


Literature Review

Digital marketing strategies in healthcare services: literature review

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Abstract

The impact of technological advancements has led to a shift in the paradigm of marketing healthcare services. Marketing in the digital era is highly complex as market conditions can change rapidly beyond providers' control. Digital marketing offers several advantages compared to conventional marketing. Healthcare service providers can integrate digital marketing into their healthcare marketing strategies. This research aims to identify digital marketing strategies in healthcare services. The research method used is a literature review. The researcher used the PRISMA protocol as a guiding framework to ensure systematic and transparent article selection. The databases used are Science Direct and PubMed. After undergoing a thorough screening process, eight articles that met all the eligibility criteria were finally selected. The review identifies several effective digital marketing strategies, including email marketing, social media marketing, and website marketing with SEO, all of which enhance patient engagement and increase the visibility of healthcare services. Additionally, digital twin technology personalizes patient experiences through real-time data, improving service recommendations and operational efficiency. Together, these strategies boost the effectiveness of healthcare marketing in the digital era, though data security and patient privacy must be carefully managed.

Keywords: digital marketing; healthcare; marketing

1. Introduction

The healthcare service industry is highly dynamic. Many factors influence developments and changes in healthcare services. One of the most influential factors is technological advancement. The impact of technological advancement includes a shift in the paradigm of healthcare service marketing. This paradigm shift forms the basis for the emergence of the Marketing 4.0 concept in the era of digitalization. This concept emphasizes using technology and online-based interactions (Norberta & Prayoga, 2024). Healthcare marketing differs from marketing other products and services. This distinction arises because healthcare marketing is closely related to health, the most crucial aspect of human life (Hung et al., 2023). Intense competition among hospitals forms the basis for creating integrated marketing strategies (Prasetyo & Sulistiadi, 2019). The paradigm shift in healthcare service marketing should be a concern for service providers. Healthcare service providers need to identify consumer behaviors, needs, and expectations regarding healthcare services in the digital era (Neal & Lyons, 2021).

Several key factors have significantly contributed to the growth of digital marketing in the market era. These include technological advancements, shifts in consumer behavior, and heightened competition. The rapid development of technology has enabled businesses to engage their target audiences more effectively and efficiently through digital channels. Innovations such as artificial intelligence (AI) and machine learning also allow businesses to personalize marketing messages and enhance customer experiences. Consumers are increasingly relying on digital platforms to research and purchase products, creating new opportunities for businesses to reach their target audiences via digital marketing. The market era is characterized by intense competition, with businesses competing for

consumer attention. Digital marketing has become a crucial tool for businesses to distinguish themselves from competitors and engage their target audience more efficiently (Al Aziz et al., 2022).

Digital marketing is one of the important aspects that must be considered by every healthcare facility (Rana et al., 2024). Information in healthcare services should be easily, practically, and quickly accessible to the public. Healthcare services that use digital marketing can increase their visibility and efficacy compared to traditional marketing strategies. Health marketing strives to recognize and satisfy potential patients' needs, delivering a better quality of service. Digital marketing not only enhances visibility but also provides long-term stability by properly managing information and communicating with consumers (Rana et al., 2024). Digital marketing in the healthcare sector is highly complex due to rapidly changing market conditions beyond providers' control. Digital marketing in healthcare facilities often utilizes websites, social media, and mobile health applications. Many hospitals develop mobile applications to facilitate patient access to health information and schedule consultations with doctors (Prasetyo & Sulistiadi, 2019). The utilization of various digital platforms can be one of the right choices for communication in the field of health (Christina et al., 2019).

Digital marketing offers several advantages compared to conventional marketing. (offline). First, the costs required for digital marketing tend to be lower. This makes digital marketing a more budget-efficient choice, especially for healthcare providers who want to promote their services without incurring high expenses. Second, digital marketing can eliminate distance barriers between providers and consumers, especially in promoting healthcare services, so that information about these services can be accessed by consumers in various locations without geographical limitations. Third, investing in the development of an interactive and user-friendly website can greatly facilitate user access to the information they need by simply using specific keywords. This accelerates the search process and enhances user comfort in accessing information related to healthcare services (Radu et al., 2017) (Shaikh et al., 2024).

Healthcare service users in the digital era also find it easier to access various information related to the healthcare services they need. Moreover, the increasingly diverse preferences of the community also influence their choices in determining healthcare facilities. In this context, digital marketing through various social media platforms becomes an effective solution to meet consumer information needs. Healthcare providers can integrate digital marketing into their marketing strategies, allowing them to reach a broader and more specific audience according to their target market (Norberta & Prayoga, 2024). Based on the above description, it is necessary to conduct a study related to digital marketing strategies in the healthcare sector.

2. Research Method

Based on the information provided, the research method used in this study is a literature review. In this literature review process, the researcher used the PRISMA protocol as a guiding framework to ensure systematic and transparent article selection. The researchers searched two main databases, namely Science Direct and PubMed, to obtain relevant articles. The search was conducted using the keywords "digital marketing" AND "healthcare" to identify articles relevant to the research topic.

The inclusion criteria applied in the search are (1) research articles published in the last five years (2020-2024), (2) articles written in English, and (3) articles that are open-access or available in full text for free. Meanwhile, the exclusion criteria include (1) article titles that are not relevant to the research topic or not conducted in the health field, (2) abstracts that do not match the research topic and (3) duplicate articles.

The initial search results yielded 6516 articles from the databases. These articles were then further selected based on the previously established inclusion and exclusion criteria. The main focus of the selected articles is the use of digital marketing approaches in healthcare services. After undergoing a

thorough screening process, eight articles that met all the eligibility criteria were finally selected. The article selection process can be visualized in the form of a flowchart as shown in Figure 1, which illustrates the selection stages from the initial search to the number of articles that passed the final selection for further analysis.

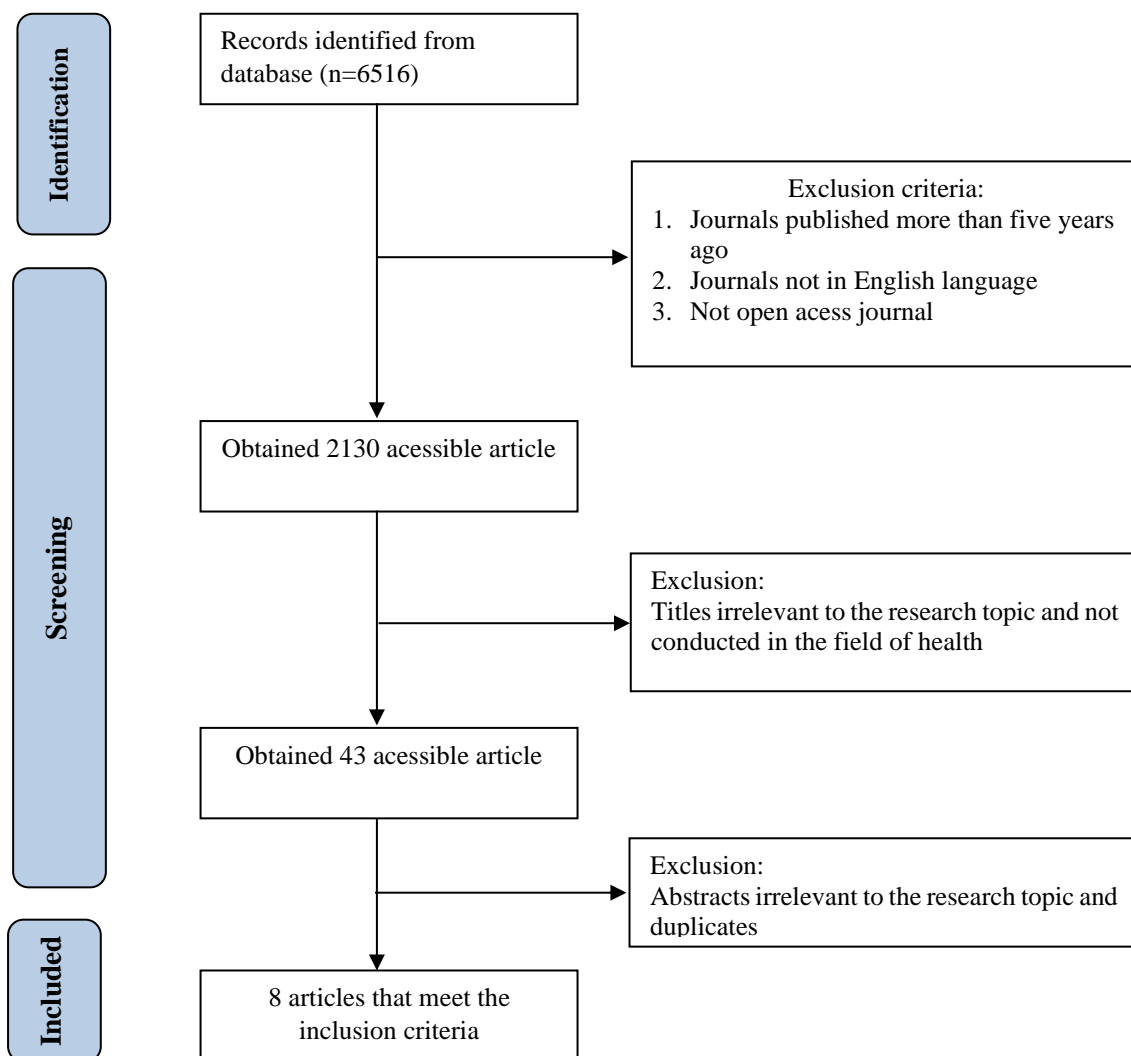


Figure 1. Flowchart of Article Search

3. Results and Discussion

Eight articles have been evaluated and meet the inclusion criteria. The results of the article, a search can be seen in Table 1.

Table 1. Selected Study of Digital Marketing in Healthcare Services

No	Author and Year	Title	Objectives	Research Findings
1.	Al-Weshah, Kakeesh, and Al-Ma'aitah (2021)	Digital Marketing Strategies and International Patients' Satisfaction: An Empirical Study in	Identifying the role of digital marketing strategies in enhancing satisfaction among international patients	There is a significant relationship between digital marketing strategies and patient satisfaction in healthcare facilities in Jordan. There is a significant relationship between each marketing strategy

No	Author and Year	Title	Objectives	Research Findings
2.	Hung et al. (2023)	Jordanian Health Service Industry Enhancing Healthcare Services and Brand Engagement Through Social Media Marketing: Integration of Kotler's 5A Framework with IDEA process	in Jordan's healthcare industry Creating a social media marketing method by integrating Kotler's 5A consumer experience framework (Aware, Appeal, Ask, Act, Advocate), the IDEA content marketing framework (Identify, Develop, Engage, Assess), and principles of social media design for marketing planning and content design	(search engine optimization, social media networking, and email marketing) and patient satisfaction in healthcare Research indicates that social media marketing positively correlates with healthcare services and brand engagement. Integrating the 5A-IDEA model produces guidelines and evaluation criteria for social media marketing in the healthcare service context. Principles to consider in social media marketing include ensuring posted topics are relevant to the target audience, designing posts to be visually appealing to create resonance and curiosity, using engaging text and interactive elements, and scheduling publications to enhance the likelihood of audience attention.
3.	Sobon (2023)	Hospital Website as an Element of Digital Transformation- Comparative Analysis of 2014,2018, and 2022	Analyzing changes in website-based communication at government hospitals	The research findings indicate a rapid growth in the utilization of websites, aligned with technological advancements over the years. Hospital websites should ideally facilitate two-way communication (provider-consumer). They are not limited to providing general information about the hospital. In the digital era, website development allows patients to schedule consultations, order medications, and access medical records. Digital marketing strategies that optimize hospital websites can enhance patient satisfaction and loyalty
4.	Neal, M dan Lyons, M (2021)	Leveraging Social Media And Digital Technology To Market And Meet The Needs Of Neurosurgery Patients	Describing social media marketing strategies in healthcare for neurosurgery patients at Mayo Clinic	The developed digital marketing strategies include creating an easily accessible online library for patients and engaging them to share their stories on a blog. These activities aim to build a community among patients with rare health conditions, fostering a sense of support and appreciation.

No	Author and Year	Title	Objectives	Research Findings
5.	Haleem, A et al. (2023)	Exploring the Revolution in Healthcare System Through the Application of Digital Twin Technology	The main aim of this paper is to study Digital Twin and its need for the healthcare sector	An indirect impact is the enhancement of the clinic's image. Another digital marketing strategy involves integrating various social media platforms. This technology is very beneficial in providing greater access to medical information online for patients and their families. Digital twin technology greatly enhances the quality of patient care. Patients can receive accurate medical advice, make appointments with doctors, send electronic prescriptions to pharmacies, and access notes and video recordings of doctor consultations online. Digital twin also facilitates the adjustment of medical care based on genetics, physiology, family history, previous behavior, and other factors.
6.	Kikut, A (2020)	Evaluation of A Multimedia Marketing Campaign to Engage African American patients in Glaucoma Screening	Determine which messaging approaches from a marketing campaign were most effective in recruiting African American individuals to a glaucoma screening	Messaging approaches included radio advertisements and interviews (conducted in partnership with a local radio station with a large African American listener base), print materials, event tables, and online postings. Commercials on WURD radio yielded the highest number of inquiries and enrollments but at a relatively high cost. The most inexpensive approach was postcards.
7.	Duffet, R and Thomas, S (2024)	Health Nonprofit Organizations Use of Social Media Communication and Marketing During COVID-19: A Qualitative Technology Acceptance Model Viewpoint	To disseminate a new health information website (iuevo.org) primarily to teens in the United States using a three-pronged approach of social media, in-person, and emails.	All health charity organizations utilize one or more social media platforms (Youtube, X, Instagram, etc) regularly for communication and marketing objectives, particularly to post content about their services and events. Social media plays a crucial role in strategic communications and marketing, helping to increase awareness, funds, profiles, and membership. Showcasing community projects

No	Author and Year	Title	Objectives	Research Findings
8.	Arqub, S et al. (2023)	Social Media Use Among Orthodontic Professional: Present and Future	To explore the use of social media for professional marketing within orthodontics	on social media can improve transparency, build trust, and attract investment. Social media has been an increasingly important approach in orthodontic marketing. Orthodontic practices with social media accounts have been shown to attract a higher number of new patients than those without social media presence.

3.1. Website Marketing

The concept of Marketing 4.0 has transformed marketing paradigms, including in healthcare services. Marketing 4.0 emphasizes customer behavior in the digital era (Syaputra, 2021). A distinctive characteristic of Marketing 4.0 is the presence of the Internet of Things (IoT). Marketing strategies for healthcare services should focus on customer orientation provided by IoT capabilities (Popov et al., 2022). Digital marketing is a marketing strategy that optimizes the use of technology to acquire and retain customers (Todor, 2016). Digital marketing is an effective strategy for business growth (Radu et al., 2017). Digital marketing can attract new patients to healthcare facilities and offer high-quality healthcare services. Alternative digital marketing strategies include online marketing, internet marketing, and web marketing (Todor, 2016).

A digital twin is a digital representation of physical objects, systems, or processes that can be used to simulate, monitor, and optimize their performance. Digital Twins (DTs) offer numerous benefits for managing physical systems. They enable predictive and real-time monitoring using models or machine learning, helping to optimize system behavior, prevent service disruptions, and enhance decision-making. Additionally, DTs improve security, resilience, and risk assessment by detecting threats and simulating scenarios to enhance performance and productivity (Segovia & Garcia-Alfaro, 2022). In the context of healthcare service marketing, digital twin can be used to develop websites or applications to improve service efficiency, patient experience, and marketing strategies. Digital twin can be used for marketing healthcare services by creating personalized patient experiences based on real-time data so that websites or applications can recommend the right services according to individual needs. This technology also helps optimize processes such as scheduling and health monitoring, which enhances patient satisfaction and service efficiency (Haleem et al., 2023). In addition, digital twins enable the simulation of marketing campaigns, helping to predict outcomes and adjust strategies for different audiences, as well as facilitating more responsive interactions through intelligent chatbots. All of this strengthens marketing effectiveness and patient retention (Falah & Syamsidar, 2021).

One of the digital marketing strategies in healthcare services is Search Engine Optimization (SEO) (Al-Weshah, 2018). Search engine optimization (SEO) in the healthcare field has a significant relationship with patient satisfaction (Al-Weshah et al., 2021). This method is used to enhance website visibility. The goal of SEO in healthcare service marketing is to place the healthcare facility's website at the top of search results using specific keywords (Dewanto et al., 2023). A healthcare facility's website should ideally support two-way communication between service providers and users (Sobon, 2023). Two-way communication on hospital websites includes patient registration and interactive services. A well-managed website can be a beneficial marketing tool. Principles of website management

that should be considered include accessibility, user-friendliness, quality content, transparency of services and pricing, and site security (Fauzia et al., 2023).

A website is one of the most frequently accessed platforms for searching various information and communication tools. Every individual can access the website easily and quickly with the help of IoT using various devices. The rapid and efficient dissemination of information is the main reason for using websites in marketing healthcare services. Websites enable personalized content delivery, tailoring health recommendations and services based on individual profiles, which enhances user engagement. They also have a broad reach, helping healthcare providers connect with patients beyond their local areas, potentially expanding their market. Additionally, online marketing through websites is cost-effective compared to traditional methods, as it allows for targeted campaigns and measurable results (Fauzia et al., 2023). One of the key weaknesses of using websites for healthcare marketing is the concern over data security and patient privacy, as breaches can lead to loss of trust and legal repercussions. Maintaining a website requires ongoing management, content updates, and security measures, which can be time-consuming and costly (Prayoga et al., 2022).

3.2.Social Media Marketing

Another digital marketing strategy is using social media. In the digital era, social media serves as a platform for product or service providers to interact with consumers (Al-Weshah et al., 2021). The use of social media has grown rapidly since the COVID-19 pandemic. Frequently accessed social media platforms include YouTube, WhatsApp, Facebook, Instagram, Twitter, Line, Messenger, and LinkedIn (Purnomo & Febri Mustika, 2021). Approximately 90% of adults trust information acquired on social media. Social media also influences where patients seek medical attention. According to a survey, 41% of Americans would utilize social media to choose a doctor or medical institution (Neal & Lyons, 2021). Social media networks offer powerful and cost-effective ways to promote items on a worldwide scale.

One of the benefits of social media is its application in orthodontic practice. Orthodontic practices with social media accounts have been proven to attract a greater number of new patients than those without social media presence (Nelson et al., 2015). The use of social media is crucial for orthodontic practitioners in building their reputation and reaching potential patients. Through social media platforms, patients can easily assess the skills and qualifications of medical professionals by reviewing information such as professional profiles, certifications, and work experience. Additionally, reviews and testimonials from other patients who have received treatment at the clinic play a significant role in influencing a patient's decision-making process. Positive reviews can boost trust and confidence in new patients to choose the services, while negative reviews may lead them to seek alternatives. Therefore, maintaining an active and effective presence on social media greatly impacts the appeal and success of orthodontic practitioners in attracting patients (Arqub et al., 2023).

Mayo Clinic demonstrates best practices in integrating various social media platforms. The clinic engages patients in developing health-related content, offering them opportunities to share their health stories on a dedicated blog. Mayo Clinic connects educational health content with patient stories on the blog. Additionally, they integrate their efforts through YouTube (Neal & Lyons, 2021). Optimizing and synchronizing the use of social media indirectly impacts healthcare service marketing. Health nonprofit organizations frequently use social media platforms (e.g., Facebook, Instagram, X (Twitter), WhatsApp, YouTube, and Telegram) for communication and marketing, particularly to promote services and events for fundraising. Social media's rapid expansion presents significant economic and marketing prospects (Duffett & Thomas, 2024). Other studies also emphasize the power of combining marketing campaigns with community leaders and trusted organizations, with the right message sender reinforcing the message (Kikut et al., 2020).

Social media serves as a tool in Integrated Marketing Communication (IMC), capable of executing marketing functions in an integrated and continuous manner (Santoso, 2018). Social media is highly beneficial for expanding communication with consumers, but it also carries risks of misuse, especially in healthcare. Healthcare providers must ensure that health-related content adheres to professional ethics and protects patient privacy (Fahriza & Pujiyanto, 2021). Principles of social media development in healthcare services resulting from the integration of the 5A (Kotler) - IDEA (content development) framework consist of four principles. The first principle is content relevance to the target audience. Second, posts must be designed to create resonance and curiosity among potential consumers. Third, attention to the text and interactive elements used. Fourth, scheduling publications to enhance the likelihood of these posts being noticed by the target audience (Hung et al., 2023).

Social media offers several advantages in healthcare marketing, such as its ability to reach a large, diverse audience quickly and engage directly with patients in real-time. It allows for targeted advertising, personalized health content, and the creation of community-driven support networks, enhancing patient education and trust. However, it also has drawbacks, including concerns over misinformation, as unverified health advice can spread easily. Managing patient privacy and complying with health regulations like HIPAA can also be challenging. Additionally, maintaining a consistent and professional presence on social media requires time, resources, and expertise to avoid reputational risks (Arqub et al., 2023; Duffett & Thomas, 2024).

3.3. Email Marketing

Email marketing is a direct digital marketing strategy where the marketing staff of a healthcare service institution can send emails to customers for follow-up purposes. This activity aims to enhance the likelihood of consumers choosing healthcare services (Astuti & Ilyas, 2021). This alternative strategy is relatively cheaper and easier compared to other marketing strategies. Healthcare service providers can update customer data, provide information on healthcare service innovations, strengthen branding, and more through email communication with healthcare service users (Al-Weshah et al., 2021).

One key advantage of email marketing is its ability to precisely target specific audiences. Healthcare providers can tailor content to the individual needs of patients by sending personalized health tips, reminders, or relevant promotional offers. This targeted approach not only increases engagement but also allows organizations to measure campaign success more effectively through metrics such as open rates and click-through rates. Moreover, email marketing enables healthcare providers to convey significant information to patients, such as educational materials or detailed service updates, cost-effectively and efficiently (Elrod & Fortenberry, 2020).

On the downside, email marketing can sometimes feel intrusive if not handled carefully, especially when unsolicited emails are sent to recipients. This can lead to emails being marked as spam or ignored altogether, reducing their effectiveness. Additionally, managing a large email database requires significant effort to ensure that contacts are up-to-date and emails are relevant to each recipient. Without proper management, there is a risk that communications will be perceived as irrelevant or annoying, which can damage the organization's reputation (Elrod & Fortenberry, 2020).

4. Conclusion

Several effective digital marketing strategies can be applied in the healthcare sector to enhance patient engagement and broaden service reach. Website marketing and Search Engine Optimization (SEO) enhance the visibility of healthcare services online, helping facilities rank higher in search results. Well-designed interactive websites also facilitate two-way communication, such as scheduling consultations or accessing medical records, which boosts patient satisfaction and loyalty. Digital twin

technology plays a crucial role in personalizing user experiences. By integrating real-time data, digital twin allows healthcare providers to offer more accurate service recommendations, improve operational efficiency, and optimize marketing campaigns based on specific patient data.

Social media marketing enables healthcare providers to quickly reach a wider audience, build patient communities, and strengthen brand engagement through interaction on platforms like Instagram, Facebook, and YouTube. Email marketing offers an efficient and cost-effective way to maintain personalized communication with patients, increasing the likelihood of them choosing the healthcare services offered. The combination of these strategies significantly impacts the effectiveness of healthcare marketing in the digital era, though challenges such as data security and patient privacy must be carefully managed.

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