

Insurtech Adoption in Bangladesh: Challenges and Solutions to Overcome Adoption Barriers

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Abstract

The idea of insurance was discovered several millennia before Christ (BC). In the second and third millennia BC, traders from China and Babylonia practiced shifting or dispersing risks. Today, insurance is the foundation of the economy, but expanding its penetration is difficult in emerging nations. The fourth insurance industry revolution in the developed world was sparked by the recent advent of Blockchain, IoT, Big Data, and InsurTech. In order to boost insurance coverage in Bangladesh, this study examines the problems with and potential solutions to InsurTech. In order to identify the themes and factors pertaining to problems and solutions in implementing InsurTech in Bangladesh insurance business, this study used a systematic literature review, a rigorous, methodical, and structured process used to gather, evaluate, and synthesize all relevant research on a specific topic. In order to find pertinent material from Google Scholar, a number of keywords were employed. The filtered studies were examined based on inclusion and exclusion standards. This report outlined many obstacles to InsurTech adoption in the Bangladesh insurance sector as well as potential remedies. The proposals could help policymakers improve the insurance industry service delivery.

Keywords: InsurTech, Insurance Industry, Digital Technologies, Bangladesh.

JEL Classification: G22

Introduction

Insurance technology in Bangladesh is an area that needs improvement. The papers highlight challenges such as lack of IT support, traditional management, and poor transparency. The use of information technology (IT) is suggested as a solution to overcome these challenges. The microinsurance market in Bangladesh also faces issues with high costs of intermediation and lengthy claim settlement processes. However, microfinance institutions (MFIs) offer loan insurance with quicker claim settlement processes. Some MFIs also provide other insurance products, but they may not fully transfer the risk to the insured. Overall, there is a need for innovative

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marketing strategies, increased use of IT, and efficient claim settlement processes to improve the insurance sector in Bangladesh.

The aim of the Fourth Industrial Revolution is to reshape people's daily lives, social structures, political phenomena, the business world, and industrial production with the belief of revolutionary changes in digital innovation and transformation. In addition, the ongoing COVID-19 pandemic has also devastated the developed and emerging economies. Literature review and subsequent discussions show that there is a scarcity of conceptual and empirical studies on the fourth industrial revolution and the COVID-19 pandemic from Islamic finance perspectives. In the era of post-COVID-19, FinTech may play a winning role in increasing streamlining process, standardization, ensuring transparency, and reducing the costs that can make Islamic finance instruments more competitive than conventional forms (Sahabuddin et al., 2023).

Insurance vis-à-vis takaful represents a tool of prime importance in modern economies. It enables the insureds to reduce and better manage their risk exposures. The basic feature of an insurance contract is that the insured buys a future promise of payment contingent upon the occurrence of specified events (Ali, 2021).

Technology in the field of banking and insurance is continuously increasing. People can do almost every activity of insurance and banking with a fingertip gadget, such as checking deposit rates, transacting online, transferring funds with mobile insurance applications, etc. Indeed, Fintech has significantly changed the finance industry in advanced countries and around the world. Mobile banking is a highly adopted financial tool both in advanced and emerging economies. The dominant industry for mobile banking is mainstream banks and non-banking financial institutions such as pension funds, insurance companies, and investment companies. Bangladesh seems to have kept pace with the world when it comes to subscriptions to mobile phones and the use of mobile banking. By July 2021, there were 171.85 million active mobiles in Bangladesh, and mobile banking reached 107.02 million.

During the pandemic, Bangladesh Bank, the central bank of Bangladesh, and the government provided the necessary facilities to the microfinance industry to offer mobile banking to their customers. Due to that initiative, a large customer base has been developed that has access to mobile banking and other fintech components. The Bangladesh Microcredit Regulatory Authority (MRA) has offered an idea of the size of this customer base. MRA reports that in 2021 there were 747 licensed NGO microfinance institutions with 20,955 branches serving 35.2 million customers in Bangladesh. However, a tiny number of microfinance organizations, such as Grameen Bank, BRAC, and ASA, offer mobile banking services so far. That leaves most microcredit institutions outside of the Fintech adopter league. About a quarter century ago, Christensen warned that established companies could either become victims of

disruptive innovation or answer the call. Given the future of Fintech and the growing popularity of mobile banking in Bangladesh, the question here is whether Fintech, specifically mobile banking, will prove to be a disruptive innovation for the country's microfinance industry. Some studies focus on the FinTech adoption process which includes (Maroofi and Nazaripour 2020; McNeish 2021) etc. Studies also tried to locate several theoretical models that had been applied in the current literature to analyze the customer adoption process of the new technology/service, such as the Technology Adoption Model (TAM), Theory of Planned Behavior (TPB), Unified Theory of Acceptance and Use of Technology (UTAUT), Task Technology Fit Model (TTF), and Diffusion of Innovation Theory (DOI). Fintech, especially mobile banking, has played an active role in Bangladesh's economy during Covid-19. It shows a positive outcome during the lockdown and shutdown period. A study by Khatun, Mitra, and Sarker explains that mobile banking transactions such as cash in, cash out, P2P, P2B, salary and utility bill payments, etc., have significantly contributed to the rise in people's digital financial access during this pandemic. Bala explores the satisfaction level of mobile banking in rural areas of Bangladesh. They conclude that mobile banking is very reliable in financial transactions, which helps increase user satisfaction. Mobile banking started in Bangladesh in 2010 with the help of BRAC Bank and the GSM mobile service using USSD (unstructured supplementary service data) called bKash. Initially, it was considered unfit for mainstream customers; bKash targets unbanked and poor clients who remained far away from the formal banking industry due to force or self-restriction. MFIs in Bangladesh are working hard to cover all segments of the poor, but due to the policy and scope limitation(s), a good number of poor remain out of the financial basket. Initially, mobile banking targeted those uncovered poor clients. Over time, MFIs have added new features like insurance, receiving remittances, and so on to meet the market's needs. Fintech, such as mobile banking, is a disruptive innovation threat to incumbent microfinance organizations. There is no doubt that FinTech reduces the world's distance. Within a few clicks, one can transfer millions of dollars from one part of the globe to another. Cryptocurrency fuels the speed of cross-border fund transfers; one can even transfer funds without exchanging local currency. In the same way, mobile banking reduces the national boundary. Within the national boundary, microfinance or a bank can reach any part of the country without any physical branch office. Remarkably, except for a few big players like Grameen Bank, BRAC and Sajida Foundation, BURU-Bangladesh, etc., no microfinance organization is interested in adopting fintech components such as mobile banking, data analytics, and big data to develop credit-scoring and financial advisory models. Many microfinance managers considered blockchain irrelevant to the microfinance sector or too early to adopt it (Helal & Munim, 2022).

Effort expectancy, social influence, facilitating condition, perceived reliability, and added value have been identified as factors influencing the adoption of FinTech in financial institutions in Bangladesh. Additionally, the user attitude and intentions towards the adoption of FinTech in Bangladesh have been studied, with perceived trust, perceived usefulness, perceived compatibility, perceived cost efficiency, and perceived risk as independent variables. Furthermore, new technology in FinTech holds the potential to make insurance more inclusive in emerging countries like Bangladesh (Muhammad et al., 2023). Issues such as a lack of infrastructure, poor digital literacy, security concerns, and regulatory barriers must be addressed before digital technologies can be implemented (Choudhary & Tanpat, 2023).

Lack of technological expertise has been observed hindering the promotion of Fintech in Islamic banks. While the central bank has not put any pressure on the innovation of Fintech, it is the customer who puts the banks under pressure to come up with new user-friendly technologies. It is perceived by the banker that Fintech has the potential to minimize operating costs. Low number of workforces has been identified as a challenge for Fintech in Islamic banks in Bangladesh.

Agricultural insurance services are primarily dominated by indemnity-based services, which are hard to access by smallholder farmers; globally, less than 20% have insurance. Index insurance serves to tackle the challenge by making payouts based on a predetermined index. The last decade has witnessed bundled insurance services linking index insurance and inputs like credit, seeds and agronomic advisory services with limited utilization of digital tools. These innovations in transitioning and developing economies are slowly gaining pace since extreme weather events are increasingly affecting the income and livelihoods of smallholder farmers. However, the applications of advanced technologies depend on developing infrastructure, human capital, social acceptance and private sector capacities, while commercial viability might be enhanced through government-subsidized premium rates (Taron et al., 2023).

This study was done on Bangladesh – a country where decades of commendable macrocosmic growth and stability has created a conducive digital and infrastructure environment for further fintech development. Mentioned earlier, fintech holds the potential to create significant value for customers. Importantly, it can facilitate financial inclusion in places where the banks lagged behind in bringing people into the financial system. gender disaggregated CFR showed lower average readiness of women. For a country such as Bangladesh, women empowerment can be further propelled by fintech (Khaled et al., 2023).

Banking software and mobile financial apps demonstrate financial innovation. The massive fintech industry is growing with new firms and large financial institutions trying to improve financial services worldwide.

When financial technology first began to emerge in the 21st century, the word "fintech" was initially used to refer to the technology that was utilized at the back-end systems of established financial organizations. Since then, there has been a shift towards services that are more consumer-oriented, and as a result, there has been a shift towards a definition that is more consumer-oriented. Fintech currently encompasses a wide range of industries and sectors, including investment management, education, retail banking, fundraising and nonprofit organizations, and charitable organizations, to name just a few (Manoj et al., 2023).

Literature Review

Author took out the following data from the involved papers: author name, year of publication, country of publication, publication type and findings. Consequently, a narrative synthesis of the derived information was attained. Table 1 denotes to included literature like article, conference or book along with methodology and year. Table 2 denotes challenges and solutions derived after reviewing the selected studies.

Table 1: *Characteristics of Reviewed Insurtech Adoption Studies in Bangladesh Insurance Sector*

No.	Journal/ Conference/Report Name	Paper topic/ Conference paper Name	Method	Year	Author
1	Factors Affecting the Adoption of FinTech: A Study Based on the Financial Institutions in Bangladesh	Factors Affecting the Adoption of FinTech: A Study Based on the Financial Institutions in Bangladesh.	Quantitative	2020	(Khatun & Tamanna, 2020)
2	Asian Journal of Social Sciences and Legal Studies	Prospects of Digital Financial Services in Bangladesh in the Context of Fourth Industrial Revolution	Exploratory	2020	(Harunur, 2020)
3	library.fes.de	Digital Platform Economy in Bangladesh: Opportunities and Challenges		2021	(Fahmida et al., 2021)

4	International Journal of Business and Technopreneurship	FinTech in Bangladesh: Ecosystem, Opportunities and Challenges. Promoting digital finance innovations through regulatory sandbox in Bangladesh: The Next Steps	2021	(Benazir et al., 2021)
5	1st International FIN-B Financial Inclusion Conference	Banking Goes Digital: Unearthing the Adoption of FinTech by Bangladeshi Households	2019	(Ghalib, 2019)
6	Journal of Innovation in Business Studies	Factors influencing the adoption intention of using mobile financial service during the COVID-19 pandemic: The role of FinTech	2021	(Jannat & Nafizur, 2021)
7	Environmental Science Pollution Research	Country Focus Note: Bangladesh Opportunities of Islamic FinTech: The Case of Bangladesh and Turkey	2021	(Yan et al., 2021).
8	MicroSave	Understanding and Adoption of E-Finance in Small and Medium Enterprises (SMEs) in Developing Countries: A Study	2017	(MicroSave, 2017)
9	CenRaPS Journal of Social Sciences		2020	(Ahmad & Mamun, 2020)
10	igi-global.com		2020	(Brenda et al., 2020)

		of Bangladesh and South Africa		
	The world IT project: Global issues in information technology	Information Technology Issues in Bangladesh	2020	(Prashant et al., 2020)
11	Foresight	E-health futures in Bangladesh	2013	(Sheraz et al., 2013)

Table 2: *InsurTech Adoption in Bangladesh Insurance Industry: Issues & Solutions*

No. of Studies	Issues	Solutions
Study 1	• High infrastructure cost • Ignorance of the new system • Difficulty in grasping and applying this idea	• Employees adoption of novel technology can be made easy if IT firms provide assistance or proper training
Study 2	• Security • IT infrastructures • Regulatory and operational freedom • Digital illiteracy • Gov't restrictions • Rigorous Know Your Customer (KYC) process • Digital illiteracy	• Regulatory authority and associated stakeholders can work together to meet the regulatory, management and operational challenges to get full potential of digital financial services.
Study 3	Lack of access to computers or internet Worker incompetence Lack of global payment gateways like PayPal Unpredictability of financing threatens industry viability Power supply issues low internet speed Limited technical skills Poor English language skills	• Equipping people with marketable talents planning for a 5-year national digital platform economy • Establishing a national standard for the usage of digital platform data • Improving consumer protection legislation for digital platforms enticing foreign investors to invest in digital platforms • Raising public knowledge of digital technology and

	Lack of credit and debit card availability hinders internet payments Tax evasion by digital platform firms and employees Nascent stage	encouraging traditional businesses to embrace digital via tax incentives
Study 4	• Bangladeshi FinTech development human capital • This kind of study has not been done in Bangladesh.	• Nil
Study 5	• Lack of institutional awareness, desire, and capacity • Regulations for evaluating new digital advances in this area are outdated.	• With technical assistance and resources, regulators may help test and promote appropriate innovation, resolving regulatory concerns until the final commercial launch. • Internal capacity building, technical staffing, and professional assistance are required for a successful launch.
Study 6	• Few earlier studies have examined developing economies, much alone Bangladesh's FinTech uptake. • Very little study has been done on the influence of the COVID-19 epidemic on the use of mobile banking services in Bangladesh.	• Nil
Study 7	• Digital illiteracy and financial ignorance are major issues.	• Creating intuitive interfaces and use-cases may help the public understand how to utilise technology to manage their money.
Study 8	• FinTech in Islamic finance is still in its infancy, with just a few users in Bangladesh.	• Nil
Study 9		

Study 10	Bangladesh's poor ICT adoption is due to lack of understanding of advantages and perceived security risks.	Nil
Study 11	Extensive broadband coverage and low connection costs	Nil
Study 12	- In emerging countries, poverty and illiteracy are major impediments to IT adoption. - Lack of local competence and non-sustainable ICT initiatives hinders e-health uptake in poor countries.	Nil

Research Methodology

Literature review discussing the challenges and solutions in adopting IoT in Bangladesh are analyzed by using SLR methodology wherein keywords mentioned in table 3 are opted to search relevant article meeting including and excluding criteria mentioned in table 4. Systematic literature review identifies, selects, and critically appraises research in order to answer a clearly formulated question (Dewey & Drahota, 2016).

Table 3: Keywords Selections

InsurTech	Literature and conference proceedings on InsurTech in the Bangladesh financial industry, particularly insurance and health insurance. Past works available since 2013	Studies not in English Magazine, newspaper, thesis, report data Studies in non-financial fields including education, manufacturing Large-scale data analytics and	Papers publishing platforms such as Google scholar and emerald were opted as the exploring means for this review. Following blend of search, terms are applied: InsurTech* AND (insurance sector*) AND (challenge* OR obstacle* OR issue* OR disadvantage* OR threat). The exploration was carried out between 2013 to 2021.
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Primary secondary research	and	other technologies
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Table 4: *Selection Criteria*

Technology	Criteria	Pakistan
InsurTech	Identification	15
	Screening	14 after removing 1 duplicate
	Eligibility	13 after removing 1 archive
	Included	11 after removing 2 full articles

Findings

Systematic literature reviews yield many issues and solutions. Content analysis subcategorizes issues and solutions. Table 5 lists the insurance industry's challenges, while Table 6 lists some notable solutions based on their repetition. Although IT and outsourcing are booming, infrastructure is the first issue. The IT industry's growth is hindered by ubiquitous broadband internet and low connection costs (Prashant et al., 2020). Bangladeshi businesses lack computers and internet. InsurTech requires reliable power (Fahmida et al., 2021). Second, InsurTech ignorance. InsurTech knowledge motivates SMEs to adopt new tech. The concept's complexity is the third issue. Fourth challenge is relating to security. Cybercriminals target FinTech. Insurance companies store lots of customer data. Cybercriminals can exploit this. Data volume necessitates cybersecurity for the insurance industry's size. Insurers collect email, written reports, photos, multimedia, social media, and data analytics. It can improve coverage, detect fraud, and personalize customer experiences. Fifth issue involves a few regulatory and operational obstacles. Technology, legislation, and market norms support new insurance system. FinTech and InsurTech's rapid growth affects insurance and regulators. In a digitalized world, new FinTech applications of various types, meanings, and functions with new distribution channels and industry cooperation are entering financial markets, complicating regulators' supervisory powers. Financial and legal experts staff financial regulators.

FinTech's growing use in financial services shows that these skills and experiences won't be enough to keep up. Regulators may have to choose between restructuring and creating technology divisions with tech expertise or outsourcing competencies and authority. As FinTech and "InsurTech" grow in the insurance market, regulators and insurers must adapt quickly. Regulators must balance their traditional role of ensuring financial stability and consumer safety with fostering innovation to meet changing consumer and market demands while promoting free

competition in the appropriate market. Regulators can now bridge innovation and law, adapting old laws to the digital age and legitimizing new products and services. Digital illiteracy is sixth challenge. Internet, social media, and mobile device use are digital literacy. Banglalink/GSMA found low digital literacy in Bangladesh. A truly digital nation requires digital tools for all. Functional talents are tech-savvy. This includes typing, mouse, touch, and closing an app before turning off a device. Early education is needed. The fastest way to learn practical skills is to let kids or anyone else do things themselves. Digital literacy requires functional competence. Unfortunately, Bangladesh does not practice this (Nusrat, 2021). Technical skills are the seventh issue. Technical managers are often foreigners or Bangladeshis trained abroad (Abd, 2016). Islamic FinTech's eighth issue is infancy stage of development and adoption. Bangladesh's FinTech could boost Islamic finance. Bangladesh Islamic Bank will use Islamic FinTech soon. Bangladeshi Islamic financing will reach a new milestone (Islam, 2020). Muslim-majority Bangladesh has huge Islamic FinTech potential. Islamic FinTech has helped Bangladesh modernize and improve traditional finance (Ahmad & Mamun, 2020).

The ninth challenge is a lack of research on developing economies, including Bangladesh's FinTech adoption. Lastly, Poverty and illiteracy pose major problems. Bangladeshi illiteracy is nearly 50%. Illiterates cannot improve agriculture, health, or sanitation. IT firms can advise and train workers on new technologies (Khatun & Tamanna, 2020). Regulators and stakeholders can collaborate to solve regulatory, managerial, and operational issues (Harunur, 2020). Bangladeshi regulators may cooperate in testing and supporting appropriate innovation by providing technical assistance and resolving regulatory concerns until commercial launch. Launching requires internal capacity building, technical staffing, and professional assistance (Ghalib, 2019). The government should create a 5-year national digital platform for economic growth strategy and data use guidelines. They should update digital platform consumer protection regulations and attract international investors to Bangladesh. They may increase digital awareness and encourage traditional businesses to adopt digital (Fahmida et al., 2021).

Table 5: *InsurTech Adoption Challenges in Bangladesh Insurance Industry*

- High infrastructure cost
- Ignorance of the new system
- The concept's comprehension and application
- Security
- Regulatory and operational freedom
- Digital illiteracy
- Limited technical skills
- Nascent stage especially in Islamic FinTech
- Few earlier studies have examined developing economies, much alone bangladesh's FinTech uptake.
- Poverty and illiteracy

Table 6: *InsurTech Adoption Solutions in Bangladesh Insurance Industry*

- IT businesses may help employees adapt new technologies by providing advice or training.
- To fully use the promise of digital financial services, regulators and stakeholders must collaborate.
- Modifying consumer protection legislation for digital platforms.
- Bringing in foreign investors to invest in digital platforms.
- Improving public awareness of digital issues and encouraging brick-and-mortar businesses to adopt digital.
- With technical assistance and resources, regulators may help test and promote appropriate innovation.

Implications

InsurTech companies can collaborate with traditional insurers to integrate digital technologies with existing operations, allowing both to benefit from improved efficiency and expanded customer reach. Collaboration between InsurTech startups and established insurers could involve data sharing and analytics capacity building. Partnerships with data providers and tech firms can also help insurance companies gather and analyze the data they need. A wider range of people can access insurance products, increasing insurance penetration in Bangladesh and improving overall financial inclusion. By offering a more user-friendly and customer-centric approach, InsurTech can attract younger and tech-savvy consumers, boosting market growth. A thriving InsurTech sector could contribute significantly to the Bangladeshi economy

by providing employment opportunities and fostering innovation in the financial services industry.

The challenges and solutions related to InsurTech adoption in Bangladesh have significant implications for other developing countries facing similar obstacles. The barriers of low awareness, regulatory issues, digital literacy, and infrastructure challenges are not unique to Bangladesh but are prevalent in many other parts of the world. By applying the solutions that have worked in Bangladesh—such as mobile-first platforms, financial incentives for startups, public-private partnerships, and educational initiatives—other developing countries can overcome these challenges and accelerate the adoption of InsurTech.

Conclusion

The adoption of InsurTech in Bangladesh presents both significant opportunities and challenges. As the country strives to modernize its insurance sector and improve financial inclusion, InsurTech offers a promising avenue to enhance efficiency, accessibility, and customer experience. However, the journey toward widespread adoption is hindered by several key barriers, including limited awareness, regulatory constraints, low digital literacy, infrastructure gaps, and resistance from traditional insurers.

Reference

- Ali, K. M. M. (2021). TakafulTech for business excellence and customer satisfaction. In M. M. Billah (Ed.), *Islamic FinTech* (pp. xx–xx). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-45827-0_21
- Choudhary, M., & Tanpat, K. (2023). Digital improvements to microfinance in Bangladesh. *International Research E-Journal on Business and Economics*, 8(1), 1–7.
- Dewey, A., & Drahota, A. (2016). Introduction to systematic reviews: Online learning module. *Cochrane Training*. Retrieved from <https://training.cochrane.org/interactivelearning/module-1-introduction-conducting-systematic-reviews>
- Helal, U., & Munim, B. (2022). Will digital revolution be disruptive for the inclusive finance in Bangladesh? The case of the microfinance industry. *EVERGREEN Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy*, 9(4), 909–923.
- Khaled, M., Mahbulul, A., & Kazi, S. (2023). Customer FinTech readiness (CFR): Assessing customer readiness for FinTech in Bangladesh. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100–132.
- Manoj, B., Naga, P., Swathi, & Hima, J. (2023). FinTech adoption framework for developing countries: A literature review based on stakeholders' perspective. *Social Science Journal*, 13(3), 1–10.
- Muhammad, S., Nazmus, S., Mahbubur, R., Adamu, J., Mochammad, F., Muhammad, A., & Sandra, G. (2023). *Sustainability*, 15(9), 71–76.
- Sahabuddin, M., Ahmad, A., & Islam, M. (2023). Emergence of Islamic finance in the fourth industrial revolution and COVID-19 post-pandemic era. In Z. H. Jumat, S. H. Khateeb, & S. N. Ali (Eds.), *Islamic finance, FinTech, and the road to sustainability* (pp. xx–xx). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-13302-2_6
- Taron, A., Ghosh, S., & Giriraj, A. (2023, August 2). Opportunities and early evidence for scaling bundled index insurance using digital technologies in transitioning and developing economies. *SSRN*. <https://ssrn.com/abstract=4562916> or <http://dx.doi.org/10.2139/ssrn.4562916>