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Emerging trends in marketing and digital transformation: A bibliometric analysis of the Scopus database for the period 2021-2025.

ALI ABABBA [1*]

[1] Management Laboratory for Sustainable Economic Institutions, University of Eloued, Algeria, ababba-ali@univ-eloued.dz .

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Abstract:

Digital transformation has reshaped marketing practice and has generated a growing body of scholarly work at the intersection of the two fields. This study presents a bibliometric analysis of marketing and digital transformation research indexed in Scopus between 2021 and 2025. Following the PRISMA 2020 reporting guideline, an initial search returned 3,043 records; after applying the period, subject-area, language, document-type and exact-keyword filters, 200 journal articles formed the final sample. Annual output, citations, authors, countries and sources were analyzed with Microsoft Excel, and keyword co-occurrence and country density maps were produced with VOSviewer.

Annual output rose from 18 articles in 2021 to 75 in 2025. "Digital transformation", "digital marketing" and "marketing" were the most frequent keywords, and the keyword network groups artificial intelligence, big data, social media, customer engagement, customer experience and small and medium-sized enterprises (SMEs) into distinct clusters, with generative AI appearing as a small peripheral topic. Italy, the United States and the United Kingdom were the most productive countries, whereas citation impact was highly concentrated: a single article accounts for about half of all citations in the dataset. The study offers an updated map of the field, discusses the limits of the indicators used, and identifies directions for future bibliometric and empirical research.

Keywords: Digital Marketing; Digital Transformation; Bibliometric Analysis; VOSviewer; Scopus; Emerging Trends.

JEL Classification Codes : M31; M15; O33; L86; O32.

* ***Corresponding author: Dr. Ali ABABBA.***

1. INTRODUCTION

Digital transformation has become a central concern for organizations that operate in data-driven and technology-mediated markets. It is no longer a complementary strategic option but a condition for competitiveness and sustainability, and it involves a reshaping of business models and of organizational culture (Trushkina et al., 2020; Kwilinski et al., 2022). Marketing is one of the functions most directly affected: digital channels have blurred the boundary between physical and online environments and have pushed firms to rethink how they reach and interact with customers (Jackson & Ahuja, 2016; Homburg & Wielgos, 2022). More recently, artificial intelligence has made it possible to personalize customer experiences, to optimize advertising and to automate customer interaction at scale, while raising concerns about data privacy, algorithmic bias and transparency (Djaafari, 2024, p. 113; Ljepava, 2022).

The COVID-19 pandemic accelerated this movement. It altered consumer behavior, obliged companies to strengthen their digital sales channels (Kim, 2020; Almeida et al., 2020) and showed that digital technologies can support the resilience of relationships between business partners and the efficiency of marketing communication (Alalwan et al., 2021). Empirical studies from different contexts document the growing weight of digital channels in customer outcomes, for example in the Algerian banking sector (Guerfa & Bezgrari, 2023) and in social media marketing (Guettoufi & Slimani, 2026), and in business-to-business markets, where digital marketing trends and digital selling activities influence purchase decisions (Hien & Nhu, 2022; Alamäki & Korpela, 2021).

As the number of publications has increased, several reviews have tried to organize the literature. Some address digital transformation or digitalization in business in general, for instance through systematic review and citation network analysis (Hausberg et al., 2019; Calderon-Monge & Ribeiro-Soriano, 2024). Others focus on marketing: Miklosik and Evans (2020) reviewed 69 articles on the impact of big data and machine learning on the digital transformation of marketing, and Cioppi et al. (2023) reviewed 117 articles published between 2014 and 2020 and retrieved from Scopus with the terms "digital transformation" and "marketing", using content analysis to identify technology-related and impact-related themes. Meanwhile, studies on specific marketing topics keep multiplying, from case-based research on marketing capabilities (Moi & Cabiddu, 2021) to investigations of how digital technologies reshape marketing (Pascucci et al., 2023) and of digital e-marketing trends (Al-Ababneh, 2022). This growth makes it difficult to see the overall structure of the field at a glance.

Despite the growing number of studies on marketing and digital transformation, the knowledge structure of the field, the evolution of its themes, the distribution of scientific production across countries and sources, and its emerging topics still need an up-to-date bibliometric analysis that covers the post-2020 period, since the most recent review focused on marketing and digital transformation (Cioppi et al., 2023) ends in

2020 and relies on content analysis rather than on bibliometric mapping. A bibliometric approach is appropriate for this purpose because it describes the size, structure and dynamics of a research field quantitatively and reproducibly from publication metadata, and it complements narrative reviews that cannot cover such a large and fragmented literature.

Accordingly, the aim of this study is to map the scientific production on marketing and digital transformation indexed in Scopus between 2021 and 2025, in order to describe its growth, its most productive and influential authors, countries, sources and documents, and its conceptual structure. The central research question is: *What are the knowledge structure and the current trends of the scientific literature at the intersection of marketing and digital transformation?* It is addressed through the following sub-questions:

- **RQ1.** How did the annual scientific output evolve during 2021-2025?
- **RQ2.** Who are the most productive and influential authors?
- **RQ3.** Which keywords and conceptual clusters define the research themes, and which topics appear at the periphery of the field?
- **RQ4.** How are scientific output and citation impact distributed across countries?
- **RQ5.** Which documents are the most cited, and how concentrated are citations?
- **RQ6.** Which journals are the most productive and influential?

The study contributes an updated, transparent and reproducible map of the field, because the full search strategy and the filtering steps are reported; a cautious reading of citation indicators that separates productivity from impact; and an agenda for future research. The paper is organized as follows: Section 2 describes the methodology, Section 3 reports the results, Section 4 discusses them in light of the previous literature, Section 5 outlines future research directions, and Section 6 concludes and presents the limitations.

2. Research methodology

This study adopts a descriptive bibliometric design. Bibliometric methods use quantitative indicators computed from publication and citation data to describe the size, structure and evolution of a research field. No hypotheses or structural model are tested; the study analyzes the scientific literature on marketing and digital transformation, not the relationships between organizational variables.

2.1. Research design and tools

The identification, screening and inclusion of records follow the PRISMA 2020 statement (Page et al., 2021), which is used here as a reporting guideline. PRISMA is not a software package: it provides a checklist and a flow diagram, which are adapted in this study to a bibliometric search (Figure 1). Data were retrieved from Scopus; descriptive indicators (documents, citations and average citations) were calculated in

Microsoft Excel; and the keyword co-occurrence network and the country density map were produced with VOSviewer.

2.2. Data source

Scopus was used because it covers a wide range of peer-reviewed journals in business, management and marketing and allows structured export of bibliographic and citation data. The search was run on 21 June 2026. Citation counts therefore refer to that date, and publications from 2026 were excluded because the year was incomplete.

2.3. Search strategy

The initial query searched the title, abstract and keywords of Scopus records:

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TITLE-ABS-KEY ( marketing AND "digital transformation" )
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The following filters were then applied: publication years 2021 to 2025 (LIMIT-TO PUBYEAR 2021, 2022, 2023, 2024, 2025); subject area Business, Management and Accounting (LIMIT-TO SUBJAREA "BUSI"); language English (LIMIT-TO LANGUAGE "English"); document type article (LIMIT-TO DOCTYPE "ar"); and exact keywords "Digital Transformation", "Digital Marketing", "Generative AI", "Data Analytics" and "E-marketing" (LIMIT-TO EXACTKEYWORD). The exact-keyword filter increases the thematic relevance of the retrieved records, but it also means that the keywords used as filters are necessarily frequent in the sample; this point is taken into account when the keyword results are interpreted (Sections 3.3 and 4.3) and in the limitations (Section 6.1).

2.4. Screening and selection

The inclusion and exclusion criteria are summarized in Table 1. They were operationalized through the Scopus filters listed in Section 2.3. The initial query returned 3,043 records. In total 2,843 records (93.4%) were excluded because they did not meet one or more of the criteria: they were published outside the period 2021-2025 or in 2026, were classified outside the Business, Management and Accounting subject area, were not written in English, were not journal articles, or were not indexed under the exact keywords. The remaining 200 journal articles constitute the final sample (Figure 1).

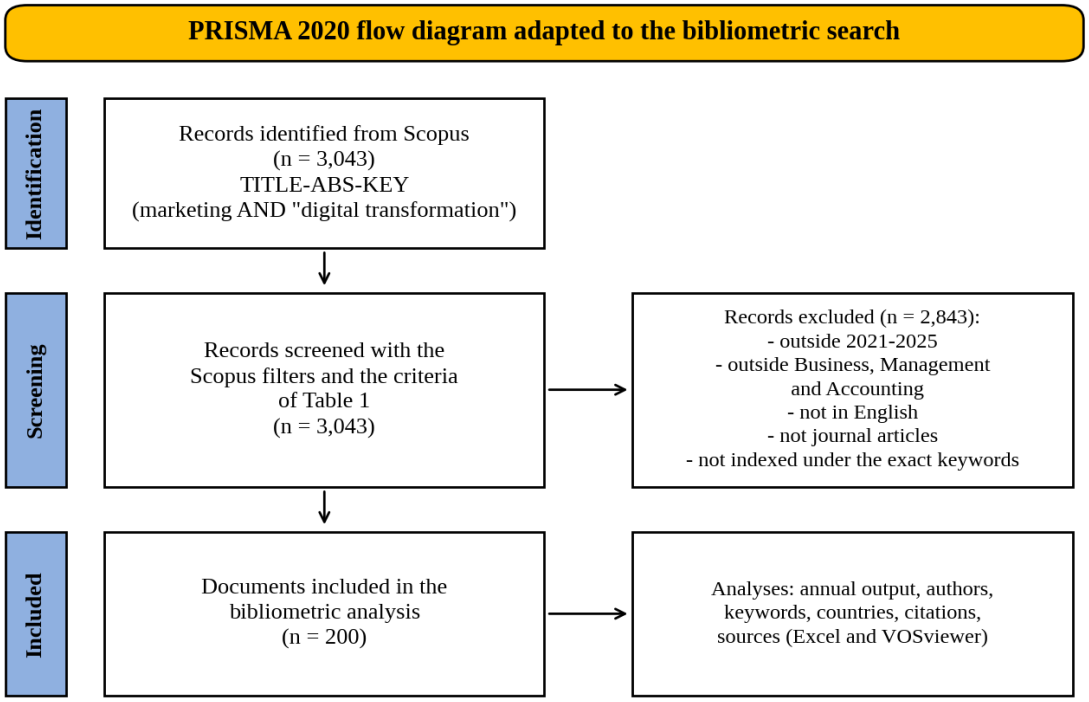
Table 1. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Research on marketing and digital transformation (title, abstract or keywords)	Research outside the specified subject area
Publications from 2021 to 2025	Publications before 2021 and those from 2026
Articles written in English	Publications in other languages
Journal articles; journals as the source type	Theses, conference papers, books, book chapters, blogs and all other source types
Records indexed under at least one of the five exact keywords	Records not indexed under these keywords

Source: Author's own work.

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Figure 1. PRISMA 2020 flow diagram adapted to the bibliometric search.



Source: Adapted from Page et al. (2021).

2.5. Data analysis and VOSviewer settings

Document counts, total citations and average citations were calculated from the Scopus export. The average number of citations per document is the total number of citations divided by the number of documents, and all citation counts were extracted from Scopus on 21 June 2026. Percentages are expressed relative to the final sample (N = 200 documents). Documents with authors from several countries are counted once for each country (full counting), so percentages by country, keyword or source do not add up to 100%.

VOSviewer was used to build the keyword co-occurrence network and the country density map. In the keyword network, the size of a node reflects the number of occurrences of the keyword, the colors identify clusters of keywords that co-occur frequently, and the total link strength of a keyword is the sum of the strengths of its co-occurrence links with the other keywords. Both maps display only the items retained by the selection thresholds of the software, so keywords and countries below those thresholds do not appear in the figures.

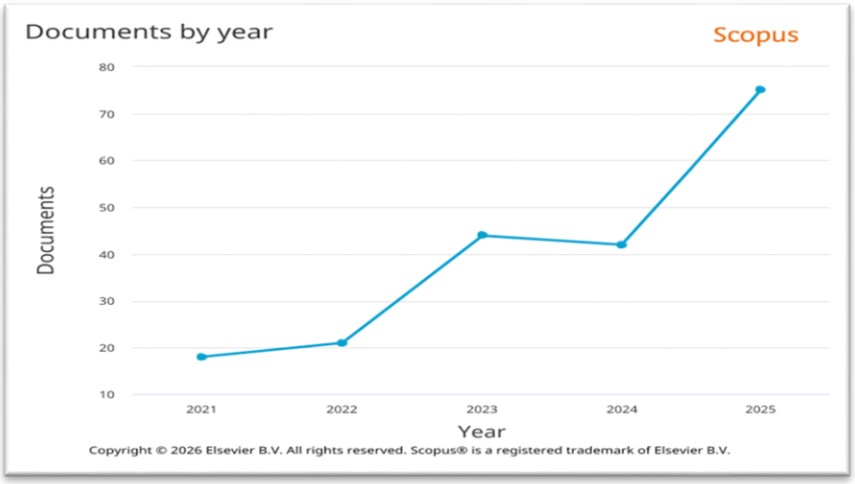
3. Results

This section reports the results of the bibliometric analysis for the 200 articles of the final sample. It follows the order of the research questions: annual output (RQ1), authors (RQ2), keywords and conceptual clusters (RQ3), countries (RQ4), most cited documents (RQ5) and sources (RQ6).

3.1. Annual scientific production

Figure 2 and Table 2 show a generally upward but irregular trend. Output increased from 18 articles in 2021 to 21 in 2022 and then doubled to 44 in 2023. It decreased slightly to 42 articles in 2024 (-4.5%) and reached its highest level in 2025 with 75 articles, which represent 37.5% of the whole sample. Between 2021 and 2025 annual output was multiplied by about 4.2, which corresponds to a compound annual growth rate of approximately 43%. The annual counts sum to the 200 articles of the final sample.

Figure 2. Annual scientific output on marketing and digital transformation, 2021-2025.



Source: Scopus (retrieved on 21 June 2026).

Table 2. Annual scientific output, 2021-2025.

Year	Documents	Share of the sample (%)	Cumulative documents
2021	18	9.0	18
2022	21	10.5	39
2023	44	22.0	83
2024	42	21.0	125
2025	75	37.5	200
Total	**200**	**100.0**	**200**

Source: Author's own work using Scopus data and Microsoft Excel.

3.2. Authors

The leading authors have the same level of productivity: each of the ten authors in Table 3 contributed two articles to the sample, so no author in the table has more than two documents. Differences appear in citation impact. Federica Pascucci is the most cited author, with 130 citations (65 per document), followed by Pasquale Del Vecchio and Giustina Secundo, each with 119 citations (59.5 per document). With only two documents per author, these averages are very sensitive to a single article: 121 of Pascucci's 130 citations (93%) come from one 2023 article (Figure 5).

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Table 3. Ten most cited authors, all with two documents in the sample.

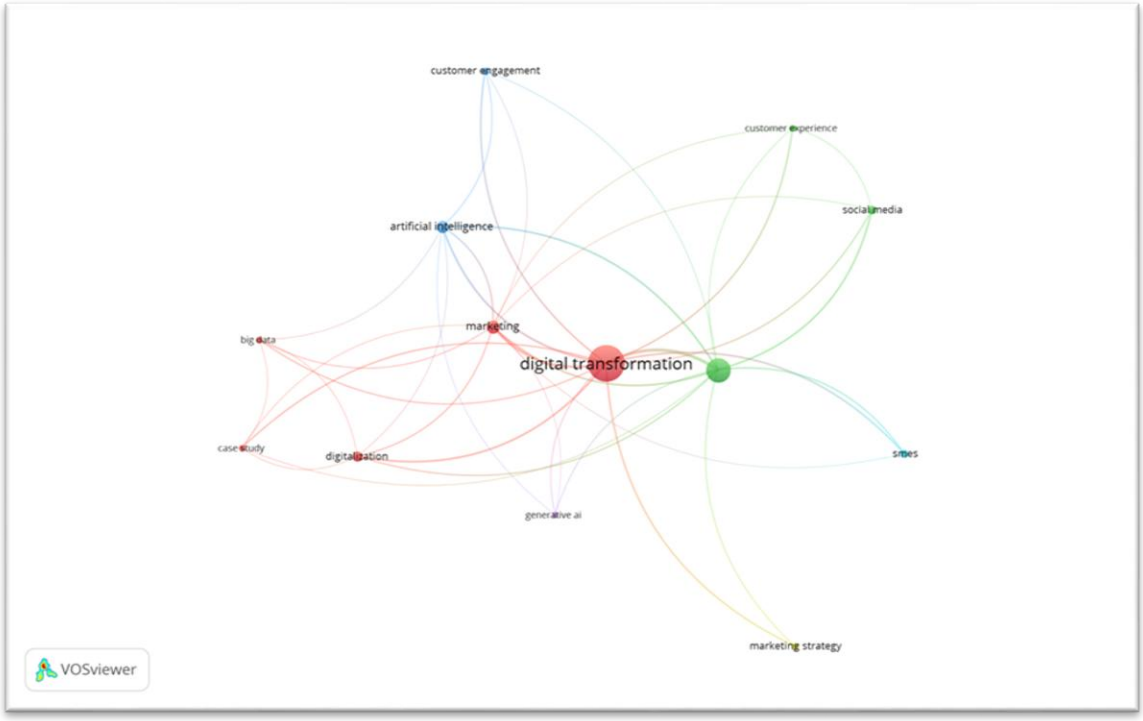
No.	Author	Documents	Citations	Average citations per document
1	Pascucci, Federica	2	130	65
2	Del Vecchio, Pasquale	2	119	59.5
3	Secundo, Giustina	2	119	59.5
4	Rangarajan, Deva	2	112	56
5	Stegmann, Pascal	2	89	44.5
6	Ströbel, Tim	2	89	44.5
7	Kumar, Harish	2	36	18
8	Zeqiri, Jusuf	2	30	15
9	Belitski, Maksim	2	21	10.5
10	Chotisarn, Noptanit	2	10	5

Source: Author's own work using Scopus data and Microsoft Excel.

3.3. Keyword co-occurrence network and thematic clusters

Figure 3 presents the keyword co-occurrence network and Table 4 lists the ten most frequent keywords with their total link strength. "Digital transformation" is by far the most frequent keyword: it appears in 151 of the 200 documents (75.5%) and has a total link strength of 157. "Digital marketing" (64 documents, 32.0%) and "marketing" (34 documents, 17.0%) follow. Although "marketing" is less frequent than "digital marketing", it has a higher total link strength (83 against 73), which means that it co-occurs with a wider range of other keywords. Because "Digital Transformation" and "Digital Marketing" were also used as exact-keyword filters (Section 2.3), their prominence is partly a consequence of the search design and is not interpreted here as an independent finding.

Figure 3. Keyword co-occurrence network.



Source: VOSviewer, based on Scopus data.

The network can be read as a set of thematic clusters, identified by color:

- **Core cluster (red):** "digital transformation", the largest node, together with "marketing", "digitalization", "big data" and "case study". This cluster links the digital transformation of firms with data-based approaches, and the presence of "case study" indicates that case-based designs are common in the sample.
- **Digital marketing and customer cluster (green):** the second largest node, which corresponds to "digital marketing" (Table 4), with "social media" and "customer experience".
- **Artificial intelligence and engagement cluster (blue):** "artificial intelligence" and "customer engagement".
- **Peripheral topics:** "SMEs", "generative AI" and "marketing strategy" appear as small nodes with few connections and few occurrences (no more than six, the lowest value in Table 4).

Technology-related terms (artificial intelligence, big data, generative AI) and customer-related terms (customer engagement, customer experience, social media) therefore occupy different clusters that are connected mainly through "digital transformation" and "marketing". Artificial intelligence (18 documents) is more frequent than big data (7 documents) in this sample.

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Table 4. Ten most frequent keywords and their total link strength.

No.	Keyword	Occurrences	Share of documents (%)	Total link strength
1	digital transformation	151	75.5	157
2	digital marketing	64	32.0	73
3	marketing	34	17.0	83
4	artificial intelligence	18	9.0	35
5	digitalization	12	6.0	23
6	social media	9	4.5	16
7	innovation	8	4.0	30
8	marketing strategy	8	4.0	17
9	big data	7	3.5	23
10	digital technologies	6	3.0	20

Source: Author's own work using Scopus data, Microsoft Excel and VOSviewer. Percentages are relative to N = 200 documents.

These results describe the conceptual structure of the sample. They do not show how themes evolved over time, because no temporal analysis of keywords was performed; terms with few occurrences, such as "generative AI" and "SMEs", are therefore described as peripheral topics and not as established research fronts.

3.4. Countries

Table 5 ranks the ten countries with the largest number of documents. Italy is the most productive country (24 documents, 12.0%), followed by the United States (23 documents, 11.5%) and the United Kingdom (19 documents, 9.5%). In terms of total citations, the United Kingdom (4,730), Italy (4,650) and the United States (4,276) lead, followed by Germany (4,172), France (4,014) and India (3,936). The highest average numbers of citations per document are found for Germany (417.20), France (364.91), India (262.40) and the United Kingdom (248.95). The ten countries include five advanced economies (Italy, the United States, the United Kingdom, France and Germany) and five emerging economies (China, India, Indonesia, Malaysia and Brazil); the latter contribute a large number of documents but, with the exception of India, have much lower citation averages (from 2.25 to 35.28).

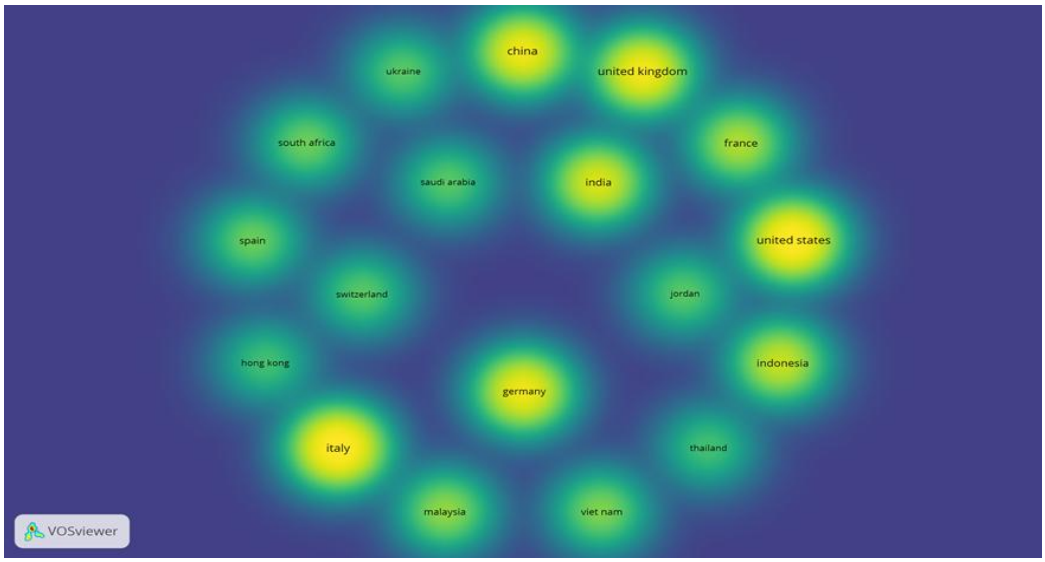
These averages must be read with caution. Each of the six countries with the highest totals has at least 3,936 citations, whereas the single most cited article in the dataset alone has 3,808 citations (Section 3.5). Under full counting, one highly cited multinational article is credited to every contributing country, so it may account for most of the citations of countries that have only 10 to 24 documents. The citation averages in Table 5 are therefore not a reliable indicator of the quality of the research produced in each country.

Table 5. Ten countries with the largest number of documents.

No.	Country	Documents	Share of documents (%)	Citations	Average citations per document
1	Italy	24	12.0	4,650	193.75
2	United States	23	11.5	4,276	185.91
3	United Kingdom	19	9.5	4,730	248.95
4	China	18	9.0	635	35.28
5	India	15	7.5	3,936	262.40
6	Indonesia	13	6.5	121	9.31
7	France	11	5.5	4,014	364.91
8	Germany	10	5.0	4,172	417.20
9	Malaysia	9	4.5	56	6.22
10	Brazil	8	4.0	18	2.25

Source: Author's own work using Scopus data and Microsoft Excel. Full counting; percentages are relative to N = 200 documents.

Figure 4. Density map of countries.



Source: VOSviewer, based on Scopus data.

Figure 4 displays 18 countries; the intensity of the color indicates the weight of each country. The brightest areas correspond to Italy, the United States, the United Kingdom, China, India, Germany, France and Indonesia. Countries with moderate intensity include Spain, Switzerland, Ukraine, South Africa, Hong Kong, Thailand, Vietnam, Malaysia, Saudi Arabia and Jordan. No links between countries are displayed, so the circular arrangement of the countries has no analytical meaning. Brazil, which is listed in Table 5, does not appear in the map, which displays only the countries retained by its selection threshold.

3.5. Most cited documents

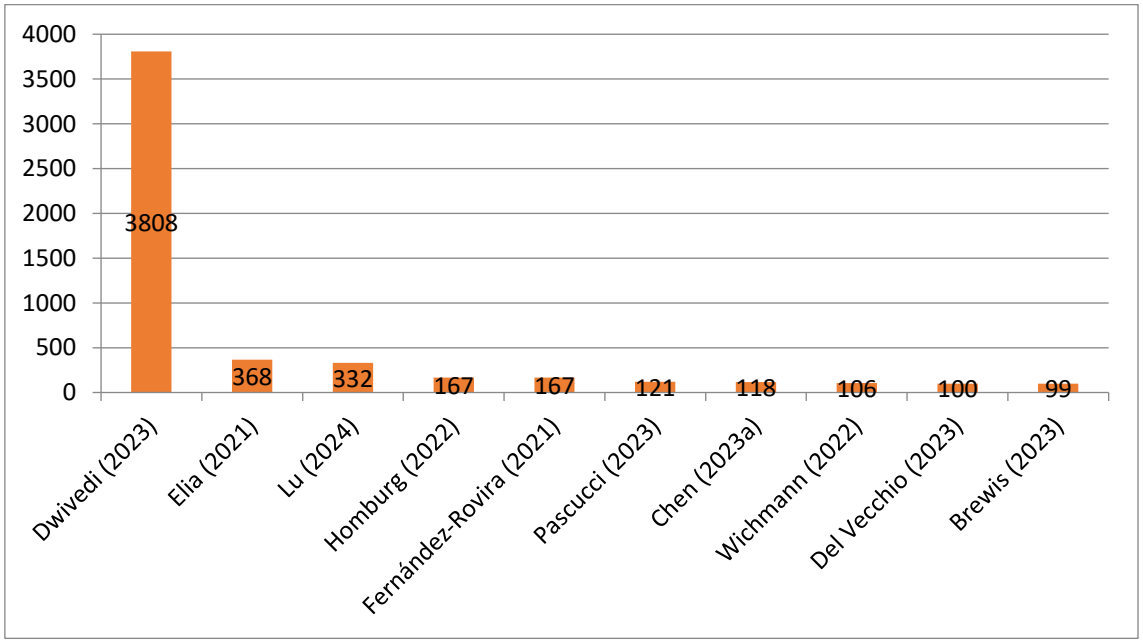
Citation data are available for 103 documents of the sample, with a total of 7,502 citations (Figure 5 and Table 6). The arithmetic mean is 72.8 citations per document,

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while the median is only 17; this large difference indicates a strongly right-skewed distribution dominated by a few outliers. In total 84.5% of the documents have 50 citations or fewer (Table 6).

The most cited document is Dwivedi et al. (2023a), with 3,808 citations, which represents 50.8% of all citations in the dataset. The second and third most cited documents have 368 citations (Elia et al., 2021, an article on digital technologies and capabilities in cross-border e-commerce) and 332 citations (Figure 5). The top three documents account for 60.1% of all citations, and the ten documents in Figure 5 account for 71.8%. When the most cited document is excluded, the mean falls from 72.8 to 36.2 citations. Dwivedi et al. (2023a) is a multidisciplinary opinion paper on generative conversational AI, not a marketing study in the narrow sense, which shows that the retrieved sample also contains documents whose main subject is generative AI in general.

Figure 5. Ten most cited documents in the sample (number of citations).



Source: Author's own work using Scopus data and Microsoft Excel.

Table 6. Distribution of documents by number of citations.

Citation range	Number of documents	Share of documents (%)
1-10	27	26.2
11-20	36	35.0
21-50	24	23.3
51-100	8	7.8
101-500	7	6.8
501 or more	1	1.0
Total	**103**	**100.0**

Source: Author's own work using Scopus data and Microsoft Excel. Percentages may not add up to 100 because of rounding.

3.6. Journals and publication sources

Table 7 shows the ten most cited sources with their number of documents and citations. *Technological Forecasting and Social Change* and the *Journal of Digital and Social Media Marketing* published the largest number of documents (7 each, 3.5% of the sample each). However, their citation profiles differ strongly: 477 citations (68.14 per document) for the first and 18 citations (2.57 per document) for the second. The *Journal of Business Research* has the highest citation impact, with 566 citations from 5 documents (113.20 per document). Publication is spread across journals focused on technology and innovation (*Technological Forecasting and Social Change*, *European Journal of Innovation Management*), general business (*Journal of Business Research*, *Cogent Business and Management*) and marketing (*Industrial Marketing Management*, *Journal of Business and Industrial Marketing*, *Journal of Digital and Social Media Marketing*, *Revista Brasileira de Marketing*). The source of the most cited document, *International Journal of Information Management* (Dwivedi et al., 2023a), does not appear in Table 7, which shows that source rankings depend on the selection criteria applied.

Table 7. Ten most cited sources in the sample.

No.	Source	Documents	Share of documents (%)	Citations	Average citations per document
1	Journal of Business Research	5	2.5	566	113.20
2	Technological Forecasting and Social Change	7	3.5	477	68.14
3	Cogent Business and Management	4	2.0	72	18.00
4	European Journal of Innovation Management	4	2.0	63	15.75
5	Journal of Business and Industrial Marketing	3	1.5	60	20.00
6	Industrial Marketing Management	3	1.5	39	13.00
7	Problems and Perspectives in Management	4	2.0	20	5.00
8	Journal of Digital and Social Media Marketing	7	3.5	18	2.57
9	Revista Brasileira de Marketing	5	2.5	17	3.40
10	Emerald Emerging Markets Case Studies	4	2.0	10	2.50

Source: Author's own work using Scopus data and VOSviewer. Percentages are relative to N = 200 documents.

4. Discussion

This section interprets the results following the sequence result, comparison with the literature, interpretation and contribution. The closest earlier work is the review by

Cioppi et al. (2023), which covers 2014-2020 and distinguishes macro-themes related to the digital technologies adopted in marketing from micro-themes related to their effects on marketing processes and activities. The present study covers the following period, 2021-2025, and uses a different method, so the figures are not directly comparable; broader reviews of digital transformation and digitalization in business (Hausberg et al., 2019; Calderon-Monge & Ribeiro-Soriano, 2024) and the review of big data and machine learning in marketing (Miklosik & Evans, 2020) are complementary in the same way.

4.1. Growth of the literature

Annual output grew from 18 to 75 articles between 2021 and 2025, with a pause in 2024. This growth probably reflects several simultaneous factors: the post-pandemic consolidation of digital channels (Kim, 2020; Alalwan et al., 2021), the diffusion of artificial intelligence and, since 2022-2023, of generative AI (Dwivedi et al., 2023a), and the increasing number of journals indexed in Scopus. Because the period is short and the sample depends on the exact-keyword filters, the growth rate is a descriptive indicator and not evidence of a causal effect. Its contribution is to provide a quantitative baseline against which later updates of this map can be compared.

4.2. Productivity and impact of authors

No author in Table 3 has more than two documents, and the ranking by citations depends largely on one article per author (for instance, 121 of Pascucci's 130 citations). Individual impact in this field therefore seems to be driven by single influential articles, such as Pascucci et al. (2023) on how digital technologies reshape marketing, and not by sustained productivity of a core group of authors. Author-level averages based on two documents should not be used to rank scholars; their value here is to show that the field is still dispersed.

4.3. Thematic structure and emerging topics

The central position of "digital transformation" is expected, since it is a search term, and the informative result is which topics connect to it. The keyword network separates technology-related topics (artificial intelligence, big data, generative AI) from customer-related topics (customer engagement, customer experience, social media), which are linked mainly through "digital transformation" and "marketing". This suggests that the literature in the sample deals with technologies and with customer outcomes as related but not yet fully integrated themes, an interpretation that should be tested with co-citation or bibliographic coupling analyses. Among the most cited documents, Homburg & Wielgos (2022) links digital marketing capabilities to firm performance and Dwivedi et al. (2023a) discusses generative conversational AI, which is consistent with the presence of performance-oriented and AI-oriented topics. The separation between technology-related and customer-related clusters is also consistent with the distinction that Cioppi et al. (2023) draw between the digital technologies adopted in marketing and their effects on marketing activities. Generative AI and SMEs

appear at the periphery with few occurrences. Generative AI is discussed in other business domains as well (Doanh et al., 2023), and research on SMEs addresses the strategic action fields of digital transformation (Peter et al., 2020). Whether these topics are becoming research fronts can only be established with a temporal analysis, which is proposed in Section 5.

4.4. Geographical distribution

Production is led by Italy, the United States and the United Kingdom, and five emerging economies are among the ten countries with the most documents. This indicates that research on marketing and digital transformation is internationally distributed, not limited to advanced economies. The very high citation averages of Germany and France, based on 10 and 11 documents, do not allow the conclusion that these countries produce foundational theories: the totals are probably dominated by one multinational article (Section 3.4), and a sensitivity analysis without that article is needed before drawing conclusions. Likewise, the data do not show whether researchers in emerging economies are testing models developed elsewhere; answering this would require a content analysis of the documents.

4.5. Sources

Publication is spread across technology, innovation, general business and marketing journals, which is consistent with the interdisciplinary nature of the topic. The high average impact of the *Journal of Business Research* (113.20 citations per document) is based on only five documents and is therefore sensitive to a few articles. The contrast between the productivity of the *Journal of Digital and Social Media Marketing* (7 documents) and its low citation average (2.57) shows that a high number of documents does not guarantee a high citation impact, although the short period available for citation, particularly for recent articles, may also contribute.

4.6. Contribution, implications and research gap

The main contribution of the study is an updated and transparent description of the structure of marketing and digital transformation research for 2021-2025, accompanied by an explicit discussion of the limits of the indicators: percentages are reported against a defined sample, citation averages are shown together with their dependence on a few articles, and the effect of the search design on keyword frequencies is acknowledged. For researchers, the results identify peripheral topics (generative AI, SMEs) and the weak connection between technology-related and customer-related themes as opportunities. For journal editors, the dispersion of publications across technology, business and marketing journals suggests that thematic issues bringing these communities together may be useful. The research gap that remains is the lack of analyses of the temporal evolution of themes, of the intellectual base of the field (co-citation and bibliographic coupling) and of international collaboration networks; these are outside the scope of the present descriptive analysis and are proposed as the next step.

5. Future research directions

On the basis of the results and the limits of the study, future research could proceed in the following directions:

- **Deeper bibliometric analyses:** co-citation analysis, bibliographic coupling, thematic evolution and overlay visualizations by publication year, analysis of international collaboration networks and detection of emerging topics, ideally cross-checked with Web of Science and with broader search strings.
- **Artificial intelligence and generative AI in marketing:** the low frequency of "generative AI" in the network and the weight of general documents on this subject suggest the need for marketing-specific studies on personalization, consumer trust, privacy, algorithmic bias and transparency (Djaafari, 2024; Dwivedi et al., 2023a, 2023b).
- **Linking technologies to customer outcomes:** technology-related and customer-related keywords appear in different clusters, so empirical studies that connect digital technologies with customer engagement, customer experience and firm performance, preferably with longitudinal designs, are needed (Homburg & Wielgos, 2022).
- **SMEs and emerging markets:** the contribution of emerging economies is visible in the number of documents but not in citation impact, which calls for context-specific studies, including in Arab and African settings, and for research on how SMEs adopt digital marketing.
- **Organizational culture, crises and sales efficiency:** empirical studies could test models that relate digital organizational culture, crisis response and relationship governance to sales efficiency across channels (Trushkina et al., 2020; Alalwan et al., 2021). Such models require primary data and fall outside the scope of a bibliometric study.

6. Conclusion

This study mapped 200 journal articles on marketing and digital transformation indexed in Scopus between 2021 and 2025. Annual output increased from 18 articles in 2021 to 75 in 2025 (RQ1). Authorship is dispersed: the most cited authors have only two documents each, and their impact depends on single articles (RQ2). "Digital transformation", "digital marketing" and "marketing" are the most frequent keywords, partly because of the search design, and the network separates technology-related from customer-related clusters, with generative AI and SMEs at the periphery (RQ3). Italy, the United States and the United Kingdom are the most productive countries, and emerging economies are well represented in volume but less in citation impact (RQ4). Citations are highly concentrated: one article accounts for 50.8% of the citations of the 103 cited documents and the ten most cited articles for 71.8% (RQ5). Technological Forecasting and Social Change and the Journal of Digital and Social Media Marketing

published the most documents among the leading sources, while the Journal of Business Research has the highest average citation impact (RQ6).

The study provides an updated and reproducible description of the structure of the field and a cautious reading of the indicators used. Its findings are descriptive: they show how the literature is organized, not why, and they do not test relationships between marketing and digital transformation variables.

6.1. Limitations

First, data were collected from Scopus only. Journals indexed in other databases such as Web of Science may not be included, and the results may be sensitive to database coverage; this sensitivity was not tested. Second, the search strategy combined the query TITLE-ABS-KEY (marketing AND "digital transformation") with exact-keyword filters. Relevant documents that use other terms (for example digitalization, e-commerce or AI-based marketing) may have been missed, and the keywords used as filters are overrepresented in the keyword analysis. Third, the sample is restricted to English journal articles in the Business, Management and Accounting subject area, so conference papers, books, other languages and documents classified in other subject areas are excluded. Fourth, the study covers 2021-2025, publications from 2026 were excluded, and citations were extracted on 21 June 2026; recent documents have had less time to be cited, which favors older documents in citation indicators. Fifth, the analysis is descriptive: co-citation, bibliographic coupling, thematic evolution and collaboration network analyses were not performed, and averages based on few documents are sensitive to outliers. Finally, interpretations of the maps describe the structure of the sample and do not replace a content analysis of the documents.

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