METAVERSE MARKETING

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ÖZET

The metaverse, a transformative concept in digital marketing, is reshaping consumer engagement, branding, and loyalty strategies with its immersive virtual environments. This study, a bibliometric analysis of 174 publications indexed in the Web of Science database, offers a structured understanding of the evolution of metaverse marketing research. It identifies key trends, influential authors, and thematic clusters, providing a roadmap for businesses to navigate this rapidly growing field. The findings reveal a significant increase in research output after 2020, driven by advancements in virtual reality (VR), augmented reality (AR), and blockchain technologies. Leading contributors, including Buhalis D, Rauschnabel PA, and Dwivedi YK, focus on immersive consumer experiences, digital ownership through NFTs, and gamification. Institutional analysis highlights the dominance of Swinburne University of Technology and Hong Kong Polytechnic University, while research remains concentrated in developed regions like North America, Europe, and Asia. The study identifies three primary thematic clusters: immersive experiences that transform brand storytelling, digital ownership leveraging NFTs for value creation, and gamification to build virtual communities and enhance consumer loyalty. These findings contribute to understanding how businesses can adapt marketing strategies to virtual ecosystems while addressing challenges such as ROI measurement and ethical concerns. This research provides a theoretical foundation for future studies and practical insights for businesses to leverage metaverse technologies effectively, empowering them to embrace the future of marketing. It highlights the need for interdisciplinary collaboration and calls for more inclusive, sustainable approaches to unlock the full potential of the metaverse in redefining marketing practices.

Anahtar Kelimeler: Metaverse Marketing, Bibliometric Analysis, Digital Marketing Strategies

1. INRODUCTION

The emergence of the metaverse has generated significant interest across various fields, including business, economics, and marketing (Barrera & Shah, 2023). With its immersive virtual environments, augmented realities, and digital platforms, the metaverse offers unique opportunities for businesses to interact with consumers, transforming traditional marketing strategies and creating innovative virtual ecosystems (Raji et al., 2024). This new frontier challenges businesses to rethink customer engagement, branding, and value delivery methods.

The evolution of technologies such as VR, AR, artificial intelligence (AI), and blockchain fuels the metaverse, facilitating immersive customer journeys and enabling digital ownership through concepts like non-fungible tokens (NFTs) (Marr, 2023). This convergence of technology opens up new research areas and practical marketing applications.

However, many questions remain unanswered: First, how has academic research evolved to address the integration of the metaverse into marketing strategies? Second, who are the key contributors and institutions driving research in this emerging field? Third, what dominant themes, methods, and frameworks have emerged? Fourth, what collaborative networks exist among authors and institutions, and how do these networks shape the academic landscape? Finally, which works and journals are the most influential in producing knowledge at the intersection of metaverse and marketing?

Moreover, it is essential to question what ethical and societal challenges arise in marketing practices within the metaverse. Will consumer privacy, misinformation, and digital inequality create barriers to large-scale adoption? How do brands measure metaverse marketing strategies' return on investment (ROI)? What emerging theoretical frameworks best explain consumer behavior and brand experiences in virtual spaces?

Understanding these aspects is essential for identifying gaps in the literature, uncovering new opportunities for interdisciplinary research, and informing practical marketing applications. This study addresses these critical questions through a bibliometric analysis, leveraging a systematic, quantitative approach to analyze scholarly publications indexed in the Web of Science (WoS) database. By examining trends, authorship, collaboration patterns, and thematic evolution, this study contributes to understanding the intersection of metaverse and marketing.

This article is structured as follows: The second section reviews the existing literature and highlights the theoretical foundation for metaverse-related marketing research. The third section outlines the research methodology and data collection process. The fourth section presents the results, including descriptive statistics, citation networks, collaboration patterns, and thematic analyses. The fifth section discusses the theoretical and practical implications of the findings. The sixth section highlights limitations and directions for future research. Finally, the seventh section concludes the study and offers a broader perspective on the future of metaverse marketing research.

2. LITERATURE REVIEW

As a conceptual environment, the metaverse, with its roots in speculative science fiction, particularly Neal Stephenson's 1992 novel Snow Crash, which described a virtual reality-based digital universe, represents a new frontier of innovation (Zakarneh et al., 2024). In its modern interpretation, the metaverse encompasses interconnected virtual spaces, enabling interaction between individuals, organizations, and AI-driven entities, sparking excitement and curiosity among academics, researchers, and professionals.

2.1. The Technological Drivers of the Metaverse

Several key technologies underpin the development of the metaverse:

- Virtual Reality (VR) and Augmented Reality (AR): These technologies provide immersive, interactive experiences that allow users to engage with brands and services in simulated environments (Wedel et al., 2020).
- Blockchain and NFTs: Blockchain technology ensures ownership, security, and authenticity of digital assets, while NFTs facilitate virtual ownership and exclusivity for marketing purposes (Sung et al., 2023).
- Artificial Intelligence (AI): AI enhances virtual space personalization, user engagement, and data-driven decision-making (Babatunde et al., 2024).
- 5G Connectivity: High-speed internet infrastructure is essential for delivering seamless, real-time virtual experiences (Hazarika & Rahmati, 2023).

2.2. Metaverse and Marketing: Key Research Themes

Marketing within the metaverse extends traditional strategies into digital spaces, creating new opportunities for interaction and engagement. Existing research has identified several focal areas:

- Immersive Brand Experiences: Virtual spaces enable brands to offer interactive experiences that transcend physical limitations. Examples include virtual stores, product launches, and branded environments (Bilgihan et al., 2024).
- Consumer Behavior and Engagement: Scholars have examined how user behavior, preferences, and emotional responses differ in virtual environments compared to traditional media (Hadi et al., 2024).
- Gamification and Virtual Communities: Incorporating game mechanics and community engagement into virtual marketing enhances customer loyalty and creates social value (Sharma et al., 2024).
- Digital Ownership and NFTs: NFTs offer opportunities for limited-edition products, virtual collectibles, and exclusive access, strengthening brand value (Cho et al., 2024).

- Measuring Return on Investment (ROI): Determining ROI for metaverse marketing strategies remains underexplored, as the value of virtual experiences is subjective and evolving (Jha, 2023).
- Ethical and Privacy Considerations: Research has explored concerns related to data privacy, misinformation, inequality, and user exploitation in immersive marketing environments (Kour, 2024).

2.3. Gaps in the Existing Literature

While research on digital marketing and virtual environments is growing, the integration of metaverse concepts remains in its early stages. Existing studies focus heavily on technological enablers, but there is limited understanding of the broader implications and practical applications of metaverse-driven marketing strategies:

- The long-term impact of the metaverse on consumer behavior.
- Scalable frameworks for implementing marketing strategies within the metaverse.
- Cross-industry adoption of metaverse tools in marketing.
- Ethical, social, and economic implications of virtual marketing environments.
- Metrics and indicators to assess brand equity and consumer satisfaction in the metaverse.

This study addresses these gaps by systematically mapping academic research on the metaverse and marketing, a field that is inherently interdisciplinary, and identifying influential works, themes, and collaborative patterns that shape the field. This approach is designed to engage and involve academics, researchers, and professionals from various disciplines in the exploration of the metaverse's potential.

3. METHODOLOGY

This study used bibliometric analysis to comprehensively review the academic literature on the Metaverse and marketing. Bibliometric analysis, a method that evaluates the effectiveness of research outputs by quantitatively measuring scientific publications, is characterized by its systematic approach. It works on data such as citation counts, author and publication performance, subject trends, and scientific collaborations. Data from scientific databases are analyzed using mathematical methods and software to determine science policies, measure academic performance, and identify popular research areas (Donthu et al., 2021). This systematic approach ensures that scientific progress is evaluated in a reliable and consistent manner.

3.1. Data Collection

The data for this bibliometric analysis were collected from the Web of Science (WoS) database. To ensure a systematic approach, the following search criteria were applied:

- Search Query: "Metaverse" AND "Marketing"
- Search Scope: Title, Abstract, and Keywords
- Language: English
- Research Areas: Business, Economics, and Social Sciences
- Time Frame: Up to 2024 (Including 2025 early access articles)
- Date of the Research: December, 2024

The search initially yielded 427 documents. After a meticulous filtering process for English-language publications, 422 records remained. Further refinement for relevance to business economics and social sciences was conducted, which significantly reduced the dataset to 189 papers. A final selection process involving a review of abstracts and titles for marketing-related content resulted in a focused dataset of 174 documents.

3.2. Data Processing

The bibliometric data was processed and analyzed using various tools to ensure accuracy and meaningful insights. R Studio, specifically the Bibliometrix package, was employed to perform key analyses such as descriptive statistics, citation mapping, and thematic exploration. The workflow, meticulously designed and executed, consisted of several key steps to analyze the bibliometric data effectively. The thoroughness of the descriptive analysis, which identified publication trends, leading authors, and institutional contributions, reassured the reliability of the findings. The citation analysis, with its focus on determining the field's most influential papers and journals, provided a robust foundation for the subsequent analyses. Co-word analysis, by exploring keyword relationships, uncovered the thematic structures with a high degree of accuracy. Collaboration analysis, by mapping networks of authors and institutions, provided a comprehensive understanding of research partnerships. Finally, the application of Bradford's Law was a testament to the thoroughness of the workflow, identifying the core journals publishing research on metaverse-related marketing.

4. RESULTS

4.1. Annual Scientific Production

The analysis of annual scientific production reveals a steady increase in research output related to the metaverse and marketing over the past decade, with exponential growth observed, particularly after 2020. This significant uptick can be attributed to advancements in immersive technologies such as VR, AR, and blockchain, which fueled academic and industry interest in

the metaverse. The research in this field spans from theoretical explorations of the metaverse concept to practical applications in marketing strategies.

From 2010 to 2019, research in this area was relatively sparse, with only a handful of publications per year. However, starting in 2020, a notable surge occurred, largely due to the increased investment in metaverse-related technologies by companies such as Meta and other global tech giants. By 2023, the number of annual publications had peaked, reflecting academic curiosity and practical applications in business and marketing. This growth trajectory suggests that the metaverse is transitioning from a niche area to a mainstream research topic with global relevance, a shift largely influenced by these industry giants.
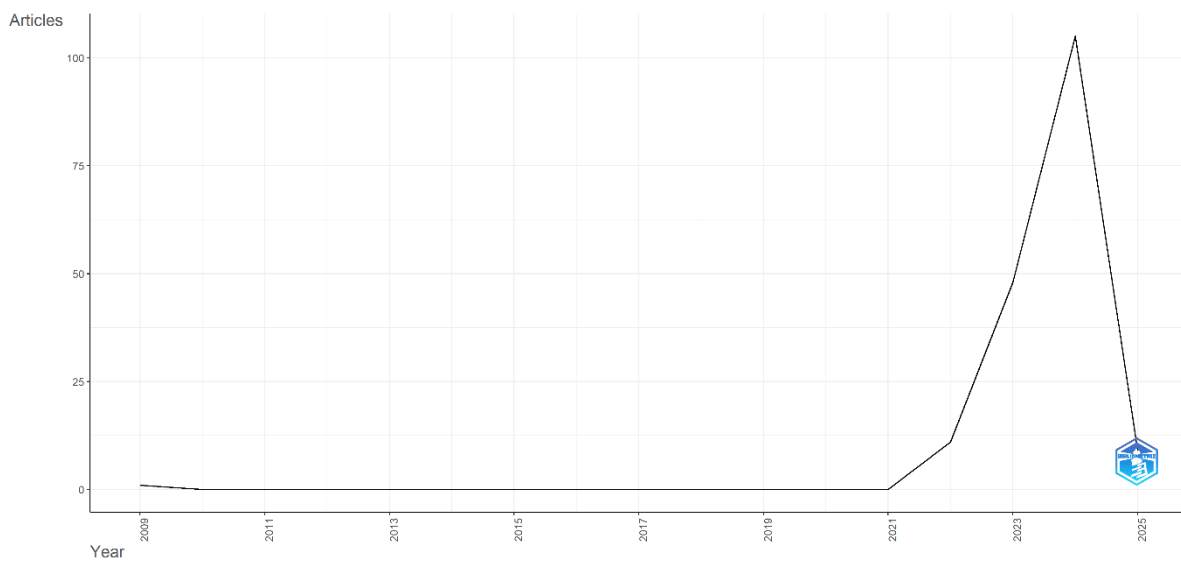

Figure 1. Annual Scientific Production

Furthermore, the growth aligns with societal changes brought about by the COVID-19 pandemic, accelerating digital transformation and the adoption of virtual platforms. The findings underscore that the metaverse is being recognized as a novel and viable platform for marketing innovation, offering businesses opportunities to connect with consumers in unique and interactive ways. Future projections suggest continued growth in research output as the metaverse evolves technologically and conceptually, sparking interest in its potential among marketing professionals.

4.2. Most Relevant Authors

The bibliometric analysis identified key authors contributing significantly to metaverse marketing research. Leading authors include **Buhalis D** and **Rauschnabel PA**, each of whom has published multiple highly cited works. Buhalis D's research, which emphasizes virtual tourism experiences, immersive brand engagement, and the adoption of AR/VR technologies in marketing, has significantly advanced our understanding of these areas. Meanwhile,

Rauschnabel PA's focus on consumer adoption of augmented reality and NFTs in digital marketing environments has provided valuable frameworks for understanding user behavior, thereby shaping the direction of the field.

The productivity of these authors underscores the collaborative nature of metaverse marketing research, where interdisciplinary expertise is key. Their research, which draws from technology adoption, consumer behavior, and digital economics, is a testament to the power of collaboration. The emergence of authors like **Dwivedi YK** and **Gursoy D** further enriches this community, with their recent publications exploring the broader implications of the metaverse on customer experiences and business strategies. The collaborative spirit among leading authors, as seen in co-authorship networks, has significantly enhanced knowledge production. For instance, researchers like **Balakrishnan J** and **Mogaji E** have co-published works on immersive technologies and their marketing applications, contributing to the growth of research clusters. These collaborations underscore that metaverse marketing research is a global and multidisciplinary endeavor, inviting all to contribute.
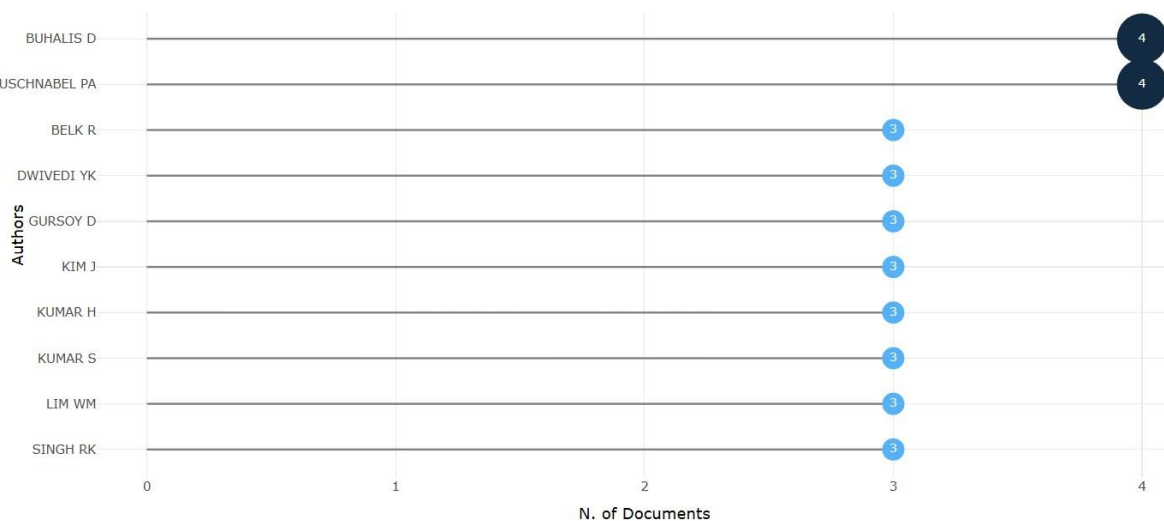

Figure 2. Most Relevant Authors

4.3. Most Relevant Institutions

Swinburne University of Technology, Hong Kong Polytechnic University, and Swansea University led institutional contributions to metaverse marketing research. Swinburne University emerged as the most prolific institution, contributing 11 articles exploring immersive consumer experiences, digital ownership, and the ROI of virtual marketing strategies. Their research has significantly advanced our understanding of metaverse marketing, particularly in the areas of consumer experiences and virtual marketing strategies.

Hong Kong Polytechnic University and Swansea University also demonstrated strong research output, particularly in analyzing the role of virtual communities, gamification, and brand

storytelling within the metaverse. These institutions' contributions are notable because they reflect a balanced focus on both theoretical and applied aspects of metaverse marketing, reassuring the audience about the robustness of the research.
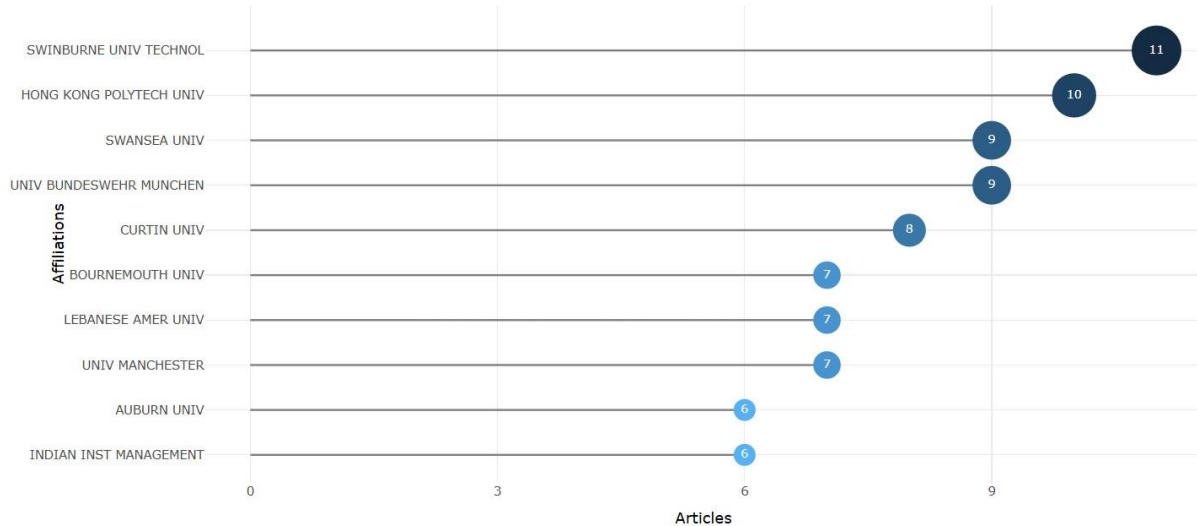
Figure 3. Most Relevant Institutions

A geographical analysis has revealed a heavy concentration of research in technologically advanced regions such as North America, Europe, and Asia. Notably, the United States, the United Kingdom, and Australia dominate the field, indicating robust academic infrastructure and technological innovation capabilities. However, these findings also underscore the need for increased contributions from developing regions. This is not just a call for balance, but an opportunity for growth and innovation in these areas, particularly with the rise of the metaverse and its potential for transformative economic opportunities in marketing and commerce.
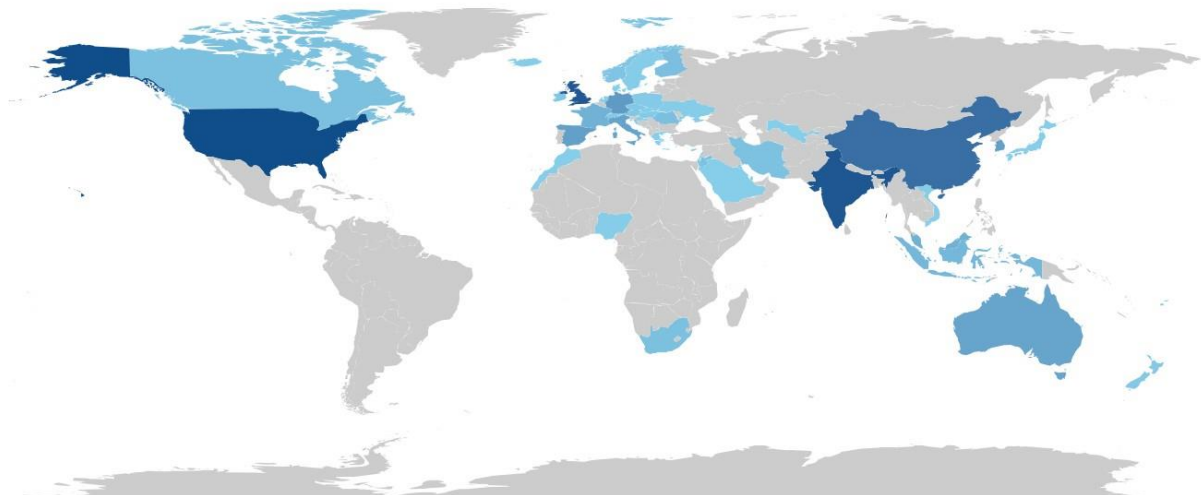

Figure 4. Countries Scientefic Production

4.4. Citation Analysis

The analysis of citations revealed the most influential works shaping metaverse and marketing research. The study by Dwivedi et al. (2023) emerged as the most cited paper, with 268 citations. This seminal work not only explored the transformative role of the metaverse in reshaping digital marketing strategies, but also highlighted frameworks for consumer adoption and engagement in virtual environments, underscoring the potential impact of metaverse-related marketing strategies.

Other influential papers include Buhalis (2023) and Gursoy (2022), which investigated the use of VR/AR in tourism marketing and the impact of immersive experiences on customer satisfaction. Their research provides a foundation for understanding how brands can leverage virtual environments to enhance customer engagement and drive loyalty. The high citation rates of these papers underscore their importance in advancing theoretical and practical knowledge in the field. Moreover, the citation analysis revealed that recent publications are gaining rapid and exciting recognition, indicating that metaverse-related marketing research is highly dynamic and continues to attract significant scholarly attention.
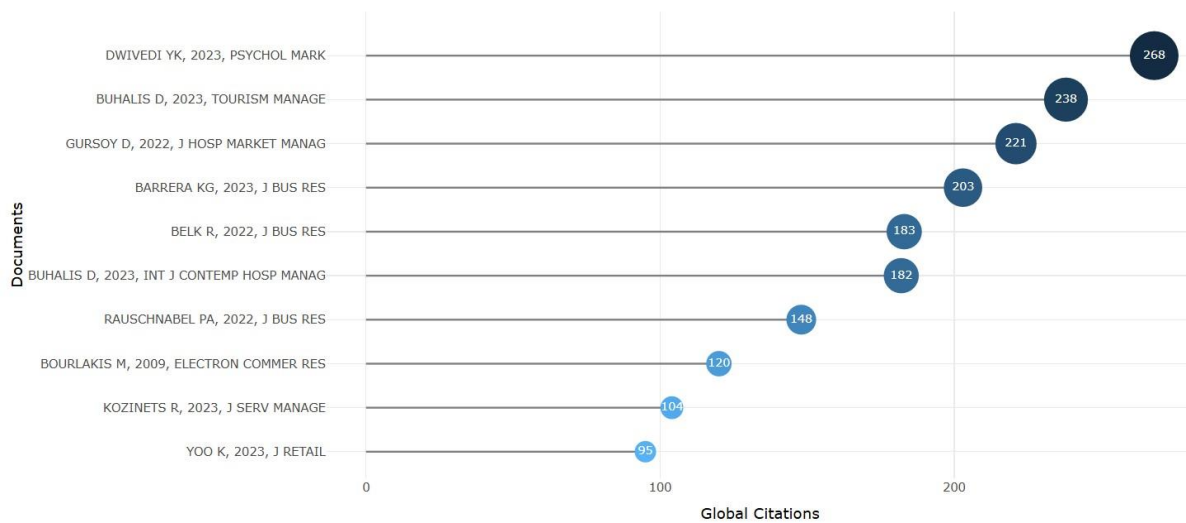
**Figure 5. Most Global Cited Documents**

4.5.Co-Word Analysis

The co-word analysis revealed thematic clusters representing the dominant research topics at the intersection of metaverse and marketing. The most frequently occurring keywords included "virtual reality," "augmented reality," "consumer behavior," "gamification," and "NFTs." These keywords reflect core themes in the literature and highlight areas where researchers focus their efforts.

Figure 6. Word Cloud

The thematic mapping has revealed three main research clusters, each with the potential to significantly impact the field. The first cluster, Immersive Technologies, and Consumer Behavior, explores how VR and AR could revolutionize consumer decision-making, engagement levels, and emotional responses within virtual environments. The second cluster, Digital Ownership, and Brand Value, focuses on the role of blockchain technologies and NFTs in enhancing exclusivity, ownership, and brand equity, offering unique opportunities for businesses in the metaverse. The third cluster, Gamification and Virtual Communities, investigates how incorporating game mechanics and fostering social interactions in virtual spaces could transform user retention, loyalty, and community engagement. These thematic clusters reflect the multidisciplinary nature of metaverse marketing research, integrating insights from psychology, technology, and business strategy. Future research could build on these themes to explore emerging areas such as ethical implications, accessibility, and measurement frameworks for ROI.
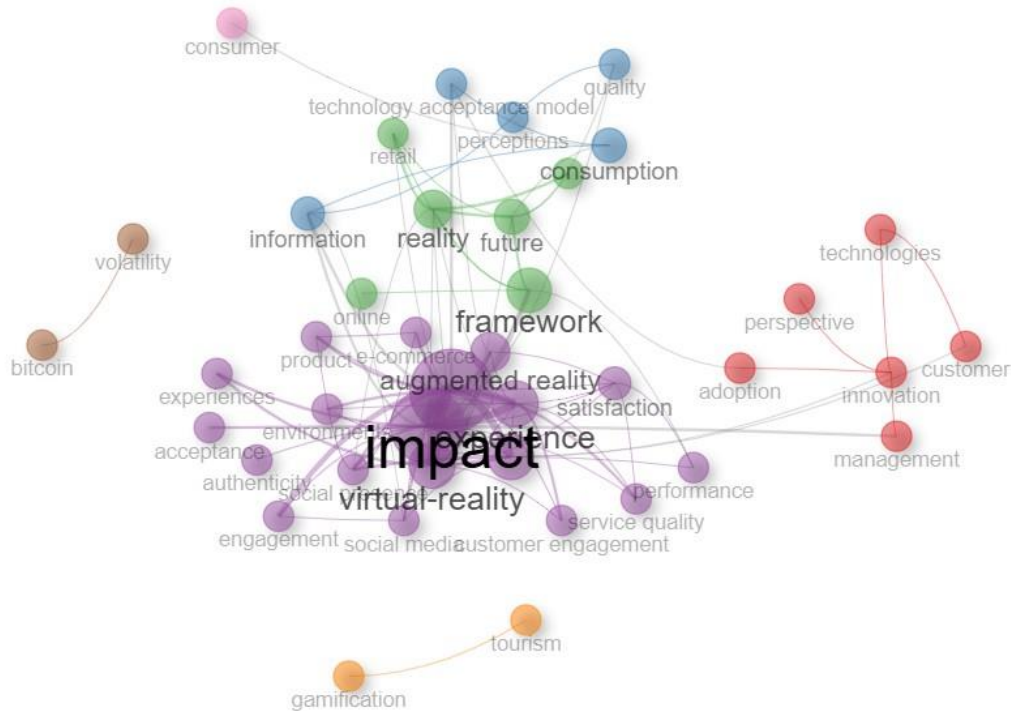
Figure 7. Co-Occurance Network

4.6. Collaboration Network

The analysis of collaboration networks identified strong research clusters led by prominent authors and institutions. Key contributors such as Dwivedi YK, Buhalis D, and Balakrishnan J were found to collaborate frequently, forming cohesive research networks that drive knowledge production in the field. The visualization of co-authorship networks revealed that collaboration is concentrated in developed regions, particularly North America and Europe. Authors in these regions tend to form large, interconnected clusters, reflecting access to research funding, technological resources, and institutional support. In contrast, collaboration networks in developing areas are fragmented, highlighting the urgent need for greater integration and support for scholars in these regions.

Institutional collaborations, such as those between Hong Kong Polytechnic University and Swinburne University of Technology, have led to groundbreaking research on immersive branding and consumer engagement. Strengthening international collaboration and fostering partnerships with emerging markets is not just a possibility, but a necessity. This will further diversify perspectives and enhance the global impact of metaverse marketing research, underscoring the importance of your involvement in this process.
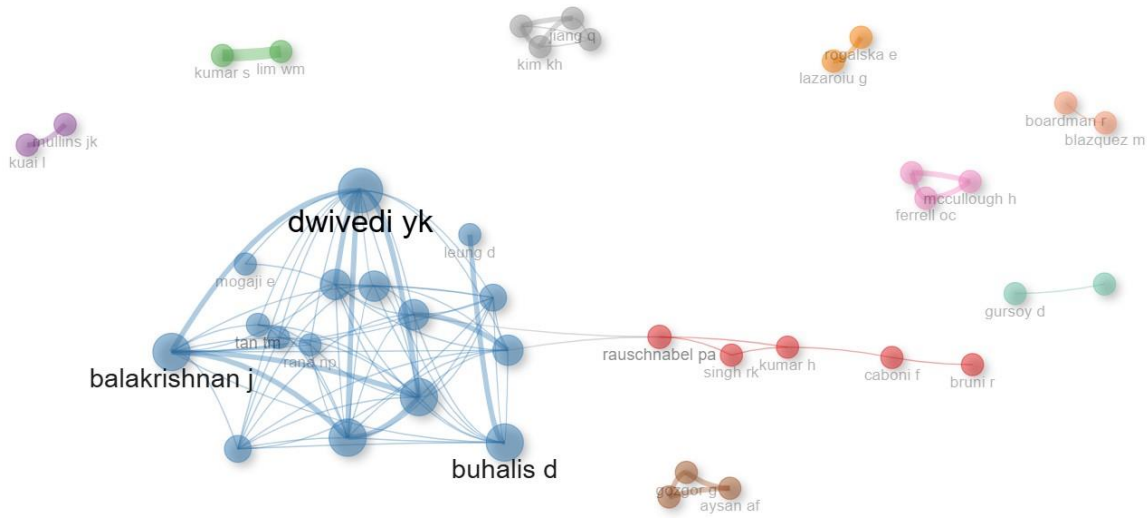
Figure 8. Colloborition Network

4.7. Bradford's Law

The application of Bradford's Law identified the core journals publishing research at the intersection of metaverse and marketing. The Journal of Retailing and Consumer Services, a significant contributor with 13 articles, emerged as the leading source. Its focus on consumer behavior, digital innovation, and marketing strategies makes it a crucial platform for disseminating knowledge in this field. The findings suggest that researchers seeking to contribute to or build on existing literature should prioritize this key journal for publication.

The dominance of high-impact journals underscores the academic significance of metaverse marketing research and highlights the rich opportunities for interdisciplinary integration across fields such as psychology, technology, and business economics. This interdisciplinary nature of metaverse marketing research opens up a wide range of collaboration opportunities, enriching the field with diverse perspectives and insights.
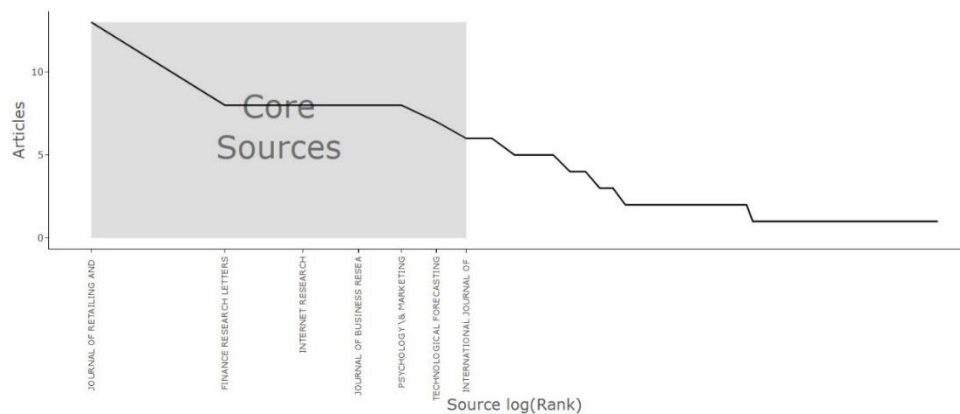
Figure 9. Bradford's Law

5. CONCLUSION

This bibliometric analysis provides an in-depth understanding of the current state of research at the intersection of metaverse and marketing. This study highlights the key developments, challenges, and opportunities in this emerging research area by examining publication trends, leading authors, influential works, collaboration patterns, and thematic structures.

The results show an exponential growth in academic interest, particularly after 2020, driven by technological advancements such as VR, AR, blockchain, and NFTs. The increased adoption of these technologies by businesses and consumers has propelled the metaverse into the mainstream, inspiring scholars to explore its transformative potential for marketing strategies. Research output, which remained sparse before 2020, surged in recent years as industries began recognizing the transformative potential of immersive digital environments for customer engagement, brand value creation, and virtual ownership.

Leading authors, such as Buhalis D, Rauschnabel PA, and Dwivedi YK, have played a pivotal role in advancing the field. Their interdisciplinary contributions address critical issues such as consumer behavior in virtual spaces, gamification strategies, and integrating AR and NFTs into marketing frameworks. Moreover, institutional collaborations have emerged as a key driver of knowledge production, with prominent institutions like Swinburne University of Technology and Hong Kong Polytechnic University spearheading research efforts. While developed regions like North America, Europe, and Asia dominate the scholarly landscape, there remains significant potential for contributions from emerging economies.

The citation analysis highlights the growing influence of recent publications, such as Dwivedi et al. (2023), which provides a comprehensive framework for understanding how businesses can adapt to metaverse-based marketing strategies. These influential works not only offer theoretical insights but also practical applications, guiding researchers and practitioners in navigating the complexities of immersive technologies. Furthermore, the application of Bradford's Law identified key journals, including the Journal of Retailing and Consumer Services and the Journal of Business Research, as central platforms for disseminating metaverse-related marketing research.

Thematic analyses revealed that research on metaverse marketing is centered around three primary clusters: immersive experiences, digital ownership, and gamification. Studies on immersive experiences focus on how VR and AR technologies transform brand storytelling and enhance customer interactions, creating unique and multisensory journeys. Digital ownership, facilitated through NFTs and blockchain, has emerged as a significant theme, offering opportunities for brands to foster exclusivity, build virtual communities, and introduce innovative loyalty programs. Gamification and virtual communities highlight the role of interactive, game-like mechanisms in enhancing user engagement and building long-term brand relationships.

Despite progress, this analysis also identifies gaps and challenges that warrant further exploration. For instance, there is a limited understanding of the long-term impacts of metaverse adoption on consumer psychology and behavior. Moreover, businesses face difficulties measuring the ROI of metaverse-based marketing strategies, as existing metrics often fail to capture the subjective and experiential nature of virtual engagements. Ethical concerns, such as data privacy, misinformation, and digital exclusion, remain significant barriers to the widespread adoption of the metaverse in marketing. These challenges present opportunities for further research and innovation in the field.

This study's findings make several important contributions. Theoretically, this research maps the evolution of metaverse marketing, identifying dominant themes and emerging research trends while providing a structured foundation for future scholarly inquiry. Practically, it offers actionable insights for businesses and policymakers, including strategies for developing immersive brand experiences, leveraging digital ownership, and fostering ethical marketing practices in virtual environments.

In conclusion, the metaverse represents a paradigm shift in marketing, redefining how brands connect with consumers, create value, and build loyalty in virtual ecosystems. While this study highlights significant advancements, it also underscores the crucial need for ongoing interdisciplinary collaboration. This collaboration, along with innovative methodologies and ethical considerations, is essential to address the challenges ahead. As technologies continue to evolve, future research must explore the full potential of the metaverse, ensuring it becomes an inclusive, sustainable, and transformative space for businesses and consumers alike. This work provides a solid foundation for understanding the current landscape and encourages further inquiry into the opportunities and complexities of marketing in the digital age.

5.1. Theoretical Contributions

This study's theoretical contributions are unique in their approach, integrating immersive brand experiences into consumer psychology. This expansion of existing theories in virtual settings provides a fresh perspective and a structured understanding of dominant themes and future directions in metaverse-related marketing research. The study also highlights emerging theoretical frameworks that bridge virtual environments and traditional marketing paradigms, connecting digital transformation with established marketing theories by identifying how concepts like gamification and NFTs impact user behavior.

Second, this study significantly contributes to understanding technology adoption frameworks within the context of metaverse marketing. The findings emphasize how factors such as ease of use, perceived value, and experiential benefits influence consumers' acceptance of VR, AR, and NFTs. These insights not only offer researchers opportunities to adapt and extend models like the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) to virtual ecosystems, but also provide valuable guidance for practitioners in the field.

Finally, the study's interdisciplinary nature is a key strength, linking marketing, psychology, and emerging technologies. It builds theoretical bridges between consumer behavior research and digital innovation studies, demonstrating how immersive technologies reshape purchasing patterns, social interactions, and emotional connections in digital environments. By identifying these links, this work not only encourages future theoretical explorations into ethical frameworks, ROI measurement, and the long-term psychological impacts of immersive experiences, but also underscores the importance of interdisciplinary approaches in metaverse-related marketing research.

5.2. Practical Contributions

This study provides actionable insights for businesses, marketers, and policymakers, highlighting strategies for effectively leveraging the metaverse in marketing practices. While the findings demonstrate how immersive technologies, such as VR and AR, can create highly engaging and multisensory brand experiences, it's important to note that the initial investment and technical expertise required for such ventures can be significant. Marketers can use virtual environments to host product launches, interactive events, and virtual showrooms, transcending physical boundaries to connect with global audiences.

Second, the analysis underscores the potential of digital ownership, a concept facilitated by blockchain and NFTs, to enhance customer loyalty and exclusivity. Digital ownership refers to the unique and irrevocable control over a digital asset, such as a piece of art or a virtual item, that is guaranteed by blockchain technology. Brands can leverage NFTs, or non-fungible tokens, which are unique digital assets that represent ownership of a specific item or experience, to offer limited-edition digital products, access to virtual experiences, and membership in branded communities. These innovations foster a sense of ownership and emotional attachment, strengthening long-term customer relationships.

Third, businesses can capitalize on gamification strategies to enhance consumer engagement and satisfaction. Incorporating game-like mechanics, such as challenges, rewards, and leaderboards, into virtual marketing campaigns creates participatory experiences that encourage repeat interactions. Furthermore, virtual communities within the metaverse provide opportunities for peer-to-peer engagement, co-creation of content, and social bonding, fostering a sense of community and enhancing brand loyalty and visibility.

5.3. Limitations and Future Research

While this study offers valuable insights, it is not without limitations. First, the analysis is limited to Web of Science-indexed publications and English-language articles. However, the potential for future studies to expand the dataset by including research from other databases such as Scopus, Google Scholar, and non-English sources is vast. This could provide a more comprehensive global perspective on metaverse marketing, inspiring new avenues of research and understanding.

Second, the bibliometric approach focuses primarily on quantitative analysis, leaving room for qualitative investigations. Future research could combine bibliometric techniques with systematic reviews or case studies to provide deeper insights into specific industries, consumer experiences, and marketing strategies within the metaverse. For instance, examining brand-specific campaigns in virtual environments could offer practical lessons for businesses.

Third, while this study identifies dominant research themes, it does not fully address emerging issues such as ethical concerns and sustainability challenges in virtual ecosystems. These issues include data privacy, misinformation, inclusivity, and the environmental impact of virtual environments. Future research could delve deeper into these topics to ensure that metaverse adoption aligns with ethical business practices and sustainable development goals.

In conclusion, addressing these limitations through expanded datasets, qualitative methods, and interdisciplinary approaches will enrich our understanding of metaverse marketing. More importantly, it will pave the way for innovative frameworks and ethical solutions in this transformative field, reinforcing our collective commitment to responsible and ethical metaverse marketing.

KAYNAKÇA

Babatunde, S. O., Odejide, O. A., Edunjobi, T. E., & Ogundipe, D. O. (2024). The role of AI in marketing personalization: A theoretical exploration of consumer engagement strategies. *International Journal of Management & Entrepreneurship Research, 6*(3), 936-949.

Balakrishnan, J., Das, R., Alalwan, A. A., Raman, R., & Dwivedi, Y. K. (2024). Informative and peripheral metaverse: Which leads to experience? An investigation from the viewpoint of self concept. *Computers in Human Behavior*, 156, 108223.

Barrera, K. G., & Shah, D. (2023). Marketing in the Metaverse: Conceptual understanding, framework, and research agenda. *Journal of Business Research*, 155, 113420.

Bilgihan, A., Leong, A. M. W., Okumus, F., & Bai, J. (2024). Proposing a metaverse engagement model for brand development. *Journal of Retailing and Consumer Services, 78*, 103781.

Buhalis, D., Leung, D., & Lin, M. (2023). Metaverse as a disruptive technology revolutionising tourism management and marketing. *Tourism Management*, 97, 104724.

Cho, M., Ko, E., & Taylor, C. R. (2024). Do Non-fungible Tokens Create Long-Term Value for Luxury Brands? The Effect of NFT Promotions on Customer Equity. *Computers in Human Behavior*, 108347.

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285 296.

Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J., Balakrishnan, J., ... & Wirtz, J. (2023). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. *Psychology & Marketing, 40*(4), 750-776.

Gursoy, D., Malodia, S., & Dhir, A. (2022). The metaverse in the hospitality and tourism industry: An overview of current trends and future research directions. *Journal of Hospitality Marketing & Management, 31*(5), 527-534.

Hadi, R., Melumad, S., & Park, E. S. (2024). The Metaverse: A new digital frontier for consumer behavior. *Journal of Consumer Psychology, 34*(1), 142-166.

Hazarika, A., & Rahmati, M. (2023). Towards an evolved immersive experience: Exploring 5G-and beyond-enabled ultra-low-latency communications for augmented and virtual reality. *Sensors, 23*(7), 3682.

Jha, A. (2023). *Immersive Marketing on Metaverse: Development of Metrics for Performance Analysis and Security-Related Challenges. In Confronting Security and Privacy Challenges in Digital Marketing* (pp. 267-289). IGI Global.

Kour, M. (2024). *Ethical Considerations in the Metaverse and Augmented Retail Reality Era. In Consumer Experience and Decision-Making in the Metaverse* (pp. 99-110). IGI Global.

Marr, B. (2023). *The Future Internet: How the Metaverse, Web 3.0, and Blockchain Will Transform Business and Society*. John Wiley & Sons.

Raji, M. A., Olodo, H. B., Oke, T. T., Addy, W. A., Ofodile, O. C., & Oyewole, A. T. (2024). Business strategies in virtual reality: a review of market opportunities and consumer experience. *International Journal of Management & Entrepreneurship Research, 6*(3), 722 736.

Rauschnabel, P. A., Babin, B. J., tom Dieck, M. C., Krey, N., & Jung, T. (2022). What is augmented reality marketing? Its definition, complexity, and future. *Journal of Business Research*, 142, 1140-1150.

Sharma, W., Lim, W. M., Kumar, S., Verma, A., & Kumra, R. (2024). Game on! A state-of-the-art overview of doing business with gamification. Technological Forecasting and Social Change, 198, 122988.

Sung, E., Kwon, O., & Sohn, K. (2023). NFT luxury brand marketing in the metaverse: Leveraging blockchain-certified NFTs to drive consumer behavior. *Psychology & Marketing, 40*(11), 2306-2325.

Wedel, M., Bigné, E., & Zhang, J. (2020). Virtual and augmented reality: Advancing research in consumer marketing. *International Journal of Research in Marketing, 37*(3), 443-465.

Zakarneh, B., Annamalai, N., Alquqa, E. K., Mohamed, K. M., & Al Salhi, N. R. (2024). Virtual Reality and Alternate Realities in Neal Stephenson's―Snow Crash‖. *World, 14*(2).