to enhance customer engagement. Thus, it is important to highlight not only the antecedents and consequences of customer engagement but also the critical role of gamification. This study aims to examine the causal relationships among brand identification, self-expressiveness, brand love, gamification, customer engagement, brand experience, and repurchase intention in the

context of Nike Run Club, a gamified running app available at the Apple and Google Play stores. It also explores the mediating effect of consumer engagement on the association that brand love and gamification have with brand experience and repurchase intention. Additionally, it analyzes the moderating effects of gamification on the relationship between brand love and customer engagement. The hypotheses are empirically tested by analyzing data collected from 526 respondents on a Nike Run Club app. Results confirm that both brand identification and self-expressiveness significantly and positively influence brand love, which in turn significantly and positively affects customer engagement and, subsequently, brand experience and repurchase intention. Further, this study demonstrates that customer engagement acts as a mediator to improve brand experience and to motivate the customer to repurchase the brand. In addition to showing the impact of gamification on brand love, brand experience, and repurchase intention, this study reveals the moderating effect of gamification on the relationship between brand love and customer engagement. These findings offer deeper insights into brand identification, self-expressiveness, and gamification as significant influencing factors, which can be helpful to brand managers in enhancing brand love and customer engagement. Additionally, this study demonstrates that gamification is the most effective approach to increasing brand love, strengthening customer engagement, and improving brand experiences and repurchase intention.","author":[{"dropping-particle":"","family":"Hsu","given":"Chia Lin","non-dropping-particle":"","parse-names":false,"suffix":""}],"container-title":"Decision Support Systems","id":"ITEM-1","issue":"June","issued":{"date-parts":[["2023"]]},"page":"114020","publisher":"Elsevier B.V.","title":"Enhancing brand love, customer engagement, brand experience, and repurchase intention: Focusing on the role of gamification in mobile apps","type":"article-journal","volume":"174"},"uris":["http://www.mendeley.com/documents/?uuid=8b4b4cb8-30f4-452a-8206-3dab8dc418ca"]}],"mendeley":{"formattedCitation":"(Hsu, 2023.

Recent bibliometric analyses have highlighted the widespread adoption of AI-driven marketing, particularly in domains such as predictive analytics, chatbots, and recommendation systems (Zhu et al., 2023)as AI chatbot stimuli, significantly increase potential tourists' trust and purchase intention. Perceived usefulness plays a mediating role in the relationship among interactivity, information quality, customer trust and purchase intention. Furthermore, the findings indicated that customers with high product familiarity exhibited greater trust in products demonstrating a high level of perceived usefulness. Originality/value: By integrating cognitive consistency theory, this study theoretically validates the applicability of the stimulus–organism–response framework on AI chatbots and provides academics with useful insights regarding the influence mechanisms of human–computer interaction and information quality on customer response within OTA settings.","author":[{"dropping-part

icle":"","family":"Zhu","given":"Yao","non-dropping-particle":"","parse-names":false,"suffix": ""},{"dropping-particle":"","family":"Zhang","given":"Rongteng (Renata. These technological advancements have revolutionized business-customer interactions by enabling real-time, personalized communication (Rana et al., 2024). Furthermore, the shift towards omni-channel marketing has significantly influenced consumer behavior, underscoring the need for businesses to integrate various digital touchpoints to deliver a seamless user experience (Sharma et al., 2020). As consumer expectations evolve, research indicates that digital marketing strategies should be aligned with behavioral insights to enhance consumer preference and engagement and cultivate long-term brand loyalty (Meyer et al., 2023).

Emerging Trends in Digital Marketing Research

Bibliometric analyses have identified significant themes in digital marketing research, particularly the integration of emerging technologies. The impact of artificial intelligence on marketing strategies has garnered substantial attention, with studies emphasizing its effects on personalized advertising, automated customer support, and behavioral targeting (Han et al., 2021)the literature shows challenges concerning AI-enabled business-to-business (B2B. Additionally, blockchain technology has been explored to enhance transparency and security in digital transactions, addressing consumer concerns about data privacy (Wamba & Queiroz, 2022).

In digital marketing, user-generated content (UGC) and influencer marketing have emerged as significant areas of scholarly inquiry (Sahoo & Thakur, 2023). Social media platforms are increasingly functioning as primary channels for customer engagement, with companies leveraging influencer endorsements and peer reviews to cultivate authenticity and trustworthiness (Bryła et al., 2022; Shawky et al., 2019). Furthermore, research suggests that interactive digital experiences, such as augmented reality (AR) and virtual reality (VR), enhance customer engagement by providing immersive shopping experiences (Phuthong et al., 2024).

The Impact of Digital Marketing on Consumer Behavior

Research on consumer behavior within the digital marketing domain has primarily focused on elucidating the impact of targeted advertisements, personalized recommendations, and social media interactions on purchasing decisions. The researches indicate that digital marketing strategies significantly influence consumer expectations, demand for highly customized content, and immediate engagement (Meyer et al., 2023). Kumar et al. (2024) examined the role of AI-driven marketing in enhancing consumer experiences by predicting purchasing trends and optimizing content delivery (Viglia et al., 2022).

Considerable scholarly attention has been directed towards the role of emotional engagement in digital marketing. Research indicates that brands that successfully evoke emotional responses in their marketing initiatives experience enhanced consumer retention and loyalty (Dana et al., 2024). However, studies caution against over-reliance on AI-driven personalization, emphasizing ethical practices and transparency in digital marketing (Musa et al., 2024).

Methods and Materials

Bibliometrics, a specialized area within library science, constitutes a methodological framework that employs mathematical and statistical techniques to analyze scientific outputs across diverse disciplines (Antunes & Veríssimo, 2024). This approach involves the application of quantitative methods to bibliometric data (Saifee et al., 2024), particularly scholarly publications, to assess the growth, dissemination, and impact of research output (Wang et al., 2024). Such analysis assists researchers, institutions, and policymakers in evaluating research productivity, impact, and collaboration (Ruppenthal & Schweers, 2024). In academia, bibliometric analysis is used for decisions related to tenure and promotion and research assessments (Wahyudi & Kiminami, 2021). Bibliometric studies entail evaluating research literature, selecting pertinent keywords, and collecting initial findings based on specific criteria: network visualization and bibliometric methods employed in academic projects following thorough consideration (Carreira et al., 2023)given the increase in price associated with them, and the sum of associated fines and penalties, generates complex financial equations, which become unfavorable to the transition to the CE. CE-friendly solutions in use are associated with situations in which circularity contributes to lower production costs. The authors are committed to altering the course of events. They believe that the success of this transition will have the will of the consumer as its main vector. To this end, they launched an investigation that leads to clues on how, by identifying barriers, facilitators, and motivations, proposals for solutions that are focused on the consumer are designed. The research project started by surveying and systematically analyzing the existing published information, in order to reach the State of the Art. The path taken involved a systematic review of the literature and the consequent bibliometric analysis, fulfilling a methodology whose steps are not innovative, but whose relationship/sequencing of the same is insufficiently treated in the literature. As the most relevant results of the application of the proposed methodology to the subject under analysis, in addition to the recognition of a set of significant and guiding texts, explored as graphically as possible, the identification of relevant sub-themes stands out, as well as the framing of opportunities for future investigations. With this investigation, we conclude that the consumer is not the trigger for the transition from the linear economy to the

CE.","author":[{"dropping-particle":"","family":"Carreira","given":"Rui Jorge","non-dropping-particle":"","parse-names":false,"suffix":""},{"dropping-particle":"","family":"Ferreira","given":"José Vasconcelos","non-dropping-particle":"","parse-names":false,"suffix":""},{"dropping-particle":"","family":"Ramos","given":"Ana Luísa","non-dropping-particle":"","parse-names":false,"suffix":""}],"container-title":"Sustainability (Switzerland. The primary objective of bibliometric analysis is to identify the patterns and temporal trends in developing research streams (Viglia et al., 2022).

This study employs the SCOPUS and Web of Science databases because of their extensive collections of high-quality academic literature and their global reputations. It utilizes previously published research data and two comprehensive databases to collect reliable, accurate, and unbiased information (Farooq, 2023). This approach ensures the reliability of the results (Olaleye et al., 2023), the comprehensive measurement of all critical concepts, and the consistency of the results (Maher et al., 2014) when the same method is applied differently, aligned with the initial set of measurements.

The search terms employed were 'digital marketing' and 'consumer preferences,' focusing on the document's title, keywords, and abstract. The query was structured in the relevant database search engine as follows: "Digital Marketing" OR "e-commerce marketing" OR "Search engine marketing" OR "Influencer marketing" OR "Email Marketing" OR "email direct marketing" OR "Social networks sites" OR "Search Engine Optimization" OR "SEO" OR "Online platforms" OR "Content Marketing" OR "Online advertising" AND "customers engagement" OR "Purchase intention of customers" OR "Consumer preferences" OR "Purchase decision making" OR "Users experience" OR "Customers retention" OR "Behaviors targeting" OR "Customer behaviors" OR "Online consumer behaviors" OR "Online Shopping Behaviors." The search terms are limited to the "subject" category, which encompasses "title," "abstract," and "keyword," keyword, without any chronological filter. Materials related to languages other than English were excluded, and subjects were limited to business, management, accounting, and social sciences. After selecting primary material and removing duplicates from 1922 documents in Biblioshiny under R Programming, a final dataset comprising 6220 documents was compiled for analysis.

This study used RStudio Biblioshiny, a bibliometric data analysis tool. RStudio is a free, open-source application designed for data science analysis. In this study, Biblioshiny served as a valuable instrument for data processing. Biblioshiny is a web application developed using RStudio that lets users view data visualizations online (Annu & Tripathi, 2023). The analysis incorporates 6,220

documents from 2010 to 2024. The sources of these documents included books, journals, articles, conference proceedings, and early review access articles. Data collection was comprised of 13,976 authors, with 388 being single authors.

The data retrieved from Scopus and Web of Science (WoS) were analyzed using the Biblioshiny software application. Biblioshiny facilitated the analysis of data from both Scopus and Web of Science. This study aims to distill the ideas and methodologies in the literature on digital marketing and customer engagement by employing biblioshiny for data analysis. Initially, the study examined the descriptive aspects of the literature and investigated thematic evolution and mapping to ascertain the field's current state and future directions.

Results and Discussion

Descriptive Analysis of Bibliometric Data

Table 1 comprehensively summarizes statistics, document types, content, authorship, and co-authorship. Between 2010 and April 24, 2024, 6,220 documents were retrieved from Scopus and Web of Science databases. Most of these documents, sourced from 1,394 distinct sources, were published in scientific journals. Collectively, these publications referenced 227,716 sources and used 15,822 keywords. On average, there were 388 single authors per article, 3.67 co-authors per document, and each document received an average of 21.37 citations. The annual growth rate of these publications is 6%.

Table 1: Main Information

Description	Results
Primary information about the data	
Timespan	2010:2024
Sources (Journals, Books, etc.)	1394
Documents	6220
Annual Growth Rate %	6
Document Average Age	4.83
Average citations per doc	21.37
References	227716
DOCUMENT CONTENTS	
Keywords Plus (ID)	8329
Author's Keywords (DE)	15822
AUTHORS	
Authors	13976

Authors of single-authored docs	388
AUTHORS COLLABORATION	
Single-authored docs	419
Co-Authors per Doc	3.67
International co-authorships %	31.86
DOCUMENT TYPES	
Article	5898
Article; book chapter	9
Article; early access	219
Article; proceedings paper	72
Article; retracted publication	19
Article; early access; retracted publication	2

Annual Scientific Production

Figure 1 demonstrates a notable increase in the number of research articles published on research output, from 153 in 2010 to 400 in 2018. This trend reflects a sustained institutional commitment to academic development, funding, and faculty engagement in research initiatives.
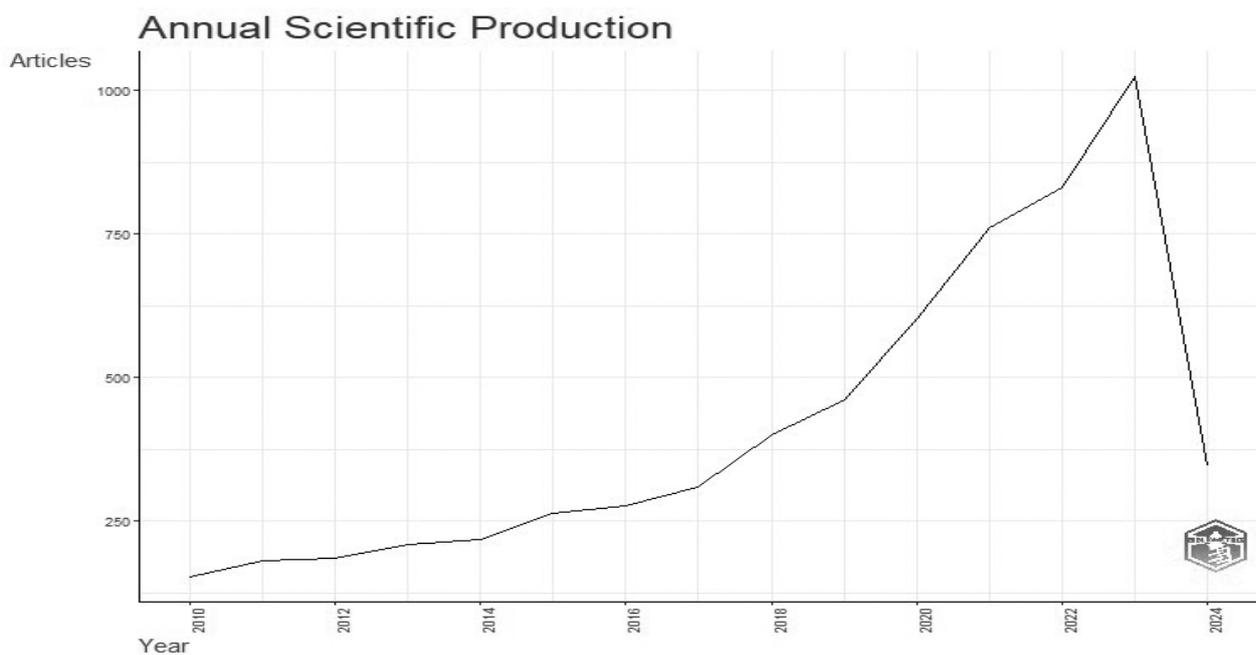
*Figure 1: Trends of Publications*

Between 2019 and 2023, there was a substantial increase in research publications, with the number of publications increasing from 461 in 2019 to a peak of 1,024 in 2023. This period marked a significant expansion in the academic field, likely driven by the global rise of interdisciplinary research, enhanced digitalization of scientific processes, and improved access to international

collaborations facilitated by the COVID-19 pandemic. In 2024, however, there was a notable decline in research output, with the number of published articles decreasing to 346, representing a 66.2% reduction from the previous year. This decline is attributed to the data collection being limited to April 2024.

Trend in Citation (Average Citation Per Year)

Figure 2 illustrates the trajectory of citation counts from 2010 to 2024. Citations have consistently been notable since 2017, with figures surpassing 308; 2023 represents the year with the highest citation count. In contrast, 2024 appears to have a lower citation count due to the data collected at the beginning of the year. Citation trends from 2010 to 2024 provide significant insights into the impact of research publications. The Mean Total Citations per article (MeanTCperArt) peaked at 57.52 in 2010, indicating that early publications accumulated substantial citations over time. There has been a persistent decline in citation impact, as evidenced by the MeanTCperArt decreasing to 0.67 in 2024, a reduction attributed to the data retrieved in the first quarter of 2024.

Similarly, the Mean Total Citations per year (MeanTCperYear), which denotes the annual citation frequency of each article, has declined notably. Articles published between 2010 and 2015 had a yearly citation rate exceeding 3.5 citations per year. However, recent studies have reported a marked reduction in these values. In 2023 this metric decreased to 1.26; in 2024, it further declined to 0.67, reflecting the impact on recent research publications owing to data retrieved at the beginning of the year.
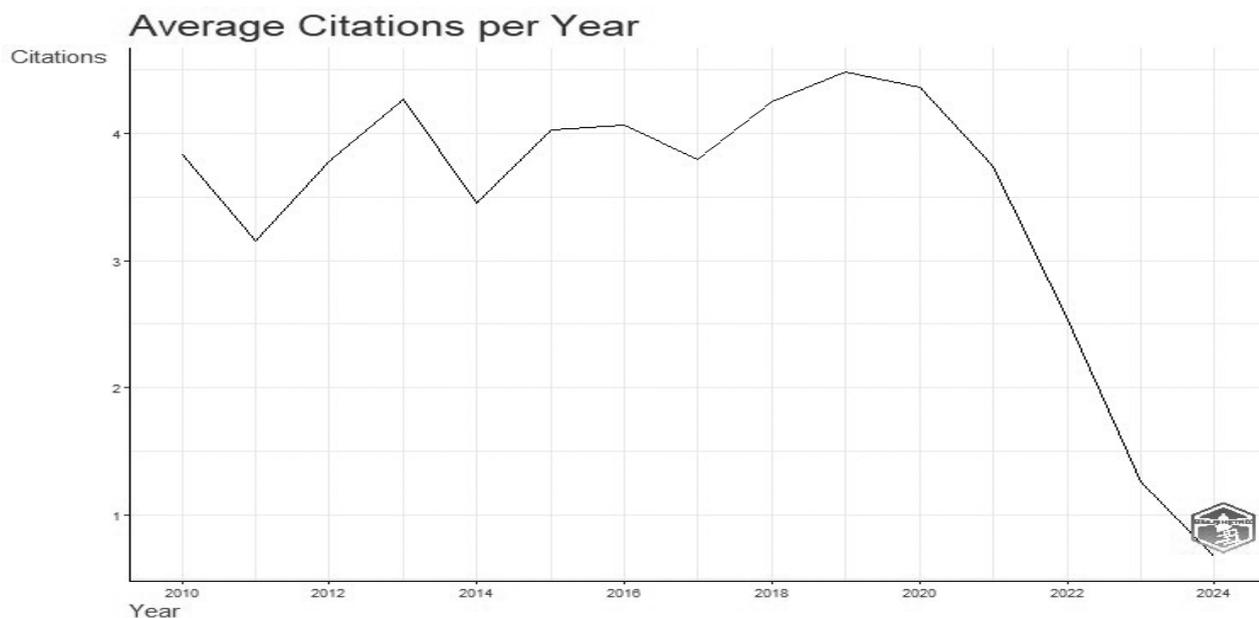
Figure 2: Average Citation Per Year

Most Relevant Sources by Number of Articles

The bibliometric analysis reveals that the journal "Sustainability" is the most significant source, with 285 documents, followed by the "British Food Journal" with 126 papers, and "Food Quality and Preferences" with 122 documents.
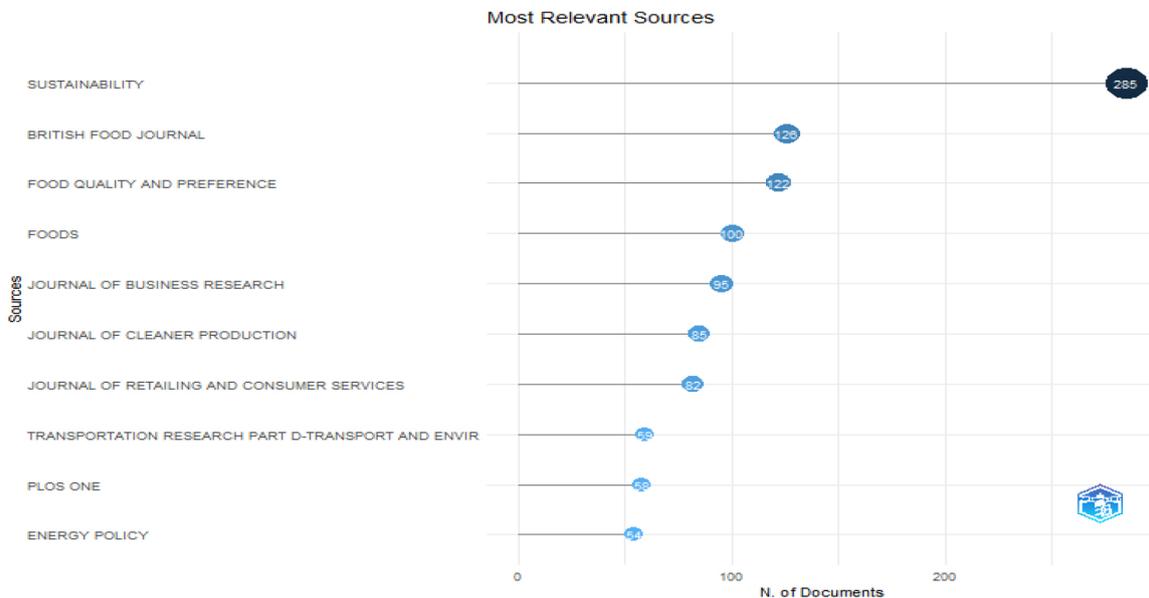

Figure 3: Most Relevant Sources

The journals in question exhibit a concentrated research emphasis on sustainability and consumer behavior within the food- and business-related disciplines. The importance of sustainability indicates a substantial focus on environmental and economic sustainability. A considerable number of articles underscored its status as a leading publication platform. The British Food Journal and Food Quality and Preferences emphasize the significance of food-related studies in academic research, particularly in evaluating food consumption patterns, quality perceptions, and industry trends. Additionally, Foods and the Journal of Business Research made significant contributions, highlighting the interdisciplinary nature of research in this field. The distribution of articles across these journals suggests a balanced integration of sustainability, food quality, and business research themes within the bibliometric dataset.

Affiliation's Research Production Over Time

The graph illustrates a longitudinal analysis of research article production across the five university affiliations from 2010 to 2024. From 2010 to 2016, all institutions produced research at a comparable rate, following a nearly parallel trajectory. However, post-2017, the University of Florida and the

State University System of Florida markedly increased their publication numbers. This divergence underscores the impact of institutional regulations and external factors on the research output.
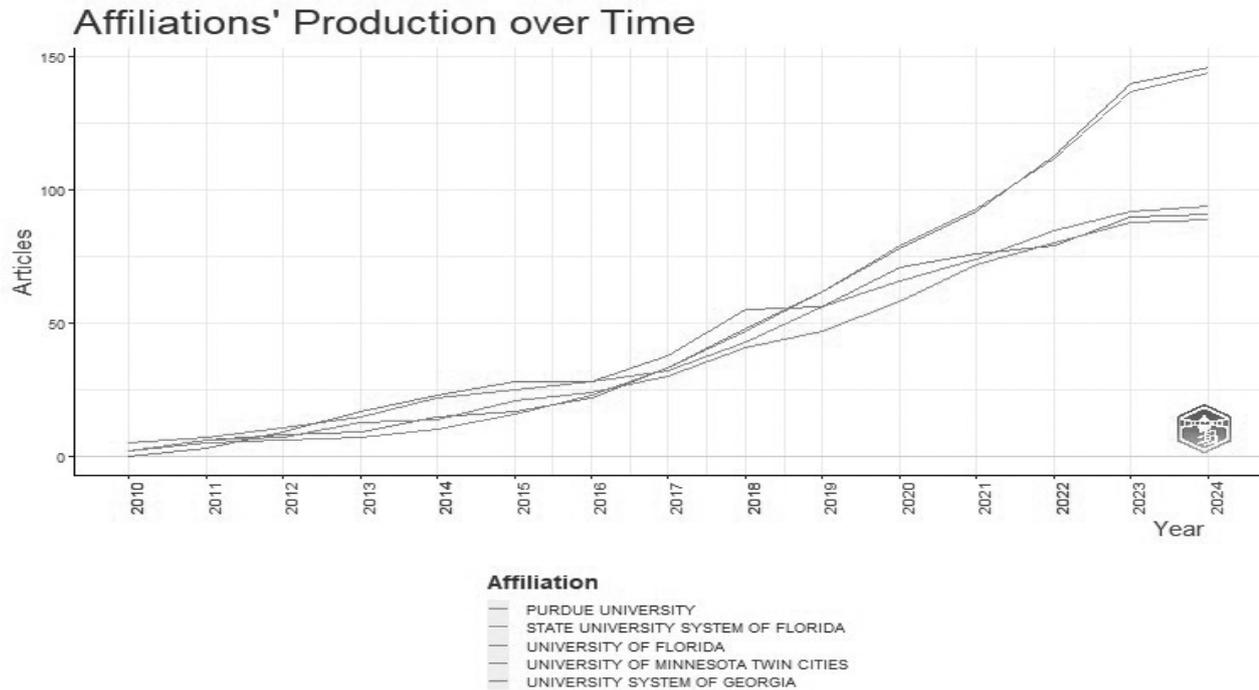
Figure 4: Affiliation's Research Production Over Time

All institutions consistently enhanced their research output during this period, with a notable acceleration observed post-2016. By 2024, the University of Florida and the State University System of Florida are expected to achieve the highest cumulative publication counts. Their substantial increase, particularly after 2017, signifies a significant investment in research initiatives. These universities have surpassed others, including Purdue University, the University of Minnesota Twin Cities, and the University System of Georgia, as evidence of their exceptional research capabilities. The interval from 2021 to 2024 is particularly noteworthy, as it underscores a more pronounced disparity between leading affiliations and their counterparts. Although all institutions continued to increase their publication output, the acceleration was the most pronounced among the top-performing universities.

The research environment is becoming increasingly competitive, with certain universities gaining a significant advantage in academic contributions. If these trends persist, the University of Florida and the State University System of Florida are poised to maintain their leadership in research output. Conversely, institutions experiencing slower growth may need to re-evaluate their research strategies, emphasizing funding opportunities, interdisciplinary collaborations, and policy adjustments to

enhance their scholarly impact. By understanding these trends, universities can refine their research objectives and position themselves better within the global academic landscape.

Most Relevant Authors

This bibliometric analysis examined the research productivity of the authors based on the total number of published works. The dataset identifies the most prolific authors and provides insights into their collaboration patterns and research impacts. Among the leading contributors, Wang Y is distinguished by having the highest number of published articles (76), followed by Liu Y with 56 articles and Kim J with 53 articles, indicating a significant presence in the field of study.

The dataset revealed a notable frequency of common surnames, such as Wang, Zhang, and Li, appearing consistently in academic databases. This observation suggests the potential for multiple researchers to share identical names, necessitating advanced name disambiguation techniques to ensure precise attributions in bibliometric studies.
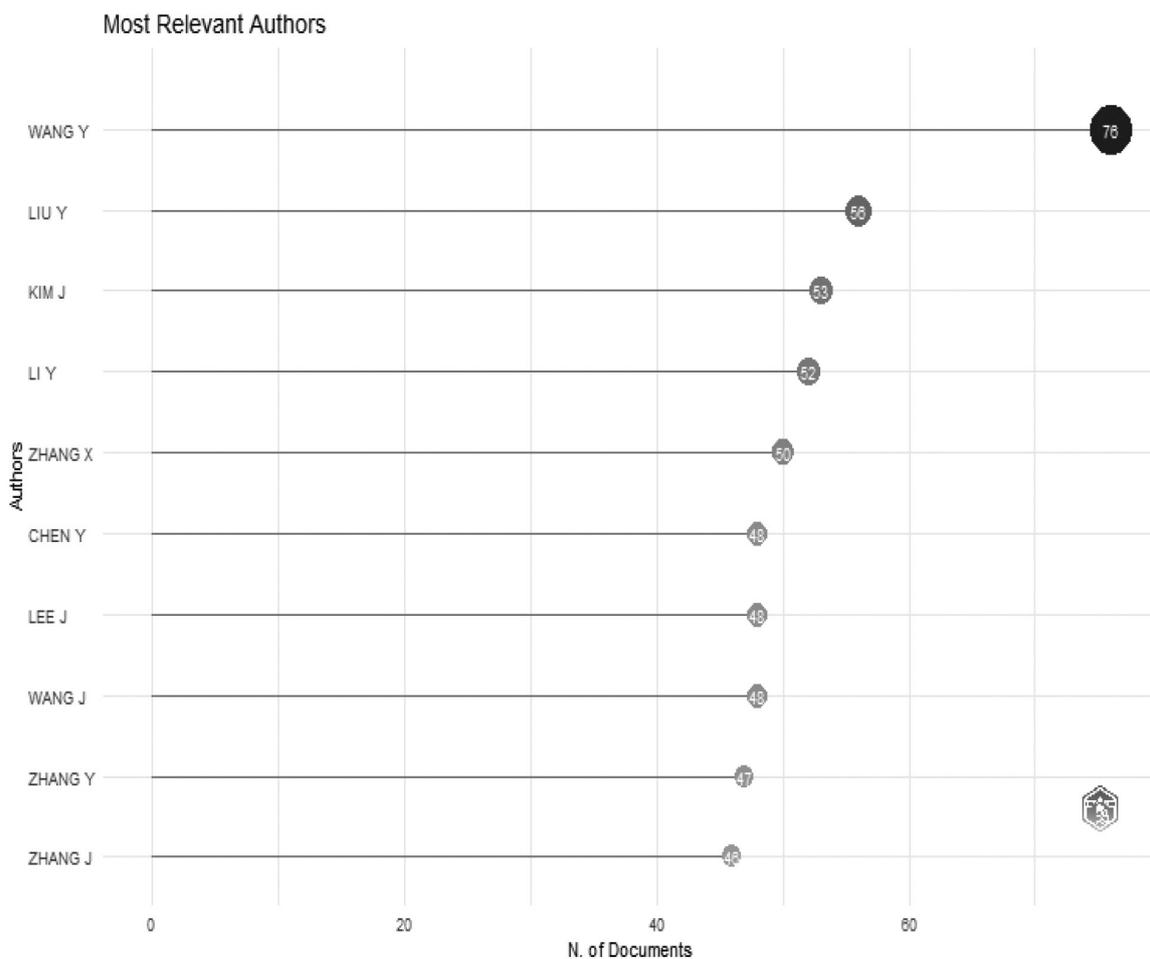

Figure 5: Most Relevant Authors

Country's Scientific Production

The United States and China have produced 3,470 and 3,205 scholarly documents, respectively, indicating their significant contribution to the academic field. These figures surpass those of other nations, underscoring their prominent roles in global research output. Australia and the United Kingdom followed 743 and 737 publications, respectively. Similar figures for Italy (625), Germany (623), Spain (576), and South Korea (557) suggest a competitive research environment in both Europe and East Asia. Although France (364) and Canada (312) exhibit lower production levels in this domain, they contribute substantially to global scholarship. These data highlight that scientific production is a well-established domain among leading research nations, with the United States and China at the forefront. In contrast, European and Asian countries provide essential contributions.
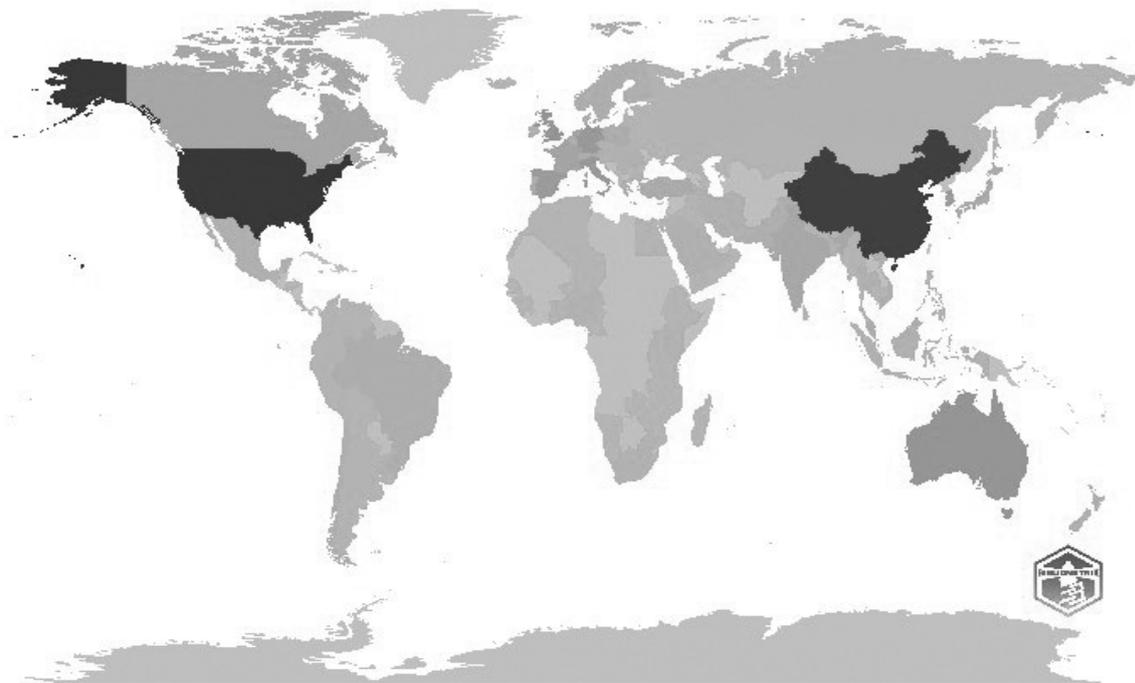

Figure 6: Countries Scientific Production

Most Cited Countries

The data in Figure 7 reveal that the United States holds the leading position, with 35,667 cited articles. China followed, with 18,997 articles. The United Kingdom ranked third, with 7,231 articles cited. Germany occupies the fourth position, followed by Italy in fifth, Spain in sixth, and Korea in seventh. Australia is ranked eighth, while the Netherlands is ninth. Finally, France completes the list in the tenth position with its citation count.
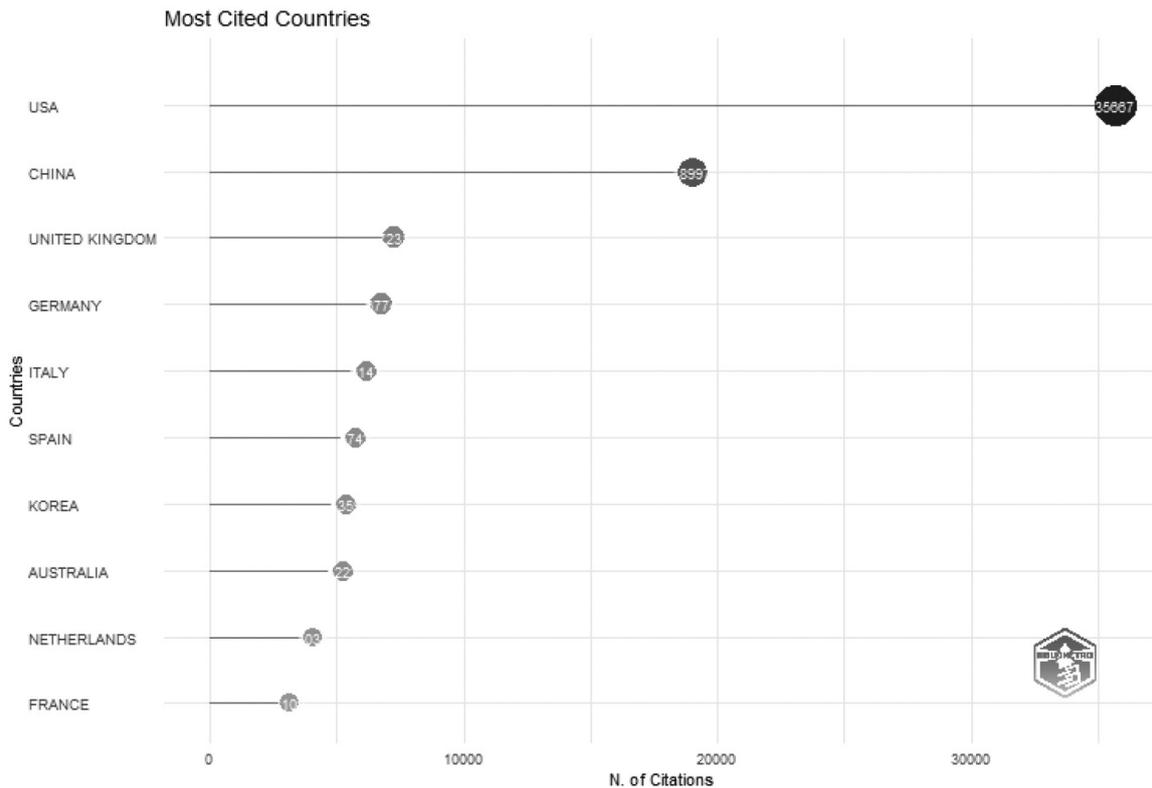
Figure 7: Most cited countries

Analysis of Corresponding Author's Countries (Based on Research Productivity and Collaboration Trends)

The dataset offers a comprehensive analysis of the contributions of various countries to academic research and their propensities for international collaboration. By examining the number of articles, single-country publications (SCPs), multiple-country publications (MCPs), and MCP ratio, we can gain insights into global research trends and the dynamics of scholarly partnerships. China has emerged as a leading research entity, with 1,395 articles, followed closely by the United States, with 1,250 publications. Despite their prominence in total publications, their rates of international collaboration are lower than those in some European countries. China's MCP ratio is 0.259, while the USA's ratio is slightly lower at 0.252, indicating a predominance of domestic research over international partnerships. By contrast, countries such as the United Kingdom, Canada, and France exhibit high MCP ratios of 0.456, 0.456, and 0.415, respectively. These findings suggest that researchers from these nations are more inclined to engage in cross-border collaboration, leveraging international expertise and funding opportunities. Denmark has the highest MCP ratio of 0.526, underscoring its extensive global research networks.
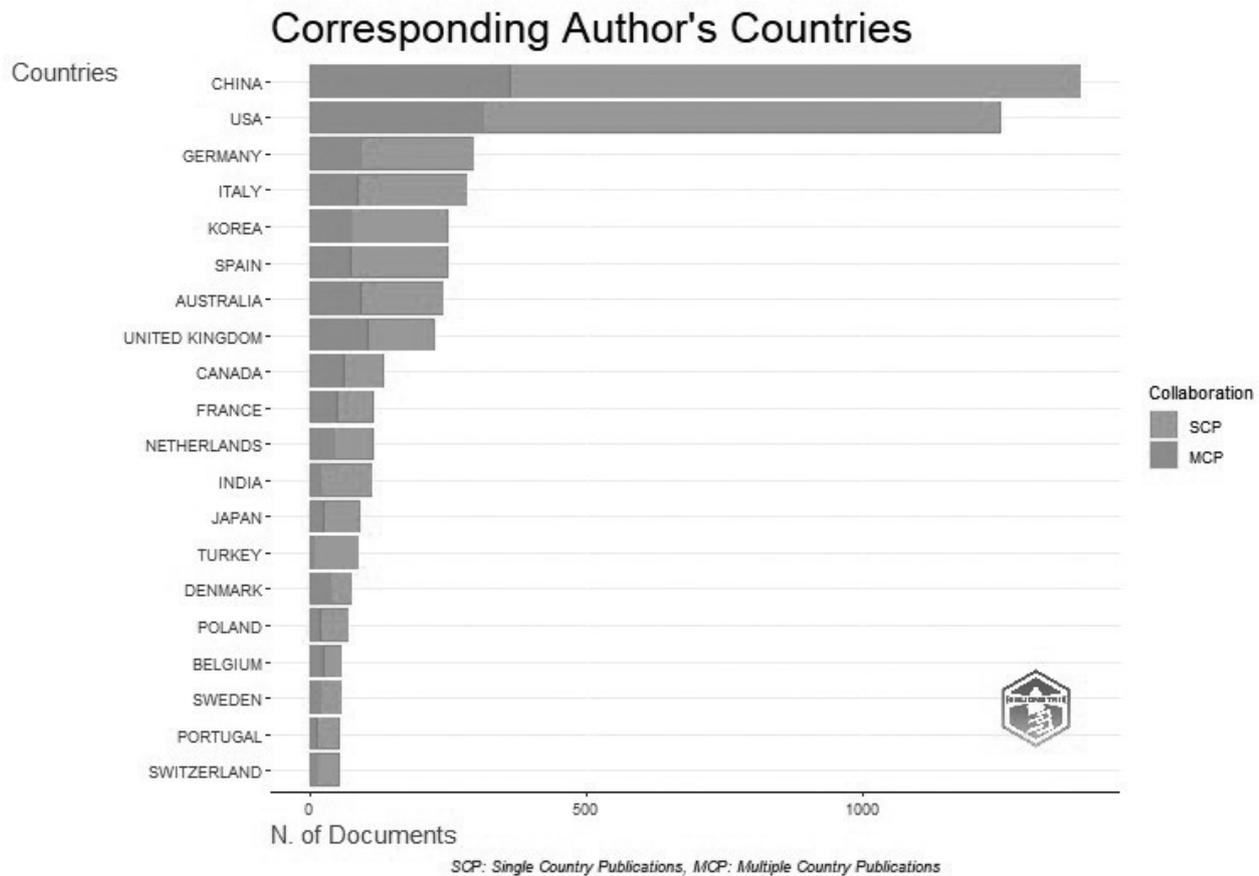
Figure 8: Corresponding Author's Countries

Germany, Italy, Korea, and Spain demonstrate a balanced research strategy characterized by a robust combination of domestic and international collaborations. Their MCP ratios, ranging from 0.298 to 0.315, reflected a moderate yet significant global presence. In contrast, emerging contributors, such as India and Japan, are in the process of integrating into the international research arena. India, with an MCP ratio of 0.205, and Japan, with 0.280, indicate a growing but still limited global engagement. Conversely, Turkey exhibits a predominantly localized research focus, evidenced by its notably low MCP ratio of 0.1.

The observed trends in collaboration provide significant insights into the nature of research in various regions. Nations exhibiting higher Multinational Collaboration Project (MCP) ratios engage in extensive international projects, often resulting in more diverse perspectives, enhanced access to funding, and a broader research impact. Conversely, countries with lower MCP ratios, such as China and the United States, may focus on domestic research development, potentially because of robust national funding frameworks or government-driven research priorities. While China and the United States lead in research volume, European countries, notably Denmark, the United Kingdom,

and France, exhibit a more pronounced culture of international collaboration. As emerging research nations such as India and Turkey continue to develop, their integration into global research networks warrants attention. Funding policies, technological advancements, and the growing necessity for interdisciplinary research across borders will likely influence future academic cooperation.

Leading Universities and Institutions

Figure 9 presents the results of the leading ten universities and institutions based on their publication output. The data indicate that the University of Florida ranks first with 146 published articles. Florida's State University System closely followed 144 publications, while Purdue University ranked third with 94 publications, demonstrating significant proficiency in scholarly output.
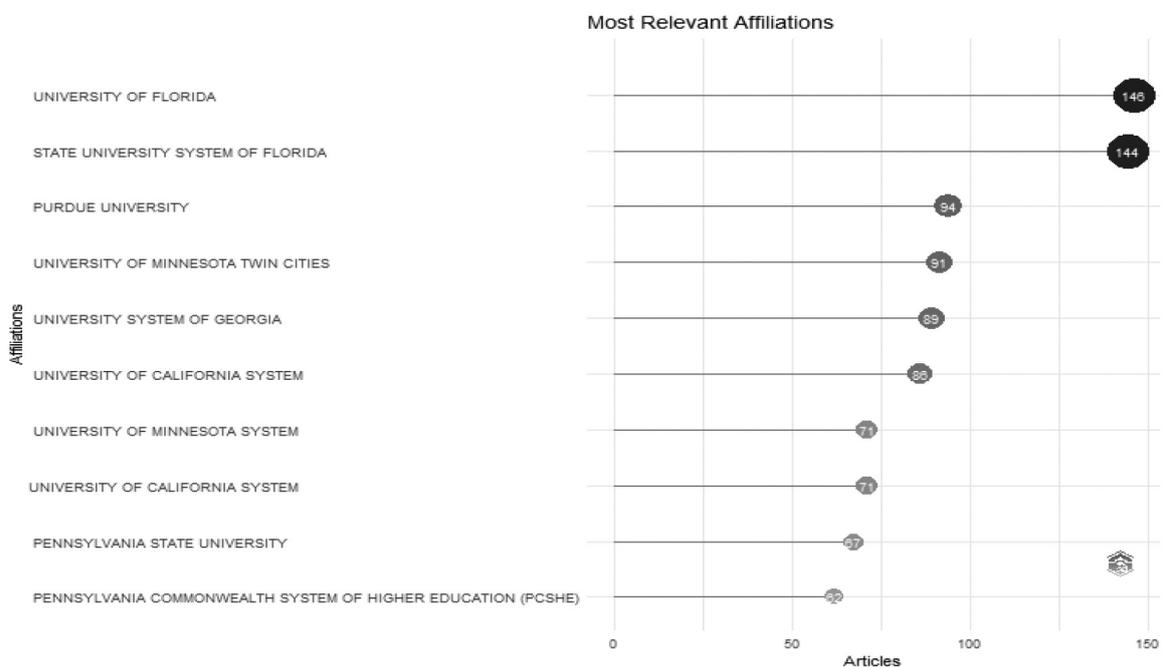
Figure 9: Leading universities and Institutions

The University of Minnesota Twin Cities, with 91 publications, and the University System of Georgia, with 89 publications, emerged as significant contributors. The dataset reveals 86 and 71 publications across the two sections, representing the University of California System, while the University of Minnesota System accounts for 71 publications. Similarly, Pennsylvania State University, with 67 publications, and Pennsylvania Commonwealth System of Higher Education (PCSHE), with 62 publications, highlighted Pennsylvania's academic strength in digital business research. Their research frequently explored consumer behavior on digital platforms, customized marketing strategies, and emerging trends in e-commerce.

Most occurrences of keywords

The treemap visualization illustrates contemporary trends in digital marketing, with each keyword representing a significant theme frequently explored in scholarly research. The size of each block reflects its importance within the research domain, providing insights into the areas currently receiving the most attention.

Substantial research in the field of digital marketing is dedicated to understanding consumer preferences, as evidenced by the frequent occurrence of terms such as consumer preferences (808, 6%), willingness-to-pay (667, 5%), and behavior (494, 4%). These topics emphasize the mechanisms underlying consumer purchasing decisions, the diverse factors influencing their choices, and the strategies brands can implement to address these needs effectively. Additionally, concepts such as trust (188, 1%) and perception (203, 2%) highlight the need to cultivate consumer confidence in digital transactions, particularly in the context of online misinformation affecting purchasing behavior.
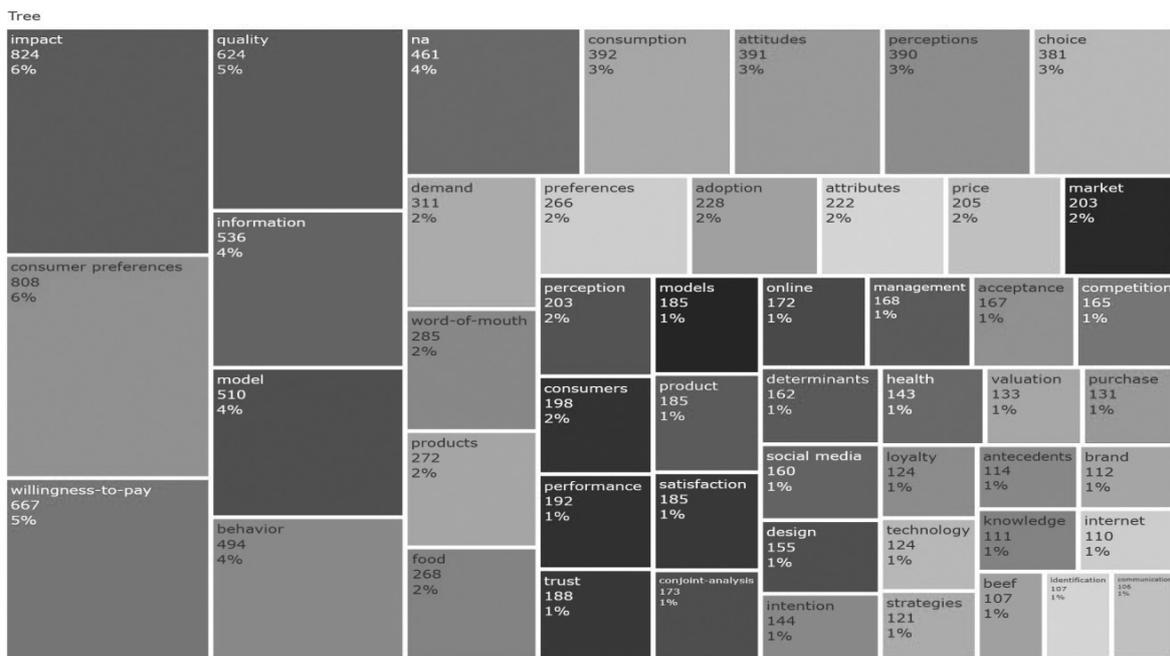
Figure 10: Most occurrence Keywords

Evaluation of digital marketing effectiveness is a prominent area of research, as evidenced by terms such as impact (824, 6%), quality (624, 5%), and performance (192, 1%). Organizations and analysts are dedicated to quantifying marketing initiatives' return on investment (ROI), assessing brand perception, and identifying strategies most effectively influencing customer decision-making. The

increasing reliance on digital platforms in marketing has facilitated the monitoring and measuring of consumer responses, thereby leading to improved marketing strategies. The treemap illustrates that Word-of-mouth (WOM) accounts for 285 instances, representing 2% of the data, with an increasing emphasis on peer recommendations, customer reviews, and influencer endorsements. This trend has prompted a shift in research focused on examining the effects of WOM on consumer behavior. As brands transition from traditional advertising methods to user-generated content, digital advocacy and viral marketing have emerged as key areas of interest for researchers.

The integration of technology into digital marketing constitutes a significant trend, as evidenced by the prevalence of terms such as technology (124, 1%), online (172, 1%), internet (110, 1%), and design (155, 1%). Innovative marketing tools powered by artificial intelligence, including chatbots, recommendation engines, and predictive analytics, are revolutionizing how businesses engage with customers. Research in this domain investigates automation, machine learning algorithms, and the impact of emerging technologies on digital marketing. Furthermore, adoption (228, 2%) and competition (165, 1%) reflect an ongoing analysis of how businesses integrate digital marketing tools and navigate competition in an increasingly saturated online marketplace. Similarly, the treemap highlights a significant focus on pricing strategies, market demand, and business models in digital marketing. Terms such as demand (311, 2%), price (205, 2%), and market (203, 2%) suggest that companies and analysts are examining the optimal pricing strategies for digital products and services, consumer price sensitivity, and competitive positioning. Additionally, terms such as management (168, 1%), acceptance (167, 1%), and determinants (162, 1%) underscore the need for continuous investigation into how organizations adopt and manage digital marketing frameworks, emphasizing data-driven decision-making processes, automated marketing solutions, and customer interaction strategies to enhance growth and operational efficiency.

The role of artificial intelligence in predicting consumer behavior, conducting sentiment analysis, and optimizing marketing decisions is expected to grow further. The treemap visualization demonstrates the increasingly interdisciplinary nature of digital marketing research, which incorporates insights from behavioral science, artificial intelligence, data analytics, and consumer psychology.

Trending topics in digital marketing

As illustrated in Figure 11, commercial utilization was prominent in 2010 and persisted until 2012. Similarly, ten scholarly articles published between 2012 and 2022 concentrated on customer interaction, digital marketing, and consumer decision-making processes. Subsequently, the period

from 2014 to 2018 witnessed a significant focus on evaluating customer preferences, as evidenced by the 22 articles on the subject. Furthermore, social media emerged as a prevalent topic from 2021 to 2023, with 160 articles, whereas Instagram gained popularity from 2022 to 2023. The most prominent trends in digital marketing research currently involve AI-and machine learning-driven marketing techniques. These technologies enable marketers to target their campaigns more accurately, predict future consumer behavior, and personalize client experiences. In response to consumer demand for more individualized experiences, businesses employ big data analytics to deliver targeted advertisements, product recommendations, and customized content. This trend aligns with the growing emphasis on behavioral data analysis and real-time marketing optimization.

Figure 11: Trending topics
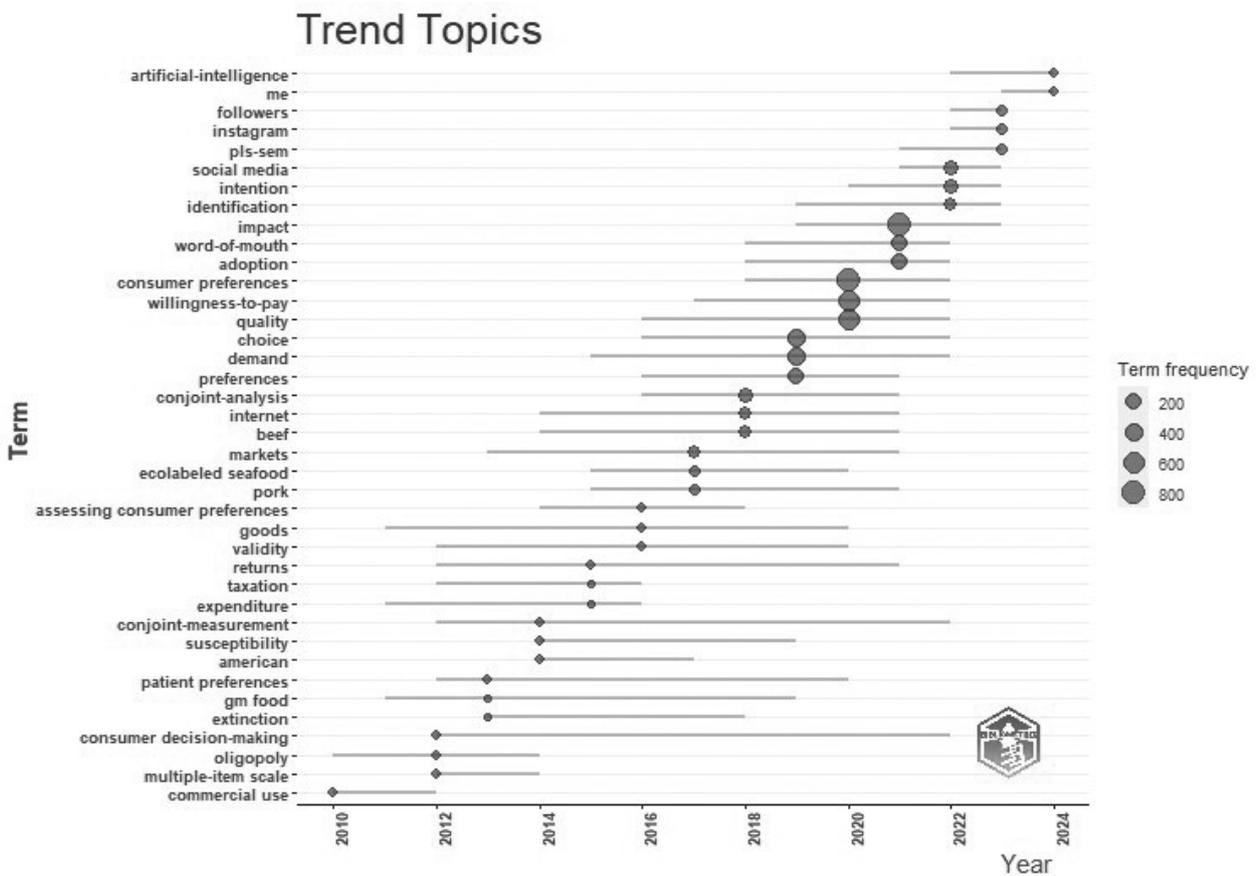
Social media have become integral to customer engagement strategies, with influencer marketing and brand advocacy receiving significant scholarly attention. Researchers are currently investigating the impact of social media platform algorithms on audience engagement, brand visibility, and content exposure. The increasing emphasis on search optimization and conversational marketing

reflects a shift in consumer preferences towards more personalized and relevant brand interactions. In addition, chatbots and AI-driven messaging applications transform consumer relationships by providing real-time responses, enhancing engagement, and increasing conversion rates. Digital marketing is changing with advanced technologies such as virtual reality (VR) and augmented reality (AR). These immersive technologies, utilized in retail, real estate, and tourism sectors, enable marketers to create interactive experiences that enhance consumer engagement and facilitate improved decision-making and brand attachment. Concurrently, rising concerns regarding consumer data security, AI ethics, and regulatory compliance have rendered data privacy and ethical marketing practices critical research areas.

Over the past decade, the evolution of digital marketing research has been significantly influenced by technological advancements, shifts in consumer behavior, and the increasing impact of artificial intelligence (AI). This research has expanded to encompass emerging technologies and evolving marketing strategies as companies adopt data-driven, customer-centric approaches. Topics that enhance brand loyalty, engagement, and consumer retention in the digital landscape fascinate academics and industry leaders. Scholars and professionals in the field must remain cognizant of new technological developments, evolving consumer expectations, and emerging trends as digital marketing continues to evolve.

The results of this bibliometric analysis offer a comprehensive overview of research progress in digital marketing and consumer preferences. This study underscores the increasing significance of digital marketing strategies and consumer preferences. Over the past decade, the growing dependence on digital platforms and advanced technologies has transformed marketing practices, enhancing customer interactions and personalized experiences (Labib, 2024). The emergence of AI-driven predictive analytics and chatbots illustrates the shift of businesses towards automation and personalization to enhance customer satisfaction and retention (Pereira & Díaz, 2019).

This research further identifies a shift in academic focus towards sustainability within digital marketing. The prominence of journals such as sustainability indicates an increasing emphasis on ethical and environmentally conscious marketing strategies (Kar et al., 2022). Additionally, the roles of influencer marketing and user-generated content have gained prominence, underscoring the importance of social proof in consumer decision-making (Vila-López et al., 2023). However, the bibliometric analysis highlights challenges, including data privacy, AI ethics, and consumer manipulation in targeted advertising (Azim & Nair, 2021).

A significant finding pertains to patterns of global collaboration in digital marketing research. The United States and China are at the forefront of research contributions; however, European countries demonstrate higher rates of international research collaboration, indicating a pronounced focus on interdisciplinary and multinational research initiatives (Chotisarn & Phuthong, 2025). Future research should investigate regional variations in digital marketing adoption and examine how localized strategies impact global consumer behavior.

Conclusion, Limitations, and Future Scope

This study conducted a comprehensive bibliometric analysis of digital marketing and consumer preferences research, offering valuable insights into the field's development, prevailing themes, and principal contributors. The study identifies a shift towards AI-driven and data-centric marketing strategies, emphasizing personalized consumer interactions, automated engagement, and immersive brand experiences. The growing adoption of influencer marketing and social media engagement strategies underscores the significance of peer recommendations and community-driven branding in influencing consumer behavior (Pundir et al., 2021)attitudes toward news verification, perceived behavioral control, subjective norms, fear of missing out (FoMO. Furthermore, the increasing focus on sustainability in digital marketing reflects a transition towards responsible business practices and ethical advertising.

Despite these advancements, this study identifies significant research gaps and challenges, including concerns regarding data privacy, algorithmic bias, and the ethical implications of AI-driven marketing. Although AI enhances efficiency and engagement, its long-term impact on consumer trust and brand loyalty remains uncertain (Ibrahim et al., 2018). Future research should address these gaps to create inclusive and region-specific digital marketing frameworks.

This study had several limitations when interpreting the findings. First, reliance on the Scopus and Web of Science databases may have excluded pertinent research from alternative sources, such as industry reports, conference proceedings, and non-indexed journals. Expanding the dataset to encompass additional databases and gray literature could facilitate a more comprehensive digital marketing research trends analysis. Second, this study concentrates on publications from 2010 to 2024, which constrain its capacity to encompass historical trends and foundational theories in digital marketing. A more comprehensive longitudinal study incorporating earlier research contributions could yield more profound insights into the evolution of digital marketing strategies. Furthermore, while bibliometric analysis provides valuable quantitative insights, it does not encompass qualitative

aspects, such as theoretical perspectives, case studies, and conceptual frameworks. Future research should incorporate qualitative and mixed-methods approaches to examine digital marketing holistically.

Third, the swift advancement of artificial intelligence and emerging technologies poses a challenge to sustaining the pertinence of digital marketing research. Technologies such as blockchain, augmented reality (AR), and virtual reality (VR) are becoming increasingly influential in digital marketing; however, empirical investigations into their long-term effects remain scarce (Ibrahim & Abdullahi, 2024). Future research should examine how these innovations can enhance consumer trust, transparency, and engagement while addressing ethical and regulatory challenges.

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