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Fostering Fintech Adoption in Growing Economies: Opportunities, Challenges, and Strategies

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ABSTRACT

Fintech adoption has become increasingly popular in many developing countries due to its potential to increase financial inclusion and promote economic growth. However, fostering fintech adoption in growing economies presents challenges, opportunities, and strategies that differ from those in developed countries. This systematic literature review aims to identify the current state of fintech adoption in growing economies, including the challenges and opportunities of fintech adoption and the strategies used to foster it. A comprehensive search of electronic databases, including Scopus and Web of Science, was conducted for relevant articles published between 2018 and 2023. The screening process identified 12 articles that were critically appraised to ensure the quality of their content. The findings suggest that although fintech adoption in growing economies presents unique challenges, such as lack of infrastructure and limited digital literacy, it also provides various opportunities to increase financial inclusion, promote economic growth, and improve overall financial services. The strategies for fostering fintech adoption in growing economies include developing supportive regulatory frameworks, building digital infrastructure, and improving digital literacy through education and awareness programs. This study contributes to a better understanding of the current development of fintech adoption in growing economies, provides insights for policymakers and practitioners, and highlights the need for further research in this area.

Keywords: Fintech Adoption, Financial Inclusion, Regulatory Environment, Growing Economies.

INTRODUCTION

Financial technology (fintech) has transformed the financial sector, revolutionizing how financial services are delivered in many developed countries. Fintech adoption in these countries has provided consumers with convenient and cost-effective financial solutions, driving efficiency and innovation. However, adopting fintech in growing economies presents a distinct set of challenges and opportunities that differ from those encountered in developed countries. As developing countries strive for economic progress, many have recognized the potential benefits of fintech adoption in promoting financial inclusion and stimulating economic growth. Addressing the challenges associated with fintech adoption in growing economies is crucial to realizing these benefits fully (Feyen et al., 2021).

This research article presents a systematic literature review to examine the current state of fintech adoption in growing economies, focusing on the challenges, opportunities, and strategies involved. The study sheds light on the unique dynamics of fintech adoption in developing countries, particularly those experiencing rapid economic growth. By doing so, this research provides valuable insights and guidance for policymakers, regulators, and practitioners involved in fostering fintech adoption in growing economies.

Li and Li (2016) highlighted the information security challenges associated with adopting Fintech. They emphasized the need for robust security measures to protect sensitive data and maintain trust in financial transactions. The authors suggested that addressing these challenges requires a comprehensive approach involving technological solutions, regulatory frameworks, and user awareness. They proposed considering the importance of collaboration among financial institutions, technology providers, regulators, and consumers to ensure the safe and secure adoption of Fintech services in the digital era.

LITERATURE REVIEW

According to Anthony-Orji et al. (2019), financial inclusion is a critical concern in developing countries where a considerable proportion of the population lacks access to formal financial services. The World Bank estimates that approximately 1.7 billion adults worldwide require access to such services. Fintech adoption represents a transformative opportunity to enhance financial inclusion by offering cost-effective and convenient financial services to the unbanked and underbanked populations. In fact, the World Bank projects that fintech has the potential to extend formal financial services to an additional 1.6 billion adults.

Alwi et al. (2019) focused on consumer acceptance and adoption of payment-type Fintech services from a Malaysian perspective. The study explored factors such as perceived usefulness, ease of use, trust, and awareness influencing consumers' intention to adopt Fintech services. The findings indicated that perceived usefulness and trust significantly impacted consumer

adoption. The study underscored the significance of enhancing consumers' perception of usefulness and trust in Fintech services to drive adoption rates.

According to Anifa et al. (2022), fintech adoption goes beyond financial inclusion as it has the potential to drive economic growth by providing access to finance for small and medium-sized enterprises (SMEs). In many developing economies, SMEs play a pivotal role in driving economic activity, yet they often need help securing financing from traditional banking institutions. Fintech platforms offer alternative financing sources for SMEs, which can stimulate economic growth and generate employment opportunities.

However, fintech adoption in growing economies faces significant challenges despite the potential benefits (Varma et al., 2022). One significant barrier is the need for robust digital infrastructure in many developing countries. Reliable internet connectivity and mobile networks are indispensable for the growth and scalability of fintech services. Additionally, limited digital literacy among the population poses a hurdle to the widespread adoption of fintech solutions. Other challenges include the need for more supportive regulatory frameworks, concerns regarding cybersecurity risks, and apprehensions regarding data privacy.

Al Nawayseh (2020) examined the factors influencing customers' choice of Fintech applications during the COVID-19 pandemic and beyond. The study investigated the impact of various factors on Fintech adoption, including trust, perceived risk, convenience, and financial literacy. The findings highlighted the importance of these factors in shaping customers' decisions to adopt Fintech services. Understanding these factors aided in the design of effective strategies to promote Fintech adoption and usage.

To foster fintech adoption in growing economies, policymakers and regulators must develop regulatory frameworks that encourage innovation and ensure consumer protection (Mahmud et al., 2023). Investment in digital infrastructure, including the expansion of reliable internet connectivity and mobile networks, is paramount to support the broad-based adoption of fintech services. Equally important is improving digital literacy through education and awareness programs, empowering individuals to engage with fintech solutions effectively. Fintech providers should prioritize the development of products and services tailored to the needs of the unbanked and underbanked populations. Exploring alternative data sources and innovative credit scoring models can help extend credit to individuals currently excluded from the formal financial system.

Hu et al. (2019) empirically examined the adoption intention of Fintech services among bank users. The study extended the Technology Acceptance Model (TAM) to incorporate additional factors such as perceived risk and perceived enjoyment. The results revealed that perceived usefulness, ease of use, and enjoyment positively influenced users' intention to adopt Fintech services. Moreover, perceived risk negatively affected adoption intention. The study suggested that addressing perceived risk and emphasizing the benefits and enjoyment of Fintech services could foster adoption among bank users.

Hence, fostering fintech adoption in growing economies requires a comprehensive understanding of the unique challenges, opportunities, and strategies involved. This systematic literature review contributes to this understanding by examining the current state of fintech adoption in developing countries. The potential benefits of fintech adoption in these economies, including enhanced financial inclusion and economic growth, are substantial. Addressing the challenges associated with fintech adoption in growing economies is crucial for realizing these benefits. Further research is warranted to gain deeper insights into the dynamics of fintech adoption in growing economies and to develop effective strategies for fostering its adoption.

MATERIAL AND METHODS

The PRISMA Guidelines

The PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) Guidelines provide researchers with a standardized framework for reporting systematic reviews and meta-analyses. These guidelines enhance the transparency, clarity, and completeness of research studies in these fields. By following the PRISMA Guidelines, researchers ensure a rigorous and consistent approach to their work, covering research questions, study design, search strategy, data extraction, study quality assessment, and result interpretation. Adhering to the PRISMA Guidelines promotes credibility, and reproducibility, and facilitates the evaluation and comparison of studies within specific fields. Ultimately, the PRISMA Guidelines contribute to evidence-based decision-making and the advancement of knowledge in various research disciplines (Shamseer et al., 2015).

Search Strategy

This paper used a systematic literature review to examine various growing economies like India, Pakistan, Nepal, Bangladesh, and some African countries. To conduct this systematic literature review, a comprehensive search of electronic databases was conducted to identify relevant articles published between 2018 and 2023. The search was performed using Scopus and Web of Science for relevant articles published between 2018 and 2023. A combination of keywords was used to identify relevant studies, including those recommended by experts and previous research. The search strings were extracted from these keywords to answer the research questions using special functions like Boolean operator (restricted to AND and OR) on Scopus and Web of Science (WOS) databases. The search string used in Scopus was TITLE-ABS-KEY((fintech OR "Fintech

adoption" OR "Fintech" OR "FinTech" OR "Financial Technology" OR "Financial Services" OR "Fintech Readiness" OR "Financial Innovation" OR "Technology Readiness" OR "Financial Regulations" OR "Financial Technologies" OR "Financial Technology (Fintech)" OR "Fin-Tech") AND ("financial inclusion" OR inclusive Finance")), while the string used in WOS was TS=((fintech OR "financial technology" OR "Fintech" OR "FinTech adoption" OR "Financial Technology" OR "Financial Services" OR "Technological Readiness" OR "Fintech Innovation" OR "Digital Technologies" OR "Financial Technologies" OR "Financial Technology (Fintech)" OR "Fin-Tech") AND ("financial inclusion*" OR "Inclusive Finance"))).

Selection Criteria

The literature review was conducted using the PRISMA methodology. These searches yielded a total of 996 articles from the two selected databases, with 573 articles from Scopus and 423 articles from Web of Science (WOS). Note that there are many duplicate articles in this search output. The review process followed the PRISMA guidelines, which involved assessing the abstracts and full texts of the identified articles. This systematic approach ensures transparency, replicability, and accuracy in the literature review process, enabling a comprehensive analysis of the available research.

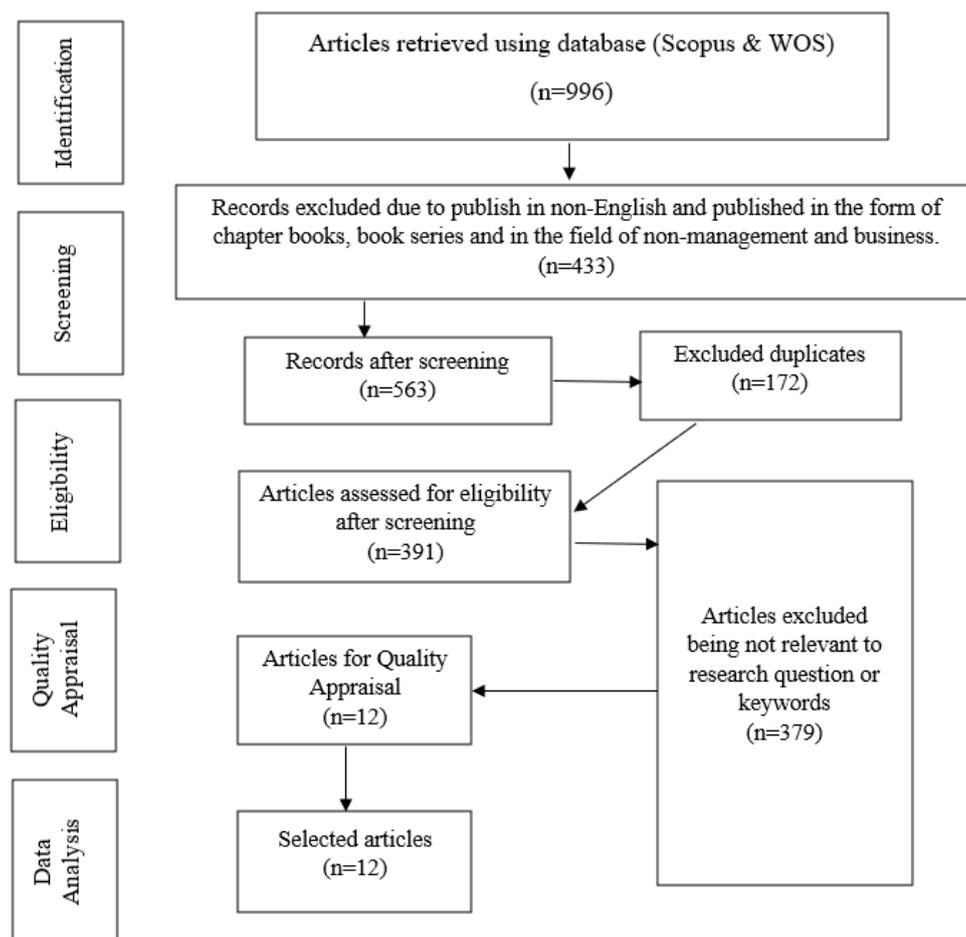


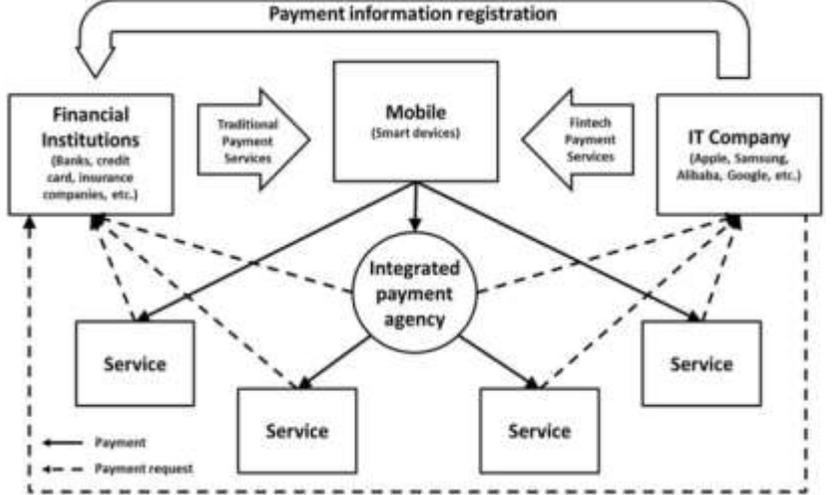
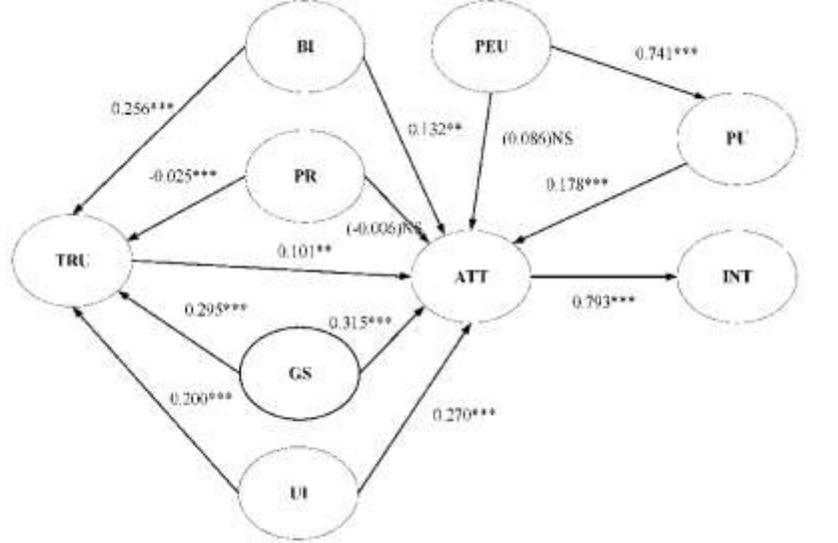
Figure 1: Literature selection using the PRISMA methodology

The review process involved screening the titles and abstracts for relevance and eligibility. After selecting 563 articles for screening, the next step was determining their eligibility. This involved reading the title and abstract of each article to determine if it met the inclusion and exclusion criteria. Duplicates were removed, leaving 391 articles for further screening. The PRISMA process yielded 12 articles for detailed analysis, as shown in Table 1. These articles underwent a critical appraisal process to ensure the quality of their content. The critical appraisal process is important in systematic reviews to assess the trustworthiness, value, and relevance of research in a particular context. It helps to rank the quality of papers as moderate and high and ensure the reliability of the study findings. These articles that met the inclusion criteria were read in full, and their key findings and conclusions were extracted. The extracted data were then analyzed to identify the opportunities, challenges, and strategies for fostering fintech adoption in growing economies. Table 2 reveals the quality aspects of each article.

Table 1: Articles included in this review

No.	Year	Authors	Title	Journal	Debut Year
1	2018	Ku-Mahamud, K.R., Bakar, N.A.A., Omar, M.	Blockchain, cryptocurrency and Fintech market growth in Malaysia	<i>Journal of Advanced Research in Dynamical and Control Systems</i>	2009
2	2018	Kang, J.	Mobile payment in Fintech environment: trends, security challenges, and services	<i>Human-centric Computing and Information Sciences</i>	2011
3	2019	Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S.	Adoption Intention of Fintech Services for Bank Users: An Empirical Examination with an Extended Technology Acceptance Model	<i>Symmetry</i>	2009
4	2019	Alwi, S., Salleh, M.N.M., Razak, S.E.A., & Naim, N.	Consumer acceptance and adoption towards payment-type fintech services from Malaysian perspective	<i>International Journal of Advanced Science and Technology</i>	2008
5	2020	Ryu, H.-S., & Ko, K. S.	Sustainable Development of Fintech: Focused on Uncertainty and Perceived Quality Issues	<i>Sustainability</i>	2009
6	2020	Al nawayseh, M. K.	FinTech in COVID-19 and Beyond: What Factors Are Affecting Customers' Choice of FinTech Applications?	<i>Journal of Open Innovation: Technology, Market, and Complexity</i>	2015
7	2021	Utami, A.F., Ekaputra, I.A., Japutra, A.	Adoption of FinTech Products: A Systematic Literature Review	<i>Journal of Creative Communications</i>	2009
8	2021	Xie, J., Ye, L., Huang, W., & Ye, M.	Understanding FinTech Platform Adoption: Impacts of Perceived Value and Perceived Risk	<i>Journal of Theoretical and Applied Electronic Commerce Research</i>	2006
9	2022	Yang, T., Zhang, X.	FinTech adoption and financial inclusion: Evidence from household consumption in China	<i>Journal of Banking & Finance</i>	1977
10	2022	Widayani, A., Fiernaningsih, N., Herijanto, P.	Barriers to digital payment adoption: micro, small and medium enterprises	<i>Management and Marketing</i>	2006
11	2023	Irimia-Diéguez, A., Velicia-Martín, F., Aguayo-Camacho, M.	Predicting Fintech Innovation Adoption: the Mediator Role of Social Norms and Attitudes	<i>Financial Innovation</i>	2015
12	2023	Kowalewski, O., Pisany, P.	The rise of fintech: A cross-country perspective	<i>Technovation</i>	1981

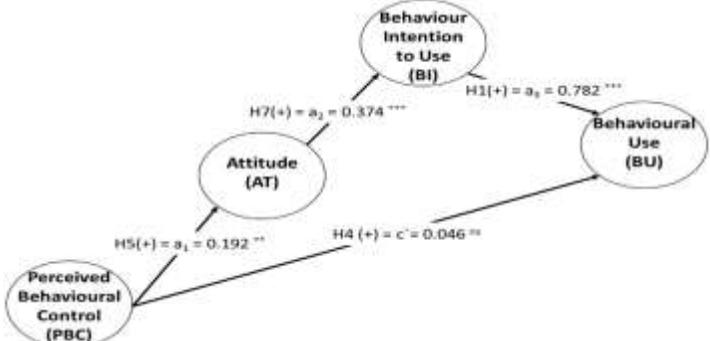
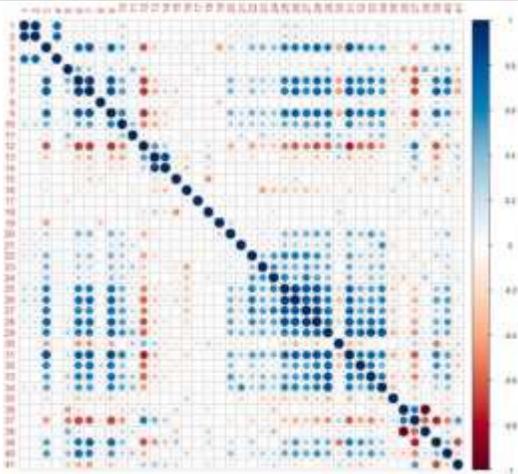
Table 2: Summary of Articles' models included in this review

Study	Model/Methodology	Opportunities	Challenges	Strategies
1	<ul style="list-style-type: none"> The quantitative approach was used in this study to examine the factors influencing the growth of blockchain, cryptocurrency. A questionnaire was used. 	<ul style="list-style-type: none"> Growing Fintech market in Malaysia 	<ul style="list-style-type: none"> Regulatory uncertainties 	<ul style="list-style-type: none"> Establishing clear regulatory frameworks
2	 <p>The diagram illustrates the 'Payment information registration' process. At the top, 'Payment information registration' is written above a curved arrow pointing from right to left. Below this, three main entities are shown: 'Financial Institutions (Banks, credit card, insurance companies, etc.)', 'Mobile (Smart devices)', and 'IT Company (Apple, Samsung, Alibaba, Google, etc.)'. 'Traditional Payment Services' are shown as an arrow pointing from Financial Institutions to Mobile. 'Fintech Payment Services' are shown as an arrow pointing from IT Company to Mobile. In the center is an 'Integrated payment agency' circle, which has arrows pointing to four 'Service' boxes. Dashed lines represent 'Payment request' flows from the Service boxes back to the Financial Institutions and IT Company. A legend at the bottom left indicates that solid arrows represent 'Payment' and dashed arrows represent 'Payment request'.</p>	<ul style="list-style-type: none"> Increasing trends in mobile adoption 	<ul style="list-style-type: none"> Security concerns 	<ul style="list-style-type: none"> Enhancing security measures in mobile payment services
3	 <p>The path diagram shows the following relationships and coefficients:</p> <ul style="list-style-type: none"> TRU to BI: 0.256*** TRU to PR: -0.025*** TRU to ATT: 0.101** TRU to GS: 0.295*** TRU to UI: 0.200*** BI to ATT: 0.132** PR to ATT: (-0.006)NS GS to ATT: 0.315*** UI to ATT: 0.270*** PEU to PU: 0.741*** PEU to ATT: (0.086)NS ATT to PU: 0.178*** ATT to INT: 0.793*** 	<ul style="list-style-type: none"> Convenience Accessibility Financial inclusion Efficiency Cost savings Innovation 	<ul style="list-style-type: none"> Security Digital literacy Resistance Regulation Infrastructure 	<ul style="list-style-type: none"> Security Digital literacy Resistance Regulation Infrastructure

<p>4</p>		<ul style="list-style-type: none"> • Consumer acceptance of payment-type Fintech services 	<ul style="list-style-type: none"> • Lack of trust and security concerns 	<ul style="list-style-type: none"> • Building trust through secure and reliable services
<p>5</p>		<ul style="list-style-type: none"> • Financial inclusion • Improved customer experience • Enhanced efficiency • Access to new markets • Innovation and creativity 	<ul style="list-style-type: none"> • Uncertainty • Perceived quality issues • Regulatory compliance • Cybersecurity risks • Adoption barriers 	<ul style="list-style-type: none"> • Risk management • Quality assurance • Regulatory compliance • Customer Education • Collaboration and partnerships • Technology monitoring and evaluation

<p>6</p>		<ul style="list-style-type: none"> • Digital transformation • Contactless services • Enhanced customer experience • Market expansion • Technological innovation 	<ul style="list-style-type: none"> • Privacy Trust and security • Awareness and understanding • Regulatory compliance • Infrastructure limitations • Resistance to change 	<ul style="list-style-type: none"> • Building trust • Increasing awareness • Collaboration • User-friendly interfaces • Regulatory compliance • Customer support
<p>7</p>		<ul style="list-style-type: none"> • Financial inclusion • Cost savings • Convenience • Enhanced access to financial services • Innovation 	<ul style="list-style-type: none"> • Security and privacy concerns • Lack of trust • Limited digital literacy • Regulatory hurdles • Resistance to change 	<ul style="list-style-type: none"> • Education and awareness programs • Enhancing security measures • Building trust through transparency • Collaboration with traditional financial institutions • Developing user-friendly interfaces

<p>8</p>		<ul style="list-style-type: none"> • Enhanced financial services • Access to innovative solutions • Increased convenience • Improved efficiency • Potential cost savings 	<ul style="list-style-type: none"> • Security and privacy concerns • Lack of trust in new technologies • Complexity of FinTech platforms • Limited awareness and understanding • Resistance to change 	<ul style="list-style-type: none"> • Communicating perceived value • Addressing perceived risks • Building trust through transparency • Enhancing user experience • Providing user-friendly interfaces
<p>9</p>	<p>Literature Review</p>	<ul style="list-style-type: none"> • Increased access to financial services • Expansion of financial inclusion • Facilitation of financial transactions • Potential for economic empowerment • Improved financial decision-making 	<ul style="list-style-type: none"> • Awareness • Access inequality • Trust • Regulations 	<ul style="list-style-type: none"> • Education • Connectivity • Security • Collaboration
<p>10</p>		<ul style="list-style-type: none"> • Streamlined Payments 	<ul style="list-style-type: none"> • Lack of digital infrastructure and awareness 	<ul style="list-style-type: none"> • - Building digital infrastructure and providing education

<p>11</p>		<ul style="list-style-type: none"> • Innovation Adoption 	<ul style="list-style-type: none"> • Resistance to change and lack of awareness 	<ul style="list-style-type: none"> • - Promoting positive social norms and attitudes
<p>12</p>	 <p>Correlation Matrix</p>	<ul style="list-style-type: none"> • Innovation • Financial inclusion • Economic growth • Efficiency 	<ul style="list-style-type: none"> • Regulatory concerns • Cybersecurity risks • Disruption to traditional financial institutions • Data privacy 	<ul style="list-style-type: none"> • Regulatory frameworks • Collaboration between firms and institutions • Investment in cybersecurity measures • Consumer education and awareness

CONCLUSION AND DISCUSSIONS

The reviewed studies provide valuable insights into various aspects of Fintech adoption, growth, and user behavior. The results highlight the increasing acceptance and utilization of Fintech services, the importance of addressing security and quality concerns, and the role of factors such as perceived value, trust, convenience, and the customer experience in driving Fintech adoption. Further research in this field can continue to explore emerging technologies, user preferences, regulatory frameworks, and the impact of Fintech on financial inclusion and economic development. Figure 2 highlights the opportunities, challenges, and strategies for fostering fintech adoption in growing economies. The discussion of each aspect follows.

Opportunities

Fintech adoption in growing economies presents unique opportunities to enhance financial inclusion and drive socioeconomic growth. One significant opportunity lies in extending formal financial services to the unbanked and underbanked populations. Fintech solutions have the potential to bridge the gap by providing access to banking services, promoting financial literacy, and enabling secure and convenient transactions. This can lead to significant socioeconomic benefits such as poverty reduction, economic empowerment, and improved livelihoods for individuals and communities.

Additionally, fintech adoption can stimulate economic growth by facilitating access to finance for small and medium-sized enterprises (SMEs). SMEs play a vital role in driving economic activity in many developing economies, but they often need help securing financing from traditional banking institutions. Fintech platforms offer alternative financing sources, enabling SMEs to access capital more efficiently and expand their operations. This can lead to increased entrepreneurship, job creation, and overall economic development.

Challenges

While there are significant opportunities, fintech adoption in growing economies may also face challenges that need to be addressed. One major challenge is the need for robust digital infrastructure in many developing countries. Limited access to reliable internet connectivity and mobile networks can hinder the adoption and usage of fintech solutions. To overcome this challenge, policymakers and stakeholders must prioritize investment in digital infrastructure. Expanding reliable internet connectivity and improving mobile network coverage, particularly in rural areas with limited access, will enable wider adoption and usage of fintech services.

Another challenge is the limited digital literacy among the population. Many individuals in growing economies may need more skills and knowledge to engage with fintech solutions effectively. This poses a barrier to the adoption and usage of fintech services. Education and awareness programs should be developed to address this challenge to improve digital literacy. These programs can help individuals understand the benefits and functionalities of fintech solutions and equip them with the skills needed to navigate digital platforms.

Strategies

To foster fintech adoption in growing economies, several strategies can be implemented. Developing supportive regulatory frameworks is crucial to create an enabling environment for fintech innovation while ensuring consumer protection. Policymakers and regulators must strike a balance between fostering innovation and managing risks associated with fintech services. Collaborating with industry stakeholders can facilitate the development of regulations that accommodate the evolving fintech landscape and promote responsible fintech practices.

Moreover, fintech providers should focus on developing products and services tailored to the needs of the unbanked and underbanked populations. This may involve leveraging alternative data sources and innovative credit scoring models to extend credit to individuals who are currently excluded from the formal financial system. By offering solutions that address specific financial needs and preferences, fintech providers can encourage adoption and usage among underserved populations.

In addition, enhancing digital literacy through education and awareness programs is crucial to overcome the barriers to fintech adoption. These programs should aim to improve individuals' understanding of fintech solutions, their benefits, and how to utilize them effectively. By equipping individuals with the necessary digital skills and knowledge, they can confidently engage with fintech platforms and make informed financial decisions.

Finally, the systematic literature review followed a rigorous and transparent process to identify relevant articles, assess their quality, and synthesize the findings. The review provides a comprehensive and up-to-date overview of the current state of fintech adoption in growing economies, including the challenges, opportunities, and strategies for fostering fintech adoption. The findings of this study can inform policymakers, regulators, and practitioners on how to promote fintech adoption in developing countries.

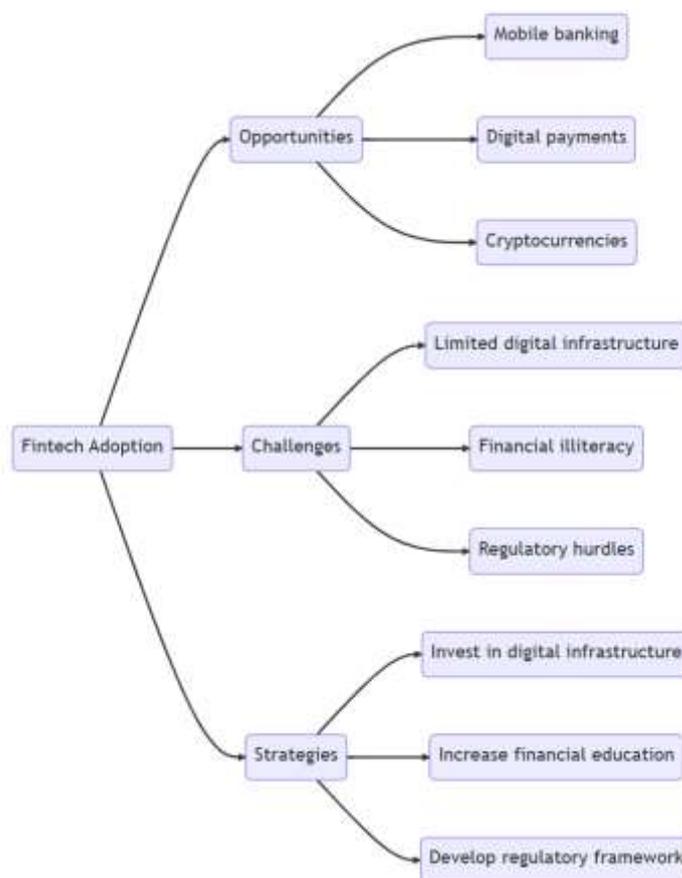


Figure 2: Fintech Adoption Opportunities, Challenges, and Strategies

Future Research

Several key areas warrant further research to enhance our understanding of fintech adoption in growing economies. First, exploring the contextual factors and regional dynamics influencing fintech adoption would provide valuable insights. Investigating the impact of cultural norms, regulatory environments, and economic conditions on adopting and using fintech services can shed light on the challenges and opportunities faced by different countries or regions. This would enable the development of more targeted strategies and interventions to foster fintech adoption.

Another important avenue for future research lies in assessing the long-term impacts of fintech adoption on financial inclusion and economic growth in growing economies. Longitudinal studies can help evaluate the effectiveness of fintech solutions in extending formal financial services to unbanked and underbanked populations. Such research can also examine the contributions of fintech adoption to poverty reduction, economic empowerment, and improved livelihoods. Policymakers and stakeholders can make more informed decisions by analyzing the sustainable and inclusive development outcomes of fintech adoption.

Furthermore, exploring the implications of emerging technologies and future trends on fintech adoption in growing economies is crucial. Research should delve into the potential benefits and risks associated with technologies such as blockchain, artificial intelligence, and big data analytics within the fintech ecosystem. Understanding the impact of these technologies on financial services, customer behavior, and industry dynamics can guide the development of appropriate strategies and policies to navigate the evolving fintech landscape.

User experience and trust are also important areas for future investigation. Research should focus on understanding the role of user interface design, privacy, and security concerns, and trust-building mechanisms in shaping user perceptions and intentions towards fintech services. By identifying the factors influencing user trust and satisfaction, researchers can provide valuable insights for enhancing the design and delivery of fintech products and services. Finally, future research should examine the effectiveness of policy and regulatory frameworks in fostering fintech adoption in growing economies. Evaluating the impact of regulatory sandboxes, licensing requirements, and consumer protection measures on fintech innovation and consumer trust can offer valuable insights. Comparative studies across different regulatory approaches can further explain how to strike an optimal balance between promoting innovation and mitigating risks within fintech ecosystems. By addressing these research areas, future studies can advance our knowledge of fintech adoption in growing economies, inform evidence-based policymaking, and support fintech ecosystems' sustainable and inclusive development.

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