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Extended Abstracts

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Boosting knowledge & trust for a sustainable business

June 30th and July 1st 2022

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Extended Abstracts

edited by

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To the reader,

this volume contains the full papers of the Sinergie-SIMA 2022 Management Conference, hosted by the University of Bocconi of Milan on June 30th and July 1st 2022.

The resource-based view (RBV) has been one of the most cited streams of research in the management literature. This theory has been one of the few theories completely developed within the management disciplines. Since the initial pioneering research in the 80s and 90s, the study of knowledge- and trust-based resources has interested many theoretical and empirical works concerning many issues: company strategies, mergers and acquisitions, alliances and partnerships, organization and HR, innovation, marketing, consumer behavior, channel relationships, entrepreneurship, internationalization, and more. Today the post-pandemic world presents new challenges for managers, organizations, and researchers on which a deeper understanding of knowledge- and trust-based resources can help and shed a new light.

Sustainability and a fast digital transformation are nowadays considered key goals for many companies, managers, public organizations, and governments under the umbrella of EU Next Generation Recovery Plan. The real challenge now is to enhance and leverage the intangible resources heritage - namely knowledge and trust - to get a more sustainable, inclusive and digital world and, as a consequence, for building a better society. In this perspective, also the long-term goals of the firm and its finalism have to be totally re-shaped.

Sinergie Italian Journal of Management dedicated a special issue to this topic more than 20 years ago and many scholars have studied and deepened this multi-faced topic with original approaches in our community.

The Sinergie-SIMA 2022 Management Conference was a great occasion to discuss about the research efforts of our research community on knowledge and trust, also to find new ways to interpret the future economic and social environment to face the post-pandemic challenges.

The Conference call for papers gave the opportunity to submit either an *extended abstract* or a *full paper*. Overall, the editorial staff received 135 *extended abstracts* and 60 *full papers*.

For the *extended abstracts*, the evaluation of the submissions was carried out by the Conference Chairs and the Scientific Committee, on the basis of their consistency with the Conference topic and/or with management studies, according to SIMA Thematic Groups. The clarity and (even potential) relevance of the contributions were evaluated, as well.

For the *full papers*, the evaluation followed the peer review process, with a double-blind review performed by two referees - university lecturers, expert about the topic - selected among SIMA and the community of Sinergie members.

In detail, the referees applied the following criteria to evaluate the submissions:

- clarity of the research aims,
- accuracy of the methodological approach,
- consistency of the contents with the Conference topic/tracks and/or with management studies,
- contribution in terms of originality/innovativeness,
- relevance in relation to the Conference topic/tracks and/or with management studies,
- clarity of communication,
- significance of the bibliographical basis.

The *peer review* process resulted in full acceptance, acceptance with revisions or rejection of the submissions. In the case of disagreement among reviewers' evaluations, the decision was taken by the Conference Chairs. Each work was then sent back to the Authors together with the referees' reports to make the revisions suggested by the referees.

The evaluation process ended with the acceptance of 30 *full papers* and 121 *extended abstracts*, which were published in two distinct volumes.

All the *full papers* published in this volume were presented and discussed during the Conference and published online on the web portal of Sinergie-SIMA Management Conference (<https://www.sijmsima.it/>).

While thanking all the Authors, Chairs and participants, we hope that this volume will contribute to advance knowledge about the boosting knowledge and trust for a sustainable business.

The Conference Chairs

Sandro Castaldo, Marta Ugolini, and Gianmario Verona

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New technologies and marketing approaches in the healthcare context: Some preliminary results on a bibliometric-based literature analysis

JOHANA HAJDINI* LEA IAIA*

Framing of the research. *Technology is rapidly changing every aspect of doing business and offering services. In long with the great advancements and the changes in business models, customer expectations and legal frameworks, as well as national and international standards, bring challenges and opportunities which should be explored, addressed, and solved for the benefit of all the parties included in these transforming processes (Anderson et al., 2013; Aceto, Persico and Pescapé, 2018). The intersection between technology and health has proved to be a great stream of research along with the opportunities and challenges it consequently creates (Bolton, Cipriano and Gassert, 2013). The continuous introduction of new technologies available, the potential improvements to populations health and the new possibilities of marketing approach implementation have attracted increased attention of researchers, as well as providers and patients, leaving not less impact on the policymaker perspective (Garrido et al., 2008). Healthcare organizations and providers worldwide are now offering a broad variety of technologies for the professional staff and the patient itself, starting from information technology to support decision-making in health, to electronic health records, online health communities, advanced medical imaging technology, telemedicine, wearable intelligent devices, robotics and much more (Green, Hartley and Gillespie, 2016; Wittkowski et al., 2020; Chakraborty, Ilavarasan and Edirippulige, 2021). From a marketing point of view, the availability of technologies to empower patients, as well as possibilities to engage in interactive marketing platforms and collect health-related data to support the development of strategies, is opening the way to the value-centered marketing in healthcare (Agarwal et al., 2020). While a lot of research has been done in a number of issues starting from the adoption of technologies, to privacy concerns, to customers behavior, performance and satisfaction, as well as the misuse of health technologies, compliance to medication and expert advice, etc. (Seiders et al., 2015; Wang et al., 2019; Wienroth, Lund Holm Thomsen and Høstgaard, 2020; Chakraborty, Ilavarasan and Edirippulige, 2021), there is still room for future research in the emerging technologies and their application in healthcare. In particular, the academic literature still lacks a more comprehensive approach to homogenize the entire body of knowledge and to offer perspectives on moving research forward than focusing on the same old and highly explored issues (Aceto, Persico and Pescapé, 2018; Shapiro, 2020; Ostern et al., 2021). Given these points, this bibliometric-based literature analysis will enrich the debate on marketing in healthcare, providing important insights for the state of research and the developmental trends, while being of a starting point for future research.*

Purpose of the paper. *This paper is an investigation of the existing literature on marketing technologies for healthcare which aims to synthesize and homogenize the different perspectives of the body of knowledge on the topic in a more comprehensive multidisciplinary approach. It is part of a research-in-progress trying to cover a broader sample of articles than the one presented in this paper, to fulfill its main aim, proving not only useful to literature in bringing research forward, but also providing important implications to managerial and social considerations. Accordingly, we performed a bibliometric analysis aimed at answering the following research questions:*

RQ1: How are the healthcare technologies and the marketing approaches evolving over time the research in the healthcare sector?

RQ2: What are the emerging topics among the most cited works discussing new technologies in healthcare research?

RQ3: What will be the future avenues to be considered in the healthcare technologies research to create value with and for patient and other stakeholders?

Methodology. *We performed a bibliometric analysis to analyze our data responding to the aim of answering our main research questions. This analysis is part of a scientometric approach which offers an opportunity to empirically measure the body of literature in the domain. Bibliometric analysis is a common and useful method which applies quantitative measures and indicators for science and technology based on bibliographic information (Van Leeuwen, 2004) and has attracted increased attention with the emergence of easily accessible computerized data (Ellegaard and Wallin, 2015).*

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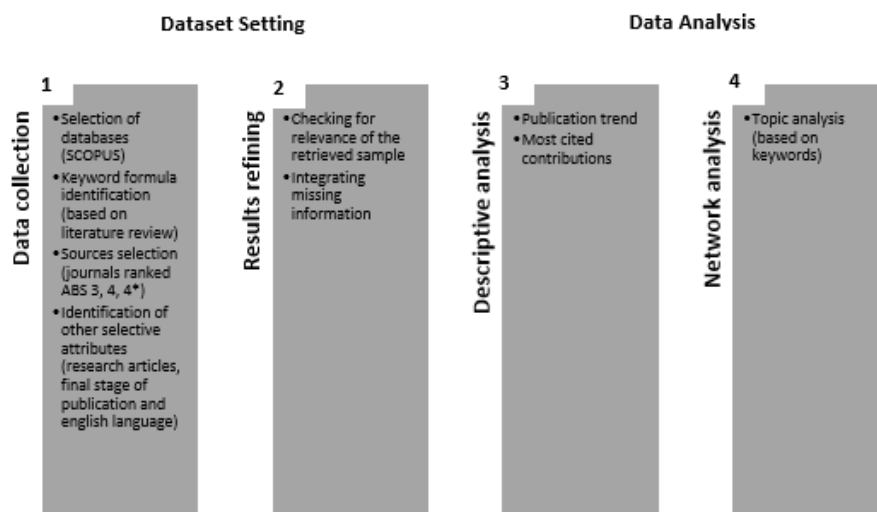
In our research we followed a specific protocol which led us to the sample of relevant articles, reported in figure 1. As suggested by other authors (Za and Braccini, 2017), we started with the creation of a relevant dataset on which to perform the required analysis. The research protocol consists of two main phases. The first phase accounts to the dataset setting and is performed in two steps: 1-data collection and 2-results refining, while the second phase accounts to data analysis and is again performed in two following steps: 3-descriptive analysis and 4-network analysis.

Firstly, in the data collection step, the literature search was conducted on Scopus, which is the largest abstract and citation database, including relevant contributions of the literature in multiple areas of research. It is a core data source that supports research in academic field, but not only, covering more than 25,100 titles from more than 5,000 international publishers (Elsevier, 2020). To conduct the search on Scopus a search query was executed to search on titles, keywords, and abstracts of the articles. The search query was developed through a careful review of literature on marketing technologies and healthcare (Seiders et al., 2015; Agarwal et al., 2020; Chakraborty, Ilavarasan and Edirippulige, 2021; Cherif, Bezaz and Mzoughi, 2021; De Togni et al., 2021; Gunn et al., 2021) integrating it with our knowledge on the domain to craft relevant comprehensive terms. This procedure developed the following keyword formula:

("marketing" OR "market" OR "marketplace" OR "e-marketplace" OR "e-marketing" OR "social media" OR "satisfaction" OR "complaints" OR "e-satisfaction" OR "e-complaints" OR "customer" OR "consumer") AND ("medicine" OR "medical" OR "health" OR "healthcare" OR "disease" OR "infectious" OR "virus" OR "vaccine" OR "elderly" OR "hospital" OR "illness") AND ("smart" OR "intelligent" OR "autonomous" OR "multifunctional" OR "connected" OR "digital" OR "online" OR "monitoring" OR "computer assisted technology" OR "innovation" OR "health device" OR "technology" OR "technological" OR "telehealth" OR "electronic" OR "mobile" OR "web 2.0" OR "industry 4.0").

We run the keyword formula to search for relevant articles. Then we applied a set of eligibility criteria, as a common practice of setting the boundaries for research (Petticrew and Roberts, 2008), also done in other literature analyses (Menichetti et al., 2016; Kim, Kang and Lee, 2021; Sounderajah et al., 2021). We selected only journals ranked 3, 4 and 4* according to the journal ranking of the Chartered Association of Business Schools, because it implies that articles published in these journals meet high standards for rigor and quality (Hiebl, 2021), and we selected only research articles in the final stage of publication, written in English language. Moreover, we included a time restriction corresponding of 20 years' timespan (2000-2020). We selected the time period 2000-2020, because we account the rapid advancement of marketing technologies and innovations for healthcare to this time frame, which led to the introduction of digital healthcare and nowadays what is considered as healthcare 4.0 (Aceto, Persico and Pescapé, 2020). The integration of our selection criteria led us to a total of 2312 articles retrieved, which were further reduced in the next step. In the results refining step, as the protocol suggests, we checked the retrieved sample for topic relevance and included missing information. When checking for topic relevance, several articles proved to be not relevant to our research, even though they included the usage of the provided keywords jointly. This is the case in the paper of Corney, D., (2002), which discusses the application of intelligent systems in the food industry, implying a connection to marketing and the usage of such technologies for medical diagnosis, even though its central aim is strictly related to the food production and marketing. Several papers were excluded following the same logic, to keep in our sample only the articles that appeal mostly to our topic of research (Za and Braccini, 2017). Our final set of data, applying all the inclusion and exclusion criteria, consists of 114 articles, on which we performed a descriptive analysis and a network analysis (see Figure 1).

Fig. 1: Research protocol

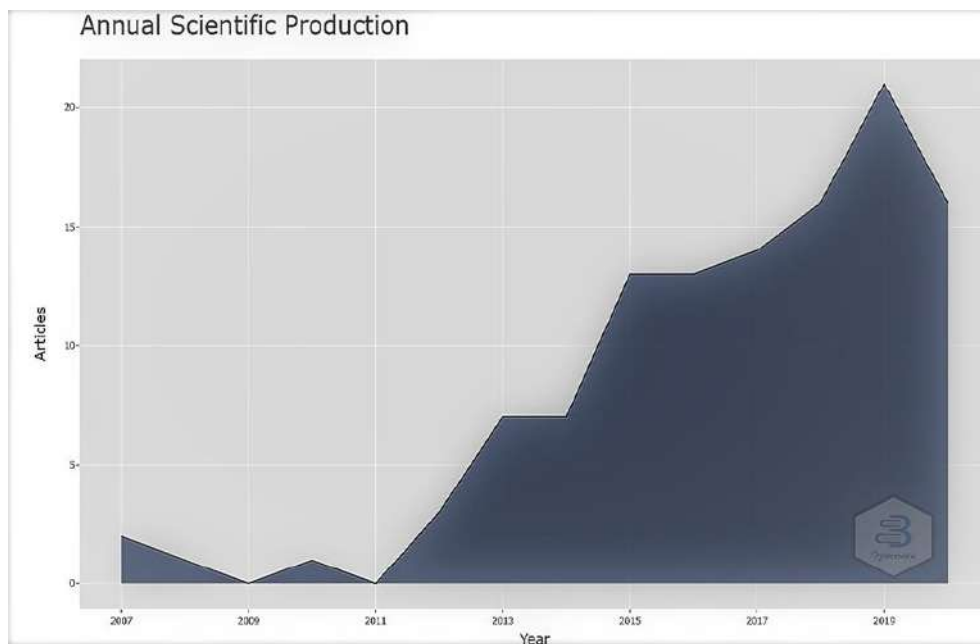


Source: Adopted from Za and Braccini, (2017)

Results. We performed a bibliometric-based literature analysis on a sample of 114 articles extracted from Scopus through a rigorous selection process. Further, we carried descriptive and network analysis on the data, thus exploring the publication trend of the domain over years, and the most influential contributions in the domain, which can be considered important pillars of healthcare technologies research, as well as the keywords co-occurrence, providing interesting insights on the knowledge structure. The analysis helps us achieve the purpose of this study and answer our main research questions, even though are not exhaustive of the topic. Again, considering that the literature has developed rapidly with the advancements of technologies, this synthesis is required to identify new directions for future research.

We reported the publication trend of our sample (see Figure 2) starting from year 2007 to year 2020. Even though the timeframe for our sample is January 2000 to December 2020, we could not find relevant articles published before 2007 to be included in our sample. This can be partially explained with what we consider disruptive technological innovations in healthcare, that attracted further increased attention of scholars and researchers from all around the world (Sounderajah et al., 2021). The disruptive technological innovations in healthcare are a relatively recent topic. One of these disruptive innovations was the introduction of IoT, which was introduced in 2005 and we can partly connect it to the increased interest in the topic from the year 2007. The publication trend has had several up and downs during the years, but we can clearly notice that starting from the year 2011, the interest has been increasing till reaching a peak in the year 2019, with a total of 21 articles published in the topic. So, we can say that concerning our first research question, we identified a growing trend of publication on healthcare technologies, with a peak on year 2019. The increased attention in the recent years means that the field of healthcare technologies research is in rise and offers important opportunities for scholars and academic communities to be further explored in future research.

Fig. 2: The publication trend over the years



Source: Authors elaboration

Concerning our second research question, we identified three emerging topics from the most cited works in the domain. Table 1 shows the most relevant sources, cited more than 100 times, which represent by themselves important contributions in the field and building blocks of the extant literature on healthcare technologies. We can see that some articles in our table account for a relevant number of citations. In the first article, which has been cited 437 times (data retrieved on 19 October 2021) as the authors explain, “conceptualizes and presents a research agenda for the emerging area of transformative service research, which lies at the intersection of service research and transformative consumer research and focuses on well-being outcomes related to service” (Anderson et al., 2013, p. 1203), and moreover, it addresses sector specific research questions related to financial services, health care services and social services, offering a good starting point for future research on transformative health care and accounting to an important contribution for conceptualizing the evolution of health care services and recognizing “the importance of studying health disparities among collective consumer entities” (Anderson et al., 2013, p. 1203). The second most cited paper, cited 434 times (data retrieved on 19 October 2021), introduces “the 3-D virtual worlds and their educational potential to medical/health librarians and educators” (Boulos, Hetherington and Wheeler, 2007, p. 233). Even though the study addresses basically the 3-D virtual worlds as an educational tool, it investigates several examples from Second Life such as a ‘Nutrition Game’, the Heart Murmur Sim, Gene Pool, Health info Island and VNEC, all designed to learn important health information, or to facilitate training and outreach to virtual medical communities in order to

establish proper networks, etc. (Boulos, Hetherington and Wheeler, 2007). The third article in the table, cited 205 times (data retrieved on 19 October 2021), presents the “Service Encounter 2.0” and “provides a synthesis of the changing interdependent roles of technology, employees, and customers” (Larivière et al., 2017, p. 238). The authors develop a conceptual framework, which highlights the changing business models and the changing roles in the new service encounter environment of delivering services to the customer, providing important insights for the evolution of research within the field and the transformation of services with the adoption of disruptive technologies.

Tab. 1: Most cited publications in the sample

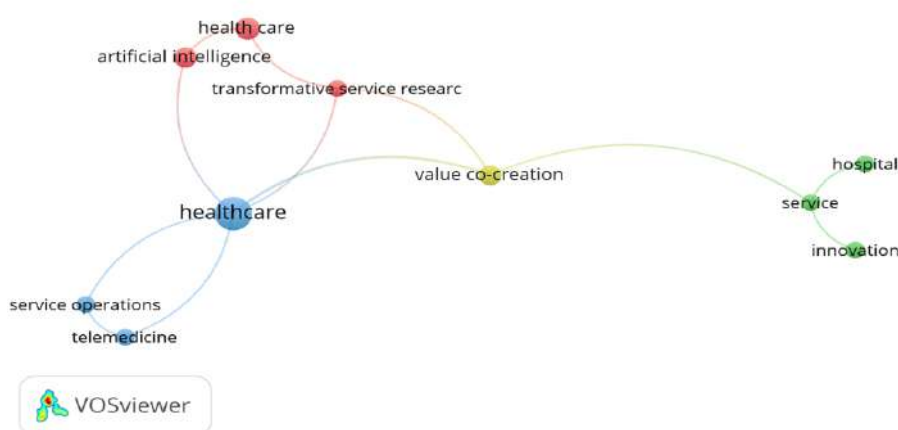
Article	Total Citations
ANDERSON L, 2013, J BUS RES	437
BOULOS MNK, 2007, HEALTH INF LIBR J	434
LARIVIÈRE B, 2017, J BUS RES	205
SWEENEY JC, 2015, J SERV RES	195
FLAVIÁN C, 2019, J BUS RES	158
WANG Y, 2017, J BUS RES	152
VERLEYE K, 2014, J SERV RES	152
AKTER S, 2013, INF MANAGE	146
VAN VALKENHOEF G, 2013, DECIS SUPPORT SYST	123
MILLER AR, 2013, INF SYST RES	122
LONGONI C, 2019, J CONSUM RES	117

Source: Authors elaboration

Summarizing what above explained, the topics can be defined as: a) transformative service research; b) 3-D virtual worlds in healthcare; c) Service encounter 2.0. These topics seem to have attracted increased interest and prove to be relevant also in shaping future research efforts within the domain. These three publications account to three different years, each representing a different period of research in the domain. The third most cited contribution (Larivière et al., 2017) is the most recent according to the publication year (among the three most cited articles) and focuses on the service encounter while investigates the roles of technology, employee, and encounter, offering an understanding from different perspectives on the service. This topic has future potential for further investigation. As the authors suggest, there is a need for future research to develop new metrics for tracking employee performance, customer performance and how they experience the service.

Next, we performed the keywords co-occurrence analysis. The keyword co-occurrence analysis is a common way to map the knowledge structure of the domain, uncovering interesting knowledge components starting from the reported patterns and link strengths of this analysis (Radhakrishnan et al., 2017). We created a keyword co-occurrence visualization using the VOSviewer, a useful tool for visualizing bibliometric networks. It is focused on a distance-based approach to visualize bibliometric networks and to assign the nodes in the network to a cluster (van Eck and Waltman, 2014). From a total of 519 author-supplied keywords, 15 meet the threshold (with a minimum number of occurrences of 3 for a keyword). In this analysis, the number of times that a pair of words co-occurs in multiple articles represents the weight of the link connecting this pair. The selected keywords and their occurrences are presented in Table 3. The results also presented some unconnected items which were removed from our visualization, but not from the table. This leaves us with the largest set of connected items consisting of 10 items (see Figure 3).

Fig. 3: Keywords co-occurrence visualization



Source: Authors elaboration

These items were organized in 4 clusters as below:

Cluster 1 - Consists of 3 items, where the central item is healthcare, and it is associated with artificial intelligence and transformative service research.

Cluster 2 - Consists of 3 items, where the main item is service, and is related to hospital and innovation.

Cluster 3 - Consists of 3 items, where the central item is healthcare and is related to service operations and telemedicine.

Cluster 4 - Is the last cluster consisting of only one item which is value co-creation.

One of the main insights that can come from the identification of clusters, refers to the fact that keywords which are grouped into the same cluster are more likely to reflect similar topics (Chen et al., 2016). The fact that the number of keywords included in three of our four clusters are the same (Cluster 1, 2 and 3 consist of 3 items each), means that they can attract the same attention from researchers, while Cluster 4, consisting of only one item attracts fewer attention compared to the three others. This is an important finding, because it reflects the structure and the interest within the domain, explaining that transformative service research, healthcare innovations, service operations and value co-creation are important research directions of the domain, with the first three attracting more interest than value co-creation. Finally, concerning our third research question, we identified 4 main clusters of research, which we consequently named as: 1) Transformative service research, 2) Healthcare innovations, 3) Service operations, and 4) Value co-creation. Any research effort focused on these topics is appreciated.

Research limitations. This study is not without limitations. The sample of articles on which we performed the analysis is a small sample of articles, as we focused mainly on articles published in ABS ranked 3, 4 and 4*. Future research should consider a broader sample. Moreover, we performed the search on Scopus, using a specific keyword formula to capture the different perspectives on this domain. An investigation with other search terms or in another database can yield different results on the topic. Future research should consider overcoming these limitations.

Managerial implications. We tried to understand the complex intersection of healthcare and technology while taking a different path from the common synthesis of the literature, which is highly influenced by the authors perceptions and subjectivity and aimed to capture the scientific relational network generated within this intersection to provide an integrative approach, which would be most of use in bringing research forward. Despite being of interest and contributing to the academic communities, the findings of this study are of relevant practical interest to managers in developing strategies, healthcare providers and moreover policymakers, for an evidence-based approach in the development and implementation of new technologies for the population as well as for knowledge advancement by a wide range of healthcare professional staff and institutions. Suggestions can derive from the findings of this study to the design of marketing strategies focusing on one of the main clusters of research, to highlight the power of transformative service research with the use of technologies for healthcare, improve the service operations and focus on innovation possibilities, as well as encourage the value co-creation process. A deep investigation of each of the topics can be useful to raise benefits and improve feedback for the marketing departments within healthcare structures, both private and public. Up to now, there is great potential in promoting the usage of technology in the healthcare context, for the benefits of all the actors included in the provision of health.

Originality of the paper. Drawing on the main motivation for this article, we shape this research to respond to the identified gap and contribute to provide a multidisciplinary framework under which marketing technologies in healthcare can be researched in future works. Bibliometric-based literature analysis are not common in the domain of healthcare research. Yet, we find a great potential in taking a bibliometric approach for the benefits of providing a rigorous assessment of literature, and avoiding the many pitfalls of other types of reviews, that lack replicability and can be highly biased by authors preferences (Linnenluecke, Marrone and Singh, 2020). Moreover, answering our three research questions our work contributes to the interdisciplinary debate on health technologies, addressing the needs of more than just one actor in healthcare technologies context and providing implications on the advancement of the debate. Given that research advancement will occur at the intersection of two interdisciplinary fields: advancement in technology and advancement in healthcare, the suggested directions for future research should focus on the integration of both fields and try to address important questions that still need to be answered, that will emerge from the final findings of this work-in-progress.

Keywords: Marketing technologies, Healthcare, Bibliometric analysis, Literature analysis

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