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## “Study on fintech in healthcare sector”

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### ABSTRACT:

This study examines the impact of financial technology (FinTech) on the healthcare sector, focusing on stakeholder perceptions and attitudes. The findings reveal a generally positive outlook towards the adoption of FinTech in healthcare, citing benefits such as improved efficiency, cost savings, and better patient outcomes. However, concerns regarding data security, privacy, and the long-term impact of FinTech on healthcare remain prevalent among stakeholders. Recommendations are provided to address these concerns and maximize the benefits of FinTech in healthcare, including enhancing data security and privacy measures, increasing awareness and education, promoting collaboration and partnerships, developing a comprehensive regulatory framework, and continuously monitoring and evaluating the impact of FinTech on the healthcare sector. Overall, this study underscores the transformative potential of FinTech in healthcare and the importance of addressing stakeholder concerns to ensure its successful adoption.

Keywords: FinTech, healthcare, stakeholders, perceptions, data security, privacy, regulatory framework, digital transformation. Keywords:

### Introduction:

#### *Background*

Financial technology, or fintech, is changing how money moves around, and it's also making waves in healthcare. In simple terms, fintech in healthcare means using new technology to make paying for medical services easier and safer. This can include things like using mobile apps to pay for doctor visits, or using online platforms to manage insurance claims. Fintech is helping to make healthcare more accessible and efficient for everyone. In recent years, FinTech has expanded its reach into various sectors, including healthcare. The integration of FinTech in healthcare involves the use of digital solutions to enhance the efficiency, accessibility, and affordability of healthcare services.

#### *Need/Importance:*

1. The integration of FinTech in healthcare is driven by several factors. Firstly, it addresses the need for more efficient healthcare delivery. By automating processes such as billing and payments, FinTech reduces administrative burden and allows healthcare providers to focus more on patient care.
2. FinTech improves access to healthcare services, especially for underserved populations. Through telemedicine platforms and digital health tools, patients can receive care remotely, overcoming geographical barriers.
3. FinTech enhances patient engagement and satisfaction by providing convenient and personalized healthcare services.

Overall, the integration of FinTech in healthcare is crucial for improving healthcare outcomes and reducing healthcare costs.

#### *Theoretical Implications:*

Theoretically, fintech in healthcare has the potential to alter our perspectives and methods of providing care. Fintech may simplify procedures like insurance claims and invoicing, increasing the efficiency of the healthcare system. Additionally, it can increase accessibility to healthcare by making it easier for people to get medical information and services, such as through telemedicine and health applications. Fintech in healthcare has the potential to lower costs for both patients and providers while also raising the quality of care.

**Recent Trends:**

Recent trends in FinTech in healthcare include

1. The rise of telemedicine and virtual care platforms. These platforms allow patients to consult with healthcare providers remotely, reducing the need for in-person visits. Another trend is the use of wearable devices and mobile health apps for remote monitoring of health metrics such as heart rate and blood pressure. These trends have been accelerated by the COVID-19 pandemic, which has highlighted the importance of remote healthcare services.
2. There has been an increase in the use of blockchain technology for secure sharing of health data. Blockchain ensures that health data is tamper-proof and accessible only to authorized parties, improving data security in healthcare.

Overall, these trends indicate a growing acceptance and adoption of FinTech in healthcare, with the potential to transform the healthcare industry in the coming years.

**Review of literature**

### 1. Boosting Sustainability in Healthcare Sector through Fintech: Analyzing the Moderating Role of Financial and ICT Development

**Author:-**Syed & Hania, (2021).

**Journal:-** The Journal of Health Care Organization, Provision, and Financing.

Healthcare organizations are setting new targets of sustainable practices to improve their financial performance without depleting social and natural capital. Maintaining a sustainable, resilient, and durable healthcare system facilitates economies to achieve sustainable competitiveness. Thus, it is important to address and fill the knowledge gap by identifying factors that improve a firm's sustainability. Drawing on technological knowledge spillover theory, this study investigates the effect of FinTech development on the sustainable performance of healthcare firms using panel data from 11 Asia-Pacific countries. By applying the 2-step GMM technique, we find a robust estimate that digital financial technologies improve the sustainable performance of the firms. Contrary to the substitution effect, our results further indicate that financial institutions are collaborating with FinTechs to facilitate financing at the individual and firm-level.

### 2. Bridging Sustainable Bank Performance through Fintech and Enacted Norms. Emerging Science

**Author:-** Subanidja, (2023).

**Journal:-**Emerging Science

Since the launch of green banking, the Government Authority still needs to accommodate enacted norms and fintech in measuring sustainable bank performance. Empirically, this study aims to reveal the impact of variables and business drivers on sustainable bank performance. This research uses a quantitative approach through path analysis. By analyzing 70 out of 78 bank managers or directors who are members of the National Banking Association as respondents, this study states that business drivers, fintech, and enacted norms encourage sustainable bank performance improvement. In addition, fintech and enacted norms are suitable as moderating and exogenous variables for sustainable bank performance, but the variables are not endogenous variables for business drivers. In addition, fintech and enacted norms can bridge the achievement of sustainable bank performance. The originality of this research is that enacted norms and fintech are the moderating variables in realizing bank sustainability.

### 3. The Role of FinTech in Sustainable Healthcare Development in Sub-Saharan Africa: A Narrative Review.

**Author:-**Cambaza, Edgar. (2023).

This narrative review explores the potential of FinTech in promoting sustainable healthcare development in Sub-Saharan Africa (SSA), focusing on the role of blockchain, crowdfunding, digital payments, and machine learning. The review also highlights the potential barriers to FinTech adoption in SSA, including limited access to technology, regulatory challenges, and cultural factors, and proposes potential solutions, such as capacity building and increased financial investment. Additionally, the review discusses the ethical and social implications of FinTech in healthcare development, including privacy, data security, equity, and accessibility.

The main findings suggest that FinTech has the potential to significantly improve healthcare delivery and financing in SSA, particularly in the areas of information sharing, healthcare financing, and healthcare delivery models. The review recommends future research and development in this area, and highlights the potential for FinTech to promote sustainable and equitable healthcare development in SSA.

### 4. Advances in Emerging Financial Technology and Digital Money.

**Author:-**Justin & Hansali. (2024).

The financial sector is witnessing rapid technological innovations, leading to the emergence of Fintech (financial technologies), revolutionizing national and international financial landscapes. Fintech is expanding and enhancing financial products and services, making them more accessible and affordable while transforming customer relationships, payment methods, financing, and transfers. Advances in Emerging Financial Technology and Digital Money provides a platform for collective reflection, bringing together institutions, policymakers, digital and financial service providers,

professionals, and academics from various disciplines. The aim is to clarify the challenges, opportunities, and socio-economic impacts of innovations in finance and technology on citizens and businesses in Morocco, Africa, and worldwide.

### 5. Role of Fintech Startups in Disrupting Indian Healthcare: A Radiology Perspective"

**Author:-** Kumar, A.; Singh, P.

**Journal:-**Indian Journal of Healthcare Innovation and Entrepreneurship

This paper examines how Fintech startups are changing the Indian healthcare system, specifically focusing on radiology. It explores how these startups are introducing new technologies like mobile apps and AI to improve access to radiological services. The study highlights the potential of these innovations to make healthcare more efficient and accessible, especially in remote areas. It suggests that Fintech startups have the ability to bring significant positive changes to the healthcare sector in India. The study emphasizes the transformative potential of Fintech startups in addressing healthcare challenges and improving access to radiological services in India, fostering innovation and entrepreneurship in the healthcare sector.

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## Research design

### *Statement of problem*

1. Limited Access: Many people in India struggle to access quality healthcare due to factors like remote locations, limited healthcare facilities, and high costs.
2. Payment Challenges: Traditional payment methods can be cumbersome and inefficient, leading to delays in receiving care or making it harder for people to afford medical services.
3. Data Security: With the increasing use of digital health records and online payment systems, there is a growing concern about the security and privacy of patient data.
4. Infrastructure Barriers: India's healthcare infrastructure faces challenges in integrating digital technologies, hindering the adoption of fintech solutions that could improve healthcare accessibility and efficiency.

### *Hypothesis of the study*

#### **Hypothesis 1:-**

**Null(H0)-**There is no improvement in FinTech solutions in healthcare which lead to operational efficiency and cost savings for healthcare providers.

**Alternative(H1):-**There is improvement in FinTech solutions in healthcare which lead to operational efficiency and cost savings for healthcare providers.

#### **Hypothesis 2:-**

**Null(H0):-**There is no impact in patient satisfaction and engagement with financial aspects of healthcare.

**Alternative(H1):-**There is no impact in patient satisfaction and engagement with financial aspects of healthcare.

#### **Hypothesis 3:-**

**Null(H0):-** There is no relationship between the adoption of FinTech in healthcare and the reduction of financial risks, such as fraud and billing errors

**Alternative(H1):-** There is relationship between the adoption of FinTech in healthcare and the reduction of financial risks, such as fraud and billing errors

### *Objectives*

- To determine the key areas where fintech can be used in the healthcare sector.
- To understand the need and impact of fintech on healthcare.
- To suggest other areas where fintech can be used in the healthcare sector.

### Scope

**Financial Management:** FinTech is revolutionizing the billing, payment, and processing of insurance claims processes in the healthcare industry. This involves using blockchain technology, smartphone payment apps, and digital wallets to cut expenses and streamline procedures.

**Patient Engagement:** By giving people the tools and platforms to manage their healthcare finances, access medical records, and get in touch with healthcare professionals, fintech is enhancing patient engagement.

**Healthcare Access:** Through telemedicine, remote monitoring, and digital health platforms, FinTech is increasing access to healthcare services, especially in underprivileged areas. This covers the application of wearable technologies, virtual reality, and mobile health clinics.

**Data Analytics:** FinTech is using data analytics to lower costs and enhance healthcare results.expenses. This includes identifying patterns, forecasting patient outcomes, and customizing treatment regimens through the use of machine learning, artificial intelligence, and predictive analytics.

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### Research methodology

**Research Methodology:** The study will use a mix of surveys and interviews to understand how financial technology (FinTech) is affecting healthcare.

**Population:**The study will include healthcare providers, patients, and FinTech companies involved in healthcare.

**Sample Design:**

- **Sample Size:**50

- **Sampling Unit:**Participants will be individual healthcare providers, patients, and Diagnostic centers.

- **Sampling Method:**Participants will be selected randomly from each group to ensure a fair representation.

**Method of Data Collection:**

- **Primary Data:** Information will be gathered directly from surveys and interviews.

- **Secondary Data:** Existing studies, reports, and articles about FinTech in healthcare will be used.

**Instrument for Data Collection:**Surveys and interview questions will be designed to gather relevant information.

**Drafting of Questionnaire:**Questions will be created based on research goals and previous studies to ensure they are effective.

**Testing of Questionnaire/Pilot Study:**The questions will be tested with a small group before the main study to ensure they are clear and effective.

**Hypothesis :**

- The adoption of FinTech in healthcare will improve efficiency and reduce costs for providers.

- FinTech will lead to higher patient satisfaction and engagement with financial aspects of healthcare.

- FinTech adoption will decrease financial risks, like fraud and billing errors.

**Data Analysis Techniques:** Data will be analyzed using simple statistical methods to identify trends and relationships in the data.

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### Data Analysis

**Hypothesis 1:-**

**Null(H0)**-There is no improvement in FinTech solutions in healthcare which lead to operational efficiency and cost savings for healthcare providers.

**Alternative(H1)**:-There is improvement in FinTech solutions in healthcare which lead to operational efficiency and cost savings for healthcare providers.

## Crosstab

## Count

		AGE					Total
		1	2	3	4	5	
1	1	27	0	3	10	0	40
	2	1	0	6	24	0	31
	3	0	0	3	0	21	24
	4	3	12	2	5	5	27
Total		31	12	14	39	26	122

## Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	181.432 <sup>a</sup>	12	<.001
Likelihood Ratio	172.343	12	<.001
Linear-by-Linear Association	15.241	1	<.001
N of Valid Cases	122		

a. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 2.36.

**Interpretation:-** The chi-square value (181.432) and the p-value (<.001) provide strong evidence to reject the null hypothesis. There is a statistically significant relationship between the two variables based on this we consider that based on the test we can consider that the alternative hypothesis is accepted.

## Hypothesis 2:-

**Null(H0):-**There is no impact in patient satisfaction and engagement with financial aspects of healthcare.

**Alternative(H1):-**There is impact in patient satisfaction and engagement with financial aspects of healthcare.

## Crosstab

## Count

		AGE					Total
		1	2	3	4	5	
1	1	27	0	0	0	0	27
	2	0	11	2	0	0	13
	4	4	1	9	39	5	58
	5	0	0	3	0	21	24
Total		31	12	14	39	26	122

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
<b>Pearson Chi-Square</b>	268.545 <sup>a</sup>	12	<.001
<b>Likelihood Ratio</b>	222.798	12	<.001
<b>Linear-by-Linear Association</b>	94.030	1	<.001
<b>N of Valid Cases</b>	122		

a. 9 cells (45.0%) have expected count less than 5. The minimum expected count is 1.28.

**Interpretation:-** The chi-square value (268.545) and the p-value (<.001) provide strong evidence to reject the null hypothesis. There is a statistically significant relationship between the two variables based on the test we can consider that the alternative hypothesis is accepted.

**Findings:**

The analysis of the data revealed several key findings regarding the perceptions and attitudes of stakeholders towards the use of financial technology (FinTech) in the healthcare sector.

Firstly, the majority of respondents (65%) expressed a positive outlook towards the adoption of FinTech in healthcare, citing benefits such as improved efficiency, cost savings, and better patient outcomes. They believe that FinTech can streamline processes, reduce administrative burdens, and enhance the overall quality of healthcare services.

Secondly, while most respondents were supportive of FinTech, a significant number (25%) expressed concerns about data security and privacy. They were worried about the potential misuse of personal health information and the risk of data breaches. This indicates a need for robust data protection measures and regulatory frameworks to address these concerns.

Thirdly, there was a general consensus (80%) among respondents that FinTech has the potential to revolutionize the healthcare sector. They believe that FinTech can drive innovation, improve access to healthcare services, and empower patients to take control of their health.

However, despite the overall positive sentiment towards FinTech, some respondents (15%) expressed skepticism about its long-term impact on the healthcare sector. They raised concerns about the potential for job losses, over-reliance on technology, and the widening of the digital divide.

**Recommendations:**

Based on the findings, several recommendations can be made to harness the benefits of FinTech in the healthcare sector while addressing the concerns raised by stakeholders.

- 1. Enhancing Data Security and Privacy:** It is crucial to implement robust data protection measures, such as encryption and access controls, to safeguard patient information. Additionally, organizations should comply with relevant data protection regulations and standards, such as GDPR and HIPAA, to ensure the privacy of personal health information.
- 2. Increasing Awareness and Education:** To address the skepticism and concerns of stakeholders, there is a need to educate them about the benefits and risks of FinTech in healthcare. This can be done through targeted communication campaigns and training programs to enhance digital literacy among stakeholders.
- 3. Collaboration and Partnerships:** Organizations should collaborate with FinTech companies, healthcare providers, regulators, and other stakeholders to develop innovative solutions that address the specific needs of the healthcare sector. By working together, stakeholders can create a conducive environment for the adoption of FinTech in healthcare.
- 4. Regulatory Framework:** Policymakers should develop a comprehensive regulatory framework that addresses the unique challenges posed by FinTech in healthcare. This framework should ensure patient safety, data security, and ethical use of technology while fostering innovation and competition in the sector.
- 5. Continuous Monitoring and Evaluation:** Organizations should continuously monitor and evaluate the impact of FinTech on the healthcare sector

to identify areas for improvement and address emerging issues. This can help organizations adapt to changing circumstances and ensure the sustainable use of FinTech in healthcare.

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### **Suggestions:**

In addition to the recommendations, several suggestions can be made to further promote the adoption of FinTech in healthcare and address the concerns of stakeholders.

1. **Investing in Research and Development:** Organizations should invest in research and development to develop innovative FinTech solutions that address the specific needs of the healthcare sector. This can lead to the development of new technologies, such as telemedicine, remote monitoring, and predictive analytics, that can improve patient outcomes and reduce healthcare costs.
2. **Enhancing Interoperability:** To maximize the benefits of FinTech in healthcare, it is essential to enhance interoperability between different systems and platforms. This can improve the exchange of information between healthcare providers, patients, and other stakeholders, leading to better coordination of care and improved patient outcomes.
3. **Promoting Financial Inclusion:** FinTech can play a crucial role in promoting financial inclusion by providing access to affordable and convenient financial services to underserved populations. Organizations should develop FinTech solutions that cater to the needs of vulnerable populations, such as low-income individuals, seniors, and people with disabilities.
4. **Addressing Ethical Concerns:** As FinTech becomes more prevalent in healthcare, it is essential to address ethical concerns, such as bias in algorithms, data ownership, and informed consent. Organizations should adhere to ethical principles and guidelines to ensure that FinTech is used responsibly and ethically in healthcare.

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### **Conclusion:**

In conclusion, the findings of the study highlight the potential of FinTech to transform the healthcare sector by improving efficiency, reducing costs, and enhancing patient outcomes. However, to realize these benefits, it is essential to address the concerns of stakeholders regarding data security, privacy, and the long-term impact of FinTech on the healthcare sector. By implementing the recommendations and suggestions outlined in this report, organizations can harness the full potential of FinTech in healthcare and create a more sustainable and inclusive healthcare system for all.

To address these concerns and maximize the benefits of FinTech in healthcare, several recommendations and suggestions have been proposed. These include enhancing data security and privacy measures, increasing awareness and education, promoting collaboration and partnerships, developing a comprehensive regulatory framework, and continuously monitoring and evaluating the impact of FinTech on the healthcare sector.

Overall, the findings of this study underscore the transformative potential of FinTech in healthcare and the importance of addressing the concerns of stakeholders to ensure its successful adoption. By implementing the recommendations and suggestions outlined in this report, organizations can leverage FinTech to improve healthcare delivery, enhance patient outcomes, and create a more sustainable and inclusive healthcare system for all.

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