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Microtargeting the Market: A Bibliometric Mapping of Digital Marketing Trends in Entrepreneurship

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ABSTRACT

This study presents a bibliometric mapping of digital marketing trends in entrepreneurship, with a focused lens on the emergence and role of microtargeting strategies. By analyzing 2000–2025 publications sourced from the Scopus database, the study uncovers the intellectual structure, thematic evolution, and global collaboration patterns within this interdisciplinary research domain. Using VOSviewer for keyword co-occurrence, co-authorship, institutional, and country-level analyses, the study reveals that core themes such as entrepreneurship, social media, innovation, digital transformation, and marketing strategy dominate scholarly discourse. The findings also show that countries like India, Indonesia, the United States, and the United Kingdom lead in collaborative research output. Co-citation mapping highlights the convergence of foundational theories in marketing and entrepreneurship, while the overlay and density visualizations suggest a temporal shift toward personalized, data-driven marketing practices post-2021. The study contributes theoretically by identifying underexplored research gaps and practically by guiding entrepreneurs and institutions toward effective microtargeting strategies. Limitations and directions for future research are also discussed to advance the field further.

Keywords: *Digital Marketing, Microtargeting, Entrepreneurship, Bibliometric Analysis, Vosviewer*

1. INTRODUCTION

The evolution of digital marketing has radically transformed the landscape of entrepreneurial ventures across the globe. In an era characterized by data abundance, instant connectivity, and algorithm-driven interactions, entrepreneurs no longer rely solely on traditional marketing strategies to attract and retain customers. Instead, they are adopting **microtargeting**, a refined form of digital advertising that involves segmenting audiences into highly specific groups based on detailed behavioral, demographic, psychographic, and geographic data [1], [2]. Microtargeting empowers startups and small businesses to reach the right customer with the right message at the right time, thereby increasing marketing efficiency and reducing budgetary waste. This shift has made digital marketing not only a promotional tool but also a strategic asset in entrepreneurship [3].

With the rise of social media platforms, data analytics, and artificial intelligence (AI), digital marketing has become hyper-personalized. Entrepreneurs can now deploy personalized content, influencer strategies, geo-fencing, and predictive analytics to drive conversions. Microtargeting, as a result, is not merely a marketing tactic but a data-driven entrepreneurial mindset that emphasizes customer-centricity and real-time decision-making. According to [4], the success of entrepreneurial digital campaigns increasingly hinges on the ability to collect, process, and utilize customer data to craft individualized experiences. This phenomenon is particularly crucial in startup ecosystems, where resources are limited and the pressure to show rapid growth is immense.

Moreover, the integration of microtargeting into entrepreneurial strategies reflects the convergence of marketing technology (MarTech), customer relationship management (CRM), and agile methodologies. Entrepreneurial firms often operate in highly dynamic markets, where early customer acquisition and retention are key to survival. In this context, the strategic use of microtargeting helps in identifying early adopters, refining product-market fit, and improving customer lifetime value [5]. Startups now deploy A/B testing, user persona mapping, and retargeting techniques to iterate quickly and measure marketing performance with precision. These practices are not only reshaping marketing functions but also redefining the entrepreneurial value chain.

At the same time, the growing academic and industry attention on digital marketing trends in entrepreneurship has resulted in a scattered yet rich body of literature. Various scholars have explored the applications of SEO, email marketing, mobile marketing, programmatic advertising, and social media micro-influencers in entrepreneurial contexts [6], [7]. However, there has been little systematic effort to map this growing knowledge base and understand the evolving research trends, influential authors, thematic hotspots, and knowledge gaps. A bibliometric analysis can provide a macro-level overview of how digital marketing tools, particularly microtargeting, are studied in entrepreneurial literature, offering insights into the structure and trajectory of this interdisciplinary research.

The digital entrepreneurial ecosystem itself is undergoing transformation, with microtargeting emerging as a strategic competency. As funding becomes more performance-driven and customer expectations rise, startups are compelled to embed microtargeting into their core operations. From identifying niche markets to automating customer journeys, the scope of microtargeting is expanding beyond advertising. It now permeates pricing, product design, distribution, and post-sale engagement. Such expansion calls for a bibliometric lens to examine how research on microtargeting and digital marketing is informing, and being informed by, entrepreneurial practices in the digital age.

Despite the explosive growth of digital marketing practices and the strategic significance of microtargeting in entrepreneurship, existing academic literature remains fragmented and lacks a cohesive synthesis. There is no consolidated understanding of which areas within digital marketing and microtargeting are most studied, which researchers or institutions dominate the field, or how the research themes have evolved over time in the context of entrepreneurship. Moreover, few studies have applied a bibliometric approach to map the intellectual structure and emerging frontiers of this research domain. As a result, scholars, practitioners, and policymakers lack an evidence-based roadmap to navigate the interplay between digital marketing innovations and entrepreneurial strategy. This study aims to conduct a bibliometric mapping of digital marketing trends in entrepreneurship with a specific focus on microtargeting practices.

2. METHODS

This study employed a quantitative bibliometric approach to systematically map and analyze the scholarly landscape of digital marketing and microtargeting in the context of entrepreneurship. Bibliometric analysis is a rigorous method for examining patterns in academic publications, citations, co-authorship networks, and keyword occurrences to uncover the intellectual structure and evolution of a particular research domain [8]. The approach enables researchers to identify thematic concentrations, influential authors, institutions, countries, and trends over time, thereby offering a data-driven overview of knowledge development. The analysis in this study was

centered on publications that explicitly relate to microtargeting, digital marketing tools, and entrepreneurial applications, with a particular emphasis on peer-reviewed journal articles to ensure scholarly relevance and reliability.

The data source for this bibliometric study was the **Scopus database**, chosen for its comprehensive coverage of high-quality academic journals and metadata richness suitable for bibliometric tools. A structured search query was developed using Boolean operators and controlled vocabulary terms such as: ("digital marketing" OR "online marketing" OR "microtargeting") AND ("entrepreneurship" OR "startup" OR "entrepreneurial"). The search was limited to the period from 2000 to 2025, and included only English-language articles from peer-reviewed journals and conference proceedings. After screening and deduplication, a total of 791 documents were retained for analysis. The extracted metadata included titles, abstracts, keywords, authors, publication sources, affiliations, and citation counts. The data was exported in CSV and RIS formats for compatibility with bibliometric software tools.

To visualize and interpret the bibliometric data, the study utilized VOSviewer, a widely used software for constructing and visualizing bibliometric networks [9]. VOSviewer enabled the creation of co-authorship networks, keyword co-occurrence maps, and citation linkages to reveal clusters of research themes and collaboration patterns. The analysis included (1) co-occurrence of author keywords to identify dominant research topics; (2) co-citation analysis to uncover intellectual foundations; and (3) temporal overlay visualization to track the emergence of new trends over time.

3. RESULTS AND DISCUSSION

3.1 Network Visualization

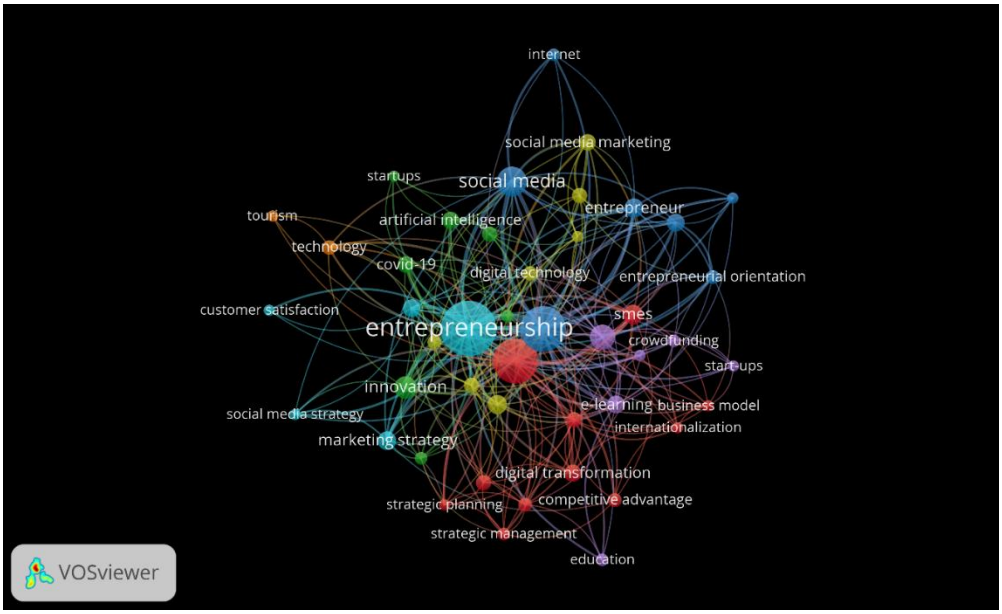

Figure 1. Network Visualization

Source: Data Analysis Result, 2025

At the heart of the visualization is the dominant node **"entrepreneurship"**, marked in large light blue font, indicating its central role and high frequency in the dataset. The dense web of connections surrounding this term suggests that entrepreneurship is the foundational axis around which most other concepts revolve. Closely linked to it is "social media", a major theme in digital marketing. Their strong interconnectivity highlights how digital tools, especially social platforms, are integral to contemporary entrepreneurial practices. This suggests that scholarly discourse often positions digital marketing and entrepreneurship as co-evolving phenomena, particularly in contexts where digital presence and consumer targeting are vital for growth.

The map reveals several distinct thematic clusters. The red cluster, surrounding terms like *"digital transformation," "strategic management," "competitive advantage,"* and *"marketing strategy"*, represents strategic and managerial perspectives in entrepreneurial digital marketing. Meanwhile, the blue cluster around *"social media marketing," "entrepreneur,"* and *"internet"* suggests studies focused on specific tools and channels for market engagement. The green cluster, with terms like *"artificial intelligence," "technology," "COVID-19,"* and *"innovation,"* captures the role of technological disruption and adaptation in recent entrepreneurial efforts—especially post-pandemic. The purple cluster includes *"SMEs," "crowdfunding," "internationalization," "e-learning,"* and *"business model,"* pointing to structural and resource-based studies of small enterprises navigating digital transformation.

Smaller nodes such as *"tourism," "education,"* and *"customer satisfaction"* appear on the periphery of the map. Although less frequently occurring, their connections to central nodes indicate niche or emerging areas of interest. For instance, "tourism" and "e-learning" suggest domain-specific applications of digital marketing in entrepreneurship, while "customer satisfaction" points to outcome-focused evaluations of microtargeting success. These terms may represent sectoral case studies or applied research contexts where entrepreneurship is mediated by industry-specific challenges and digital adaptations. While the term *"microtargeting"* does not explicitly appear as a central node, related concepts like *"artificial intelligence," "digital technology,"* and *"social media strategy"* indirectly represent the technological mechanisms that enable microtargeting. The positioning of "artificial intelligence" and "digital transformation" close to "entrepreneurship" underscores the technological backbone of targeted marketing practices. This implies that scholars often embed microtargeting within broader discussions of digital innovation rather than treat it as a standalone construct, suggesting a conceptual gap that this study aims to address.

3.2 Overlay Visualization

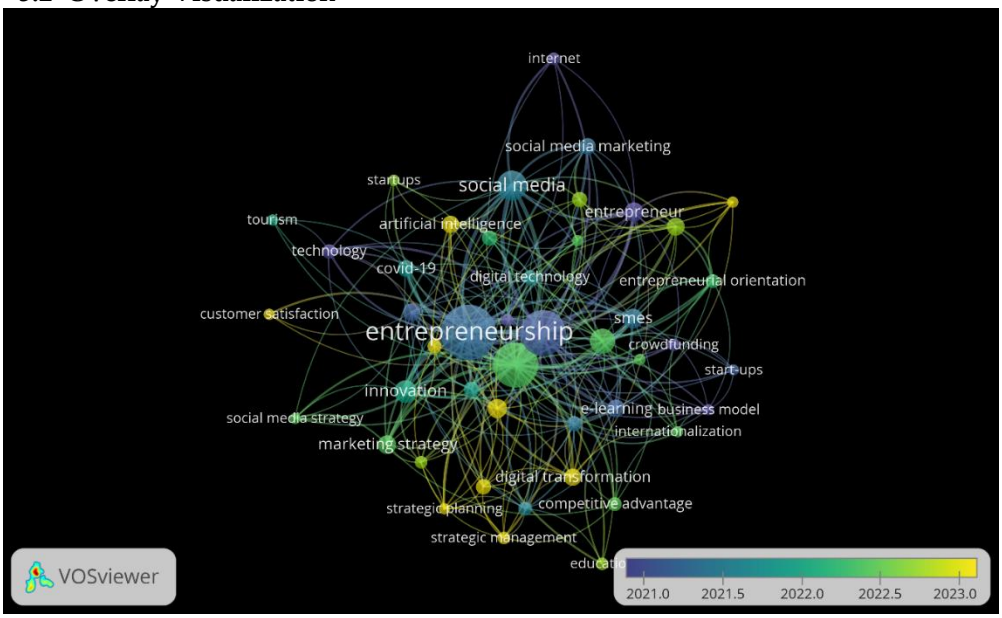

Figure 2. Overlay Visualization

Source: Data Analysis Result, 2025

The color spectrum in the overlay visualization ranges from blue (older) to yellow (newer), offering insight into the temporal evolution of research topics. The term "entrepreneurship", which remains at the center of the map, appears in a green hue, indicating it has remained a stable and consistent theme across the analyzed period. More yellow-tinted nodes such as *"customer satisfaction," "digital transformation," "strategic planning," "marketing strategy,"* and *"social media*

strategy" suggest that these topics have gained significant traction in more recent years (2022–2023). This indicates a recent academic focus on how entrepreneurs strategically employ digital and microtargeted marketing tools to achieve competitive differentiation and customer-centric outcomes.

In contrast, blue and turquoise-colored nodes such as *"COVID-19," "internet," "digital technology," "social media marketing,"* and *"e-learning"* suggest these topics were more prominent in earlier years of the dataset (around 2021–2022). These terms are reflective of the digital shift accelerated by the pandemic, where entrepreneurs were forced to pivot their strategies toward online engagement and virtual platforms. The presence of "e-learning" and "crowdfunding" in this range also reflects early-stage digital solutions for business continuity during global uncertainty. The color gradient thus confirms a temporal transition—from pandemic survival tactics to more sophisticated and strategic deployment of microtargeting and digital branding in entrepreneurship. The yellow nodes such as *"marketing strategy," "strategic management," "customer satisfaction,"* and *"social media strategy"* represent emerging frontiers in the scholarly conversation—topics that are becoming increasingly central to entrepreneurial marketing in recent publications. These keywords are strongly associated with microtargeting, suggesting that personalization, customer-centric digital engagement, and data-driven decision-making have become dominant research priorities post-2022.

3.3 Citation Analysis

Table 1. The Most Impactful Literatures

Citations	Authors and year	Title
309	[10]	Human capital and AI in industry 4.0. Convergence and divergence in social entrepreneurship in Russia
266	[11]	How should we understand the digital economy in Asia? Critical assessment and research agenda
244	[12]	The effect of social networking sites and absorptive capacity on SMES' innovation performance
159	[13]	Adapting to fast-changing markets and technologies
141	[14]	Technological Revolution in the 21st Century: Digital Society vs. Artificial Intelligence
133	[15]	"Distinguished" women entrepreneurs in the digital economy and the multitasking whirlpool
132	[16]	Artificial intelligence (AI) for tourism: an European-based study on successful AI tourism start-ups
128	[17]	Digital marketing capabilities in international firms: a relational perspective
114	[18]	SMEs engagement with e-commerce, e-business and e-marketing
112	[19]	Digital engagement strategies and tactics in social media marketing

Source: Scopus, 2025

3.4 Density Visualization

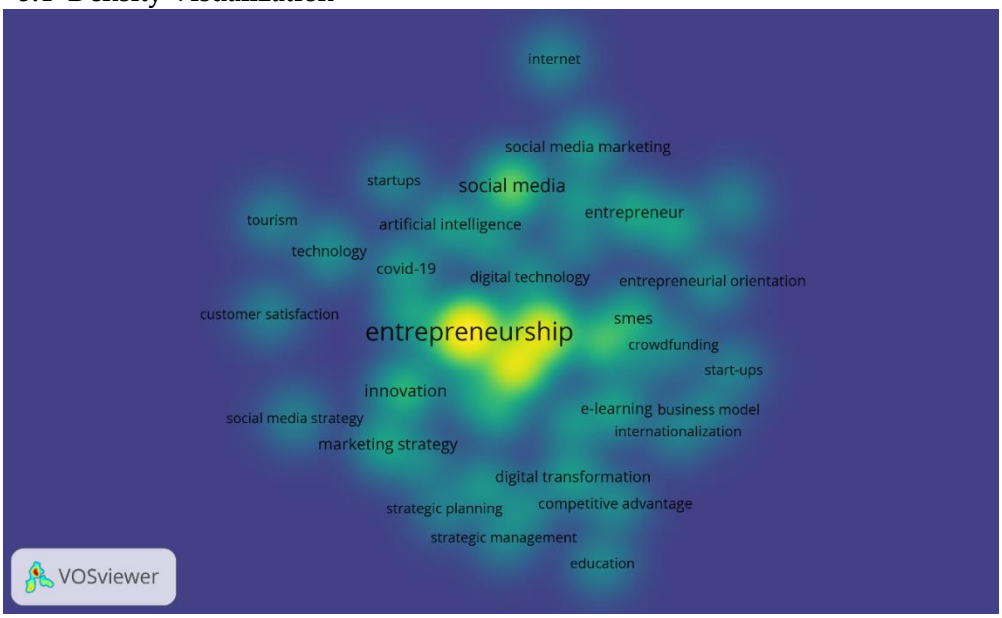

Figure 3. Density Visualization

Source: Data Analysis Result, 2025

In the density visualization, the most intensely colored (yellow) area centers around the keyword "entrepreneurship", indicating that it is the most frequently occurring and thematically dominant term in the dataset. Surrounding this core, terms like "social media," "innovation," "marketing strategy," "digital transformation," and "SMEs" are highlighted in green to light yellow, signifying their high relevance and co-occurrence across numerous studies. This suggests a strong scholarly emphasis on how digital marketing tools are being integrated into entrepreneurial ecosystems. The heat concentration in these areas reflects where academic attention has been most concentrated, showing a robust linkage between entrepreneurship and evolving digital strategies such as microtargeting and innovation management.

In contrast, terms such as "e-learning," "crowdfunding," "education," "tourism," "technology," and "customer satisfaction" appear in cooler green and blue areas, indicating lower but still meaningful levels of research density. Their peripheral placement implies that while these topics are not yet central to the scholarly discourse, they represent emerging or niche areas of study within the broader context of digital marketing and entrepreneurship. For example, "tourism" and "education" may reflect sector-specific applications, whereas "crowdfunding" and "AI" indicate technological trends that could gain prominence in future research.

3.5 Co-Authorship Network

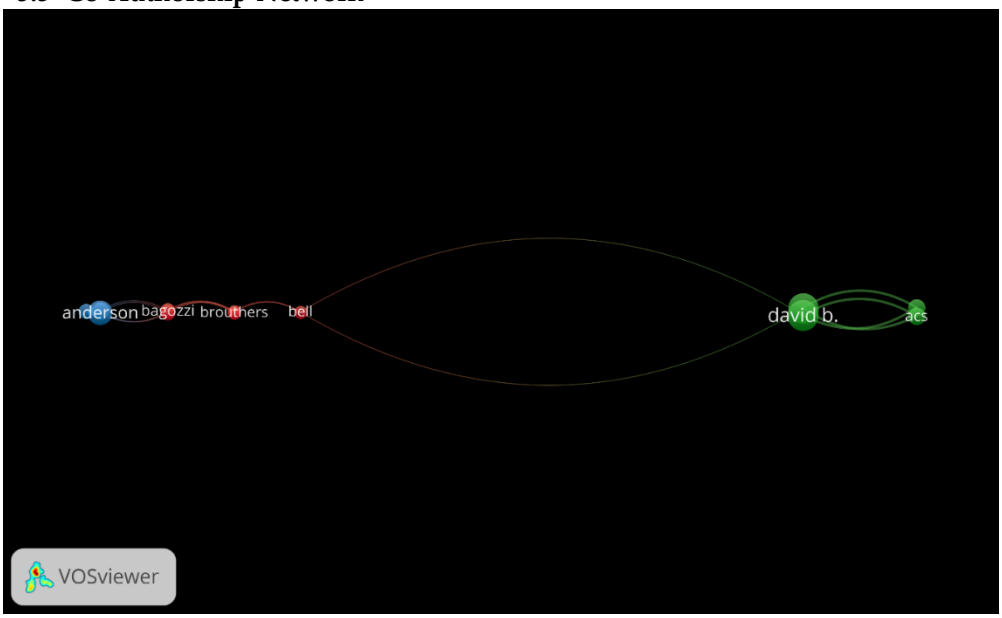

Figure 4. Author Visualization

Source: Data Analysis Result, 2025

Figure 4 shows two main clusters of influential scholars within the digital marketing and entrepreneurship literature. On the right side, the green cluster is anchored by David B. Audretsch and Zoltan J. Acs, both of whom are well-known for their foundational work in entrepreneurship and innovation systems. Their strong mutual linkage suggests frequent co-citation and intellectual influence in research focused on entrepreneurial ecosystems, policy, and regional innovation. On the left side, the red and blue clusters include classic marketing theorists such as Richard Bagozzi, Anderson, Brothers, and Bell, who are often cited for their contributions to consumer behavior, structural equation modeling, and marketing theory.

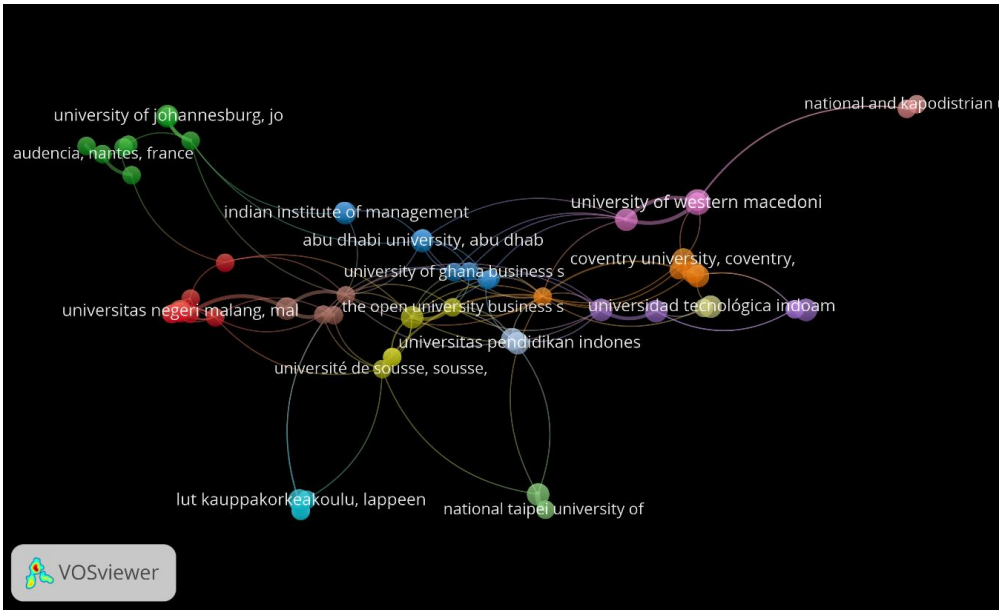

Figure 5. Affiliation Visualization

Source: Data Analysis Result, 2025

Figure 5 illustrates a co-authorship network among institutions contributing to the field of digital marketing and entrepreneurship. The nodes represent universities, and their sizes and connections reflect the volume of publications and collaborative intensity. At the center, The Open University Business School, Universitas Negeri Malang, and Universitas Pendidikan Indonesia emerge as prominent hubs, indicating their frequent collaborations with multiple international institutions such as Université de Sousse (Tunisia), Abu Dhabi University, and University of Ghana Business School. The network displays several regional clusters—for instance, a Southeast Asian cluster (red and yellow nodes) centered around Indonesian universities, and a European cluster (orange and purple nodes) involving Coventry University, University of Western Macedonia, and Universidad Tecnológica Indoamérica. These linkages suggest a growing trend of cross-regional academic cooperation, especially in applied digital marketing research within entrepreneurial contexts. The presence of diverse institutions from Asia, Africa, Europe, and the Middle East reinforces the global and interdisciplinary nature of this research domain.

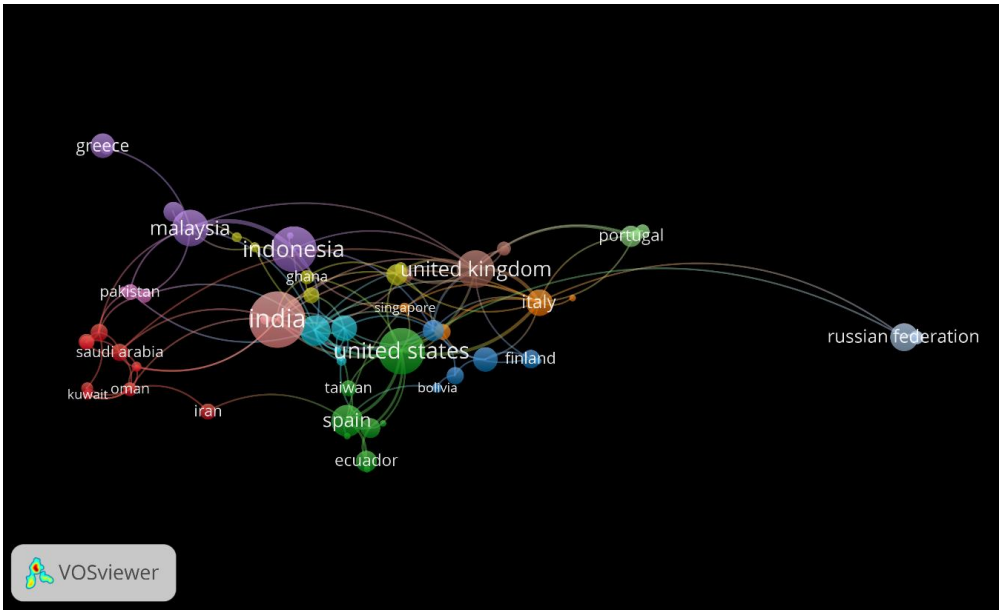

Figure 6. Country Visualization
Source: Data Analysis Result, 2025

Figure 6 illustrates the co-authorship network by country in the field of digital marketing and entrepreneurship. The visualization highlights strong international collaboration, with India, Indonesia, the United States, and the United Kingdom emerging as central hubs—indicated by their large node sizes and extensive linkages. These countries are heavily interconnected with a range of others, including Malaysia, Spain, Ghana, and Saudi Arabia, reflecting a globally distributed research effort. Notably, clusters in red and purple tones represent active partnerships in Asia and the Middle East (e.g., India-Saudi Arabia, Malaysia-Pakistan), while blue and green clusters suggest strong collaboration within and between Western and Latin countries, including Spain, the U.S., and Ecuador. The Russian Federation, while somewhat peripheral, maintains linkages to both Eastern and Western research centers.

Discussion

1. Practical Implication

This study offers several valuable insights for entrepreneurs, marketers, and digital strategists. First, by identifying the most frequently occurring keywords and thematic clusters such as *social media strategy*, *marketing innovation*, and *digital transformation*, it provides a roadmap for

entrepreneurs to align their marketing practices with cutting-edge digital tools and consumer behavior insights. The prominence of microtargeting-related terms implies that hyper-personalized marketing strategies are becoming essential for entrepreneurial success, especially in competitive, resource-constrained environments. Startups and small businesses can leverage these insights to improve customer segmentation, enhance engagement, and increase return on marketing investment (ROMI) using affordable digital platforms.

Second, policymakers and ecosystem builders can use the co-authorship and country collaboration data to promote international academic-industry partnerships, especially in emerging economies like Indonesia, India, and Malaysia, which appear prominently in the collaboration networks. Incubators and accelerators can design curriculum and training that reflect the evolving trends in entrepreneurial marketing research, particularly around data-driven decision-making, AI adoption, and strategic digital planning. Finally, academic institutions may use the institutional collaboration maps to strengthen global partnerships, enhance research visibility, and align with funding opportunities that emphasize entrepreneurial innovation in the digital era.

2. Theoretical Contribution

From a theoretical standpoint, this study makes a significant contribution by mapping the intellectual structure and thematic evolution of digital marketing and microtargeting within the entrepreneurial context. The bibliometric analysis reveals a convergence between entrepreneurship theory and marketing literature, particularly in areas such as strategic planning, customer-centric innovation, and digital transformation. This convergence supports the emerging notion that entrepreneurship is increasingly mediated by digital platforms and marketing technologies, offering fertile ground for theorizing new entrepreneurial behavior models in the digital economy. Moreover, the co-citation analysis highlights the foundational theoretical influences—such as David B. Audretsch in entrepreneurship and Bagozzi in marketing theory—thereby reinforcing the interdisciplinary nature of the field. By uncovering under-researched nodes like crowdfunding, e-learning, and AI-driven marketing, this study identifies potential gaps for future research and opens up opportunities to integrate microtargeting into broader frameworks such as resource-based theory, entrepreneurial orientation, and innovation diffusion models. It also provides a methodological contribution by demonstrating the value of VOSviewer-based bibliometric mapping in uncovering complex knowledge structures within interdisciplinary domains.

3. Limitation

Despite its strengths, this study is subject to several limitations. First, the bibliometric analysis is limited to the Scopus database, which, while comprehensive, may exclude relevant publications indexed in Web of Science, Google Scholar, or regional databases. This might lead to a partial view of the global research landscape, particularly for local-language or non-English contributions. Second, the focus on keyword co-occurrence and co-authorship networks provides a structural view of the literature but does not delve into content-level analysis (e.g., thematic coding, citation context). As a result, nuanced insights into theoretical framing, methodology, or research outcomes of individual studies are not captured. Third, while this study identifies trends over time, it does not apply longitudinal content analysis to examine how conceptual definitions of microtargeting or digital entrepreneurship have evolved. Future research could address these gaps by integrating qualitative systematic reviews or topic modeling to complement the bibliometric findings.

CONCLUSION

This bibliometric study provides a comprehensive mapping of the scholarly landscape at the intersection of digital marketing and entrepreneurship, with a particular emphasis on the evolving role of microtargeting. The analysis reveals that entrepreneurship is increasingly shaped by data-

driven and digitally enabled marketing strategies, with key themes such as social media, innovation, digital transformation, and strategic planning emerging as central to current research. Through co-authorship and country collaboration maps, the study highlights strong global academic networks, particularly among institutions in India, Indonesia, the United States, and the United Kingdom. The findings underscore the interdisciplinary nature of this field, bridging marketing theory, technological innovation, and entrepreneurial behavior. By identifying both dominant research streams and underexplored areas such as AI applications, e-learning, and customer personalization this study not only synthesizes existing knowledge but also sets the stage for future research.

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