

The FinTech Prescription: Redefining Financial Operations in the Healthcare Sector

MDIM Journal of Management
Review and Practice

1-11

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DOI: 10.1177/mjmrp.251375139

mjmrp.mdim.ac.in



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Abstract

The technology and discoveries have transformed every business, including healthcare, and brought about a rapid transformation in the world. Healthcare organizations are setting new standards for sustainable practices to increase their financial performance without depleting social and natural capital. Financial technology (FinTech) promotes new and improved digital service models to the healthcare industry. FinTech companies are using blockchain, AI, and machine learning to plug gaps in the current healthcare system. As a result, the research study examines how FinTech is used in the healthcare sector and how it affects both digitalization and service quality improvement. The article presents facts in a descriptive manner, compiled from recent research and literature. The findings of the study provide a thorough review of the developments made possible by the merger of digital financial services, FinTech, health care technology and services, including digital health. The study concludes that combining FinTech and digital health can improve the standard of care for low- and moderate-income Indians while lowering service costs and increasing accessibility.

Keywords

Financial technology, digitalization, healthcare, accessibility, artificial intelligence

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Introduction

The COVID-19 pandemic significantly accelerated the adoption of digital financial and healthcare services, acting as a catalyst rather than the core focus of technological transformation. According to Fortune, nearly 46% of consumers exclusively use digital channels for their financial needs, and 24% of the respondents report familiarity with blockchain technology (Baker, 2022).

At the individual level, financial technology (FinTech) for health strategy aims to increase people's alternatives for how they access and pay for health care, especially in times of high out-of-pocket costs, while ensuring their financial security against catastrophic care events. In order to increase the efficacy, efficiency, and transparency of financing for and providing care, FinTech for Wellness offers digital financial enterprise solutions that may be used by healthcare systems and national insurance schemes (Asian Development Bank, 2022). The use of digital technologies in the healthcare industry has revolutionized how people access treatment and the type of care they get. Clinicians and patients alike frequently use digital health tools, such as remote monitoring, health-tracking gadgets, and smart health applications, to check their health. With the introduction of COVID-19, telemedicine advancements have accelerated, giving consumers access to qualified healthcare advice from the comfort of their own homes.

The financial services and healthcare sectors are very comparable. Both have historically significant traditional institutions; the majority of the oldest banks, insurance firms, and healthcare organizations date back more than a century. The goal of any government to provide health care to all is possible by implementing FinTech in the systems. The 2030 agenda of the Sustainable Development Goals is such that all people and communities have access to the various health care services without experiencing any financial hardship.

FinTech relieves administrative burden, allowing healthcare providers to focus on patient care rather than paperwork. This culminates in better results for the patients, with healthcare becoming more individual-oriented. Conclusively, FinTech creates innovation and collaboration between diverse sectors, which eventually leads to the development of novel health structures that are flexible and scalable. For instance, collaboration in FinTech and digital health technologies, such as AI-based diagnostics and health-tracking applications, will provide personalized engagement in healthcare services. It improves quality and enables patients to be more proactive in managing their health for better long-term health outcomes.

The role of FinTech has become increasingly pronounced in recent years, with global developments since 2020 reinforcing its critical place in modern financial systems, especially in healthcare.

Literature Review

Al-Anezi (2024) explored the integration of FinTech and electronic health to examine the opportunities, challenges, and implications that emerge from their interconnection in Saudi Arabia. The study identified various benefits, including

improved efficiency in administrative processes, enhanced access to healthcare services, increased financial inclusion, better decision-making, an improved patient experience, and the promotion of innovation and sustainability. Various barriers such as regulatory challenges, concerns over data privacy and security, interoperability issues, the digital divide, resistance to change, and cost-related implications were also put across.

Odeyemi (2024) evaluated the role of FinTech and focused on the growth of FinTech and its adoption in the Healthcare industry. The study was done in the US Healthcare system and studied the challenges faced by the organization. It also put forward that FinTech in healthcare offers new opportunities for users, particularly in areas such as healthcare payments. The study suggested that by focusing on patient-centric solutions, fostering cross-sector collaboration can be achieved without the risk of financial collaboration.

The intersection of FinTech and healthcare has attracted considerable attention in recent years due to the potential for innovations to improve access to financial services, patient care, and efficiency across healthcare. Khan et al. (2023) investigated the role of digital payment systems in healthcare, focusing on the use of mobile payment platforms and digital wallets to streamline transactions in hospitals and clinics. The study found that these technologies reduce administrative costs, increase transaction speed, and ultimately improve patient satisfaction by reducing payment wait times and insurance claims.

Research done by Bhatt et al. (2022) stated that digitalization had changed and evolved the way of every industry. It identified the main areas and current dynamics of FinTech, digitalization, and financial services and suggests future research directions. A bibliometric analysis was done to understand the role of FinTech and digitalization in separate industries. By paying attention to the healthcare industry, the research analyzed the growing importance of the same.

Access Health International & MetLife Foundation (2021) focused on the importance of FinTech towards the development of the healthcare sector. The study stated that FinTech for health provides new opportunities to the users with regard to health care payments, banking, insurance and most importantly the access to health care services to all people. The study suggested that high-quality healthcare can be provided without running the danger of financial ruin by putting patients at the center of all solutions, collaborating across sectors, and offering integrated services.

Research done by Meiling et al. (2021) focused on improving the sustainability of healthcare through the use of FinTech. The study examined the relation between financial and Technological development with the usage of FinTech. The study found that the implementation of FinTech is having an effect on the performance of the organization as well as its development.

Research done by Das and Mohan (2020) stressed out that FinTech plays an important role in the healthcare sector. The changes in the needs of the nation's health have heightened the need for improving the scenario of healthcare.

The study done by Gustke et al. (2000) evaluated the satisfaction of the patients with telemedicine in clinical consultations. For the purpose of the study, data were collected from 495 patients who had taken the real-time consultations. Satisfaction

of the patients was analyzed in relation to patient age, gender, race, income, education, and insurance. The findings of the study revealed that some of the patients were dissatisfied with the telemedicine facility, and some were satisfied. The reason for dissatisfaction was the physical examination of the patient, and the factors which affected the satisfaction were waiting sector time, scheduling appointment, accessibility, availability and affordability.

Research article done by Sajjad and Waqar (2020) evaluated the relevance of telemedicine. The study focused its attention on telemedicine, especially during the outbreak period of COVID-19. The study stressed the importance of Telehealth and its benefits. The study concluded that telemedicine acted as a boon during the outbreak period, where it served as a platform to assess the needs of the people in society.

Sinha et al. (2019) analyzed the satisfaction of the patients with telemedicine for fracture care. The study was carried out in Pennsylvania. Two groups of patients from semi-urban and rural areas were evaluated for the purpose of the study. The study found that travel time, travel cost, video consultations and waiting time were strongly affecting the satisfaction of the patients.

Breidbach et al. (2020) examined the use of disruptive technologies by new market entrants to transform financial service systems into digital ones. The study found that these innovations compete with established financial institutions for market share.

Research Gap

Health care has been greatly impacted by FinTech, yet there is still room for more study in several areas. Apart from expanding financial access, there is currently little empirical proof that using FinTech translates into better health outcomes for patients. Particularly in low-income areas, further research is required to determine the long-term viability and scalability of such solutions. The adoption of FinTech is seriously hindered by social and cultural factors such as a lack of digital literacy and “trust” in the technology, and these factors are not being properly observed. Further research is also needed to determine whether FinTech actually reduces inequities in health care access for the poor. Research is urgently needed into the untapped potential of FinTech to reduce disparities in access, affordability, and quality of care. Ultimately, beyond bridging these gaps, it remains unclear how FinTech’s broader impact on healthcare will be realized.

Objectives

1. To explore the role of FinTech in healthcare.
2. To examine the advantages of FinTech in digitalization.
3. To examine the role of FinTech in socioeconomic well-being.

Methodology

Research Design

Using a descriptive research design, the study examines the role of FinTech in the healthcare industry and aims to comprehend its effects on digitalization, service quality enhancement, and socioeconomic well-being. A review of the literature, case studies, industry reports, and expert interviews is one of the techniques used to acquire data. The goal of the study is to offer a precise framework for examining the influence of FinTech on the digitization of healthcare, enhancement of service quality, and socioeconomic welfare.

Data Collection Method

The integration of FinTech in healthcare is analyzed by using secondary data sources such as industry records and databases, assessing the body of current research, and evaluating case studies. The data was collected from the reports of firms like Statista, Research and Markets, and different journals related to finance, technology, and healthcare. The Pulse of FinTech report, which tracks investments, trends, and developments in the FinTech sector globally, published by KPMG International (2016), was also considered, and Global FinTech Innovation Lab reports provided insights into emerging FinTech trends and the competitive landscape, published by Accenture, were also taken into consideration. In order to comprehend the difficulties and possibilities involved in incorporating FinTech into healthcare systems, the study included the data related to interviews with specialists in FinTech, healthcare, and digital health and their opinions about the same were analyzed through the available reports.

Scope of the Study

The research analyzes information from the past twenty years, especially paying attention to the period following 2015 when the adoption of FinTech started to speed up around the world. The time period covers new advancements until 2024, showcasing the most up-to-date trends and innovations in the industry. The research is centered on the healthcare industry, which encompasses hospitals, clinics, insurance firms, and healthcare startups. It also examines how government and non-governmental organizations contribute to the advancement of FinTech solutions in the healthcare sector.

The research delves into FinTech technologies like blockchain, AI, machine learning, digital wallets, and telemedicine platforms. The examination involves their utilization in healthcare funding, patient care, and the provision of services. Additionally, the study adds to the body of research that offers a comprehensive

examination of the relationship between FinTech and healthcare, elucidating how new technologies are applied to enhance the administration and provision of healthcare services while expediting financial transactions in healthcare startups, insurance companies, clinics, and hospitals. The study looked at both public and private initiatives that have advanced the adoption of FinTech in the healthcare industry. It offered insightful perspectives that closed a gap in the current body of scholarly work. Since it covered developments up to 2024, the study provided a modern viewpoint on the ongoing development of healthcare services, enhancing and elucidating the conversation on FinTech's contribution to healthcare innovation

Limitations of the Study

1. The study primarily relies on secondary data, which may limit the depth of analysis in certain areas. The availability and quality of secondary data may also vary across regions and sources.
2. The findings from specific case studies may not be generalizable to all healthcare systems, especially in regions with different socioeconomic and regulatory contexts.
3. The fast pace of technological advancements in both FinTech and healthcare means that some findings may become outdated as new innovations emerge.

FinTech in Healthcare

First, the objective of exploring the role of FinTech in healthcare is met by the revelation that FinTech applications, such as digital wallets, healthcare lending, and crowdfunding platforms, are fundamentally transforming the way healthcare services are accessed and financed. These technologies have made healthcare more accessible, particularly for low- and middle-income populations, thereby bridging gaps that traditional financial systems have struggled to address. It shows that by bypassing conventional financial institutions and providing innovative financial products, FinTech is empowering individuals with better financial tools to manage their healthcare needs, thereby improving their overall quality of life. These findings collectively underscore the profound influence of FinTech in reshaping healthcare, highlighting its potential to drive more equitable, efficient, and accessible healthcare systems, and setting the stage for future research to further explore these dynamics in various global contexts.

1. FinTech is being investigated as a substitute for extending financial access to fulfil the healthcare needs of individuals living in the low-middle-income class group.
2. To save money for medical procedures, FinTech designed a digital wallet account.
3. Offer prompt payment for personalized services.

4. Provides improved access to healthcare.
5. Helps in closing the gaps in the healthcare system.

This discussion directly connects to the second objective, which is to examine the advantages of digitalization within the healthcare sector. The discussion reveals that FinTech's digital solutions not only reduce costs and increase efficiency but also enhance the quality of care by enabling timely, remote, and personalized healthcare services.

Advantages of FinTech in Digitalization

The integration of FinTech into the healthcare sector has brought about significant advantages, transforming how healthcare services are delivered and accessed. One of the foremost benefits is the enhancement of healthcare accessibility, particularly for low- and middle-income groups who often struggle with high out-of-pocket expenses. FinTech solutions, such as healthcare lending and digital wallets, provide patients with innovative financial options, enabling them to access necessary treatments without the immediate burden of costs. These financial tools are crucial in reducing economic disparities in healthcare access, ensuring that even those in underserved areas can receive timely and adequate medical care.

Another critical advantage is the efficiency and speed at which healthcare services can be provided. With the rise of medical and remote monitoring, made possible through FinTech, patients can get medical advice and recommendations at their homes. This not only reduces travel times and costs but also reduces pressure on healthcare facilities, allowing for more efficient patient flow. Lowering the costs associated with traditional travel makes health care more affordable and efficient.

The stress on the healthcare system is also alleviated through the use of FinTech, as it allows for better resource allocation and management. By digitizing and automating many processes, FinTech helps in reducing administrative burdens, allowing healthcare professionals to focus more on patient care rather than on paperwork. This leads to improved patient outcomes, as the healthcare system becomes more patient-centered and responsive to individual needs.

FinTech in Socioeconomic Well-being

FinTech is quickly emerging as a key factor in improving socioeconomic well-being, particularly for low-income and marginalized groups. Its popularity is mostly due to its capacity to facilitate lending and borrowing agreements without going through conventional financial institutions like commercial banks. FinTech makes it easier and faster for people and small enterprises to obtain credit through peer-to-peer (P2P) lending platforms, frequently at a lower cost than traditional loans (Zhang et al., 2020). By providing cutting-edge services and products related to finance, FinTech is revolutionizing the way that people with low and moderate incomes may obtain healthcare services. Saving for medical expenses

and obtaining funds to buy treatments or medications are made possible by mobile-based HSAs and microloans, which are frequently managed through smartphone applications (Klapper et al., 2019). By eschewing conventional bank accounts, these platforms enable underbanked and unbanked individuals to access financial services. Additionally, FinTech's payment solutions have improved the process for paying for medical services. Both the transaction cost and the treatment delay have been reduced (Gomber et al., 2017).

One of the main reasons FinTech is taking the lead in socioeconomic well-being is that it does not depend on conventional financial institutions like commercial banks to formally build borrowing-lending arrangements. Peer-to-peer lending and FinTech have sped up the process of borrowing money. By facilitating and streamlining the payment process for healthcare services for patients, as well as by offering low-interest loans and mobile-based health savings accounts, FinTech solutions have made healthcare services more accessible to populations in low- and middle-income segments of society. Crowdfunding, which makes use of digital and social networks to raise money and donations, is another well-known example of a FinTech platform that enhances healthcare financing.

Findings

The findings of the study put forward that FinTech encourages innovation and collaboration across various sectors, driving the development of new healthcare models that are more adaptable and scalable. For instance, the synergy between FinTech and digital health tools such as AI-powered diagnostics and health-tracking apps enables the creation of more personalized healthcare experiences. These innovations not only enhance the quality of care but also empower patients to take a more active role in managing their health, leading to better long-term health outcomes.

In summary, the advantages of FinTech in healthcare are profound, offering enhanced accessibility, efficiency, security, and innovation. By addressing both financial and operational challenges, FinTech is poised to play a crucial role in transforming healthcare systems globally, making them more equitable and effective for all.

Theoretical Implications of the Study

The study's conclusions make a substantial contribution to the expanding corpus of research on the relationship between healthcare and FinTech. This study contributes to the theoretical knowledge of how digital financial innovations might change the way healthcare is operated, giving academics a fresh perspective on how technology affects the provision of healthcare services. This article presents a framework that connects FinTech with healthcare sustainability and accessibility by merging ideas of digital transformation, socio-economic development, and healthcare management.

Additionally, the present work lays the groundwork for further investigations into the complementary benefits of FinTech and digital health. It unveils how crucial interdisciplinary methods are for tackling healthcare issues, especially regarding low- and middle-class communities.

Practical Implications of the Study

The research article emphasizes the potential of FinTech solutions in the healthcare industry, emphasizing how they may enhance patient access, lower operating costs, and improve service delivery. It recommends that legislators create laws to encourage the use of FinTech, especially in underprivileged areas. The report also recommends encouraging digital literacy and offering accessible technology as ways to close the digital divide. By tackling issues like financing medical procedures and ensuring access to high-quality treatment, FinTech companies may leverage the insights to develop and grow their services in the expanding healthcare sector.

Conclusion

Further research on FinTech adoption in the health sector may be directed at assessing the long-term effects of such technologies on the improvement in patient outcomes and health care expenditure. The comparison between different health systems, specifically between developed and developing nations, can help in the wider generalizability of FinTech solutions globally. Additionally, it is very important to consider the ethical and regulatory implications of advanced technologies like AI and decentralized finance on the healthcare sector to ensure a culture of safety and efficiency in their integration. The standpoints of patients and providers could be important to know, possibly allowing better customization of FinTech applications to serve them more appropriately and improve the rates of their adoption. It also performed economic analyses on the cost-effectiveness of FinTech solutions, which are really important for stakeholders to make their investment and policy choices accordingly.

The integration of digitization and AI within the realm of FinTech holds immense potential to foster healthcare equity and improve the overall well-being of individuals on a global scale. By leveraging AI-powered tools, we can address several key challenges that have historically hindered equitable healthcare access. AI-driven predictive analytics can analyze vast datasets to identify underserved populations and predict healthcare trends, enabling targeted interventions and resource allocation. Furthermore, AI-powered chatbots and virtual assistants can enhance patient engagement, providing personalized healthcare information and assistance in real-time, which is particularly beneficial for individuals with limited access to medical facilities.

However, despite these promising advancements, challenges persist. Ensuring the privacy and security of sensitive health data remains a priority, necessitating robust data encryption and compliance with stringent regulatory frameworks.

Moreover, there is a digital divide that must be addressed, as not all individuals have equal access to the internet and technology. Bridging this gap requires concerted efforts from governments, organizations, and tech companies to promote digital literacy and provide access to affordable technologies.

In conclusion, the synergy between AI and FinTech has the potential to revolutionize healthcare by promoting equity and well-being worldwide. Through AI tools, we can identify, analyze, and address healthcare disparities, ultimately leading to more targeted and effective interventions. However, to realize this vision, collaboration is essential to overcome challenges such as data privacy concerns and digital inequality. By navigating these hurdles collectively, we can harness the power of AI in FinTech to create a more equitable and healthier global society.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

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