



PROMOTING FINANCIAL TECHNOLOGY ADOPTION FOR SUSTAINABILITY THE ROLE OF PERCEIVED FACILITATION AND QUALITY OF INSTITUTIONS

*Muqadas Aslam¹, Zubair Arshad²

¹ MPhil Department of Accounting & Finance, The Superior University Lahore, Punjab, Pakistan.

² Assistant Professor, Department of Accounting & Finance, The Superior University, Lahore, Punjab, Pakistan.



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ABSTRACT

The wider adoption of FinTech in Pakistan is impeded by the lack of digital infrastructure, internet connectivity, customer support and institutional support. This research investigates the influence of perceived facilitating conditions on FinTech adoption and probes the mediating function of FinTech adoption between facilitating conditions and sustainability. In addition, the study examines the moderating effect of institutional quality on the strength of the link between perceived facilitation and FinTech adoption. A quantitative research design was followed. The primary data were collected from the users of mobile banking and other FinTech services in Pakistan through structured questionnaire. The respondents were selected using the random sampling technique and the data collected were analysed through SPSS to analyse the proposed direct, mediation and moderation effects. The findings suggest that enabling conditions, especially technological infrastructure, availability of the internet and continued customer support, are significant in FinTech adoption. The findings also show that increasing the adoption of FinTech can lead to sustainability through providing more access to financial services, improving the efficiency of transaction, decreasing operational costs, and encouraging the environmentally responsible financial practices. Additionally, the relationship between facilitating conditions and sustainability is mediated by FinTech adoption, and institutional quality enhances the positive relationship between perceived facilitation and FinTech adoption. The study points out the need for improved digital infrastructure, institutional arrangements, customer support mechanisms and digital financial literacy in an effort to develop a more inclusive, efficient and sustainable financial ecosystem in Pakistan.

*Corresponding Author's Email: su94-msafw-f24-004@superior.edu.pk

INTRODUCTION

Background of The Study

In recent years, FinTech has been considerably taken into account as a driver of sustainable development as it facilitates financial inclusion, reduces operational costs, and allows for green digital transactions (Vergara & Agudo, 2021). Digital transformation is picking up in emerging economies and to meet long-term sustainability goals it is important to understand the factors that encourage FinTech adoption. Thus, FinTech has become an integral part of the digital transformation strategy in both developed and emerging economies. Facilitating conditions can affect sustainability outcomes through the important mechanism of FinTech adoption. The growing adoption of digital financial services is helping individuals and organizations to transact financially more efficiently, increase access to finance, reduce operational costs, and foster financial inclusion. These benefits support economic development and simultaneously generate positive social and environmental impacts. Prior research demonstrates that broad-based FinTech adoption enhances economic resilience and supports long-term sustainable development, especially when considering fast digitalization in developing economies (Siddik et al., 2023; Zhao et al., 2024). Many developing and underserved areas still face challenges in accessing traditional banking services due to limited branch networks, relatively high transaction costs and the constraints of legacy systems. In this scenario, FinTech offers an effective alternative

and complement by providing financial services through digital platforms that are faster, cheaper and more convenient. Financial institutions and technology providers are increasingly leveraging advanced technologies such as artificial intelligence (AI), analytics for big data, and blockchain to develop innovative ways to provide payment services, banking facilities and other financial products.

FinTech platforms are heavily dependent on digital technologies for enhancing the reach, efficiency, flexibility and security of financial transactions than the conventional banking models. Technologies allow for faster transaction processing, improved security systems, lower operational costs and enable service providers to better respond to changing user needs. These capabilities have increased the appeal of FinTech as an alternative to and complement of legacy services. FinTech and blockchain-led innovations are particularly important for developing economies (McKinsey & Company, 2023; World Economic Forum, 2022; Asian Development Bank, 2021).

Problem Statement

FinTech has become a crucial catalyst for financial inclusion and sustainable economic growth by providing access to financial services, lowering transaction costs, and enhancing financial operations. Whilst digital financial services have grown rapidly around the world, the uptake has been very slow in developing countries such as Pakistan. Although the country has made some progress in terms of smartphone penetration, digital payment infrastructure and Internet access, significant challenges still remain for broad acceptance of FinTech services. Such barriers include poor technological infrastructure, inconsistent internet connectivity, limited customer assistance and weaknesses in institutional support (State Bank of Pakistan, 2024; Akhtar et al., 2024).

Previous studies on FinTech adoption have focused mainly on the perceived usefulness, trust, financial literacy, and perceived risk. Perceived facilitating conditions have received relatively little attention, in particular the degree to which the willingness to adopt FinTech services is influenced by reliable internet connectivity, 24/7 customer support and sufficient technological infrastructure. Moreover, there are no studies investigating the moderating role of institutional quality in the relationship between facilitating conditions and FinTech adoption, or whether FinTech adoption itself is a mechanism through which better facilitating conditions lead to

sustainability outcomes. This gap is especially relevant to Pakistan, where digital financial infrastructure and institutional support mechanisms are still being developed. Exploring the relationship between these factors can shed light on the conditions under which FinTech services are more widely adopted and more effective. Moreover, a better understanding of these relationships can help assess how far the increased FinTech adoption may contribute to sustainable economic and financial development in Pakistan (Siddik et al., 2023; Zhao et al., 2024).

Research Objectives

1. To evaluate the affect of perceived facilitation on the FinTech adoption by Pakistanis
2. To evaluate the affect of FinTech adoption on sustainability outcomes in Pakistan.

Significance of The Study

The current study adds to the existing body of knowledge by examining the interrelationship between perceived facilitation, FinTech adoption, institutional quality and sustainability in the setting of Pakistan. As digital financial services become more common, it is important to determine the factors that promote and support the adoption of FinTech. The present study is based on previous studies and particularly focuses on facilitating conditions including internet connectivity and speed, technological infrastructure, and availability of 24/7 customer support. The enabling factors included in the study provide a more holistic perspective on the possible effect of FinTech adoption on sustainable economic outcomes and its contribution to broader development goals (Gomber et al., 2022; Lee & Shin, 2022; Ozili, 2023).

Research Gap

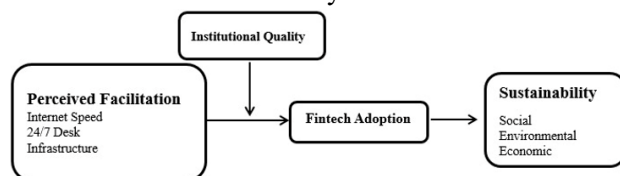
However, there are knowledge gaps as the interest in FinTech adoption and its contribution to sustainable development and financial inclusion is increasing. Most prior research has focused on financial literacy, perceived utility, perceived ease of use and trust. Less attention has been paid to the role of perceived facilitation, e.g. internet speed, technology infrastructure, and ongoing customer support. Moreover, empirical investigation of institutional quality as a moderator to enhance the link between perceived facilitation and sustainability or FinTech adoption as a mediating mechanism is limited. The differences are more pronounced in developing countries such as Pakistan, where digital financial

services are growing rapidly, but institutional and technological barriers remain. Therefore, this study proposes an integrated framework to examine these relationships, contributing to both the theoretical understanding of FinTech adoption and the practical advancement of financial inclusion and sustainable economic development (Lee & Shin, 2022; Gomber et al., 2022; Ozili, 2023; World Bank, 2022).

LITERATURE REVIEW

Conceptualization

The conceptual framework of this study shows that Perceived Facilitation (internet speed, 24/7 customer support and technological infrastructure) has a positive impact on FinTech Adoption. FinTech adoption is a mediating variable that conveys the impact of perceived facilitation on Sustainability. Furthermore, Institutional Quality plays a moderating and strengthening role on the link between perceived facilitation and FinTech adoption. The growth in FinTech adoption will ultimately help Pakistan to achieve better economic, social and environmental sustainability.



Perceived Facilitation

Hemingway and Ben Lallouna (2013) studied the factors influencing consumers' resistance and acceptance of mobile financial services in Tunisia. Their study discovered some barriers for the adoption of mobile banking. "The biggest hurdle was users wanted to continue with traditional banking habits, as many people were not willing to shift from face-to-face banking to mobile-based transactions. Consumers also raised concerns about ease of use of mobile banking services, perceived usefulness of mobile banking services and security of financial transactions on mobile devices. These concerns had significantly hampered users' willingness to adopt mobile banking. The results indicate that mobile financial services in Tunisia are facing major challenges, with resistance to change being the most important barrier to adoption. Perceived facilitation is the extent to which users believe that the necessary resources, technical support, and infrastructure are available for facilitating the effective use of fintech

services. This is indicative of the confidence that users have in having the tools and assistance for the convenience and efficiency of performing financial transactions. When people feel that there is enough support and infrastructure, they are more likely to use and sustain the fintech services. In this study, three indicators are used to measure perceived facilitation: ease of use, 24/7 customer support, and infrastructure. This is in keeping with the concept of enabling conditions proposed by (Venkatesh et al. (2003) .Further supported by Sadi and Noordin (2011) who highlighted the need for adequate resources and support to encourage technology adoption.

Institutional Quality

Institutional quality refers to the efficiency of formal institutions including government regulations, legal systems, banking institutions, and policy frameworks that facilitate the functioning and development of fintech services. High institutional quality creates a stable and transparent environment to boost user confidence in financial services. It is recognized in the area of fintech research that institutional quality is a critical factor for the adoption and development of financial technologies. Good governance, strong legal protections and effective regulatory structures reduce perceived risk and uncertainty, increasing users' confidence in fintech services. When organizations behave responsively, transparently and trustworthily, people are more likely to consider fintech services as safe and reliable, and thus adopt them (Zetzsche et al., 2024; Haddad & Hornuf, 2023).

Fintech Adoption

Fintech is widely recognized as a major driver of long-term economic growth. The use of fintech services is an important part of sustainability in terms of lowering operational costs, increasing access to financial services and improving transparency of financial institutions (Chen, 2018; Zhang et al., 2021). Fintech also increases the accessibility and availability of financial information, thus decreasing information asymmetry and improving market efficiency (Zhang et al. 2021). Additionally, recent studies have revealed that the adoption of fintech is positively correlated with financial stability, implying that the higher the utilization of fintech, the more robust the financial systems will be, which promotes economic sustainability in the long run (Daud et al., 2022).

Sustainability

The main area of the Sustainable is to help people who're poor make sure everyone gets sideways and

keep the environment fresh. Nonetheless a lot of people do not know what the Sustainability is about so we prerequisite to tell them more about the Sustainability. The Sustainable Development Goals or SDGs for short are usually put into three groups: money, people and the earth. When we use technology to deal with money it helps with all three of these groups. It does this by making sure everyone has access to money by making things work better and by helping the Sustainability. The Sustainable is very important for making sure our economy keeps growing over a time. Although many studies highlight the rank of technology in FinTech, there is still a lack of research exactly examining the impact of information technology on FinTech acceptance (Khan et al., 2022). The Sustainability represent a main global priority, and achieving them requires a strong and efficient banking system capable of mobilizing private capital. Such a system is essential for progressing sustainable development and maintaining stable economic growth (Hoang et al., 2022).

Hypothesis

H.1: Perceived facilitation has a significant positive effect on fin tech adoption

H.2: Fin Tech Adoption has a significant positive effect on Sustainability.

H.3: Fin Tech Adoption mediates the relationship between perceived facilitation and sustainability

H.4: Institutional Quality positively moderate the relationship between perceived Facilitation and fintech adoption, such that the relationship becomes stronger when institutional quality is high.

METHODOLOGY

The data for the study has been collected using a survey questionnaire that included questions regarding each variable. The factors are Perceived facilitation, Fintech adoption, Institutional quality, and sustainability. The target population for this study consists of individuals who use mobile banking and fintech services. The survey was administered to participants who actively or regularly engage with digital financial platforms. The people who took part in this study were men and women This study will use a quantitative research approach to examine the relationship between perceived facilitation, FinTech adoption, institutional quality, and sustainability in Pakistan. Primary data will be collected through a structured questionnaire from individuals who use digital financial services. A Random sampling

technique will be used to select the respondents. The collected data will be analyzed using SPSS for descriptive statistics for testing the proposed hypotheses, including the direct, mediating, and moderating relationships. The survey was sent to 250 people and 200 of them answered, so that is 80% of people who got the survey.

PRACTICAL IMPLICATIONS

The findings of the study have important practical implications for policymakers, financial institutions, fintech service providers and regulatory authorities in Pakistan and other emerging economies. The positive effect of perceived facilitation on fintech adoption indicates that improving internet connectivity, technology infrastructure and customer service can be helpful to encourage the people's use of digital financial services. In addition, government agencies should support the development of digital infrastructure and improve internet access, especially in rural and underserved areas, so as to foster financial inclusion and sustainable economic growth (World Bank, 2022; Asian Development Bank, 2023).

The survey revealed that financial institutions could increase confidence among customers and promote long-term use of fintech services by offering fintech applications that are easy to use, reliable digital payment systems and ongoing customer support. Additionally, banks should finance customer education programs to improve digital financial literacy, and to educate consumers of the benefits and safety of digital financial platforms (OECD, 2023; Gomber et al., 2022).

DISCUSSION

The findings of this study reveal that the adoption of FinTech by users in Pakistan is highly affected by perceived facilitation. By providing access to reliable internet services and adequate technology infrastructure and ongoing customer support, people will be more willing to use digital financial services. These results are consistent with the UTAUT concept proposed by Venkatesh et al. (2003) that suggests enabling conditions are an important factor in technology adoption. Findings are also consistent with Sadiq et al. (2023) and Akhtar et al. (2024) who found that supportive technological environments significantly increase users' willingness to adopt FinTech services in developing economies.

The study further confirms that the adoption of FinTech has a positive and significant impact on sustainability. The increasing use of digital financial services supports financial inclusion, improves transaction efficiency, reduces operational costs and contributes to environmentally sustainable financial practices by reducing the use of paper-based transactions. The results are in line with the study of Siddik et al. (2023), Ozili (2023) and Zhao et al. (2024) who concluded that FinTech leads to sustainable economic development by enhancing financial accessibility, strengthening economic resilience and fostering inclusive growth.

Moreover, from the mediation analysis, it becomes apparent that FinTech adoption is a critical channel that perceived facilitation uses to improve sustainability. It implies that the enabling conditions do not lead to sustainability unless they encourage the effective adoption and use of digital financial technologies. Thus, the sustainability benefits of technological support and infrastructure improvements accrue only when people are actively using FinTech services. This finding is in agreement with the studies of Lee and Shin (2022), and Gomber et al (2022) that emphasized the sustainability benefits of digital finance, which are achieved through increased adoption and persistent usage of FinTech platforms. These factors also reinforce the positive effect of facilitating conditions on FinTech adoption. This is consistent with the assertions by Zetzsche et al. (2024) and Haddad and Hornuf (2023) that strong institutional arrangements speed up the digital financial transformation, diminish uncertainty and enhance trust in financial innovations.

CONCLUSION

The study concludes that perceived facilitation is a significant driver of FinTech adoption in Pakistan and such adoption plays a significant role in advancing sustainability. The availability of reliable technological infrastructure, accessible support systems and enabling conditions enable users to use digital financial services, resulting in financial inclusion, operational efficiency and environmentally sustainable methods. The results are consistent with the UTAUT model of Venkatesh et al. (2003), and previous studies of Siddik et al. (2023), Ozili (2023), and Zhao et al. (2024), which have demonstrated the importance of digital finance in promoting sustainable development.

The study also exposes FinTech adoption as a significant mediating mechanism of the perceived facilitation and sustainability. It means that support and infrastructure systems deliver sustainable results only if they lead to real and continuous usage of FinTech services. Therefore, in an effort to capture the sustainability benefits of FinTech, policy makers and financial institutions should invest not only in digital infrastructure but also in establishing confidence, awareness and regulatory stability as also highlighted by Lee and Shin (2022) and Gomber et al. (2022).

Overall, the study offers robust evidence on the role of improving facilitating conditions and institutional quality to accelerate FinTech adoption and contribute to sustainable development in emerging economies. These findings have important implications for regulators, service providers and policymakers aiming to create a more inclusive, efficient and sustainable financial ecosystem in Pakistan, in line with the arguments of Haddad & Hornuf (2023) and Zetzsche et al. (2024)

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