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# BIBLIOMETRIC INSIGHTS INTO THE EVOLUTION OF DIGITAL MARKETING TRENDS

## Abstract

This bibliometric analysis aims to delineate the progression of research in the domain of digital marketing by examining 513 English-language articles published in Scopus during the period of 2003–2024. An examination of scholarly productivity indicates an upward trend, as evidenced by the increase in publications from one in 2003 to 115 in 2022 and citations from 79 in 2003 to 1131 in 2021, as determined by keyword, citation, and authorship analyses. A review of citation patterns reveals that publications with significant impact are primarily found in prestigious academic journals, such as *Industrial Marketing Management* and *International Journal of Research in Marketing*. Prominent contributors hail from Jordan, Finland, Spain, the United Arab Emirates, and Saudi Arabia; among other regions – the United States, the Middle East, Europe, and Asia. Keyword analysis revealed an emphasis on emerging technologies such as artificial intelligence and traditional digital marketing techniques (e.g., social media, content marketing, internet marketing). Co-occurrence theme analysis highlighted digital marketing strategy, digital marketing audiences, the digital transformation of business and marketing, and the acceleration of digital adoption as a result of COVID-19. Further areas of investigation encompass optimizing the utilization of emergent social media platforms, implementing virtual and augmented reality technologies to enhance the customer experience, and capitalizing on the potential of artificial intelligence and machine learning to augment the efficacy of digital marketing. By utilizing data-driven insights, this study offers guidance for curricular enhancements, scholarly agendas, and digital marketing practice.

## Keywords

artificial intelligence, content marketing, customer engagement, digital transformation, machine learning, social media marketing, technology adoption, virtual reality

## JEL Classification

M31, M37, M15, O33, L86

## INTRODUCTION

The way businesses communicate with and engage with their customers has been transformed by digital marketing during the past two decades. Internet and social media are part of a daily life today. Digital channels have been essential in marketing strategy across businesses and regions (Tiago & Veríssimo, 2014). Academic research in digital marketing keeps up with fast-changing technologies, platforms, and consumer habits. These reasons regularly change digital marketing standards (Kannan & Li, 2017). The ever-changing character of this evolution makes it difficult for scholars to rigorously track and assess major trends and paradigm shifts in this subject (Järvinen & Taiminen, 2016).

Numerical and scientometric bibliometric study maps the structure and evolution of scholarship in a research topic (Zupic & Čater, 2015). Longitudinal patterns in scholarly publications, citations, keywords, author networks, and other bibliometric indicators can reveal influential works and authors, connect topics and disciplines, and reveal new concepts, methods, and research fronts (Cobo et al., 2011). Using bib-



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liometric methods to study digital marketing scholarship can reveal how it has changed with technology and society. These findings can help identify maturing regions that need consolidation, niches that need additional research, and influential publications that can inform theory and practice (Gutiérrez-Salcedo et al., 2018).

Several technology improvements in the previous decade have shaped digital marketing advances and new directions. The overwhelming acceptance of Facebook, Twitter, and YouTube sparked the social media revolution, which changed digital marketing techniques. Website traffic and SEO were previously prioritized (Ngai et al., 2015). Social media has changed brand-consumer interactions by enabling direct participation and information from online conversations and behaviors. It has also enabled marketers to influence through electronic word-of-mouth and viral content (Hudson et al., 2016). The rapid rise in mobile device use has forced marketers to adapt their strategies and messaging to smaller screens, apps, location-based services, and other mobile-focused channels (Shankar et al., 2010). Data-driven, tailored, and immersive digital marketing is now possible because to AI, predictive analytics, VR/AR, and other technologies (Adam et al., 2021). How academic study has tackled these technologies' potential and challenges might illuminate digital marketing scholarship's current and future trajectory.

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## 1. LITERATURE REVIEW

Digital marketing is commonly defined as the practice of achieving marketing objectives by utilizing digital technologies (Chaffey et al., 2009). Throughout history, conventional marketing has primarily focused on print, television, and radio platforms. Digital marketing, on the other hand, leverages interactive platforms including websites, social media, mobile applications, and other digital media. Through the widespread adoption of these technologies, marketers have gained the ability to proficiently interact with customers at various points of contact, collect significant customer information, personalize content according to individual inclinations, and ultimately augment conversion rates across the complete customer journey.

The discipline of digital marketing research has been profoundly impacted by a multitude of influential theoretical frameworks. Davis (1989) introduced the Technology Acceptance Model (TAM), which examines the relationship between the perceived ease of use and utility as determinants of new technology adoption. The examination of digital tool adoption has been a prevalent subject of analysis in the digital marketing literature, employing the Technology Acceptance Model (TAM). Media richness theory, as Daft and Lengel (1986) emphasize, underscores the significance of media capabilities in determining the outcomes of communication. This theory provides a foundational framework upon which research on the selection

of digital channels is built. The stimulus-organism-response (S-O-R) model, originally introduced by Mehrabian and Russell (1974), provides a conceptual structure for comprehending the manner in which behavioral responses are induced in response to external stimuli. Due to the valuable perspective it provides for analyzing the effects of various stimuli on consumer behavior, this model has had a substantial impact on the field of digital marketing.

Instances of contemporary ideas, such as the “long tail,” illustrate how digital technologies enable consumers to obtain niche products (Anderson, 2012). These frameworks establish the conceptual underpinnings necessary for scrutinizing the impact of digital media on consumers, thereby establishing the fundamental principles upon which digital marketing research is built.

Scholars have devoted considerable attention to social media marketing due to the profound influence that social platforms, such as Facebook and Twitter, have had on the experiences of consumers. Key themes pertaining to the psychology and motivations underlying individuals' use of social media are investigated (Whiting & Williams, 2013). Furthermore, Felix et al. (2017) explored various strategies that have the potential to effectively engage audiences on social media platforms. Additionally, Tiago and Veríssimo (2014) explored the incorporation of both social and traditional marketing methods.

The field of mobile marketing research has experienced significant growth due to the widespread adoption of smartphones. Several studies have investigated the impact of permission and context on customer responses to mobile advertising (Carroll et al., 2007). Mobile communication patterns, such as the act of checking notifications, have been found to be associated with engagement, as indicated by Herrero et al. (2023). The key mobile techniques include SMS/MMS ads (Okazaki & Taylor, 2008), QR codes (Shin et al., 2012), proximity marketing (Lu et al., 2015), and location-based services (Unni & Harmon, 2007).

Email marketing has long been a popular form of digital communication. Several articles studied the design components and contextual factors that improve email consumer engagement (Sahni et al., 2018). Aguirre et al. (2015) investigated several parts of email content personalization approaches, the most effective send times (Muñoz-Leiva et al., 2012), and strategies for optimizing subject lines and preview text (Mazodier & Quester, 2014).

Significant empirical investigations have been undertaken to amass data regarding the efficacy of digital strategies in stimulating consumer interest and propelling marketing outcomes. Nevertheless, it is critical to acknowledge that there remain knowledge deficiencies regarding nascent digital technologies. Furthermore, qualitative, multi-method research is required in this field. Amidst the dynamic and ever-evolving digital environment, it is critical that scholarly investigations maintain their relevance and consistently enhance the empirical comprehension of digital marketing. By incorporating the concept of evolving knowledge, marketers can optimize their use of digital channels and tools, resulting in substantial effects on their marketing efforts. Conducting an exhaustive bibliometric examination of academic literature within this specific domain can provide a more profound understanding of the conceptual structure and developmental trajectory of digital marketing literature over time.

## 2. METHODS

The study utilizes a bibliometric analysis methodology to evaluate the patterns and shifts in research within the academic literature on digital marketing from 2003 to 2024. The data are sourced from

the Scopus database. Bibliometric techniques encompass statistical analysis to examine scholarly publications, aiming to reveal patterns pertaining to productivity, authorship, citations, and content (Ellegaard & Wallin, 2015). This methodology entails a quantitative and empirical analysis of the literature, which serves as a supplementary approach to other review techniques (Zupic & Čater, 2015).

This investigation utilizes an assortment of bibliometric indicators. The publication volume metric, which represents the annual tally of research papers published, serves as a dependable indicator of the overall growth of research output in digital marketing (Carpenter et al., 2014). Academic research often employs visualizations and descriptive statistics to evaluate the advancement of scholarly work through the analysis of temporal fluctuations in publication output (Al-Jamimi et al., 2022). The focus of this investigation is citation analysis. A substantial impact is generally recognized for papers and authors in their respective disciplines when they amass a significant number of citations. Citation counts are employed to measure the degree of dispersion and influence of publications and authors in a quantitative fashion (Nightingale & Marshall, 2012). Utilizing the frequency of term pairings, keyword co-occurrence analysis is an effective approach for acquiring knowledge regarding discrete research topics. Sedighi (2016) asserts that keyword co-occurrence networks provide significant insights into the dynamics and concentration of themes.

The information was obtained from Scopus, a database selected due to its comprehensive index comprising over 20,000 publications across diverse academic disciplines and its sophisticated functionalities in citation analysis (Chadegani et al., 2013). A methodical and exhaustive examination of scholarly articles spanning the years 2003 to 2024 was undertaken to collect pertinent data concerning the subject of “digital marketing.” By employing a systematic approach to exclude editorials, reviews, conference papers, and non-academic publications, the results were meticulously refined. The dataset comprised 513 scholarly research articles written in English relevant to the field of digital marketing.

The data were imported using VOSviewer software (van Eck & Waltman, 2017) to perform bibliometric analysis and visualization. VOSviewer is a program that can extract bibliometric data from the Scopus database. After that, the study took into account a variety of factors – including citations, co-citations, references, authors, and keywords – to transform the data into visual representations like maps and networks.

### 3. RESULTS AND DISCUSSION

#### 3.1. Citations and research publications on digital marketing

Table 1 shows the annual number of publications and citations for research articles on “digital marketing” from 2003 to 2024. The results show a steady rise in the number of publications over time, with a noticeable spike beginning in 2017. A meteoric rise in the number of publications from just 15 in 2017 to an expected 115 in 2022 was detected. The dramatic increase in publications is indicative of the increasing interest in studying digital marketing. In a similar vein, there was a concurrent increase in citations, culminating in 2021 with a cumulative count of 1,131 citations. This suggests that the publications are gaining more attention from scholars and are having a greater influence on the academic community. Additionally, the mean number of citations per article has exhibited a progressive rise, indicating an enhancement in the caliber and importance of scholarly investigations.

The year 2022 witnessed the greatest quantity of publications, amounting to 115. The growing prevalence of digital marketing in recent times

serves as evidence of organizations’ transitioning attention toward online marketing tactics. With 76 articles published in 2021, it was the second most-read year in terms of scholarly interest. As of 2023, the cumulative tally of papers stands at 101, suggesting the possibility of an exceeding of the quantity recorded in 2022.

#### 3.2. The digital marketing research papers with the most citations

The five most cited studies in the field of digital marketing provide valuable insights into notable progressions in this exponentially expanding research domain (Table 2). Kannan and Li (2017) (577 citations) introduced a research framework that has garnered significant recognition for its impact. Tiago and Veríssimo (2014) (303 citations) examined the implementation of digital marketing and social media at the organizational level, which was an innovative approach. The empirical insights provided by Taiminen and Karjaluoto (2015) (189 citations) regarding the utilization of digital channels by small and medium-sized enterprises (SMEs) in Europe were exceptionally valuable. Järvinen and Karjaluoto (2015) (184 citations) introduced an all-encompassing framework for enterprise-level implementation of web analytics in the industrial sector. Saura (2021) provides a comprehensive review of the main concepts, methods, uses, and performance metrics of Data Sciences as applied to Digital Marketing. The article identifies 11 methods, 17 uses, 9 performance metrics, and 9 future research topics that can guide marketers and researchers in developing more effective data-driven digital marketing strategies.

These top five papers, published between 2014 and 2018, serve as prime examples of the increas-

**Table 1.** Citations and publications of digital marketing research

ID	Year	Documents	Citations	ID	Year	Documents	Citations
1	2003	1	79	11	2016	9	166
2	2005	1	4	12	2017	15	813
3	2006	1	2	13	2018	22	292
4	2009	1	13	14	2019	54	822
5	2010	6	25	15	2020	67	784
6	2011	3	271	16	2021	76	1131
7	2012	3	219	17	2022	115	690
8	2013	4	54	18	2023	101	120
9	2014	8	443	19	2024	19	0
10	2015	7	481	Total		513	6409



ing significance of digital marketing as a distinct research field. In contrast, the top 20 list encompassed a wider range of marketing perspectives, contexts, and methods. The juxtaposition in this statement highlights how the top five papers have spearheaded investigations into timely and salient issues such as metrics, social media, and channel adoption. These papers have played a crucial role in catalyzing scholarly attention on the subject of digital marketing. This comparison highlights the rapid emergence of digital marketing as a significant area within the broader marketing literature.

### 3.3. Journals leading in digital marketing research

The most influential journal is the International Journal of Research in Marketing: four articles have received 637 citations, or 159.25 citations per article (Table 3). Industrial Marketing Management ranks second in terms of influence, with five articles amassing a total of 400 citations, or 80 citations per article. It had fewer total citations than International Journal of Research in Marketing, despite publishing a greater number of

**Table 2.** Twenty most-cited research papers in the domain of digital marketing

Rank	Research	Source title	Citations	DOI
1	Kannan and Li (2017)	International Journal of Research in Marketing	577	<a href="https://doi.org/10.1016/j.ijresmar.2016.11.006">https://doi.org/10.1016/j.ijresmar.2016.11.006</a>
2	Tiago and Verissimo (2014)	Business Horizons	303	<a href="https://doi.org/10.1016/j.bushor.2014.07.002">https://doi.org/10.1016/j.bushor.2014.07.002</a>
3	Taiminen and Karjaluoto (2015)	Journal of Small Business and Enterprise Development	189	<a href="https://doi.org/10.1108/JSBED-05-2013-0073">https://doi.org/10.1108/JSBED-05-2013-0073</a>
4	Järvinen and Karjaluoto (2015)	Industrial Marketing Management	184	<a href="https://doi.org/10.1016/j.indmarman.2015.04.009">https://doi.org/10.1016/j.indmarman.2015.04.009</a>
5	Saura (2021)	Journal of Innovation and Knowledge	173	<a href="https://doi.org/10.1016/j.jik.2020.08.001">https://doi.org/10.1016/j.jik.2020.08.001</a>
6	De Pelsmacker et al. (2018)	International Journal of Hospitality Management	167	<a href="https://doi.org/10.1016/j.ijhm.2018.01.003">https://doi.org/10.1016/j.ijhm.2018.01.003</a>
7	Smith (2011)	Journal of Strategic Marketing	142	<a href="https://doi.org/10.1080/0965254X.2011.581383">https://doi.org/10.1080/0965254X.2011.581383</a>
8	Taken Smith (2012)	Journal of Consumer Marketing	137	<a href="https://doi.org/10.1108/07363761211206339">https://doi.org/10.1108/07363761211206339</a>
9	Royle and Laing (2014)	International Journal of Information Management	119	<a href="https://doi.org/10.1016/j.ijinfomgt.2013.11.008">https://doi.org/10.1016/j.ijinfomgt.2013.11.008</a>
10	Wymbs (2011)	Journal of Marketing Education	105	<a href="https://doi.org/10.1177/0273475310392544">https://doi.org/10.1177/0273475310392544</a>
11	Herhausen et al. (2020)	Industrial Marketing Management	96	<a href="https://doi.org/10.1016/j.indmarman.2020.07.022">https://doi.org/10.1016/j.indmarman.2020.07.022</a>
12	Levy and Gvili (2015)	Journal of Advertising Research	93	<a href="https://doi.org/10.2501/JAR-55-1-095-109">https://doi.org/10.2501/JAR-55-1-095-109</a>
13	Saura et al. (2021)	Industrial Marketing Management	92	<a href="https://doi.org/10.1016/j.indmarman.2021.08.006">https://doi.org/10.1016/j.indmarman.2021.08.006</a>
14	Vieira et al. (2019)	Journal of the Academy of Marketing Science	83	<a href="https://doi.org/10.1007/s11747-019-00687-1">https://doi.org/10.1007/s11747-019-00687-1</a>
15	Wang and Tang (2003)	Journal of End User Computing	79	<a href="https://doi.org/10.4018/joeuc.2003070102">https://doi.org/10.4018/joeuc.2003070102</a>
16	Chaffey and Patron (2012)	Journal of Direct, Data and Digital Marketing Practice	76	<a href="https://doi.org/10.1057/dddmp.2012.20">https://doi.org/10.1057/dddmp.2012.20</a>
17	Tariq et al. (2022)	International Journal of Data and Network Science	74	<a href="https://doi.org/10.5267/j.ijdns.2021.12.014">https://doi.org/10.5267/j.ijdns.2021.12.014</a>
18	Mogaji et al. (2021)	Australasian Marketing Journal	68	<a href="https://doi.org/10.1016/j.ausmj.2020.05.003">https://doi.org/10.1016/j.ausmj.2020.05.003</a>
19	Behera et al. (2020)	Journal of Retailing and Consumer Services	65	<a href="https://doi.org/10.1016/j.jretconser.2019.03.026">https://doi.org/10.1016/j.jretconser.2019.03.026</a>
20	Ketter and Avraham (2021)	Journal of Travel and Tourism Marketing	63	<a href="https://doi.org/10.1080/10548408.2021.1921670">https://doi.org/10.1080/10548408.2021.1921670</a>

**Table 3.** Top 20 journals for digital marketing research in terms of total citations

Rank	Source title	Documents	Citations	Citations per Document
1	International Journal of Research in Marketing	4	637	159.25
2	Industrial Marketing Management	5	400	80.00
3	Business Horizons	2	347	173.50
4	International Journal of Data and Network Science	25	246	9.84
5	Sustainability (Switzerland)	15	224	14.93
6	Journal of Marketing Education	6	214	35.67
7	Journal of Small Business and Enterprise Development	1	189	189.00
8	Journal of Innovation and Knowledge	1	173	173.00
9	International Journal of Hospitality Management	1	167	167.00
10	Journal of Strategic Marketing	2	142	71.00
11	Journal of Consumer Marketing	1	137	137.00
12	International Journal of Information Management	1	119	119.00
13	Journal of Advertising Research	3	103	34.33
14	Journal of the Academy of Marketing Science	3	102	34.00
15	Journal of Direct, Data and Digital Marketing Practice	5	97	19.40
16	Australasian Marketing Journal	2	90	45.00
17	Management Science Letters	1	80	80.00
18	Journal of End User Computing	1	79	79.00
19	Journal of Retailing and Consumer Services	1	65	65.00
20	Journal of Travel and Tourism Marketing	1	63	63.00

articles. Business Horizons is ranked third, with a mere two articles contributing 347 citations, which is 173.5 citations per article. The journals in fourth and fifth position (International Journal of Data and Network Science and Sustainability), despite publishing significantly more papers on the subject, averaged less than 15 citations per article, compared to the top three that received 137 citations per article on average.

Seminal research in the field of digital marketing has been published in a limited number of journals, including Industrial Marketing Management and International Journal of Research in Marketing. The impact of their articles significantly exceeds that of numerous less-cited articles that were published in the remaining 18 journals within the top

20. This indicates that significant developments in the field of digital marketing are being published in a limited number of prestigious journals.

### 3.4. Researchers with the highest productivity in digital marketing

According to Table 4, the research contributions pertaining to “digital marketing” are predominantly authored from the regions of the Middle East, Europe, and Asia. A concentration of leading authors can be observed in Saudi Arabia, Jordan, Finland, Spain, and the United Arab Emirates. Alshurideh, M., Karjaluoto, H., Saura, J.R., from Spain, Akour, I., from the United Arab Emirates, and Almansour, M., from Saudi Arabi, are the five authorities on “digital marketing” with the most publications.

**Table 4.** Twenty leading scholars in the domain of digital marketing

Rank	Author	Documents	Affiliation	Country
1	Alshurideh, M.	4	The University of Jordan	Jordan
2	Karjaluoto, H.	4	University of Jyväskylä	Finland
3	Saura, J.R.	4	Rey Juan Carlos University	Spain
4	Akour, I.	3	University of Sharjah	The United Arab Emirates
5	Almansour, M.	3	Imam Mohammad Ibn Saud Islamic University	Riyadh, Saudi Arabia
6	Barquera, S.	3	Universidad No. 655	Mexico
7	Key, T.M.	3	University of Colorado Colorado	The United States
8	Nuseir, M.T.	3	Al Ain University	The United Arab Emirates
9	Sakas, D.P.	3	Agricultural University of Athens	Greece
10	Sharma, A.	3	Graphic Era Hill University	India

**Table 4 (cont.).** Twenty leading scholars in the domain of digital marketing

Rank	Author	Documents	Affiliation	Country
11	Sharma, S.	3	G.D. Goenka University	India
12	Tolentino-Mayo, L.	3	Universidad No. 655	Mexico
13	Al-Adwan, A.S.	2	Al-Ahliyya Amman University	Jordan
14	Al-Hawary, S.	2	Al al-Bayt University	Jordan
15	Alamsyah, D.P.	2	Bina Nusantara University	Indonesia
16	Aljumah, A.	2	Alain University	The United Arab Emirates
17	Alshurideh, M.T.	2	University of Jordan	Jordan
18	Alwan, M.	2	Al-Zaytoonah University	Jordan
19	Arunachalam, S.	2	Indian School of Business	India
20	Atang, A.	2	Universiti Malaysia Sarawak	Malaysia

As the top 20 authors are expanded, additional authors from Jordan, India, Malaysia, and Indonesia are included. Two additional authors, Sharma, S., and Arunachalam, S., who each contributed three and two documents, are added to India’s roster. In general, authors from the Middle East and Asia comprise the majority of the top 20, with Jordan having the highest representation with five authors. Contributing authors from Finland, Spain, and Greece comprise Europe.

### 3.5. The nations with the most impact on digital marketing research

With by far the most publications (57) and citations (1,764), the United States is unquestionably the world’s leader in digital marketing research (Table 5). The United Kingdom receives 908 citations and 40 publications, which is a distant second place. Although India has authored the third-most papers (78), its citations (539) are positioned considerably lower at position seven on a global scale. The following group consists of Spain, Finland, Portugal, Indonesia, Australia, France, and Canada, each of which has between six and

sixteen publications and 217 to 413 citations. Despite having published a significantly smaller number of papers, Spain, Portugal, and Finland have produced more influential research that is cited more frequently than Indonesia, which has published a much larger volume of work.

The United States is the unequivocal global leader in terms of both the quantity and quality of digital marketing research. Although the United Kingdom and certain developed European economies exhibit strong performance, emerging economies such as Indonesia and India, despite being active publishers, have yet to produce research of comparable impact. In comparison to the rest of the world, North America and Europe continue to dominate the landscape of high-quality research on this subject.

### 3.6. Principal affiliations in digital marketing research

Bina Nusantara University has authored the greatest number of research documents pertaining to digital marketing, totaling 18 (Table 6). The following are the five affiliations with the most re-

**Table 5.** Twenty countries with the most citations for digital marketing research output

Rank	Country	Documents	Citations	Rank	Country	Documents	Citations
1	The United States	57	1764	11	Jordan	19	202
2	The United Kingdom	40	908	12	The United Arab Emirates	15	197
3	India	78	539	13	China	43	192
4	Spain	13	413	14	Croatia	4	171
5	Finland	6	410	15	Belgium	2	167
6	Portugal	12	400	16	Israel	2	156
7	Indonesia	67	330	17	The Netherlands	5	154
8	Australia	16	275	18	Slovakia	5	132
9	France	6	256	19	Thailand	10	110
10	Canada	7	217	20	Germany	7	101



search publications: The University of Jordan (seven documents), Amity University (seven documents), School of Business University of Jordan (seven documents), Bina Nusantara University (18 documents), and Universidad Rey Juan Carlos (six documents). The fact that these five affiliations contributed more than 50% of the total documents suggests that, relative to the other organizations, they have a significant impact and are preoccupied with digital marketing research.

In contrast to the remaining 20 organizations, the quantity of digital marketing research publications by the top five was significantly greater. The sixth-ranked organization, for instance, produced 70% fewer documents than Bina Nusantara University, the top-ranked institution. As this trend persists further down the top 20 list, the disproportionate impact of the top five universities on digital marketing research on a global scale is revealed. In brief, Bina Nusantara University and institutions in Jordan are frontrunners in the field of digital marketing publications, while India and Spain also make significant contributions.

### 3.7. Analysis of keywords in digital marketing studies

Analysis of relevant keywords reveals that “digital marketing”-related subjects receive the most attention in the literature on this subject (Table 7). The keyword “digital marketing” is listed first, with 317 occurrences, suggesting that it is the primary subject of research. With 116 occurrences, the broader term “marketing” ranks as the second most frequent keyword. Particularized digital marketing strategies, such as “content marketing” (seven times), “social media” (66 times), and “social media marketing” (15 times), also rank highly. An examination of the 20 most frequently used keywords signifies that researchers are focused on techniques such as search engine optimization and internet and online marketing. Additionally, e-commerce, advertising, and marketing communications are of interest. When comparing the top five to the top 20, fundamental digital marketing strategies, channels, and concepts remain prominent. However, a greater diversity of related topics, such as artificial intelligence, sustainability, tourism, and SMEs, is

**Table 6.** Top 20 affiliations for digital marketing research

Rank	Affiliation	Documents	Rank	Affiliation	Documents
1	Bina Nusantara University	18	11	University of Jyväskylä	4
2	The University of Jordan	7	12	Odesa I.I. Mechnikov National University	4
3	Amity University	7	13	College of Business Administration	4
4	School of Business University of Jordan	7	14	Jyväskylä University School of Business and Economics	4
5	Universidad Rey Juan Carlos	6	15	University of Johannesburg	3
6	University of Sharjah	6	16	Jiaozuo University	3
7	Jaypee Institute of Information Technology	5	17	Universiti Utara Malaysia	3
8	Al Ain University	5	18	Universiti Teknologi MARA	3
9	Universiti Sains Malaysia	4	19	University of Electronic Science and Technology of China	3
10	Fujitsu Limited	4	20	Al-Imam Muhammad Ibn Saud Islamic University	3

**Table 7.** Twenty most important keywords for digital marketing research

Rank	Keyword	Occurrences	Rank	Keyword	Occurrences
1	Digital Marketing	317	11	Humans	16
2	Marketing	116	12	Marketing Strategy	16
3	Social Media	66	13	SMEs	16
4	Commerce	40	14	Artificial Intelligence	15
5	Internet	28	15	COVID-19	15
6	Human	27	16	Social Media Marketing	15
7	Electronic Commerce	25	17	Big Data	13
8	Article	20	18	E-learning	13
9	Sales	17	19	Innovation	13
10	Advertising	16	20	Strategic Planning	13

presented in the top 20. The prominence of digital marketing as a field of study and the breadth of strategies and applications under investigation are demonstrated by the keywords.

**3.8. Network of keyword co-occurrences in publications on digital marketing**

The present analysis scrutinizes four noteworthy clusters that arise from a research study on digital marketing. Every cluster revolves around a unique subject matter, and the inclusion of specific keywords offers more profound understanding (Figure 1). Through the examination of the clusters and their corresponding keywords, a comprehension of the fundamental subjects and interconnections in contemporary digital marketing research can be attained. The red cluster comprises research pertaining to digital marketing strategy, encompassing data-driven tactics and commerce. The green cluster pertains to the delineation and segmentation of digital audiences. The blue cluster denotes a concentration on the digital transformation of business and marketing. Lastly, the yellow cluster illustrates the significant acceleration of digital adoption caused by the COVID-19 pandemic. Collectively, these four clusters exemplify

the wide range of state-of-the-art investigations taking place within the realm of digital marketing.

Cluster 1 – “Digital marketing strategy” (Red) – comprises big data, commerce, consumer behavior, decision making, digital marketing, e-commerce, information management, marketing strategy, purchasing, sales, strategic planning, and supply chain management. The keywords suggest an emphasis on leveraging digital technologies and data to influence marketing strategies and stimulate sales.

Cluster 2 – “Digital Marketing Audiences” (Green) – comprises keywords that are pertinent to the delineation of target audiences for digital marketing: “adult,” “child,” “female,” “male,” “young adult,” and “humans.” Additional keywords, such as “procedures,” “advertising,” “article,” and “social media,” pertain to strategies and platforms utilized to engage with target audiences. The cluster emphasizes the significance of audience comprehension in digital marketing.

Cluster 3 – “Digital Transformation” (Blue) – comprises “digitization,” “electronic commerce,” “innovation,” “technology adoption,” and “sustainability,” indicating that businesses are undergoing

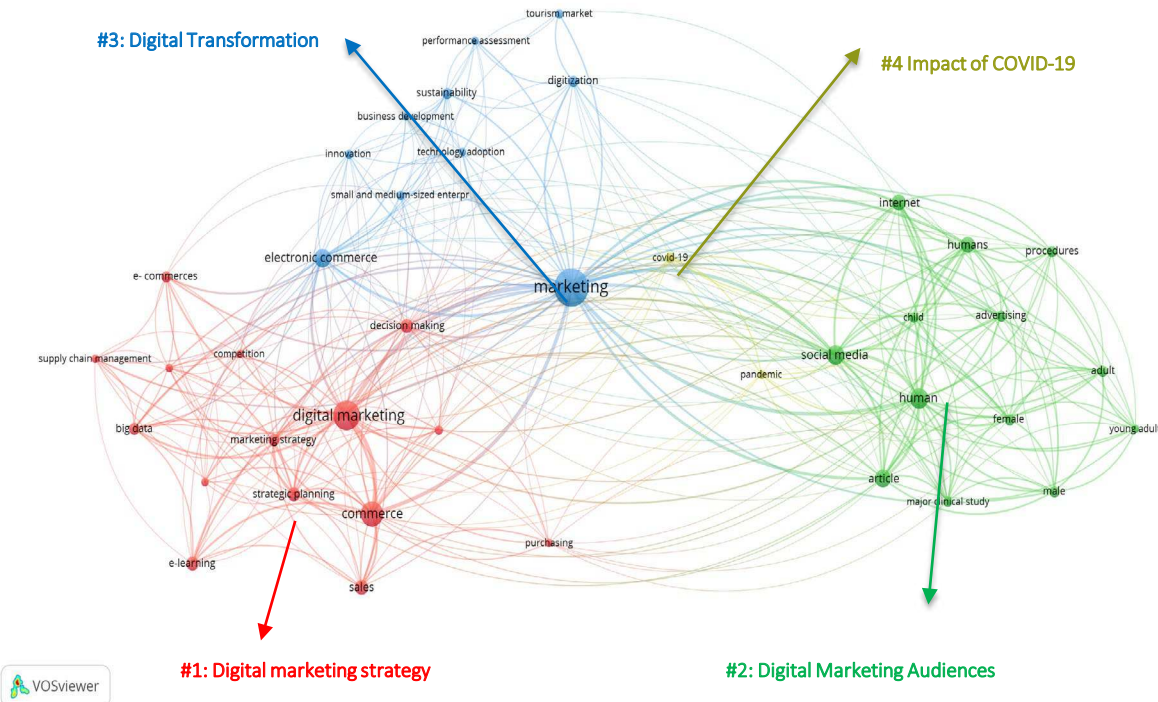


Figure 1. Co-occurrence network of keywords in digital marketing publications

a digital transformation. Additional terminologies, such as “business development,” “marketing,” and “small and medium-sized,” represent the ways in which digital is transforming organizations and marketing. The focal point of the cluster is digital transformation.

Cluster 4 – The “Impact of COVID-19” (Yellow) – is characterized by the terms “COVID-19” and “pandemic,” signifying the influence of the COVID-19 pandemic on the rapid integration of digital technologies in various sectors. The pandemic has stimulated the expansion of digital marketing.

The clusters exemplify significant digital marketing themes pertaining to audience engagement, transformation, strategy, and the repercussions of the pandemic. The analysis demonstrates the interrelationships between a variety of keywords and digital marketing as a whole.

### 3.9. Trends in digital marketing research for the future

Table 8 introduces three promising areas for future research on the topic of digital marketing. The first area delves into the impact of artificial intelligence and machine learning on the effectiveness of digital marketing. The second area delves into the potential of emerging technologies, such as virtual and augmented reality, to enhance customer experience and engagement. Finally, the third area emphasizes the importance of digital marketing strategies adapting to emerging social media platforms and leveraging their evolving capabilities to effectively reach target demographics. These three research avenues collectively highlight the increasing significance of utilizing advanced technologies and comprehending evolving consumer behaviors and preferences in order to enhance digital marketing endeavors beyond 2024.

As for the first area (the impact of artificial intelligence and machine learning on digital marketing), artificial intelligence and machine learning have fundamentally changed a number of sectors, including digital marketing. The incorporation of these technologies has had a profound effect on the manner in which organizations devise and implement their marketing campaigns. This subject explores the application of machine

learning and artificial intelligence within the domain of digital marketing. Integration of artificial intelligence and machine learning can improve digital marketing campaigns through the use of more accurate predictive models of customer behavior, more effective segmentation of customers, and personalized interactions with customers.

As for the second area, (the rise of virtual reality and augmented reality in digital marketing), the exponential progression of technology has designated the domain of digital marketing for the ascent of virtual reality and augmented reality). These immersive technologies have brought about a significant paradigm shift in the manner in which organizations interact with their intended demographic by providing unprecedented interactive experiences. Virtual reality entirely immerses users in a digital world by transporting them into a simulated environment. Users have the ability to investigate and engage with virtual landscapes, products, and services through the use of a virtual reality headset. This presents an unparalleled opportunity for marketers.

As for the third area (the evolution of social media platforms and the consequential effects on the field of digital marketing), the landscape of digital marketing has been profoundly altered in recent times by the advent of novel social media platforms. These platforms have significantly transformed the manner in which organizations establish connections with their intended demographic and advertise their merchandise or provisions. Social media platforms, such as Instagram, TikTok, and Snapchat, have created new opportunities for businesses to interact with their clients due to their exponential expansion. These platforms provide distinctive attributes and functionalities that enable organizations to generate aesthetically pleasing content and engage with their target audience.

The aforementioned topics indicate that forthcoming digital marketing research, post-2024, will place greater emphasis on emerging technologies such as artificial intelligence (AI), virtual reality/augmented reality (VR/AR), and novel social media platforms. Companies must be prepared to embrace and leverage new technologies and trends to enhance their effectiveness in digital marketing.

**Table 8.** Three possible directions for future digital marketing research

Research Topic	Research Questions	Key Studies
The impact of artificial intelligence and machine learning on digital marketing	How can AI and machine learning improve the effectiveness of digital marketing campaigns?	Singh et al. (2023) Blomster and Koivumäki (2022) Wang (2022)
	How to optimize predictive models based on AI and machine learning in digital marketing?	
	How should companies prepare to adopt AI and machine learning in digital marketing?	
	What are the ethical challenges when using AI and machine learning in digital marketing?	
The rise of virtual reality (VR) and augmented reality (AR) in digital marketing	Which AI and machine learning trends will have the biggest impact on digital marketing in the future?	Tang et al. (2023) Jaafar and Khan (2022) Luangrath et al. (2022)
	How can VR and AR be applied in digital marketing to improve customer experience?	
	What are the main challenges to applying VR and AR in digital marketing?	
	How can VR and AR help drive customer engagement?	
The development of new social media platforms and their impact on digital marketing	What VR and AR content should companies invest in to attract customers?	Al-Slehat (2023) Kitsios et al. (2021) Shah et al. (2021)
	How to measure the effectiveness of VR and AR in digital marketing?	
	What new social media trends will have the biggest impact on digital marketing in the next five years?	
	How can companies leverage the newest social media platforms effectively in digital marketing?	
	What digital marketing strategies fit best with new social media platforms?	
	How can new social media platforms change customer engagement approaches?	
	How should companies adapt to the continuous emergence of new social media platforms?	

## CONCLUSION

The objective of this bibliometric analysis was to delineate the progression and cerebral framework of digital marketing research throughout the previous two decades. A comprehensive examination of 513 articles spanning the years 2003 to 2024 unveiled a number of significant discoveries.

In the first place, the quantity of publications and citations pertaining to digital marketing has increased exponentially, suggesting a surge in scholarly attention. Furthermore, a limited number of esteemed marketing journals, such as *Industrial Marketing Management* and *International Journal of Research in Marketing*, published influential works. Third, influential authors were concentrated primarily in the United States, the Middle East, Europe, and Asia. Furthermore, the results of the keyword analysis indicated a focus on fundamental digital marketing approaches alongside nascent technologies, such as artificial intelligence and novel social media platforms. Furthermore, in relation to the impact of the pandemic, digital marketing strategy, audiences, and transformation, four conceptual clusters were identified. In conclusion, forthcoming prospects entail capitalizing on artificial intelligence, virtual reality, and adjusting to novel social media platforms.

The study offers empirical support for the notion that digital marketing has developed into a well-established, interdisciplinary domain. The results provide valuable perspectives on seminal publications, prolific academics, paradigm shifts, and the paths of research. This can facilitate the enhancement of theoretical frameworks, the improvement of curricula, and the direction of practical digital marketing initiatives. Marketers have the ability to prioritize channels that have a significant impact and stay updated with technological advancements.

Nevertheless, the literature search was limited to Scopus articles published in English. Subsequent investigations may broaden the range of sources to offer a more comprehensive perspective. Since bibliometric analyses also prioritize citations and publications, qualitative evaluation of content is constrained. Scholarly interviews and surveys may provide supplementary insights into developments. In its entirety, this paper substantially broadens the comprehension of the expansion of digital marketing as an academic discipline. The results can empower researchers to design influential research that corresponds with advancements in technology and society.



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Methodology: Nguyen Minh Sang.  
Software: Nguyen Minh Sang.  
Visualization: Nguyen Minh Sang.  
Writing – original draft: Nguyen Minh Sang.  
Writing – review & editing: Nguyen Minh Sang.

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