Mapping Personalized Marketing: A Bibliometric Analysis

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Abstract

The buzzword, personalization in today's marketing era is an evolving notion. The aim of the paper is to scrutinize the publications dedicated to personalized marketing. The spurring growth in personalized marketing thrives in new experiences for both marketers and consumers. The Publication search was initiated on 1836 review papers and research articles collected by SCOPUS Database and was visualized by using VOS viewer, a bibliometric analysis software. The paper focuses on identifying growth trends in publication for 20 years, i.e., 2003-2023 (till March), linked subject areas, geographical trends, popular keywords, and influential journals. It is found that the research count in this domain has grown at a pace since 2018 and spiked in 2020 amidst COVID. The literature of this domain is studied across Management, Psychology, Management, Computer Science, and Artificial Intelligence. The opportunity for research in this domain from the Indian perspective is high as consumer behavior concerning personalized marketing is yet to be explored. The contribution of this study to the literature will help scholars to explore the domain and influence more research.

Keywords: *Personalized marketing, Bibliometric analysis, Co-Occurances, VosViewer*

Introduction and background

In the digital era, globally, numerous technologies are innovating. We are experiencing the utmost demand for creativity by companies to target and engage the audience. Consumption of the internet and constant search of content over the internet on a larger scale allows marketers to micro-segment and target customers. Unlike traditional marketing, personalized marketing is the ultimate type of targeted marketing that works through an automated process. The message is crafted based on customer-centric recommendation engines (Schools, 2020).

The Global pandemic has also escalated modern marketing, the revolting need and the importance of personalization. Retail brands are constantly pushing their boundaries to incorporate machine learning and artificial intelligence for personalized recommendations based on previous data (Stanley, 2022).

The extreme form of segmentation is known as one-to-one marketing. The two forms of one-to-one marketing are personalization and customization. Personalization is when firms decide the suitable marketing mix for the individual. Personalization is defined as a company's practice of converting customer data to meaningful information for developing solutions (Arora et al., 2008).

According to Rife, 2020, Personalization and segmentation has the same goal as personalization, which segments the market into a group of one. It helps in conveying the value of the product and services. Personalization helps in achieving the level of engagement and for that marketers need to have the ability to predict. However, predicting is one thing, getting them to make a move or satisfy their needs is the challenge.

In the era of big data, the potential of personalization has not been fully explored (Benes, 2018). According to Benes, 2018, the biggest barrier to achieving personalization is lack of resources (time, money, and people) and data.

The biggest change in consumer behaviour has also occurred due to their willingness to share personal information which results in personalized experience. The data is either unknowingly shared in the form of cookies and cache, or sometimes deliberately for example, telling everyone on social media where the consumer has "checked in" or sometimes users get something in return for

sharing their information such as with Uber. Wearables and Internet of Things are also creating vast amounts of personal data. The role of "Big Data" in marketing and analytics is viewed as core marketing infrastructure (Diaz Nesamoney, 2015).

This paper attempts to quantify the literature on personalized marketing and identify evolution in the particular domain. The paper focuses on providing vaulable insights regarding academic development till now and threads for future research.

The paper comprises of total six sections. The first section is introduction and background, the second section comprises research questions or objectives, the third section covers research methodology, the fourth section addresses the research analysis where all five research questions, the fifth section concludes the paper and future implications, and lastly, references.

Objectives and Research Questions

This paper focuses on answering the following research questions:

RQ1: What is the growth trend of the publication of personalized marketing?

RQ2: Which subject areas contribute more research in link to personalized marketing?

RQ3: Which counties contribute majorly to the literature on personalized marketing?

RQ4: What popular keywords are being used by the authors?

RQ5: Which are the top influential journals in the personalized marketing domain?

The above mentioned research questions are answered based on data retrieved from SCOPUS Database. The analysis is conducted on 1836 review papers and peer-reviewed research articles.

Research Methodology

Bibliometric analysis is popularly used to explore and analyses the intellectual structure of a particular domain. The application of bibliometric analysis in the research helps in managing and analyzing the extant literature. The large amount of bibliometric data obtained by databases such as SCOPUS along with bibliometric software like VOS viewer can provide an opportunity to researchers to visualize and analyze the data (Donthu et al., 2021). The analysis becomes more concrete with a simple yet effective

graphical representation of a huge database with VOS viewer (van Eck and Waltman, 2009).

The following syntax was used to retrieve the data through Scopus Database on 7th April 2023:

TITLE-ABS-KEY ("personalized marketing" OR "one-to-one marketing" OR "predictive marketing" OR "data-driven personalization" OR "personalized recommendation" OR "perceived personalization" OR "personalization" OR "hyper personalization" OR "individual marketing") AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "PSYC")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "re")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final") OR LIMIT-TO (PUBSTAGE , "aip")) AND (LIMIT-TO (OA , "all"))

The search result of syntax yielded 1856 results but while downloading only 1836 could be downloaded. The retrieved data is not bounded by the year limit, however, while analyzing the research question regarding growth trend of publication of personalized marketing, year range has been selected from 2003 to 2023 i.e., 20 years.

Research Analysis

In this research, the bibliometric analysis quantifies the articles gathered from the SCOPUS database. Microsoft Excel is used to create tables and identify the development patterns within the search results. Also, graphs from the SCOPUS database are used as it provides analyze function for the final result. Later for the graphical representations, science mapping, and network visualization VOSviewer software is used.

Growth in publication (yearly trend)

The first analysis is focused on the growth trend of the publication of personalized marketing over 20 years, varying from 2003 to 2023 (March). In Figure 1, it can be seen that research in the area of personalized marketing spurred in the year 2017. A steep rise can be seen from 2020 to 2022 with an average of 271.66% research publications a year. In the year 2023, a lot of potential upcoming research articles can be foreseen in this area as till March 2023 the publications

are 90 which is approximately more than the 1st quarter of 2022. The steep rise in research publications from 2020 to 2022 can be attributed to the global pandemic, digital behaviours have risen the bar. According to Arora et al., in the Mckinsey consumer survey 2021, 75% of

consumers attempted new shopping methods during the pandemic, 71% of consumers expect personalized interactions and also companies generate 40% more revenues from personalization.

Figure1: Growth in article publication for last 20 Years (2003-2023) using Scopus databas
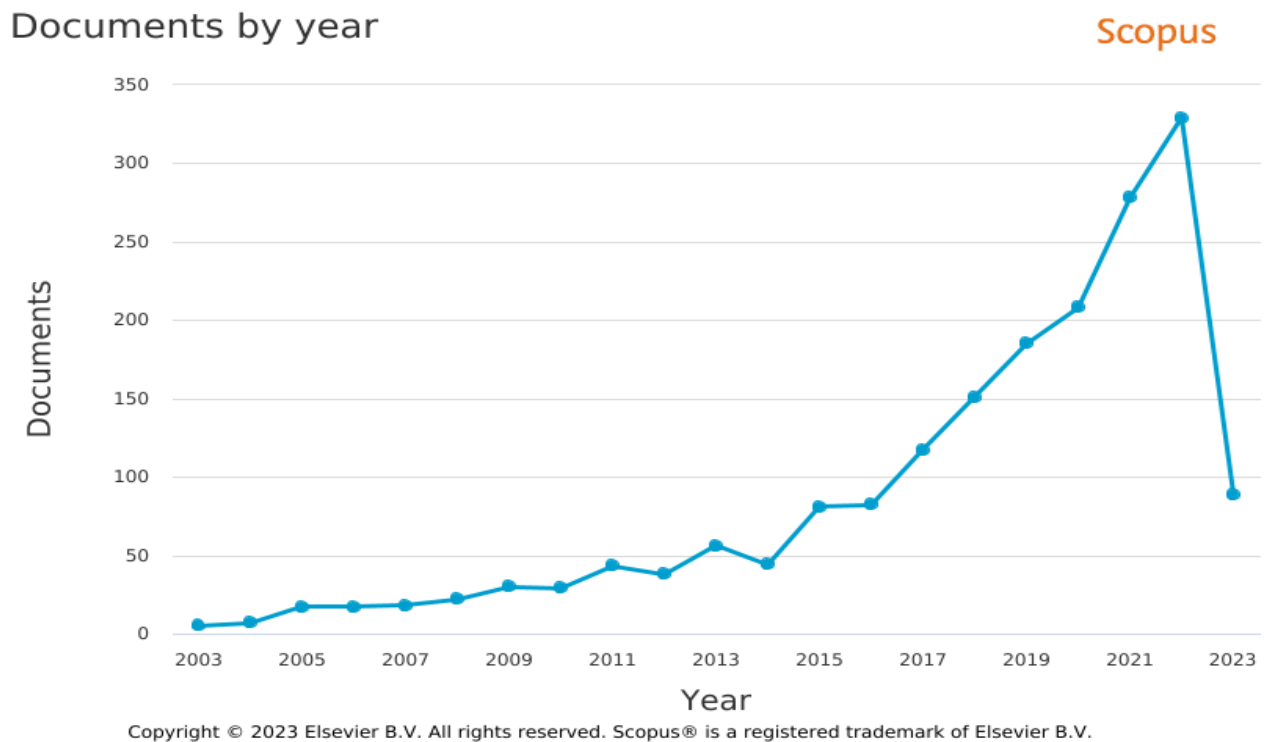
Subject Area contribution to personalized marketing

According to the data selected from the SCOPUS database, 37% of the documents are published accounts in the social sciences

subject area followed by computer science with 12.7%, business, management and accounting with 11.5%, psychology (7.3%), and Engineering (5.8%).
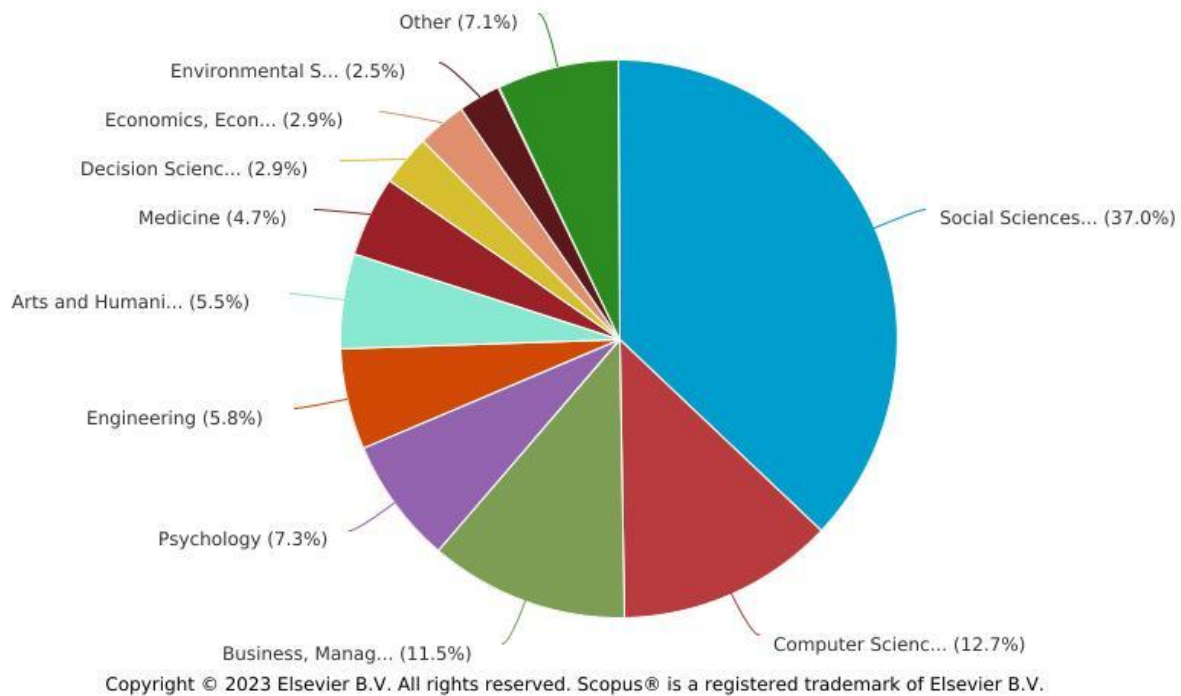
Figure 2: Breakdown of subject area contributing to personalized marketing using SCOPUS Database

Influential country contributing the literature on personalized marketing

Considering the subject wise bifurcation of documents in Figure 2, it can be analyzed that personalized marketing has an interdisciplinary impact. Since, personalized marketing involves knowledge of computer languages and software, syntax and coding; it is also highly linked with the computer science subject area.
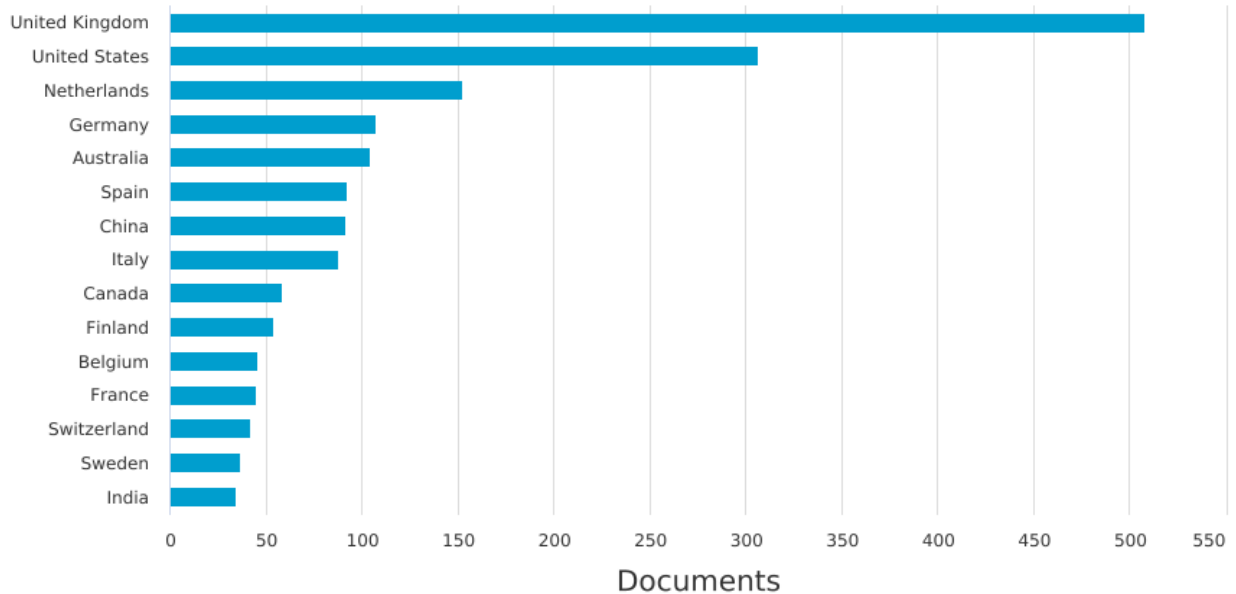
The volume of publications in developed nations is relatively higher than the developing nations and emerging economies. Developing countries and emerging economies are picking up the pace.

Figure 3: **Documents by country using SCOPUS Database**

Table 1 is the tabular representation of the top 20 influential countries. The most

influential country is the United Kingdom followed by the United States, Netherlands, Germany and Australia. The table highlights critical aspects regarding publishing documents in India. It can be concluded research in India is not explored personalized marketing to its full potential yet and henceforth, there is plenty of scope in this research area.

Table 1: Top 20 influential countries contributing to the research in personalized marketing

Country	Documents	Citation	Total link strength	ACPD
United Kingdom	505	12298	21060	24.35

USA	295	11300	16322	38.3
Netherland	149	3763	12251	25.25
Germany	107	1795	7818	16.77
Australia	104	3647	8661	35.06
Spain	92	1218	4564	13.23
China	90	1348	5686	14.97
Italy	86	1641	4884	19.08
Canada	57	1747	4617	30.64
Finland	53	843	4733	15.9
Belgium	45	1040	4394	23.11
France	44	787	4140	17.88
Switzerland	40	762	3719	19.05
Russian federation	40	191	819	4.775
Norway	38	502	4485	13.21
Sweden	35	2556	3049	73.02
India	34	663	4468	19.5
Ireland	32	511	1599	15.96
South Korea	29	461	2048	15.89

Source: Based on SCOPUS Database and VOS viewer bibliographic analysis

Popular Keywords

The keyword analysis with VOS viewer helped in understanding the trend and identifying the research themes associated with personalized marketing studied in the past.

Figure 4: Overlay visualization with at least 5 publications and citation of countries using VOS viewer
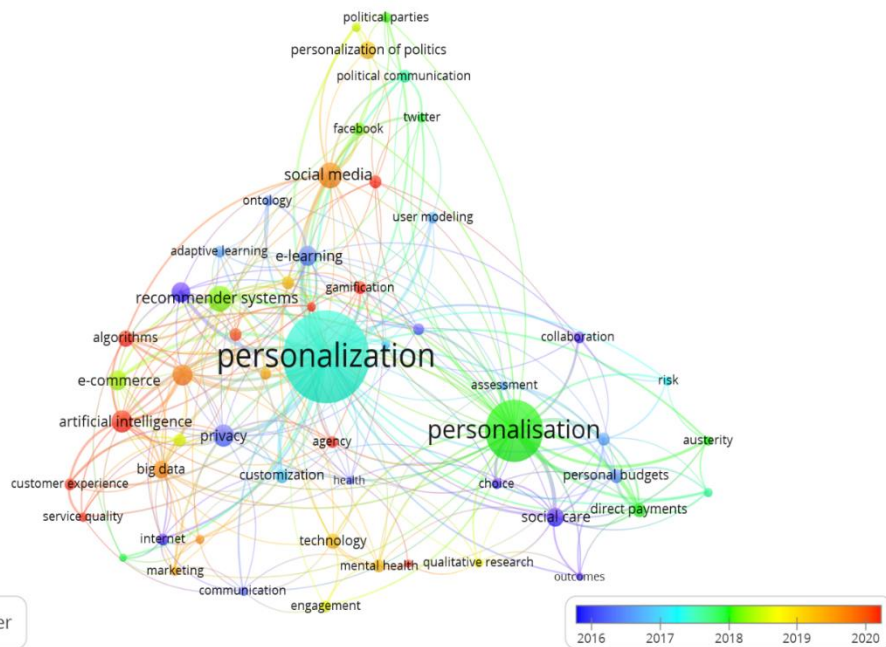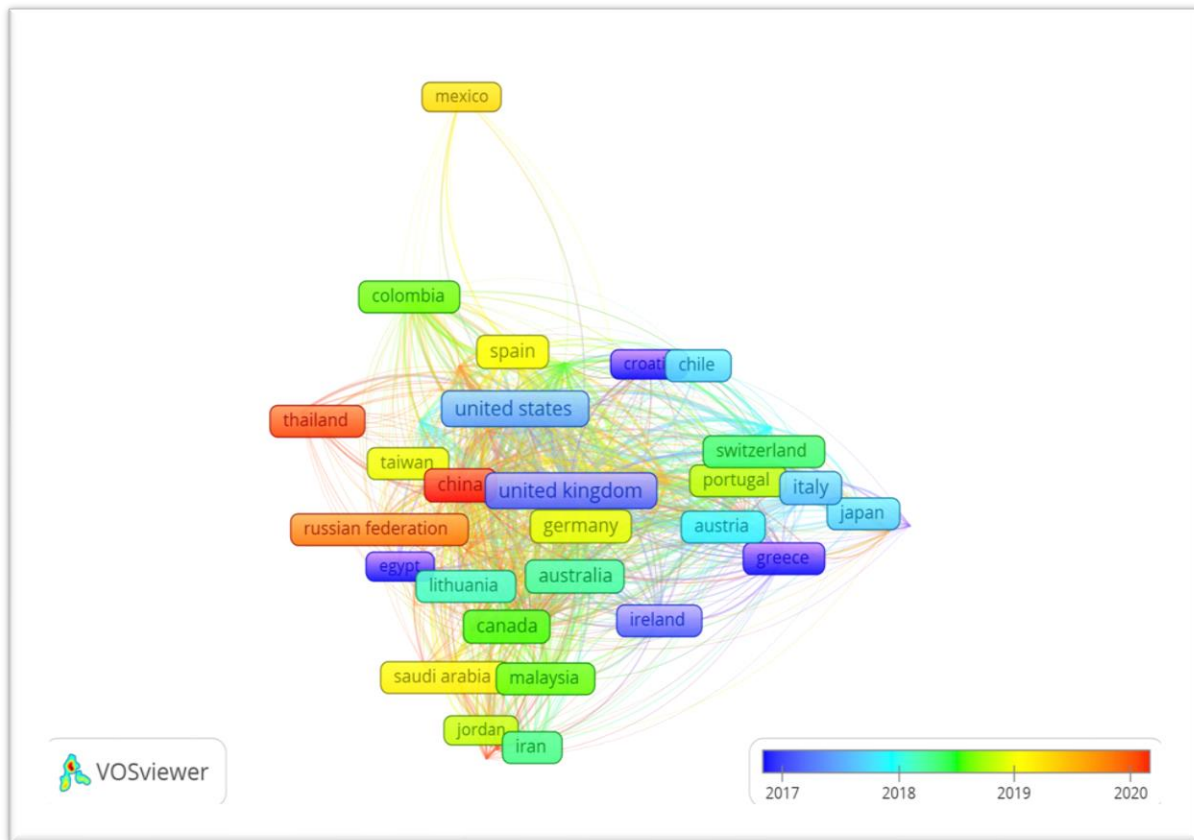
Figure 5: Overlay visualization of all keywords using VOS viewer

Table 2 is the tabular representation of the most occurring keywords in the SCOPUS database. The highest occurring keywords are personalization (377 occurrences), personalization (197 occurrences), recommender system (46 occurrences), social media (45 occurences), artificial intelligence (35 occurrences), privacy (35 occurrences), etc. The table emphasizes that Personalization has been studied extensively concerning recommender systems, marketing, communication, artificial intelligence, privacy, social media, algorithm, engagement, and big data.

Table 2: Top 12 occurring keywords

Items	Total link strength	Occurrences	Avg. pub. Year
Personalization	251	377	2017.46
Personalization	129	197	2018.01
Recommender system	58	46	2018.22
Social media	51	45	2019.53
Artificial intelligence	45	35	2021.09
Privacy	41	35	2016.31
Machine learning	36	33	2019.61
Collaborative filtering	34	30	2015.83
E-learning	33	30	2016.47
E-commerce	26	29	2018.34
Social care	41	27	2015.56
Personalization of politics	5	25	2019.16

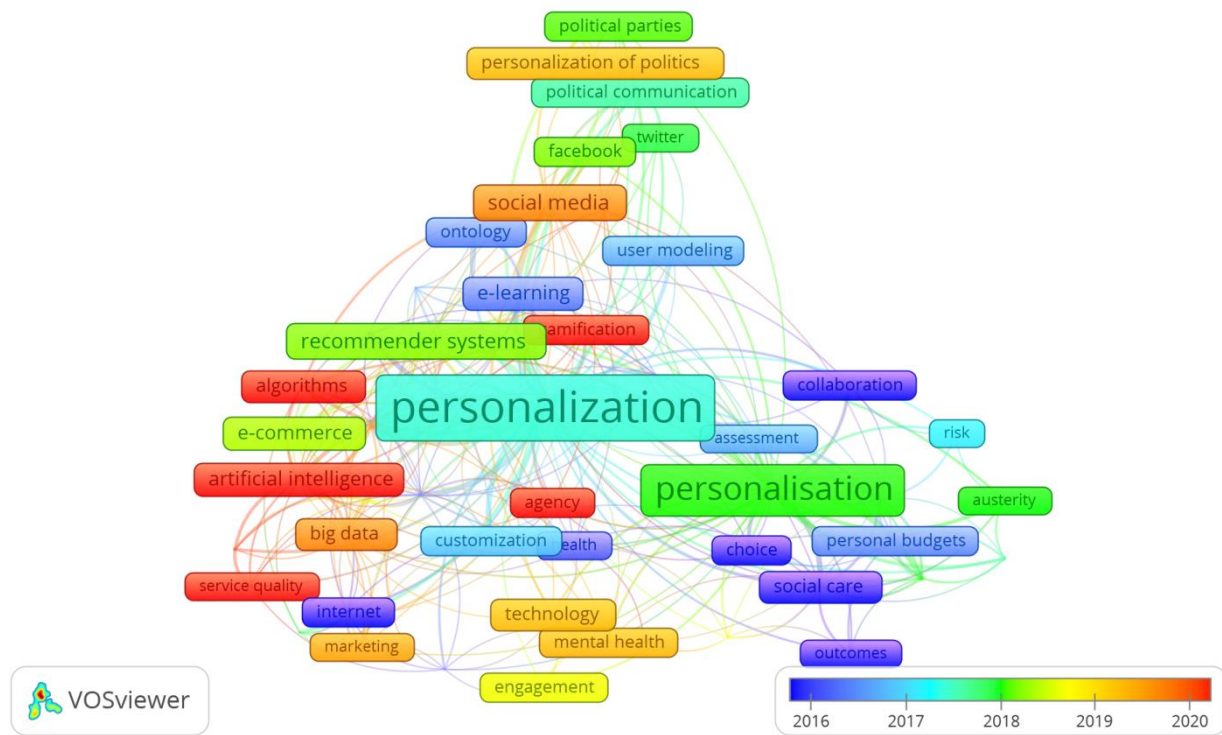**Source: Based on SCOPUS Database and VOS viewer bibliographic analysis**

Figure   6:   Bibliometric   mapping   of   keywords   using   VOS   viewer

In Figure 6, the emerging topics in the research area of personalized marketing are represented by orange and red frames. According to the time horizons in the network visualization, the identified emerging topics are gamification, algorithms, artificial intelligence, customer experience, service quality, agency, gamification, etc. These emerging topics hold great potential for future research and can be explored by the scholars in personalized marketing domain.

Analysis for Influential journals

From the data collected from the SCOPUS database, the top 20 influential journals are presented in Table 3. The active journals publishing in the field of personalized marketing with the higher number of citations leads with Information Communication and

Society, followed by User Modeling and User-Adapted Interaction, Decision Support Systems, and so forth.

In terms of the number of document publications, the top three journals are Sustainability, International Journal of Emerging Technologies in Learning, and Frontiers in Psychology. Despite being the top three journals in terms of documentation,

their average citation per document (ACPD) is low. The research scholars working for the same domain can target journals with high ACPD such as Information Communication and Society, Decision Support Systems, and ACM Transactions on Information Systems. Figure 7 amplifies the analysis by citation analysis in VOS viewer.

Table 3: Top 20 influential journals publishing for personalized marketing

S.No.	Source	Documents	Citations	Total Link Strength	ACPD
1	Information Communication and Society	6	2209	42	368.1667
2	User Modeling and User-Adapted Interaction	32	1731	100	54.09375
3	Decision Support Systems	7	1261	54	180.1429
4	ACM Transactions on Information Systems	9	1020	53	113.3333
5	International Journal of Human Computer Studies	15	634	61	42.26667
6	Journal of Business Research	13	482	81	37.07692
7	Sustainability	57	460	139	8.070175
8	Information Processing and Management	16	443	81	27.6875
9	Computers in Human Behavior	9	416	45	46.22222
10	Health and Social Care in the Community	22	416	301	18.90909
11	British Journal of Social Work	15	407	388	27.13333
12	Frontiers in Psychology	35	384	98	10.97143
13	Digital Journalism	17	375	222	22.05882

14	International Journal of Information Management	8	346	55	43.25
15	IEEE Transactions on Learning Technologies	12	336	35	28
16	British Journal of Educational Technology	10	329	33	32.9
17	Smart Learning Environments	11	229	33	20.81818
18	International Journal of Emerging Technologies in Learning	36	227	29	6.305556
19	Social Media and Society	7	187	102	26.71429
20	Sociology of Health and Illness	6	178	43	29.66667

Source: Based on SCOPUS Database and VOS viewer bibliographic analysis
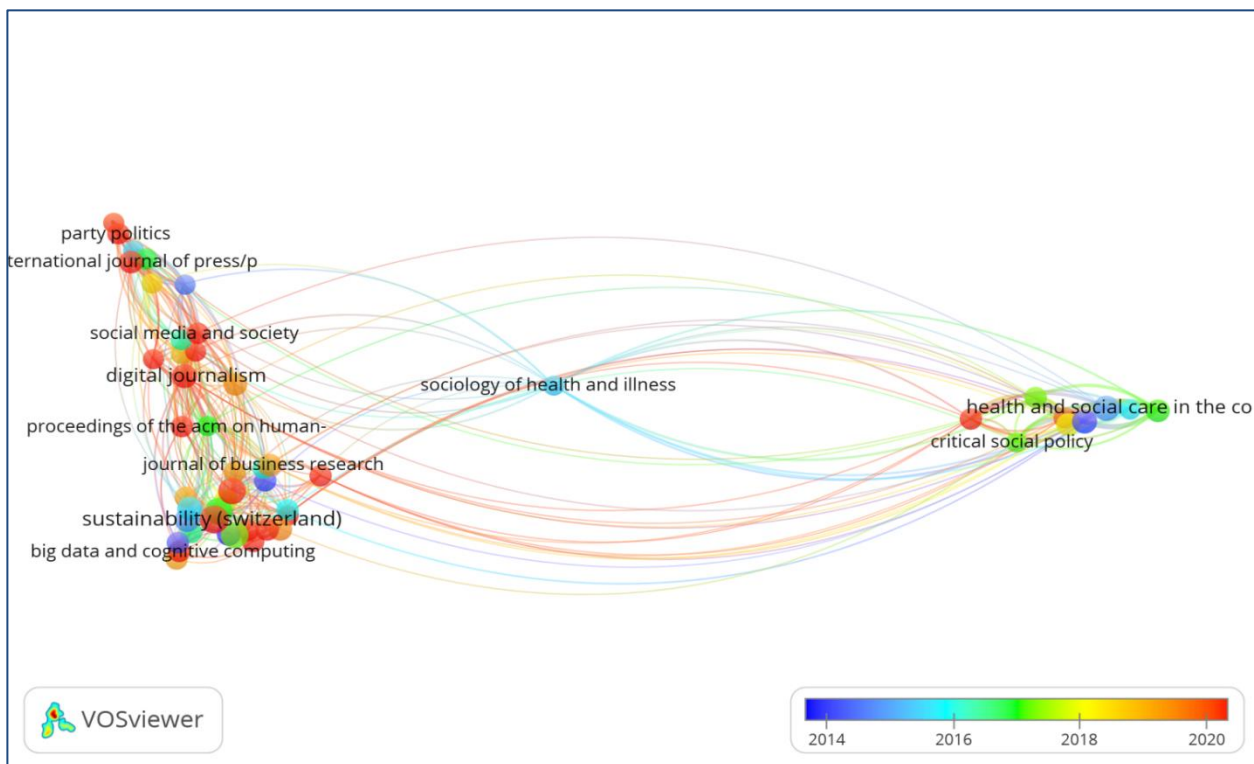

Figure 7: Bibliometric mapping of the journals using VOS viewer

Conclusion and Future Implications

The global acceptability and adaptability of the internet and e-commerce have spurred the acquisition of web properties which entails growth in new business opportunities and new marketing trends. Personalized marketing (from a marketer's point of view) and personalized experience (from a consumer's point of view) have evolved intensely and there is no going back. The trend in personalized research has galvanized since 2018. This domain has been recognized more during the pandemic. Although the literature on personalized marketing has spread over 90 countries and emerging economies, countries like the United Kingdom, the United States of America, the Netherlands, and Germany have worked diligently. The scope for India to explore in this domain is high and also with a population of 1.4 billion, it's very crucial for the marketer to understand consumer behavior and for consumers to adopt modern marketing methods. It can be deduced from the top 20 influential journals list, that the study of personalized marketing is dispersed across disciplines such as Computer Science, Business, Psychology, and Management.

Moreover, the literature is also linked with the young interdisciplinary which is artificial intelligence.

The research scholars have the opportunity to conduct the study from India's perspective. The co-occurrence analysis draws light towards emerging literature on personalized learning and holds great potential for further growth in academics. Further research can be conducted on pre-and post-COVID impact or trend in personalized marketing and consumer behavior triggers post-COVID.

The limitation of this study is that only the SCOPUS database is taken for the analysis which is why some of the studies are missed which are beyond SCOPUS database coverage. Secondly, the timespan of the data is limited from 2003-2023. This study shall only be considered as a foundation for identifying the new unfolding topics in this domain for the future.

References

1. Arora, Nidhi, et al. "The Value of Getting Personalization Right--or Wrong--Is Multiplying | McKinsey." *Www.mckinsey.com*, 12 Nov. 2021, www.mckinsey.com/capabilities/growth-

marketing-and-sales/our-insights/the-value-of-getting-personalization-right-or-wrong-is-multiplying.

2. Benes, R. (2018, October 18). *Why Marketers Struggle with Data-Driven Personalization* [Review of *Why Marketers Struggle with Data-Driven Personalization*]. Www.emarketer.com. Why Marketers Struggle with Data-Driven Personalization. (n.d.). Insider Intelligence. Retrieved July 27, 2021, from

https://www.emarketer.com/content/why-marketers-struggle-with-data-driven-personalization

3. Diaz Nesamoney. (2015). *Personalized digital advertising: how data and technology are transforming how we market*. Financial Times/Prentice Hall.

4. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, *133*, 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070

5. Rife, N., & Yan, R. (2020, September 10). *The Evolution of Personalization in Marketing*. The Jabian Journal.

https://journal.jabian.com/the-evolution-of-personalization-in-marketing/

6. Schools, M. (2020, November 25). *Personalized Marketing*. Marketing Schools. https://www.marketing-schools.org/types-of-marketing/personalized-marketing/#section-4

7. Stanley, Holly. "Personalization Trends and Statistics to Follow in 2023." *Shopify Plus*, 20 Oct. 2022, www.shopify.com/in/enterprise/personalization-trends#:~:text=AI%2Ddriven%20personalization.

8. van Eck, Nees Jan, and Ludo Waltman. "Software Survey: VOS viewer, a Computer Program for Bibliometric Mapping." *Scientometrics*, vol. 84, no. 2, 31 Dec. 2009, pp. 523–538, https://doi.org/10.1007/s11192-009-0146-3