

Digital Marketing and Sustainable Economic Development Trends in Developed and Underdeveloped Countries: A Bibliometric Analysis

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Abstract. The level of socioeconomic development depends on the mode of production, and the world economies have undergone revolutions from agricultural, industrial, and then digital, giving rise to developed, developing and **underdeveloped** economies. The purpose of this research is to use bibliometric analysis to study the trends of digital marketing and sustainable development in developed and underdeveloped countries. The authors resorted to the Scopus database to extract 119,981 documents for developed economies and filtered **them** to 29,071 for Scopus analysis. Then, 9854 documents were also extracted for underdeveloped economies and refined to 2850 to **perform** comparative analysis. The filtered documents were exported to VOSviewer for visualization mapping, including coauthorship and co-occurrence analysis using English. The results revealed **that** the total number of documents produced in developed economies from 1950 to 2023 was 29065, compared to 2816 produced in underdeveloped economies, representing just 8.9% of the total world output. The study revealed a general upward growth trend in both developed and underdeveloped economies. The results further revealed that developed economies strengthened their research collaborations, the United States was the most influential for developed economies, **and** China was the most influential in research done in developing economies. The research findings indicate that digital marketing has been the most influential among the cowords and the main driver of the global economy between developed and underdeveloped.

1 Introduction

This research focused on using bibliometric analysis to assess the trend of digital marketing between 1950 and 2023 on sustainable economic development in developed and underdeveloped countries. Digital marketing plays a significant role in marketing performance [1] and societal transformation. Digital marketing has emerged as the greatest

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revolution that ever occurred following agricultural and industrial revolutions that categorized the world economies into developed, developing and underdeveloped. The various revolutions, including agricultural and industrial revolutions, had limitations in taking a partial approach by promoting unsustainable growth and little human-centered development. However, digital marketing is a driver of sustainable development with a holistic and human-centered approach. During the Industrial Revolution, businesses prioritized economies of scale over customer happiness to generate enormous profits. However, in the digital economy, CRM has grown to be a key factor in predicting organizational effectiveness and sustainability [2]. The Industrial Revolution focused on productivity and profits, but digital marketing promotes a customer-centered economic system including customer relationships [3–6], loyalty [7–12], customization [13–22], R&D [23–32], and globalization [33–44], all of which are sustainability factors [45–51].

By contrasting traditional marketing with electronic marketing, Najm et al. [23] evaluated the impact of electronic marketing on the growth of national economies. The study used economic parameters such as cost, speed, and market and compared them in both traditional and electronic marketing. Coauthorship analysis was performed to examine the collaboration patterns between countries and to identify the most influential countries in digital marketing and sustainable economic performance. Keyword co-occurrence analysis was performed to examine the frequency of different keywords of digital marketing and the sustainable economic performance of developed and underdeveloped economies. The findings showed that from 1950 to 2023, developed economies created 29065 papers overall, whereas only 2816 documents from underdeveloped economies—representing just 8.9% of global output—were produced. In both wealthy and developing economies, the analysis found a general upward growth tendency. The findings also showed that developed economies improved their research partnerships, with the United States having the most influence on research conducted in developed countries, while China had the greatest influence on research conducted in developing economies. The results of the study show that digital marketing has been the most important economic factor for both developed and undeveloped countries, outweighing all other factors. The results again revealed that COVID-19 has become an integral part of digital marketing and sustainable economic performance [52–65] in both developed and underdeveloped economies. COVID-19 was associated with innovations, public health, education, vaccines, diagnosis, epidemiology, etc.

At the micro level, businesses can profit from digital marketing, which includes search engine optimization, content marketing, influencer marketing, content automation, e-commerce marketing, campaign marketing, social media marketing, social media optimization, display advertising, e-books, optical discs and games, WhatsApp, Facebook, and more [24]. Additionally, digital marketing is cost-effective. Developed countries continue to collaborate and invest in digital marketing through research and innovations, and there has been a growing trend since 2000, while underdeveloped countries invest little and remain underdeveloped. Digital marketing tactics help to advance sustainable development by encouraging sustainable consumption habits through the analysis of customer behavior [25,66–76]. Contemporary consumers depend on digital platforms for product and service information before patronage, hence the need for both developed and underdeveloped countries to research digital marketing.

2 Literature Review

Through the integration of CRM and related elements, the industrial economy has become digital thanks to the invention of computers and the Internet. This has various advantages, including an increase in research documents, enhanced collaborations, and the emergence of digital marketing [2,77–86]. Digital marketing has become the main driver of development

in the contemporary global economy. Digital marketing is the use of traditional communications alongside the Internet and related digital technologies to accomplish marketing goals [25,87–91]. Another definition of digital marketing is the use of a variety of information technologies to reshape marketing strategies and increase the benefits received by consumers [92–98]. Perhaps the greatest revolution that ever occurred following agricultural and industrial revolutions that categorized the world economies into developed, developing and underdeveloped is the digital revolution. The industrial and agricultural revolutions that occurred in Western economies, including the USA, UK, France and Germany, divided the world economies into industrialized or developed and underdeveloped economies. Most African and South American countries that skipped industrialization became underdeveloped.

Economic development is seen in comparative terms by comparing some determinants of development. Traditionally, factors such as gross domestic product, national income, and per capita income were used to determine economic development, which had limitations as they measured economic growth. The studies by [99,100] revealed other factors that promote human-centered development and reflect on the living standard of the people, including high quality of human capital, high technology, innovation, R&D, stable political environment, high degree of openness (networks, links), secure formal institutions (legal system, property rights, tax system, finance system), good infrastructure, capacity for adjustment (flexibility), specialization in knowledge and capital intensive sectors, significant foreign direct investment, free market economy (low state intervention), rich natural resources, and robust macroeconomic management. Countries that had higher scores were regarded as developed and vice versa. However, digital marketing appears to be the main driver of development in the contemporary global economy.

The invention of computers in 1951 by John Eckert and W. Mauchly and the discovery of the internet by the US military gave birth to digital marketing to replace traditional marketing. By contrasting traditional marketing with electronic marketing, Najm et al. [23] evaluated the impact of electronic marketing on the growth of national economies. The study of economic parameters utilized in marketing—cost, speed, market, etc.—and compared them in both traditional and electronic marketing. It discovered a favorable relationship between the use of electronic marketing and the growth of the economy. The study discovered distinct variances in regard to implementing electronic marketing to increase the marketing effectiveness of all commodities and foster economic growth. The economic system has seen significant changes due to digitalization, including shifts in consumer preferences, shopping habits, and the marketing industry [101].

According to previous studies [102], the global economy has advanced quickly thanks in large part to digitalization, and in developed economies, the digital market is one of the most well-known and established platforms. In developed economies, organized digitalization has a 75-80% share in total marketing compared with developing economies. A growing number of businesses now have access to digital technologies, which opens up new possibilities for market and consumer research and analytics, client communication across the consumer lifecycle, and brand recognition and loyalty development [99].

E-marketing via the Internet is currently an important necessity. It is one of the important means of achieving the needed marketing goals. After 1990, the Internet began to have an impact on businesses and organizations [101]. In developed economies, especially the USA, through research, many digital innovations came out from contemporary digital entrepreneurs who created various digital marketing and social media platforms. In his garage, Jeff Bezos launched Amazon.com in 1994 as an online bookshop. Over time, it evolved into a fantastic online retailer. Mark Zuckerberg also developed Facebook to be an influential digital platform.

E-commerce, according to Cordes & Marinova [100], helps both small and large firms in industrialized economies. To find a formal study on the use of e-commerce in sustainable development models for reducing poverty in Sub-Saharan Africa and the level of innovation, entrepreneurship, and collaboration among SMEs, the authors reviewed the literature and research.

Across the low-income spectrum, the review discovered a lack of formal research into theories and useful tactics for sustainability advances. Organizational frameworks have not been created to encourage outreach, support entrepreneurship and innovation, or use technology. Additionally, there is little discussion of the value of cooperation in knowledge sharing and collaborative commercial endeavours. The fastest way for managers and entrepreneurs to progress is through marketing, which is also the most powerful force for economic growth and development.

3 Methods

To achieve the objectives of the study, the researchers systematically followed the relevant methods. Since Scopus has the largest database and the most renowned research publications, the study used it for the analysis, and then, visualization analysis was performed using VOSviewer. Thus, the analysis includes quantitative, qualitative, and structural factors that measure a researcher's output performance, productivity, and institutional relationships [2,4,22,70].

To ascertain the comparative analysis results for developed and developing countries regarding digital marketing and sustainable economic development, different input searches were made for developed and underdeveloped countries, namely, “digital marketing” OR “sustainable economic development” OR “underdeveloped countries”, which yielded 9854 documents, filtered to 2850, “digital marketing” OR “sustainable economic development” OR “developed countries”, which also yielded 119,981 documents filtered to 29,071 for Scopus analysis, out of which 20,000 were exported to VOSviewer for visualization analysis. Refine; document type included: Article, book chapter, conference paper, Language: English; the reason is that most metadata are in English. English; the reason is that most metadata are in English.

For the language options, English was selected because most metadata are in the English language. To achieve the study objectives, yearly performance data from Scopus analysis were used to determine the pattern of growth. Regarding the comparative analysis between developed and underdeveloped countries, country coauthorship analysis was performed using VOSviewer to determine the level of collaboration and growth. Again, keywords and country co-occurrence analysis were performed to determine the most influential sustainability elements for digital marketing and sustainable economic growth.

To achieve the objectives of digital marketing and sustainable marketing performance trends, a bibliometric analysis was performed as follows:

1. To analyze yearly document production from the Scopus database and determine the trends of digital marketing and sustainable economic development in comparative terms between developed and underdeveloped countries.
2. To use VOSviewer visualization and perform coauthorship analysis to examine the collaboration patterns between countries and to identify the most influential countries in digital marketing and sustainable economic development.
3. To perform keyword co-occurrence analysis and examine the frequency of different keywords or the most influential elements of digital marketing and sustainable economic development.

4 Results and Discussion

Figs. 1 and 2 depict the comparative analysis of digital marketing and sustainable economic development trends in developed and underdeveloped economies. The results show some variations that may account for the differences in the levels of socioeconomic development in developed and underdeveloped economies. First, the total number of research documents produced in developed economies from 1950 to 2023 was 29065, compared to 2816 research documents produced in underdeveloped countries between 1951 and 2023. According to the data, developed economies produce an average of 398 documents per year compared to 39 documents produced in underdeveloped countries, representing 8.9% of the total world research documents within the study area. This implies that underdeveloped countries are integrating just approximately 9% of digital marketing into their economic activities, thereby becoming victims of the digital divide and hence underdevelopment. Most underdeveloped countries still rely on traditional marketing, but digital marketing has development advantages over traditional marketing.

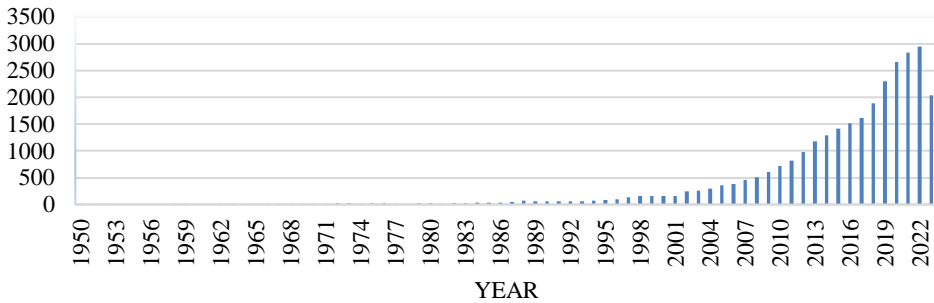


Fig. 1. Digital Marketing and Sustainable Economic Development Trends in Developed Economies from 1950 to 2023

Source: Generated by the author from the Scopus database.

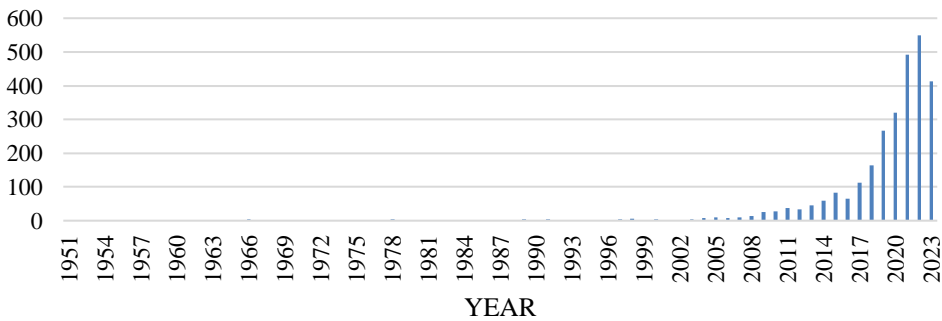


Fig. 2. Digital Marketing and Sustainable Economic Development Trends in Underdeveloped Economies from 1951 to 2023

Source: Generated by the author from the Scopus database.

After 1990, the Internet began to have an impact on businesses and organizations [23]. As of 2021, there were an astounding 4.66 billion individuals using the Internet, or 59.5% of the world's population [102]. Therefore, the trend shows a tremendous increase in the number of internet users, and most of them engage in digital marketing to promote sustainable economic development. Whereas developed economies produced 65 research documents in 1990 underdeveloped had only 1 research document constituting just 1% of the total world

output, an indication of underdevelopment. The highest number of documents produced by underdeveloped economies was 549 in 2022 developed countries, which produced 609 documents in 2009, approximately 13 years apart, indicating the level of development gap between developed and underdeveloped economies in terms of digital marketing.

Regardless of the industry in which businesses may be engaged, digital marketing trends are nevertheless expanding quickly [103–111]. The graph indicates an upward and faster growth after the year 2000, showing a rapid growth rate of digital marketing, resulting from the digital revolution including the discovery of Facebook in 2004 by Mark Zuckerberg, WhatsApp in 2009, and Instagram in 2010. The growth of research in developed countries has resulted in inventions and innovations [112–120]. Consequently, the creation of online stores led to the digital marketing revolution and the creation of the global economy, but most underdeveloped countries continued to depend on traditional marketing.

By contrasting traditional marketing with electronic marketing, Najm et al. [23] evaluated the impact of electronic marketing on the growth of national economies. The study of economic parameters utilized in marketing—cost, speed, market, etc.—and compared them in both traditional and electronic marketing. It discovered a favorable relationship between the use of electronic marketing and the growth of the economy. The studies [121–124] discovered distinct variances in the use of electronic marketing to improve the efficiency of all commodities' marketing and create an economy for attaining sustainable development.

Figure 3 indicates that developed and emerging economies, including the United States, United Kingdom, China, Australia and India, invested more in research to study digital marketing and sustainable economic development and produced 23,346 documents, with an average of 2334.6 documents, compared to 1909 research documents done in underdeveloped economies, with an average of 190.9 documents. The United States topped the number of research documents (6098) produced in developed economies, indicating that more discoveries and innovations relating to digital marketing originated from the US economy, which is the most developed. China, as an emerging country, also studies more in underdeveloped countries to strategically position herself as a trade partner in underdeveloped economies.

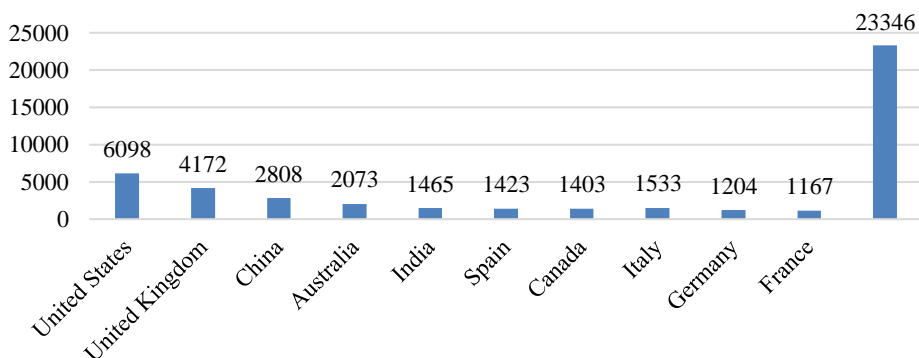


Fig. 3. Digital Marketing and Sustainable Economic Development Research by Country Trends in Developed Economies

Source: Generated by the author from the Scopus database.

Figures 4 and 5 indicate Vosviewer Coauthorship visualization mappings for developed and underdeveloped economies and the levels of collaboration. The results show that there are stronger collaborations among developed economies in the area of digital marketing and sustainable economic development. The results from developed economies were 146 items, 8 clusters, 3847 links and 30937 total link strength, whereas underdeveloped economies had

82 items, 9 clusters, 734 links and a total link strength of 1536. The United States had the largest node, indicating the most influence, followed by the United Kingdom.

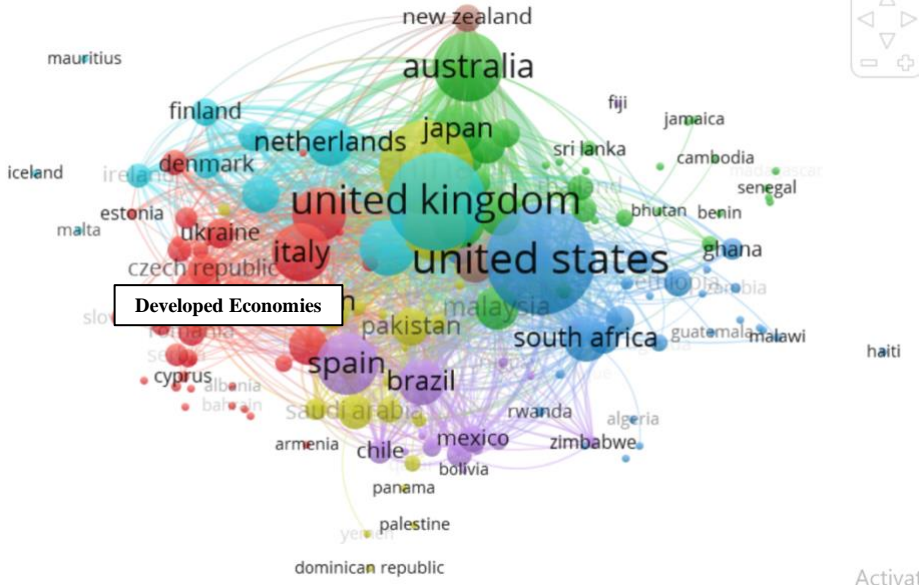


Fig. 4. Coauthorship by Country Analysis (developed countries)

Source: Visualization mapping generated by authors from Scopus and VOSviewer 1.6.17

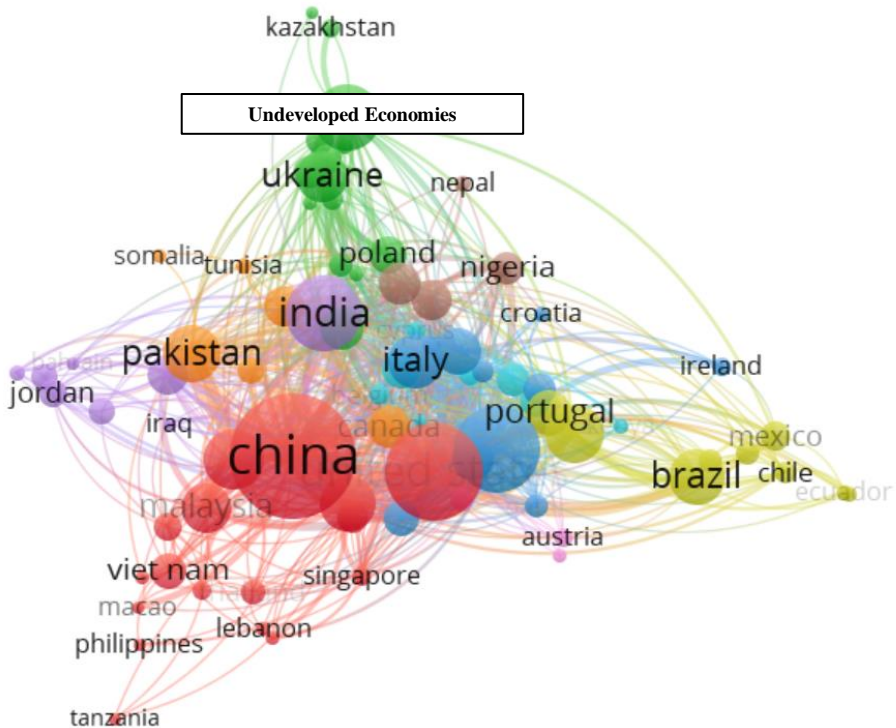


Fig. 5. Coauthorship by Country Analysis (undeveloped countries)

Source: Visualization mapping generated by authors from Scopus and VOSviewer 1.6.17

The study further revealed stronger collaborations among the developed economies supported by the thickness of the links. The United States and the United Kingdom have stronger collaborations as the nodes are closer to each other. Most developed countries collaborate among themselves to research, innovate and sustain their economies. Underdeveloped economies such as Haiti, Cambodia, Senegal, and the Dominican Republic have little or no collaboration. Nigeria, Tanzania and Somalia show little collaboration with both developed and underdeveloped economies. Comparatively, there is low digital marketing capacity and capabilities in most underdeveloped countries, preventing them from taking advantage of the benefits accrued and developing their economies. Fig. 6 indicates the China factor. China has the largest node and therefore the most influential in regard to research collaborations in underdeveloped economies. China wants to gain markets and harness resources in underdeveloped economies.

He [120] observed how science advances while using the coword analysis method to discover connections between themes in a research field. Figure 6 indicates a digital marketing cluster with the largest node and the most influential elements. Digital marketing has 137 links, a total link strength of 679 and 428 occurrences. The research findings indicate that digital marketing has been the most influential among the cowords and the main driver of the global economy between developed and underdeveloped.

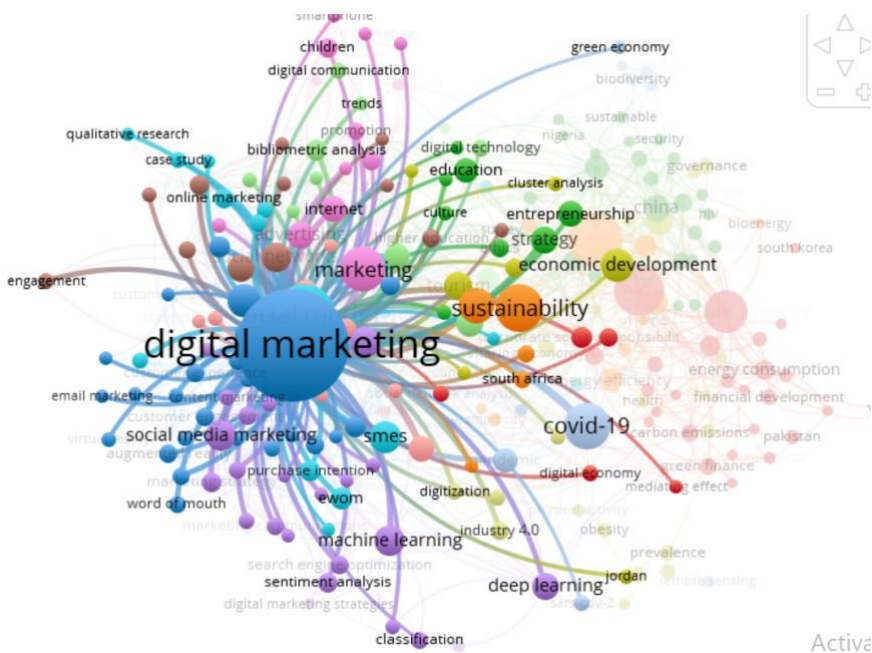


Fig. 6. Depicting the elements of digital marketing
Source: Visualization mapping generated by authors from Scopus and VOSviewer 1.6.17

Digital marketing does not work in isolation but integrates digital technology, the internet, social media marketing, machine learning, digital communication, digital economy, e-mail marketing, online marketing SMES, etc. Digital marketing requires digital infrastructure, including the internet, social media platforms, education, and machine learning, to develop digital marketing capabilities. COVID-19 has affected the way we do business and has become an integral part of contemporary business systems. The coword visualization therefore clearly shows COVID-19 as an integral element of digital marketing (Fig. 7).

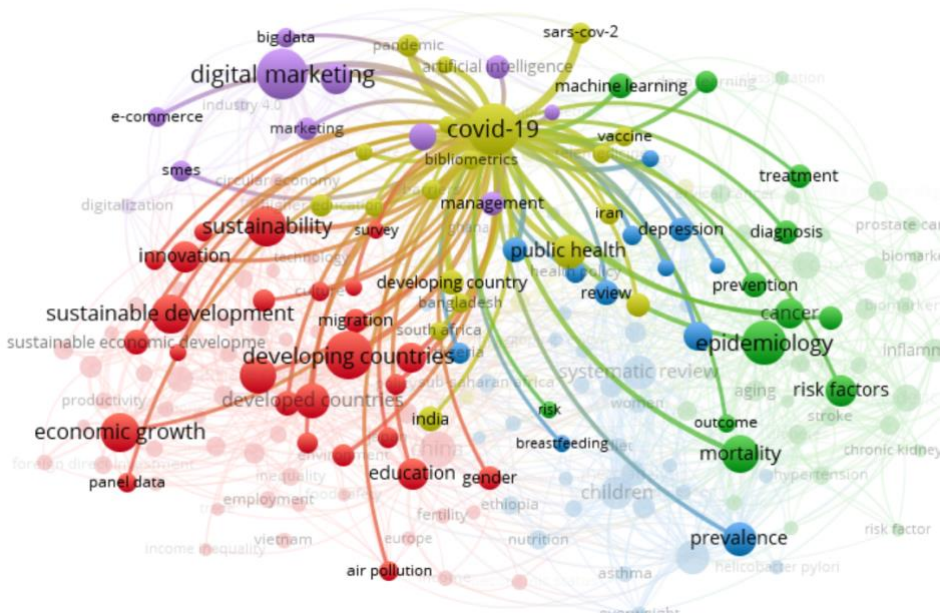


Fig. 7. Depicting COVID-19 as an integral part of digital marketing and sustainable economic performance in both developed and underdeveloped economies.
Source: Visualization mapping generated by authors from Scopus and VOSviewer 1.6.17

COVID-19 was associated with innovations, public health, education, vaccines, diagnosis, epidemiology and general awareness as well as a paradigm shift in business systems, processes, etc. (Fig 8).

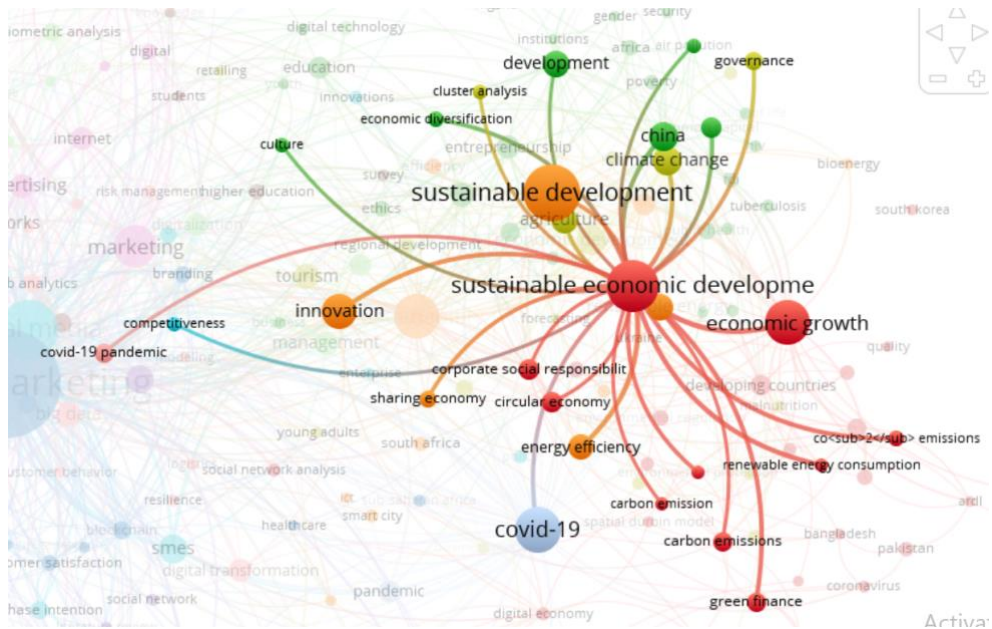


Fig. 8. Showing Elements of Sustainable Development
Source: Visualization mapping generated by authors from Scopus and VOSviewer 1.6.17

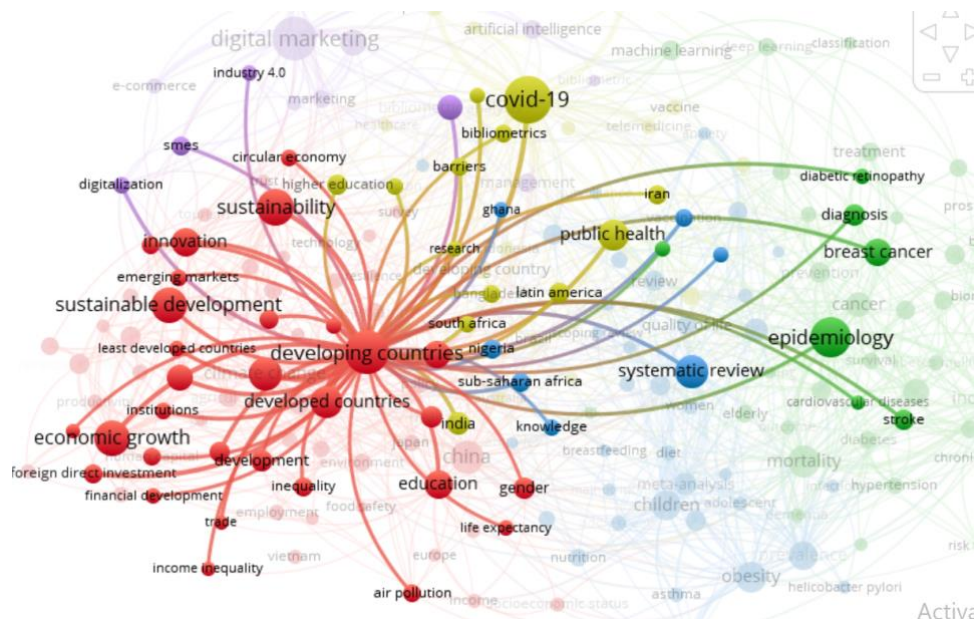


Fig. 10. Indicating elements of underdeveloped economies

Source: Visualization mapping generated by authors from Scopus and VOSviewer 1.6.17

The elements include digitalization, innovation, circular economy, barriers, education, economic growth, life expectancy, sub-Saharan Africa, Nigeria, Ghana, Latin America, COVID-19, income inequality, air pollution, research, epidemiology, sustainability, emerging markets, institutions, barriers, etc. Some of the elements are also elements for developed countries. There is also a close relationship with developed countries, indicating a strong collaboration between developing/underdeveloped and developed countries.

5 Conclusion

Using bibliometric analysis, the research focused on digital marketing and sustainable economic development trends in developed and underdeveloped countries. A total of 11954 documents were extracted for developed economies and filtered to 29,071, while 9854 documents from underdeveloped economies were also filtered to 2850 for comparative analysis. Vosviewer visualization mapping was used to perform country coauthorship analysis to determine the level of collaboration, and cword analysis was also performed to find the relationships and the most influential among the elements of the study.

The study focused on three objectives; Scopus databases were analyzed from 1950 to 2023 to determine the trends of digital marketing and sustainable economic development. Coauthorship analysis was performed to examine the collaboration patterns between countries and to identify the most influential countries in digital marketing and sustainable economic performance. Keyword co-occurrence analysis was performed to examine the frequency of different keywords of digital marketing and the sustainable economic performance of developed and underdeveloped economies.

The findings showed that from 1950 to 2023, developed economies created 29065 papers overall, whereas only 2816 documents from underdeveloped economies—representing just 8.9% of global output—were produced. In both wealthy and developing economies, the analysis found a general upward growth tendency. The findings also showed that developed economies improved their research partnerships, with the United States having the most

influence on research conducted in developed countries, while China had the greatest influence on research conducted in developing economies. The results of the study show that digital marketing has been the most important economic factor for both developed and undeveloped countries, outweighing all other factors. The results once again showed how important COVID-19 has grown to digital marketing and long-term economic growth in both rich and emerging economies. COVID-19 was linked to innovations, public health, education, vaccines, diagnosis, epidemiology, etc.

The study could be useful for further research by individuals and research institutions. Organizations and institutions such as the UN, World Bank, and IMF could also use the study results for development policies and programs. The study will help development economists review and evaluate development trends and predict future trends.

The study has some limitations because only documents written in English were selected for the study; however, there were other equally useful research papers in other languages that might be excluded. The data used for the study were limited to the Scopus database, but not all useful research is indexed in the Scopus database, which may also affect the research outcome. Bibliometric research has some limitations since secondary data are mostly used, but primary data may sometimes be needed for specific research.

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