

A Bibliometric Analysis of Viral Marketing

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Article Info

Article history:

Received June, 2026

Revised June, 2026

Accepted June, 2026

Keywords:

Viral Marketing
Bibliometric Analysis
Social Network Analysis
Influence Maximization
eWOM
VOSviewer

ABSTRACT

The present study provides a bibliometric analysis of research in viral marketing and identifies its intellectual structure and evolution of topics, along with scholarly impact. Bibliometric data were obtained from a scientific database (e.g., Scopus), which was subsequently analyzed with the application of bibliometric methods, namely, co-occurrence analysis, co-authorship mapping, citation analysis, and visualization of keywords via VOSviewer. As per the findings of the analysis, viral marketing research can be said to have a foundation in computational network science, namely influence maximization, social network analysis, and data-driven diffusion models. In addition, a second stream of research concentrates on behavioral and communicative aspects, such as word-of-mouth, emotional motives behind sharing content online, and user engagement. Finally, there is a clear temporal trend related to a shift from the basic network theory to a greater focus on issues of online platforms and algorithms. It should be noted, however, that there is some thematic contamination in the dataset owing to the inclusion of biomedical literature for the COVID-19 period.

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1. INTRODUCTION

In recent years, the rapid evolution of technology and social media platforms has dramatically changed the manner in which firms interact with their customers. Marketing techniques that were based on paid advertisements have gradually been replaced by those which aim to involve the customer in marketing practices [1], [2]. Among such techniques, the concept of viral marketing has proven itself to be highly effective and cost-saving when it comes to delivering marketing information to the masses. Viral marketing is defined as the technique in which the marketing message is passed on from

individual to individual through digital networks, creating an exponential increase in coverage just like in the case of a virus [2], [3]. The emergence of social networking sites, video sharing websites, instant messaging services, and user-generated content communities has greatly contributed to the development of viral marketing practices [4].

With the expansion of the digital economy and the use of social media globally, there has been a rising awareness of the value of viral marketing. Instead of consumers receiving marketing messages passively, they are becoming more involved in the process of producing, sharing, and evaluating messages

through online media [3]. Previous studies have found that e-word-of-mouth (eWOM), social influence, and peer recommendations are important factors influencing consumers' attitudes and purchase intentions [5]–[7]. Thus, companies are now investing more effort into developing interesting content that can engage consumers and promote brands effectively. Viral marketing efforts have been implemented in different fields such as retail, entertainment, tourism, healthcare, and education.

Viral marketing has received much attention among academic scholars in the fields of marketing, communication, information systems, and consumer behavior over the past twenty years. Prior studies have covered various aspects of viral marketing such as message, emotions, motivations, social networks, influencer marketing, engagement and content sharing behaviors [8]. The effectiveness of viral marketing in terms of building brand awareness, engagement, purchase intention, and loyalty has been examined by researchers. In recent years, due to advancement in digital communication technology, new research topics such as artificial intelligence, social commerce, short video sharing platform, and content recommendation system have been added to the area of study in viral marketing.

Though viral marketing research has developed substantially, the existing scientific literature is characterized by fragmentation and lack of integration in the context of distinct scientific disciplines and theoretical approaches. Research on this subject matter has already been carried out under various conditions, using different approaches and focusing on various aspects of viral communication. Although narrative and systematic literature review articles have provided significant insights into the particular themes, they tend to provide little information about the whole structure of scientific knowledge and its evolution in this area. The intensive development of technology and appearance of new digital media platforms has led to fast publication of scientific papers that make it increasingly hard for scientists to find influential papers,

authors, themes, and tendencies in the research area.

In recent times, bibliometrics has gained immense popularity as a means of studying the progress and structure of scientific knowledge in various academic disciplines. Through the use of statistical techniques that analyze the trends in publications, citation graphs, co-authorship connections, and co-occurrences of keywords, bibliometric approaches offer a systematic review of research development and influence [9]. In contrast to the conventional approach to literature reviews, bibliometrics allow researchers to recognize clusters of knowledge, intellectual base, research focus areas, and potential areas for future studies on the basis of extensive publication records. Considering the fast growing area of viral marketing and its significance for today's digital marketing activities, it will be important to conduct a bibliometric study.

Despite the growing attention of scholars to viral marketing and despite the fact that this topic is one of the most widely discussed issues in the sphere of digital marketing, there is still a lack of information regarding its overall scientific landscape and intellectual structure. Current studies mainly concentrate on some of the aspects of viral marketing, including consumer behavior, social media interaction, and electronic word-of-mouth communication, but do not offer a comprehensive review of how this field has developed through time. Furthermore, the growing amount of publications in this sphere makes it difficult to identify important authors, top organizations, collaboration patterns, and research directions. Consequently, the lack of a comprehensive bibliometric analysis prevents researchers from tracing the patterns of development, knowledge structure, and future directions of viral marketing research. This study aims to analyze the global research landscape of viral marketing through a comprehensive bibliometric approach.

2. METHODS

The bibliometric research design is adopted in this study in order to investigate and analyze the evolution and intellectual structure of research on viral marketing. This kind of analysis is a quantitative method that allows the investigation of scientific literature through publication performance, citation analysis, and science mapping (Donthu et al., 2021). The data used in the current research was collected from the Scopus database, which is considered one of the largest sources of peer-reviewed scholarly literature. The reason for choosing Scopus is the large scope of databases and the great variety of high-quality journals, conferences, and academic literature available there. The data collection process was done by means of the keyword “viral marketing,” used in the title, abstract, and keywords field. The data were collected in relation to the subject of research and published up to 2026 and indexed in Scopus.

Bibliometric mapping and visualization were done using VOSviewer software tool. The software is commonly used in creating and visualizing bibliometric networks based on author collaborations, citation patterns, bibliographic coupling, and keyword co-occurrences (Van Eck & Waltman, 2010). In this study, the keyword

co-occurrence method was adopted to extract the leading themes, thematic clusters, and underlying concepts of viral marketing research. Network visualization helped identify the linkages between the keywords and research themes, overlay visualization was conducted to analyze changes in research themes over time, and density visualization helped in identifying well-studied and new areas in the field.

3. RESULTS AND DISCUSSION

3.1 Keyword Co-Occurrence Network

The visualization represents a keyword co-occurrence network generated using VOSviewer for the topic of viral marketing. At a structural level, the map is organized into three dominant clusters (green, red, and blue), with node size reflecting frequency of occurrence and link thickness indicating the strength of co-occurrence relationships. The most central nodes—“viral marketing” and “marketing”—function as the primary intellectual anchor of the network, indicating that the literature is still heavily concentrated around core marketing and diffusion concepts..

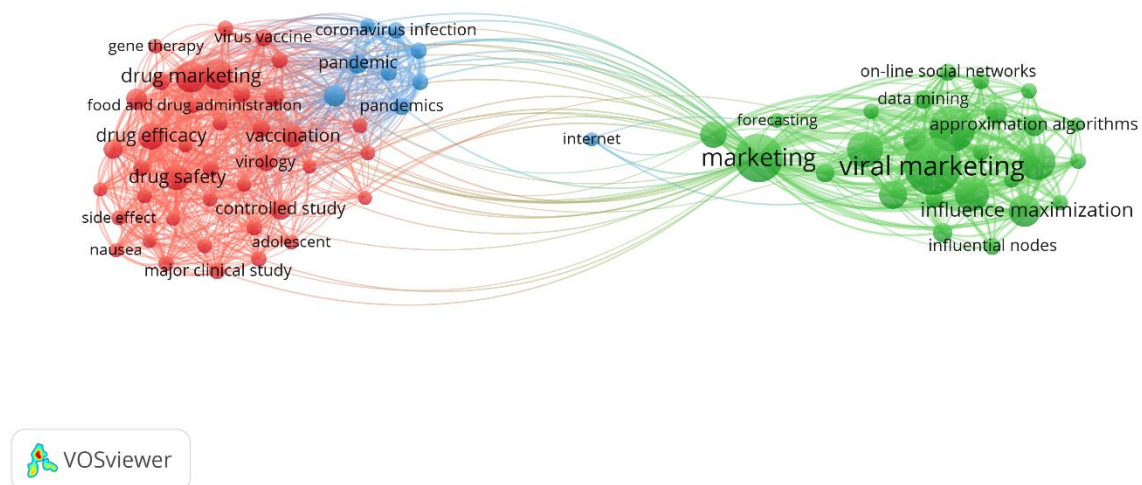


Figure 1. Network Visualization

Source: Data Analysis Result, 2026

Cluster of green color on the right depicts the core of academic literature on digital/viral marketing. These concepts include the following terms: social networks, data mining, influence maximization, approximation algorithms, and influential nodes. This particular cluster demonstrates a technical branch of scientific research that originated mainly from the disciplines of computer science and network theory. In this case, viral marketing is treated as the phenomenon of information dissemination. High density of connections of this particular cluster proves that the field is well-developed and structured enough.

On the other hand, the red cluster on the left is influenced by biomedical and pharmaceutical terms like drug marketing, vaccination, virus vaccine, virology, drug safety, and clinical trial. It reveals that there is semantic overlap issue in the data set, since the term viral has been misused within the data. Rather than focusing on marketing issues, some of the data sets deal with research about viruses and medicines. It means that the search criteria applied to obtain the data was not effective enough.

The blue cluster serves as an intermediary bridging between these two worlds, as it includes keywords such as internet, pandemic, coronavirus infection, and pandemics. The blue cluster shows the connection between biomedical and digital marketing areas and thus can be viewed as another illustration of interdisciplinary spill-over that occurred within the context of the COVID-19 period when all three areas were interconnected to some extent.

The visualization indicates both the robustness and the methodology of the dataset. Although the green cluster truly reflects the knowledge base of the study on viral marketing that is concentrated around the topic of social networks and computational models of diffusion, the existence of the red and blue biomedical clusters can be attributed to the noise caused by the lack of precision in keywords. It seems that further bibliometric studies would have to focus on better search methods (such as limiting to marketing subject areas) to ensure a clearer intellectual map of the field.

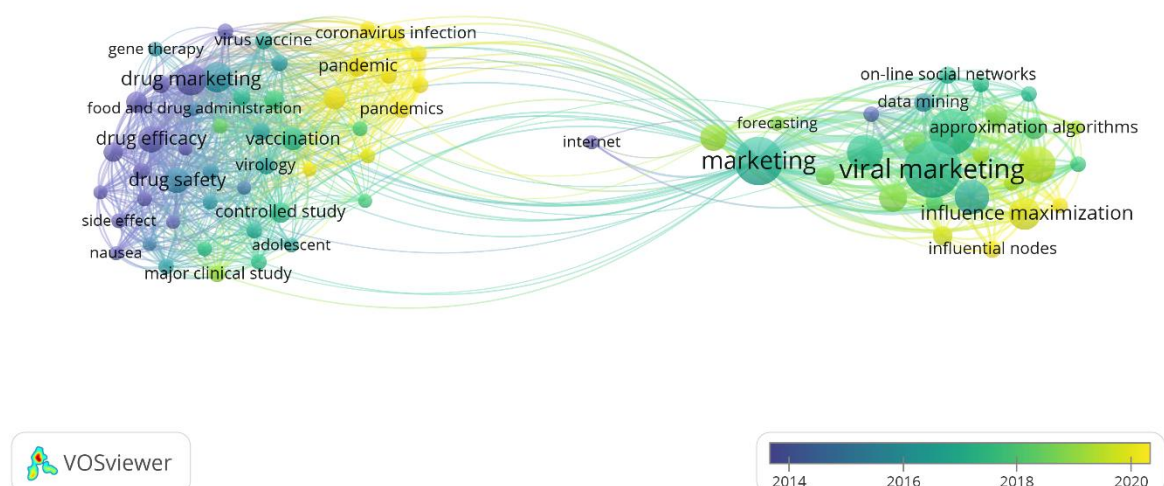


Figure 2. Overlay Visualization

Source: Data Analysis Result, 2026

The figure above shows a VOSviewer overlay map for the keyword co-occurrence in viral marketing literature, with the color of the nodes denoting time trend of publications from 2014 (dark blue) to 2020 (yellow). It can be seen that the core structure is still characterized by the keywords “viral marketing” and “marketing.” This implies that viral marketing literature is still grounded in digital marketing and network diffusion literature. From the map, it can be seen that the geographical configuration is demarcated into a computational marketing cluster on the right and a biomedical cluster on the left side of the map.

Viewed temporally, the earlier literature (2014-2016), colored in blue and purple shades, appears to be very focused on the use of biomedical/pharmaceutical jargon such as drug marketing, drug safety, virology,

clinical trials, and vaccination. It implies that the early part of the literature set has used “viral” in a context of medicine/clinics and not in relation to marketing diffusion. Thus, there exists a basic noise level in bibliometric search, with disciplinary ambiguity shaping keyword usage in the early period.

Recent works (2018-2020) in light green and yellow colors have clearly moved to a paradigm of computational and social networks based viral marketing. Influence maximization, data mining, approximation algorithms, online social networks and influential nodes can be found among most frequent keywords in the right side cluster. It is evident that the field has matured in terms of research focus and became more algorithmic. The intellectual turn is very clear from the biomedical confusion towards the area of digital marketing and network science.

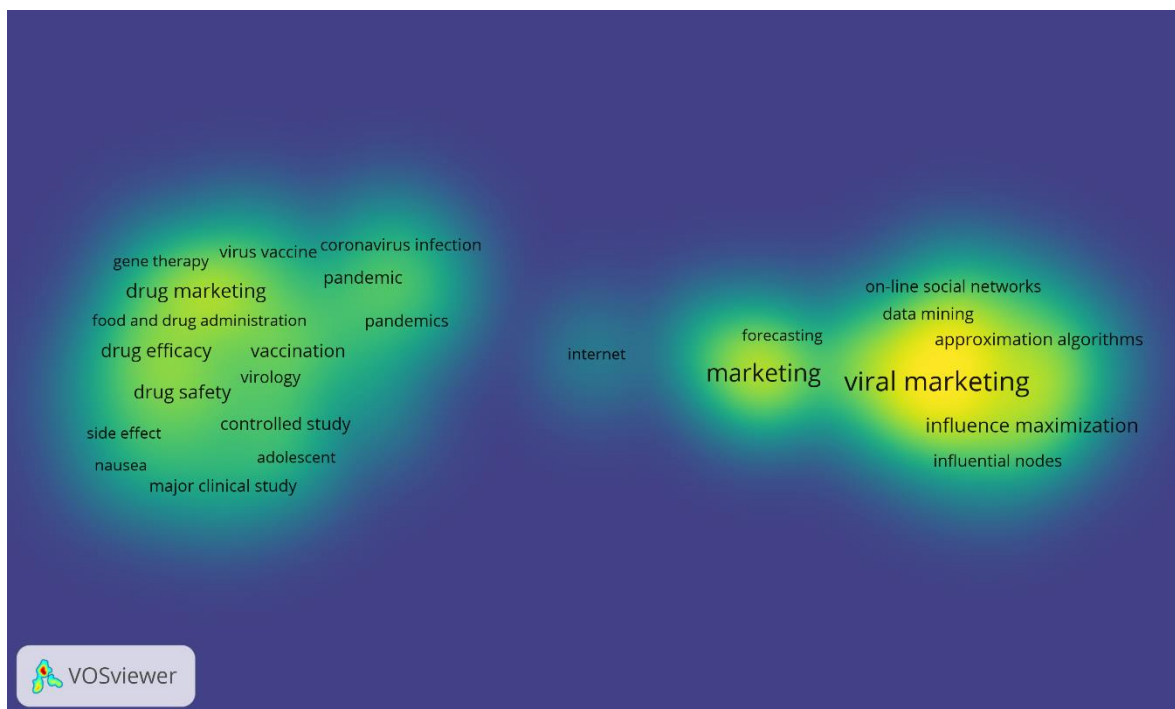


Figure 3. Density Visualization

Source: Data Analysis Result, 2026

The density view reveals the concept density in the field of viral marketing research, which refers to the regions where the keywords appear together more often. The brightest area in the figure is near “viral marketing” and “marketing.” These concepts

can be regarded as the main intellectual hubs of the studied topic. Some of the highly dense areas that are tightly interconnected include “data mining,” “online social networks,” “influence maximization,” and “approximation algorithms.” In other words,

the literature seems to be dominated by computational approaches and network analysis.

On the other hand, the left density cluster is spread out but still distinctive in nature, with biomedical-oriented concepts such as “drug marketing,” “drug safety,” “vaccination,” and “pandemic” among others forming its content. This reduced density of

the left cluster when compared to the one on the right shows that the topics contained within are not very essential to the current knowledge base of viral marketing. The spatial distance between the two zones emphasizes the divergent nature of marketing studies from biomedical researches.

3.2 Co-Authorship Analysis

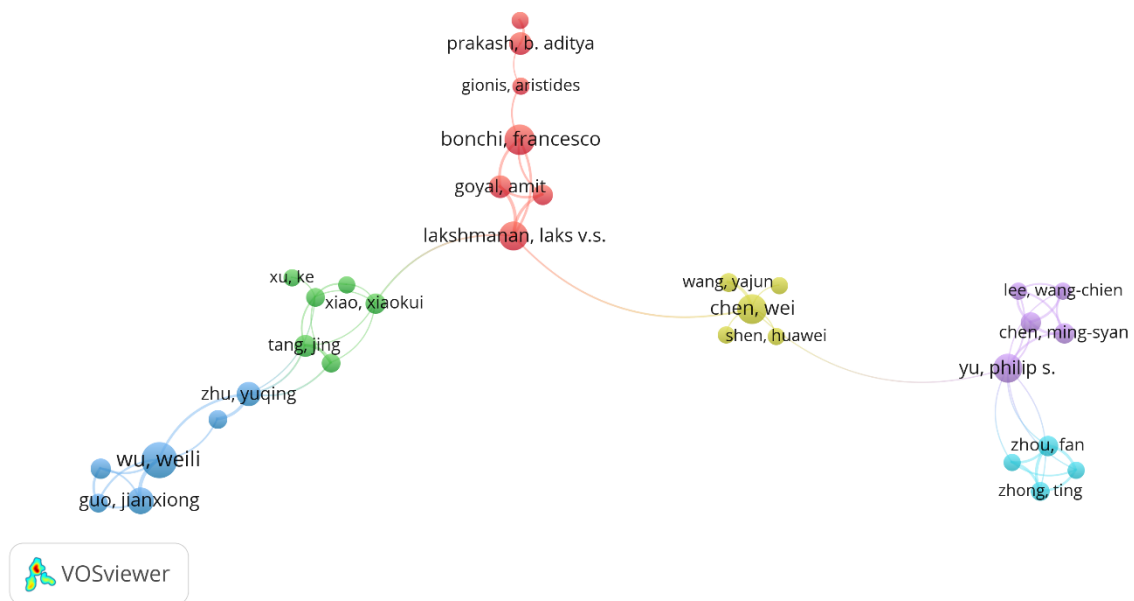


Figure 4. Author Visualization

Source: Data Analysis Result, 2026

The network graph visualizes the structure of collaboration among researchers conducting studies related to viral marketing. The fragmented nature of this scholarly field is clearly visible, as there are several clusters of authors whose works have been studied independently. On the left side of the graph, there is a blue-green cluster consisting of names such as Guo Jianxiong, Wu Weili, Zhu

Yuqing, Tang Jing, Xiao Xiaokui, and Xu Ke, which shows that this is an extremely coherent cluster of scholars who are most likely working on the computational aspects of viral marketing. In the middle part of the graph, there is a red cluster consisting of names such as Lakshmanan Laks V.S., Goyal Amit, Bonchi Francesco, Gionis Aristides, and Prakash B. Aditya.

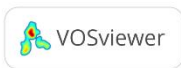


Figure 5. Institution Visualization

Source: Data Analysis Result, 2026

This illustration highlights the existence of a sparse collaboration network among institutions in the viral marketing or computational marketing field of study, whereby the network is organized in a long chain form as opposed to a dense network cluster. In the center of this network is

Microsoft Research (USA), which plays the role of a broker or an intermediary linking together the other two ends of the network, which are made up of the following institutions: the university's computer science faculty on one end and City University of Hong Kong on the other.

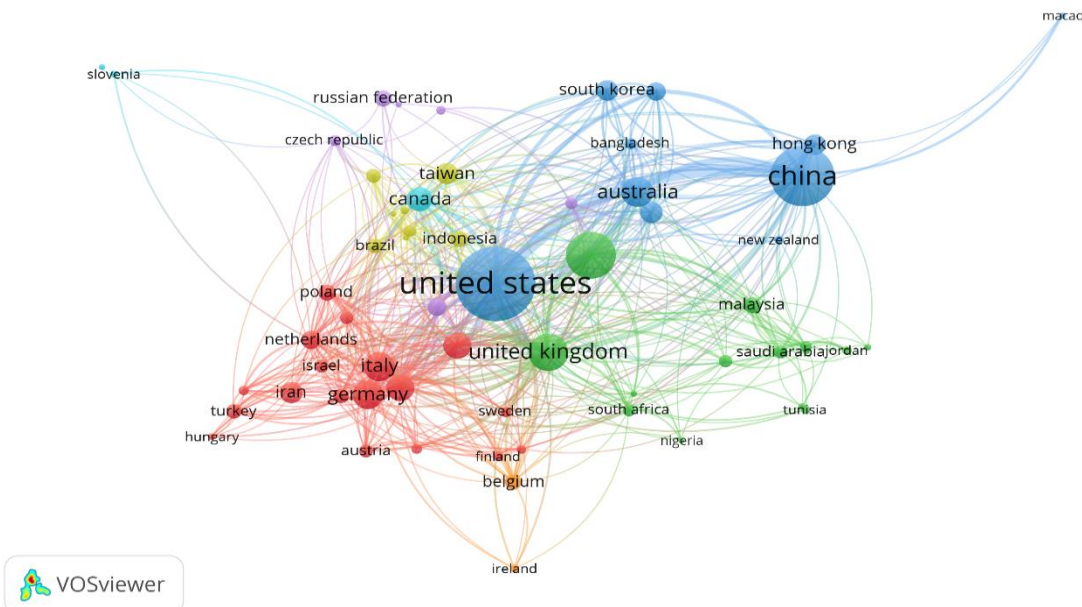


Figure 6. Country Visualization

Source: Data Analysis Result, 2026

The visualization shows the co-authorship and research collaboration network on a national level, with the size of each node representing the level of publications or collaboration and link weight showing the amount of international collaboration. The United States and China stand out to be the two major hubs in the network, being located in the center with the biggest nodes and most number of links, which shows that they have been the leaders in generating global research and have been the major bridging countries between different clusters around the globe.

It is obvious that the network has clusters based on geography. One can note the well-established East Asia cluster consisting of China, Hong Kong, South Korea, and neighboring regions. In addition, there is a

compact European cluster, which consists of Germany, Italy, the Netherlands, and neighboring countries. One more cluster consists of developing nations like Brazil, Indonesia, Malaysia, and South Africa; they are connected through the process of participating in global scientific interactions; however, their centrality is relatively low.

Based on the above analysis, it is clear that there exists a highly centralized system of research globally where the United States of America and China form two pivotal nodes in knowledge creation and distribution. Although the collaborations are widespread geographically, it is not evenly spread out and the peripheral countries are mainly linked through the hub countries and not through direct linkages from region to region.

3.3 Citation Analysis

Table 1. Top Cited Research

Citations	Authors and year	Title
7493	[10]	Maximizing the spread of influence through a social network
2613	[11]	What makes online content viral?
2543	[12]	Measuring user influence in twitter: The million follower fallacy
2487	[13]	Mining the network value of customers
1615	[14]	Scalable influence maximization for prevalent viral marketing in large-scale social networks
1524	[15]	Coronavirus Infections-More Than Just the Common Cold
1513	[16]	The dynamics of viral marketing
1421	[17]	Mining knowledge-sharing sites for viral marketing
1210	[18]	Word of mouth and interpersonal communication: A review and directions for future research

Source: Scopus, 2026

The citation structure reveals a strongly interdisciplinary foundation underpinning viral marketing and related diffusion research, with two dominant intellectual streams shaping the field. On one hand, highly cited works from computational and network science—such as [10] on influence maximization, [12] on user influence in Twitter, and [16] on viral marketing dynamics—establish the formal algorithmic and structural backbone of the field. These studies focus on modeling information diffusion, optimizing influence spread, and

quantifying network effects, and they remain foundational due to their strong methodological contributions and long-term theoretical relevance.

On the other hand, another stream is based on behavioral and communication studies, illustrated by [8] and [18], that focus on psychological and social factors behind virality like emotions, word-of-mouth processes, and interpersonal communication.

4. CONCLUSION

In this study, bibliometric analysis was conducted of the existing viral marketing research to identify its intellectual structure and evolution in terms of themes and impact. Information was gathered from scientific databases such as Scopus, and the bibliometric analysis included co-occurrence analysis, co-authorship networks, citation analysis, and keyword visualization through VOSviewer. The findings show that the majority of research in viral marketing is based on computational network science, including influence maximization, social network analysis, and data-driven diffusion

models. Another research stream highlights the behavioral and communication aspects of the concept, including word-of-mouth communications and drivers for content sharing, user interaction online. In addition, there is a chronological change in the research agenda of viral marketing; more recent works concentrate on platform-specific dynamics and optimization of algorithms as opposed to the early research that is concerned with the basics of the network theory. Nevertheless, the dataset suffers from the thematic contamination since biomedical literature was included during the coronavirus pandemic because of the meaning of the term “viral.”

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