





“The role of financial literacy, digital literacy, and financial self-efficacy in FinTech adoption”

AUTHORS	K. M. Anwarul Islam   Muhammad Saifuddin Khan 
ARTICLE INFO	K. M. Anwarul Islam and Muhammad Saifuddin Khan (2024). The role of financial literacy, digital literacy, and financial self-efficacy in FinTech adoption. <i>Investment Management and Financial Innovations</i> , 21(2), 370-380. doi: 10.21511/imfi.21(2).2024.30
DOI	http://dx.doi.org/10.21511/imfi.21(2).2024.30
RELEASED ON	Tuesday, 11 June 2024
RECEIVED ON	Friday, 12 April 2024
ACCEPTED ON	Monday, 20 May 2024
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Investment Management and Financial Innovations"
ISSN PRINT	1810-4967
ISSN ONLINE	1812-9358
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

43



NUMBER OF FIGURES

1



NUMBER OF TABLES

9

© The author(s) 2024. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 12th of April, 2024

Accepted on: 20th of May, 2024

Published on: 11th of June, 2024

© K. M. Anwarul Islam, Muhammad Saifuddin Khan, 2024

K. M. Anwarul Islam, Ph.D.,
Professor, Department of Business
Administration, The Millennium
University, Bangladesh. (Corresponding
author)

Muhammad Saifuddin Khan, Ph.D.,
Professor, Department of Finance,
Faculty of Business Studies, University
of Dhaka, Bangladesh.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution 4.0
International license](https://creativecommons.org/licenses/by/4.0/), which permits
unrestricted re-use, distribution, and
reproduction in any medium, provided
the original work is properly cited.

Conflict of interest statement:

Author(s) reported no conflict of interest

K. M. Anwarul Islam (Bangladesh), Muhammad Saifuddin Khan (Bangladesh)

THE ROLE OF FINANCIAL LITERACY, DIGITAL LITERACY, AND FINANCIAL SELF-EFFICACY IN FINTECH ADOPTION

Abstract

The primary aim of this study is to delve into the factors influencing individuals' readiness to embrace financial technology (FinTech) services in Bangladesh. Specifically, the study focused on Bangladeshi fintech consumer's knowledge about contemporary digital financial tools, such as mobile-based payment service apps. Data collection was carried out using a survey questionnaire tailored to the Bangladeshi context. Participants were invited to participate in the survey, and their responses were gathered upon their consent. A five-point Likert scale, ranging from '1' for 'Strongly Disagree' to '5' for 'Strongly Agree', was employed to gauge the questionnaire items. The final sample size was 450 respondents. To assess the hypotheses, a 5% significance level was employed, with data analysis conducted using SPSS software. The findings underscore a positive and statistically significant impact of financial literacy, digital literacy, and financial self-efficacy on the adoption of FinTech services in Bangladesh. Collectively, these variables elucidate 48.20% of the variance ($R^2=0.482$) in predicting individuals' adoption behavior of FinTech. Financial self-efficacy ($\beta = 0.574$; $t\text{-value} = 8.394$) has the highest effect on FinTech adoption compared to the other two factors. Additionally, a substantial correlation coefficient ($r=0.634$) is present between digital literacy and FinTech adoption. This study contributes to the extant literature on FinTech services by providing valuable insights that enhance scholars' understanding of the emerging financial technologies' significance and their predominant impacts within the Bangladeshi FinTech ecosystem. These findings hold implications for policymakers, financial institutions, and stakeholders seeking to promote FinTech adoption and foster financial inclusion in Bangladesh.

Keywords

FinTech, digital literacy, self-efficacy, Bangladesh, regression

JEL Classification

M15, G28, G32

INTRODUCTION

The onset of Industry 4.0 signifies a period characterized by revolutionary innovations, extensive technological progress, and the widespread adoption of digital solutions within societies, enterprises, and governmental bodies. The significant progress in the development of the Internet of Things (IoT) has not only transformed the financial industry but has also stimulated the growth of various financial technologies (FinTech), positioning them prominently in policy discussions (Rizvi et al., 2024). In the time of Industry 4.0, there is a notable surge in technological progress worldwide, with a strong focus on advancements within the financial domain (Xu et al., 2024). In the realm of finance, the emergence of financial FinTech stands as a pivotal innovation, intertwining financial processes with advancements in information and communication technology (ICT). The global financial services industry has experienced a significant paradigm shift in recent times as a result of the advent of FinTech. This convergence has spurred the development of novel business frameworks, applications,

methodologies, and products, exerting considerable influence on financial markets and institutions. Acknowledged by scholars such as Lee and Shin (2018), FinTech has garnered recognition as a catalyst for future economic expansion. In Bangladesh, FinTech services and products are assuming economic significance. Furthermore, the level of sophistication and advancement of a nation's technological infrastructure may correlate directly with its overall developmental trajectory. Over the past two decades, Bangladesh has made significant strides in expanding the accessibility of the financial system to its citizens. The adoption of FinTech in Bangladesh exhibits disparities owing to various constraints. In the country, the FinTech industry is nascent, necessitating considerable time, maturation, and endeavor, alongside a heightened rate of adoption. Despite experiencing a significant increase in embracing fintech services, such as mobile payment services, a considerable percentage of consumers continue to be inactive. So, it is critical to inspect expeditiously the variables that influence the adoption behavior of fintech services by Bangladeshi citizens.

1. LITERATURE REVIEW

It is anticipated that Financial Technology (FinTech) will reshape the global financial landscape. The sustained expansion of investment has been driving the progress of FinTech, facilitating advancements in technology across various domains. This technology finds application across diverse sectors, particularly within the financial industry, where it is instrumental in enhancing the quality of financial offerings through the utilization of digital technology (Hassan et al., 2023). Financial technologies embody notable progressions in modern science, captivating clients through their improved usability, openness, effectiveness, and mechanization of services and products (Hassan et al., 2022). FinTech is an inclusive term that encompasses all technological advancements that are relevant to the provision of financial services (Tun-Pin et al., 2019). It encompasses a diverse array of financial services that can be accessed and delivered through electronic channels (Tapanainen, 2020; Singh et al., 2020; Haddad & Hornuf, 2019). These technological advancements hold promise in delivering fundamental financial services that are cost-effective, secure, and convenient (Hu et al., 2019; Leong et al., 2017).

The accessibility of financial services has been significantly improved due to technological advancements in essential financial services and the development of innovative service delivery applications, including but not limited to payment processing, deposits, lending, risk management, and financial advisory (Coffie et al., 2021). Saal et al. (2017) report that the proliferation of digital transformations in numerous industries has increased peo-

ple's need for innovation-driven financial remedies for their betterment. FinTech companies are offering cost-effective and convenient channels for investment, lending, and money transmission in response to these shifting consumer preferences (Setiawan et al., 2021). Moreover, the reach of the mobile-based Fintech has extended beyond conventional investment and banking sectors, as retail conglomerates and telecommunications companies have incorporated financial services into their pre-existing infrastructure. Despite efforts by many FinTech service providers to improve their offerings, only a limited number of FinTech solutions are being selectively adopted among general users (Irimia-Diéguez et al., 2023). On the other hand, FinTech products and services encompass wealth management, funding, transactions, and other business models within the fintech sphere (Putritama, 2019). Among these, mobile FinTech services emerge as the most prevalent, facilitating users to execute financial transactions conveniently through smartphones or tablets. In Bangladesh, the rapid growth of mobile-based FinTech services is evident. Situated as a developing country in Asia, there is substantial potential for the advancement of mobile FinTech services (Mahmud et al., 2022), which would contribute to the promotion of social and financial inclusion. In order to adequately respond to user demand, mobile FinTech providers must acquire a thorough comprehension of the pivotal elements that impact customers' intentions regarding the implementation of this technology. This study considers financial literacy, digital literacy, and financial self-efficacy as the determinants of the adoption of FinTech services, which is a mobile-based payment system in Bangladesh.

Financial literacy (FINLIT) indicates the capability to foster prudent spending choices based on careful judgment, as explained by Beal and Delpachitra (2003). Financial literacy ought to be conceptualized as comprising two dimensions: comprehension, which entails personal finance knowledge, and utilization, which involves the practical application of personal finance principles (Huston, 2010). Furthermore, persons who possess financial literacy are anticipated to demonstrate a favorable attitude toward effective and long-lasting financial management, as emphasized by Farida et al. (2021). A person who is financially literate should be able to understand, assess, and communicate their own financial situation that affects their well-being, as well as make wise financial choices and comfortably participate in conversations about money (Nejad & Javid, 2018). Financial literacy is the foundation for individuals' financial behaviors and their ability to manage their personal finances (Koskelainen et al., 2023). Moreover, it makes a substantial contribution to one's financial prosperity. Financially literate individuals have a thorough grasp of important financial principles and show the competence and self-assurance to properly handle their personal finances and make wise financial choices (Warmath & Zimmerman, 2019). According to Kirana and Havidz (2020), financial literacy strengthens the desire for financial services by promoting knowledge in society, whereas financial inclusion arises from the supply side by meeting society's financial demands in the financial environment. The main approach to educating and empowering customers entails providing them with financial literacy, thereby arming them with enough understanding of financial problems. As a result, individuals can apply this knowledge to evaluate and examine financial goods with efficiency, allowing them to make well-informed and sensible financial choices (Ramakrishnan, 2012). Individuals possessing a heightened level of financial literacy exhibit a greater propensity to adopt and utilize FinTech services (Long et al., 2023).

The advent of the technology revolution has highlighted the extraordinary importance of literacy, with digital literacy being critical for obtaining knowledge and navigating novel technologies (Ullah et al., 2022). Bejaković and Mrnjavac

(2020) argue that its inclusion is crucial for individuals' socio-economic progress, allowing them to integrate into modern digital societies and improve their living standards and communication capacities. Digital literacy (DIGLIT) refers to the ability to securely and effectively access, manage, grasp, connect, assess, and synthesize information using tech-driven equipment and interconnected technologies, allowing participation in the sphere of socio-economy (UNESCO, 2018). Individuals who are unable to comprehend and utilize technologized gadgets and interconnected technology properly are considered digitally illiterate. The idea of "DIGLIT" means a particular set of abilities required for engagement in a culture that values insight through the use and communication of digital devices such as the latest mobile phones (Neumeyer et al., 2020). Digital literacy enables individuals, particularly those from underprivileged origins, to provide digital goods and services and connect with digital platforms for their businesses (Nambisan, 2017). Digital finance is critical in creating a comprehensive understanding and effective application of digital technology (Mushtaq & Bruneau, 2019). Financial services are becoming more accessible through digital finance channels as technology advances. As a result, having a basic degree of digital literacy is becoming increasingly important for understanding and effectively utilizing digital financial services, as well as making educated financial decisions (Gomber et al., 2017). Multiple prior studies have found that those with digital literacy seemed to be more capable of utilizing technological systems than their counterparts. For example, Bergdahl et al. (2020) found that learners with advanced digital literacy are more inclined to engage with technology-driven educational platforms.

The importance of psychological aspects in financial choice-making has risen and is widely acknowledged (Riaz et al., 2022). Experts recognize that simply providing knowledge about finances could fail to be enough to enhance financial competence, as behavioural economists argue that knowledge and awareness alone are inadequate to induce behavioural change. Self-efficacy is crucial in promoting effort allocation, establishing goals, persisting in the face of challenges, and bouncing back from setbacks (Shiau et al., 2020).

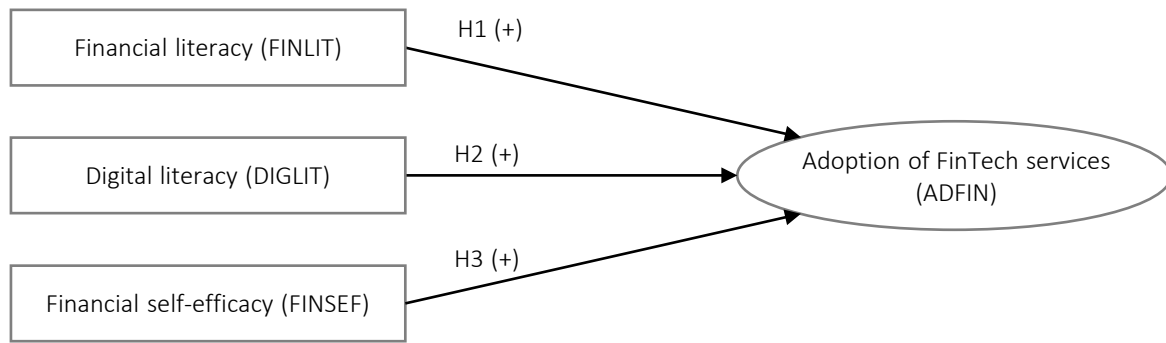


Figure 1. Study framework

Furthermore, self-efficacy indirectly facilitated the cognitive processes involved in accomplishing desired actions through determination, alongside individuals' inherent skills (Hejazi et al., 2009). Financial self-efficacy (FINSEF) refers to an individual's confidence in their capacity to successfully carry out a sequence of finance-related actions aimed at achieving their goals (Nguyen, 2019). It embodies a sense of assurance in meeting financial responsibilities. People with an elevated degree of FINSEF often exhibit proactive behaviors to accomplish their personal aims and are inclined to obtain an enhanced financial health (Sang, 2021). People with a strong belief in their ability to manage their finances effectively are more likely to engage in responsible financial behaviors such as saving cash regularly, creating spending plans, minimizing indebtedness and making wise investment decisions (Aisjah, 2024). FINSEF has a direct impact on the inclination towards utilizing financial payment systems (Aisjah, 2024).

The literature reveals a complex interplay between financial literacy (FINLIT), digital literacy (DIGLIT), financial self-efficacy (FINSEF) and adoption of FinTech services (ADFIN). Also, FINLIT, DIGLIT and FINSEF are pivotal drivers of FinTech adoption. Understanding these factors is essential for fostering the adoption behavior of FinTech among general people.

The purpose of this study is to determine the impact of financial literacy, digital literacy, and financial self-efficacy on the adoption of FinTech services. Thus, it is hypothesized that

H1: There exists a favorable association between financial literacy (FINLIT) and the adoption of fintech services (ADFIN).

H2: There exists a favorable association between digital literacy (DIGLIT) and the adoption of fintech services (ADFIN).

H3: There exists a favorable association between financial self-efficacy (FINSEF) and the adoption of fintech services (ADFIN).

2. METHODOLOGY

The current study was initiated to leverage a method that is quantitative and recognized for its effectiveness in obtaining a large sample size and collecting primary data to clarify the phenomenon being investigated. The tool utilized in this study is a questionnaire, developed by modifying existing research and customized to fit the current investigation. The questionnaire consisted of two sections: the first included demographic information about the participants, while the second contained statements aimed at evaluating the study's variables. Notably, the questionnaire was meticulously crafted utilizing scales drawn from extant literature (Table 1).

Table 1. Sources of study variables

Variables	References
Financial literacy (FINLIT)	Rahman et al. (2021)
Digital literacy (DIGLIT)	Ullah et al. (2022)
Financial self-efficacy (FINSEF)	Noor et al. (2020)
Adoption of Fintech services (ADFIN)	Asheq et al. (2022)

A quantitative methodology is employed, involving the dissemination of surveys to selected participants in Bangladesh. The survey response sheet was given out at random among individuals who were assumed to have mobile payment-based FinTech service apps.

Table 2. Reliability and validity analysis

Construct	Items	Loading	Cronbach (α) value
Financial literacy (FINLIT)	FINLIT1	0.880	0.880
	FINLIT2	0.753	
	FINLIT3	0.973	
	FINLIT4	0.883	
Digital literacy (DIGLIT)	DIGLIT1	0.848	0.784
	DIGLIT2	0.922	
	DIGLIT3	0.732	
	DIGLIT4	0.851	
Financial self-efficacy (FINSEF)	FINSEF1	0.966	0.963
	FINSEF2	0.781	
	FINSEF3	0.954	
Adoption of FinTech services (ADFIN)	ADFIN1	0.941	0.751
	ADFIN2	0.825	
	ADFIN3	0.790	
	ADFIN4	0.910	

At first, the participants were asked if they had a mobile fintech application. If the response was unfavorable, the survey was terminated, and another respondent was approached. A grand total of 600 participants were given access to the questionnaire to fill out. Afterward, 450 replies were considered legitimate (n = 450), leading to a response rate of 75%. The survey questionnaire was distributed in a style where individuals completed it themselves. All variables, except for demographic factors, were evaluated using a 5-point Likert scale. The study utilized four scales: financial literacy, digital literacy, financial self-efficacy, and adoption behavior of FinTech services. To evaluate the hypotheses, the study employed recognized and trustworthy multi-item assessment scales that had been previously validated. The questionnaire was created using scales borrowed from preexisting research.

Table 3 provides valuable insight into the demographic composition of individuals who make use of mobile payment-based FinTech services in Bangladesh.

Table 3. Demographic information

Variables	Frequency	Percentage (%)
Age (in years)		
18 to 25 years	193	42.9%
26 to 30 years	128	28.4%
31 to 35 years	87	19.3%
36 to 40 years	34	7.6%
More than 40 years	8	1.8%

Variables	Frequency	Percentage (%)
Knowledge about FinTech services		
Higher level	278	61.8%
Moderate level	148	32.9%
Lower level	24	5.3%
Gender		
Male	318	70.7%
Female	132	29.3%
Education		
Bachelor Degree	284	63.1%
Postgraduate Degree	103	22.9%
Diploma Certificate	63	14.0%

Note: ** n = 450.

Regarding the age group, an evident pattern arises when analyzing the age distribution. The main user demographic is between the ages of 18 and 25, accounting for 42.9% of the total. There is a clear and significant connection between young adults and their embrace of mobile FinTech. This demographic is generally knowledgeable about technology, at ease with digital interfaces, and probably more open to embracing new financial solutions. The following age categories, comprising 26-30-year-olds at 28.4% and 31-35-year-olds at 19.3%, reinforce the fact that young professionals are the main demographic adopting this. As the study progresses into later age categories (namely, individuals aged 36-40 years at a rate of 7.6% and those over 40 years old at a meager 1.8%), the proportion decreases dramatically. This phenomenon can be ascribed to several variables, such as limited exposure to technology, ingrained financial behaviors, or a belief that these services are less applicable to their specific need. The educational background of the respondents corresponds to the age distribution. The majority of individuals (63.1%) hold a bachelor's degree, suggesting that the population has a higher level of education. This is additionally supported by the fact that more than half (61.8%) indicated had a greater level of understanding regarding fintech services. The connection between education and FinTech awareness highlights the significance of financial literacy in promoting the acceptance and use of financial technology. Individuals who possess a more comprehensive comprehension of these services are likely to exhibit greater confidence and ease in utilizing them. The study indicates a disparity in the adoption of mobile FinTech, with a significant bias towards males (70.7%) as opposed to females (29.3%). This discrepancy might be

ascribed to diverse socio-economic variables in Bangladesh, such as reduced female ownership of mobile phones or restricted access to financial resources. More research is needed to further explore the root causes of gender inequality.

3. RESULTS

Table 4 presents the descriptive statistics of the study variables related to the fintech adoption among Bangladeshi individuals. The variables examined include financial literacy (FINLIT), digital literacy (DIGLIT), financial self-efficacy (FINSEF), and adoption of FinTech services (ADFIN).

Table 4. Descriptive analysis of the study variables

Variables	N	Mean	Std Deviation
Financial literacy (FINLIT)	450	4.386	0.3546
Digital literacy (DIGLIT)	450	4.154	0.5372
Financial self-efficacy (FINSEF)	450	4.212	0.3527
Adoption of FinTech services (ADFIN)	450	3.939	0.8735

Table 5. Normality test analysis

Variables	Skewness	Kurtosis
Financial literacy (FINLIT)	0.535	-0.273
Digital literacy (DIGLIT)	0.173	-0.551
Financial self-efficacy (FINSEF)	-0.472	0.147
Adoption of Fintech services (ADFIN)	-0.635	0.302

Table 4 also shows that for financial literacy (FINLIT), the mean score is 4.386 with a standard deviation of 0.3546; digital literacy (DIGLIT) has a mean score of 4.154 and a standard deviation of 0.5372; financial self-efficacy (FINSEF) exhibits a mean score of 4.212 and a standard deviation of 0.3527, and the adoption of fintech services (ADFIN) has a mean score of 3.939 and a standard deviation of 0.8735. The outcomes of the normality assessment fall with-

Table 6. Correlation matrix

Variables	FINLIT	DIGLIT	FINSEF	ADFIN
Financial literacy (FINLIT)	1.000			
Digital literacy (DIGLIT)	0.542**	1.000		
Financial self-efficacy (FINSEF)	0.352**	0.274**	1.000	
Adoption of FinTech services (ADFIN)	0.496**	0.634**	0.490**	1.000

Note: ** $p < 0.05$ ($n = 450$).

in the specified range (refer to Table 5). So, it is deemed acceptable.

Table 6 displays the association between the independent factors (FINLIT, DIGLIT, and FINSEF) and the dependent variable (ADFIN). There is a moderate positive relationship between FINLIT and the adoption of FinTech services (ADFIN) with a correlation coefficient of 0.496 and a significance level of $p < 0.05$. These findings indicate that those with a greater understanding of financial subjects are more inclined to embrace FinTech services. The relationship between digital literacy (DIGLIT) and the use of FinTech services is fairly positive, with a correlation coefficient of 0.634 and a significance level of $p < 0.05$. This suggests that those who possess a greater degree of understanding of technology are more likely to embrace FinTech services. There is a moderate positive relationship between FINSEF and the use of FinTech services, with a correlation coefficient of 0.490 and a significance level of $p < 0.05$. This suggests that those who have confidence in their financial abilities are relatively more inclined to embrace FinTech services. In overall, there is a favorable relationship between the adoption of FinTech services and three independent variables: financial literacy, digital literacy, and financial self-efficacy. This implies that when these abilities and understandings improve, the probability of embracing fintech services also increases.

Table 7. Multicollinearity analysis

Independent variables	Tolerance	VIF
Financial literacy (FINLIT)	0.473	1.037
Digital literacy (DIGLIT)	0.836	1.384
Financial self-efficacy (FINSEF)	0.637	1.037

Note: Durbin-Watson value = 1.876.

Table 7 shows that the Durbin-Watson value, tolerance, and VIF values are under the recommended value, so multicollinearity is not a problem in this study.

Table 8. Regression coefficient analysis

Independent variables	β value	t- value	Sig.
Financial literacy (FINLIT)	0.464	6.143	0.000**
Digital literacy (DIGLIT)	0.493	6.878	0.000**
Financial self-efficacy (FINSEF)	0.574	8.394	0.000**

Note: $R^2 = 48.20\%$. ** $p < 0.05$ (n = 450).

Table 8 displays the coefficients, t-values, and significance levels for each independent variable in relation to the dependent variable: ADFIN. It shows that all three factors, FINLIT, DIGLIT, and FINSEF, are predictors of ADFIN. The R-squared value of 48.20% suggests that 48.20% of the variance in adopting FinTech services is explained by the independent variables included in the model (financial literacy, digital literacy, and financial self-efficacy).

Table 9. Hypotheses results

Proposed Hypotheses	p-value	Decision
<i>H1</i> : There exists a favorable association between FINLIT and ADFIN.	0.000	Accepted
<i>H2</i> : There exists a favorable association between FINSEF and ADFIN.	0.000	Accepted
<i>H3</i> : There exists a favorable association between DIGLIT and ADFIN.	0.000	Accepted

4. DISCUSSION & IMPLICATIONS

H1 states that there exists a favorable association between financial literacy and the adoption of FinTech services, and thus *H1* is accepted ($\beta = 0.464$; $p < 0.05$). This observation is in line with past findings that show that the degree of financial literacy significantly impacts individuals' willingness to use FinTech services. (Yoshino et al, 2020; Long et al., 2023). This study highlights the significant influence of financial literacy on the uptake of FinTech services in Bangladesh. Financial literacy, which refers to the comprehension and awareness of financial principles and mechanisms, has been identified as a crucial factor in determining individuals' inclination to utilize fintech solutions. A possible reason for this observed connection can be attributed to the influence of financial literacy in reducing information asymmetry and enabling consumers to make well-informed finan-

cial choices. Bangladesh, similar to other developing countries, faces financial access and inclusivity difficulties, as conventional banking systems may be restricted or unavailable to significant portions of the population. In these circumstances, fintech platforms function as a practical substitute, providing accessible and convenient channels for financial transactions and services. However, the successful use of these platforms depends on individuals' comprehension of financial concepts, risks, and advantages. Therefore, this study indicates that initiatives aimed at improving financial knowledge can act as a catalyst for promoting more trust and confidence in fintech solutions, ultimately leading to higher rates of adoption (Kirana et al., 2020). *H2* states that there exists a favorable association between digital literacy and the adoption of FinTech services, and thus *H2* is accepted ($\beta = 0.493$; $p < 0.05$). This observation aligns with past results (Ullah et al., 2022; Fadhilla & Purwanto, 2022). This study shows the crucial significance of digital literacy in influencing the uptake of FinTech services in the ever-changing environment of Bangladesh. Digital literacy, which refers to proficiency in using digital technology and navigating online platforms, is a key factor in determining individuals' preparedness to adopt FinTech solutions. The results of this study demonstrate a significant and positive relationship between digital literacy levels and the utilization of FinTech services. This emphasizes the crucial role of digital skills in enabling individuals to access and use innovative financial products and services. In Bangladesh, the rapid digital transformation is significantly changing socio-economic paradigms, making it crucial to effectively utilize digital technologies. However, individuals must possess a high level of skill in navigating digital interfaces, conducting online transactions, and protecting digital assets in order to effectively utilize these platforms. The study shows that individuals who possess advanced digital literacy skills are more capable of effectively utilizing the features of fintech solutions, leading to a larger likelihood of embracing this cutting-edge financial technology (Maji & Laha, 2023). The third hypothesis (*H3*) confirms the presence of a positive correlation between an individual's belief in their ability to manage their finances (financial self-efficacy) and their willingness to use FinTech services. Therefore, *H3* is supported ($\beta = 0.574$; p

< 0.05). This observation is in line with the results of Aisjah (2024). Financial self-efficacy is a critical factor in influencing the adoption of FinTech. This study shows that people who have more trust in their ability to manage their finances are more likely to adopt FinTech products. As a result, FinTech is especially positive for people with an elevated degree of financial self-efficacy, as they are optimistic about the capacity to successfully handle their finances, noticing a higher positive functionality from fintech solutions (Shiau et al., 2020). This emphasizes the significance of fostering self-confidence through customized treatments, such as workshops, to develop confidence. By instilling individuals with a feeling of financial competence, Bangladesh can create a favorable atmosphere for adopting FinTech, ultimately promoting financial inclusion and empowerment activities.

Financial literacy plays a crucial role in determining the adoption of FinTech in the complicated socio-economic context of Bangladesh. This study highlights the crucial significance of individuals having a detailed comprehension of financial concepts and mechanisms, as it directly impacts their likelihood to use fintech services. The result aligns with existing research on financial inclusion, emphasizing the crucial significance of financial literacy in influencing individuals' financial behaviors and decision-making processes. Therefore, focused interventions designed to improve financial literacy through comprehensive educational programs and legislative frameworks have great potential to promote a more inclusive and vibrant financial environment in Bangladesh. Simultaneously, digital literacy plays a crucial role

as a primary catalyst for the adoption of FinTech in Bangladesh's fast-changing technological landscape. With the country undergoing an unprecedented level of digital transformation, it is becoming more and more essential to have the skills to traverse digital platforms and technology efficiently. This study emphasizes the complex relationship between digital literacy and FinTech adoption, emphasizing the importance of comprehensive initiatives to close the gap in digital access and empower individuals with the necessary skills to utilize FinTech technologies fully. By promoting comprehensive educational programs and community-led initiatives, Bangladesh can accelerate the general adoption of FinTech, leading to a new era of financial empowerment and inclusion. Furthermore, this study reveals the intricate relationship between individuals' confidence in their financial abilities and their willingness to utilize fintech services, as observed among consumers in Bangladesh. Based on Bandura's social cognitive theory, financial self-efficacy explains individuals' views on their ability to effectively handle financial concerns. The study highlights the crucial importance of perceived self-efficacy in promoting FinTech adoption. This emphasizes the necessity of customized interventions that aim to improve individuals' confidence and competence in using fintech solutions. By creating a supportive environment that promotes individuals' belief in their ability to manage their finances through specific and behavioral interventions, Bangladesh may lead the way in adopting FinTech sustainably. This will help achieve the broader objectives of including more people in the financial system and empowering them economically.

CONCLUSION

This study investigates the intricate interplay between financial literacy, digital literacy, and financial self-efficacy in shaping the adoption behavior of financial technology (FinTech) among Bangladeshi individuals. The study holds significant implications for the electronic financial technology industry in Bangladesh by furnishing actionable insights derived from empirical findings. The analysis reveals a notable correlation between financial literacy, digital literacy, financial self-efficacy, and the propensity of individuals to adopt FinTech solutions. Specifically, individuals with heightened levels of financial literacy tend to exhibit a stronger inclination towards adopting FinTech services, while those with enhanced digital literacy skills demonstrate a greater propensity for embracing digital financial technologies. Additionally, individuals with a robust sense of financial self-efficacy display a heightened propensity to adopt FinTech solutions. By elucidating these empirical relationships, this study contributes to a deeper understanding of the drivers behind FinTech adoption in Bangladesh. It sheds light on the underlying motivations prompting individu-

als to gravitate towards FinTech solutions, whether for facilitating transactions or safeguarding financial assets. Such nuanced insights are invaluable for regulators, industry stakeholders, and researchers aiming to navigate the dynamic landscape of digital financial technologies. Informed by the findings of this study, stakeholders can make evidence-based decisions to better address consumer needs and adapt to evolving preferences and behaviors within the FinTech ecosystem.

AUTHOR CONTRIBUTIONS

Conceptualization: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Data curation: K. M. Anwarul Islam.

Formal analysis: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Funding acquisition: Muhammad Saifuddin Khan.

Investigation: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Methodology: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Project administration: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Resources: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Software: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Supervision: Muhammad Saifuddin Khan.

Validation: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Visualization: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Writing – original draft: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

Writing – review & editing: K. M. Anwarul Islam, Muhammad Saifuddin Khan.

REFERENCES

1. Aisjah, S. (2024). Intention to use buy-now-pay-later payment system among university students: a combination of financial parenting, financial self-efficacy, and social media intensity. *Cogent Social Sciences*, 10(1), 2306705. <https://doi.org/10.1080/23311886.2024.2306705>
2. Asheq, A. A., Tanchi, K. R., Akhter, S., Kamruzzaman, M., & Islam, K. M. A. (2022). Examining university students' behaviors towards online shopping: An empirical investigation in an emerging market. *Innovative Marketing*, 18(1), 94-103. [http://dx.doi.org/10.21511/im.18\(1\).2022.08](http://dx.doi.org/10.21511/im.18(1).2022.08)
3. Bergdahl, N., Nouri, J., & Fors, U. (2020). Disengagement, engagement and digital skills in technology-enhanced learning. *Education and Information Technologies*, 25(2), 957-983. <https://doi.org/10.1007/s10639-019-09998-w>
4. Coffie, C. P. K., Hongjiang, Z., Mensah, I. A., Kiconco, R., & Simon, A. E. O. (2021). Determinants of FinTech payment services diffusion by SMEs in Sub-Saharan Africa: evidence from Ghana. *Information Technology for Development*, 27(3), 539-560. <https://doi.org/10.1080/02681102.2020.1840324>
5. Fadhilla, M. U., & Purwanto, E. N. (2022). The Effect of Digital Literacy and Perceptions of Personal Data Security on the Decision to Use E-Wallet as a Payment System in MSMEs in The Jakarta Area. *Journal of Management and Energy Business*, 2(2), 1-19. <https://doi.org/10.54595/jmeb.v2i2.29>
6. Farida, M. N., Soesatyo, Y., & Aji, T. S. (2021). Influence of financial literacy and use of financial technology on financial satisfaction through financial behavior. *International journal of education and literacy studies*, 9(1), 86-95. Retrieved from <https://journals.aiac.org.au/index.php/IJELS/article/view/6478>
7. Gomber, P., Koch, J. A., & Sie-ring, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics*, 87, 537-580. Retrieved from https://ideas.repec.org/a/spr/jbecon/v87y2017i5d10.1007_s11573-017-0852-x.html
8. Hejazi, E., Shahraray, M., Farsinejad, M., & Asgary, A. (2009). Identity styles and academic achievement: Mediating role of academic self-efficacy. *Social Psychology of Education*, 12, 123-135. Retrieved from <https://psycnet.apa.org/doi/10.1007/s11218-008-9067-x>
9. Haddad, C., & Hornuf, L. (2019). The emergence of the global fintech market: Economic and technological determinants. *Small Business Economics*, 53(1), 81-105. Retrieved from <https://link.springer.com/article/10.1007/s11187-018-9991-x>
10. Hassan, M. S., Islam, M. A., Yusof, M. F., & Nasir, H. (2023). Users' fintech services acceptance: A cross-sectional study on Malaysian Insurance & takaful industry. *Heliyon*, 9(11), e21130. <https://doi.org/10.1016/j.heliyon.2023.e21130>

11. Hassan, M. S., Islam, M. A., Sobhani, F. A., Nasir, H., Mahmud, I., & Zahra, F. T. (2022). Drivers influencing the adoption intention towards mobile fintech services: a study on the emerging Bangladesh market. *Information*, 13(7), 349. <https://doi.org/10.3390/info13070349>
12. Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2), 296-316. <https://doi.org/10.1111/j.1745-6606.2010.01170.x>
13. Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, 11(3), 340. <https://doi.org/10.3390/sym11030340>
14. Irimia-Diéguez, A., Velicia-Martín, F., & Aguayo-Camacho, M. (2023). Predicting FinTech innovation adoption: the mediator role of social norms and attitudes. *Financial Innovation*, 9(1), 36. Retrieved from <https://link.springer.com/article/10.1186/s40854-022-00434-6>
15. Kirana, M. Y., & Havidz, S. A. H. (2020). Financial literacy and mobile payment usage as financial inclusion determinants. In *2020 International Conference on Information Management and Technology (ICIMTech)* (pp. 905-910). IEEE. <https://doi.org/10.1109/ICIMTech50083.2020.9211157>
16. Koskelainen, T., Kalmi, P., Scornavacca, E., & Vartiainen, T. (2023). Financial literacy in the digital age – A research agenda. *Journal of Consumer Affairs*, 57(1), 507-528. <https://doi.org/10.1111/joca.12510>
17. Long, T. Q., Morgan, P. J., & Yoshino, N. (2023). Financial literacy, behavioral traits, and ePayment adoption and usage in Japan. *Financial Innovation*, 9(1), 101. Retrieved from <https://link.springer.com/article/10.1186/s40854-023-00504-3>
18. Leong, C., Tan, B., Xiao, X., Tan, F. T. C., & Sun, Y. (2017). Nurturing a FinTech ecosystem: The case of a youth microloan startup in China. *International Journal of Information Management*, 37(2), 92-97. <https://doi.org/10.1016/j.ijinfomgt.2016.11.006>
19. Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons*, 61(1), 35-46. <https://doi.org/10.1016/j.bushor.2017.09.003>
20. Mahmud, K., Joarder, M. M. A., & Muheymin-Us-Sakib, K. (2022). Adoption factors of FinTech: evidence from an emerging economy country-wide representative sample. *International Journal of Financial Studies*, 11(1), 9. <https://doi.org/10.3390/ijfs11010009>
21. Maji, S. K., & Laha, A. (2023). Role of financial and digital literacy in determining digital transaction behaviour: evidence from student level survey in West Bengal (India). *International Journal of Business Environment*, 14(2), 183-210. <https://doi.org/10.1504/IJBE.2023.129917>
22. Mushtaq, R., & Bruneau, C. (2019). Microfinance, financial inclusion and ICT: Implications for poverty and inequality. *Technology in Society*, 59, 101154. <https://doi.org/10.1016/j.techsoc.2019.101154>
23. Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6), 1029-1055. <https://doi.org/10.1111/etap.12254>
24. Neumeyer, X., Santos, S. C., & Morris, M. H. (2020). Overcoming barriers to technology adoption when fostering entrepreneurship among the poor: The role of technology and digital literacy. *IEEE Transactions on Engineering Management*, 68(6), 1605-1618. <https://doi.org/10.1109/TEM.2020.2989740>
25. Noor, N., Batool, I., & Arshad, H. M. (2020). Financial literacy, financial self-efficacy and financial account ownership behavior in Pakistan. *Cogent Economics & Finance*, 8(1), 1806479. <https://doi.org/10.1080/23322039.2020.1806479>
26. Nguyen, H. T. (2019). Development and validation of a women's financial self-efficacy scale. *Journal of Financial Counseling and Planning*, 30(1), 142-154. <http://dx.doi.org/10.1891/1052-3073.30.1.142>
27. Nejad, M. G., & Javid, K. (2018). Subjective and objective financial literacy, opinion leadership, and the use of retail banking services. *International Journal of Bank Marketing*, 36(4), 784-804. <https://doi.org/10.1108/IJBM-07-2017-0153>
28. Putritama, A. (2019). The mobile payment fintech continuance usage intention in Indonesia. *Jurnal Economia*, 15(2), 243-258. Retrieved from <https://journal.uny.ac.id/index.php/economia/article/view/26403>
29. Ramakrishnan, D. R. (2012). Financial literacy and financial inclusion. In *13th Thinkers and Writers Forum*. Retrieved from <https://ssrn.com/abstract=2204173>
30. Rahman, M., Isa, C. R., Masud, M. M., Sarker, M., & Chowdhury, N. T. (2021). The role of financial behaviour, financial literacy, and financial stress in explaining the financial well-being of B40 group in Malaysia. *Future Business Journal*, 7, 1-18. Retrieved from <https://link.springer.com/article/10.1186/s43093-021-00099-0>
31. Riaz, S., Khan, H. H., Sarwar, B., Ahmed, W., Muhammad, N., Reza, S., & Ul Haq, S. M. N. (2022). Influence of financial social agents and attitude toward money on financial literacy: the mediating role of financial self-efficacy and moderating role of mindfulness. *Sage Open*, 12(3), 21582440221117140. <https://doi.org/10.1177/21582440221117140>
32. Rizvi, S. K. A., Rahat, B., Naqvi, B., & Umar, M. (2024). Revolutionizing finance: The synergy of fintech, digital adoption, and innovation. *Technological Forecasting and Social Change*, 200, 123112. <https://doi.org/10.1016/j.foitmc.2024.100236>
33. Sang, N. M. (2021). Financial well-being of Vietnamese students. *Investment Management and Financial Innovations*, 18(4), 355-

365. [http://dx.doi.org/10.21511/imfi.18\(4\).2021.29](http://dx.doi.org/10.21511/imfi.18(4).2021.29)
34. Shiau, W. L., Yuan, Y., Pu, X., Ray, S., & Chen, C. C. (2020). Understanding fintech continuance: perspectives from self-efficacy and ECT-IS theories. *Industrial Management & Data Systems*, 120(9), 1659-1689. <http://dx.doi.org/10.1108/IMDS-02-2020-0069>
35. Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021). User innovativeness and fintech adoption in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 188. <https://doi.org/10.3390/joitmc7030188>
36. Singh, S., Sahni, M. M., & Kovid, R. K. (2020). What drives FinTech adoption? A multi-method evaluation using an adapted technology acceptance model. *Management Decision*, 58(8), 1675-1697. <https://doi.org/10.1108/MD-09-2019-1318>
37. Tapanainen, T. (2020). Toward Fintech adoption framework for developing countries-a literature review based on the stakeholder perspective. *Journal of Information Technology Applications and Management*, 27(5), 1-22. Retrieved from <https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE10490255>
38. Tun-Pin, C., Keng-Soon, W. C., Yen-San, Y., Pui-Yee, C., Hong-Leong, J. T., & Shwu-Shing, N. (2019). An adoption of fintech service in Malaysia. *South East Asia Journal of Contemporary Business*, 18(5), 134-147. Retrieved from https://seajbel.com/wp-content/uploads/2019/05/seajbel5-VOL18_241.pdf
39. Ullah, S., Kiani, U. S., Raza, B., & Mustafa, A. (2022). Consumers' intention to adopt m-payment/m-banking: the role of their financial skills and digital literacy. *Frontiers in Psychology*, 13, 873708. <https://doi.org/10.3389/fpsyg.2022.873708>
40. UNESCO. (2018). *Global framework of reference on digital literacy skills for indicator 4.4.2: Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skill*. Retrieved from <https://uis.unesco.org/sites/default/files/documents/ip51-global-framework-reference-digital-literacy-skills-2018-en.pdf>
41. Warmath, D., & Zimmerman, D. (2019). Financial literacy as more than knowledge: The development of a formative scale through the lens of Bloom's domains of knowledge. *Journal of Consumer Affairs*, 53(4), 1602-1629. <https://doi.org/10.1111/joca.12286>
42. Xu, Y., Nassani, A. A., Abro, M. M. Q., Naseem, I., & Zaman, K. (2024). FinTech revolution in mineral management: Exploring the nexus between technology adoption and sustainable Resource utilization in an industry 4.0 context. *Heliyon*, 10(3). <https://doi.org/10.1016/j.heliyon.2024.e24641>
43. Yoshino, N., Morgan, P. J., & Long, T. Q. (2020). Financial literacy and fintech adoption in Japan. *ADB Working Paper Series*, 1095. Retrieved from <https://www.econstor.eu/handle/10419/238452>