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Disruptive Expansion of FinTech: Recognising the Merits and Demerits of Islamic Banking

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Abstract
The forces preventing Islamic financial technology (Fintech) services from being accepted by Islamic financial institutions, markets, and society are identified in this study. The paper's main focus is on Islamic banking, often known as or called sharia-compliant banking. The prohibition of interest (*riba*) on loans in Islamic banking is one of the main distinctions between it and conventional banking. The innovation in Islamic banking is highlighted in this study, along with the benefits and drawbacks of Islamic banking's involvement in technology. A key difference between Islamic banking and traditional banking is that Islamic banking prohibits the charging of interest (*riba*) on loans. This paper identifies the innovation in Islamic Banking highlighting the opportunities and challenges for Islamic Banking to be involved in technology. The Scopus database comprising articles, journals, and reviewed papers published between 2008 and 2022, was used to collect data using five keywords. The majority of research conclusions highlight that Fintech will impact the future of Islamic banking at every level.
Keywords: Fintech, Islamic Banking, Capital Market, Investment

Introduction

Financial technology (Fintech) is defined as the use of modern innovative technology in finance and is one of the most widespread terms used for setting in the business and finance industry at present. It is the use of innovative and disruptive technology to provide financial services. This concept peaked in the late 2010s (Haddad, 2018) and has catered to the need for more security for investors in providing innovative and secure financial services. Moreover, the emergence of Fintech could be attributed to the demand for financial services like Islamic banking at a more affordable cost, which offers mobility and a faster pace (Anikina et al., 2016). Islamic banks continuously innovate to satisfy the users of their services and Fintech is opportune for innovation.

Islam is the second largest religion in the world after Christianity, and it is expected to exceed Christianity in the years to come. Adherents of Islam constitute the world's second-largest religious group. A projection by the PEW suggests that Muslims numbered approximately 1.9 billion followers in 2020 which provides the opportunity for banks and financial institutions to find ways and offer them financial services as per the ethos and principles of the Qur'an (the holy book for Muslims) and Sunnah (the practices of the holy Prophet Muhammad [صلى الله عليه وسلم]. Islamic Fintech is different from its conventional counterpart as it is more inclusive, transparent, ethical, beneficial to both parties and complies with sharia principles. It is a relatively new concept, and only a few studies have been conducted on it. Fintech and Islamic Fintech have the same meaning, but the difference lies in sharia compliance. Islamic Fintech must comply with sharia principles as every Fintech-based innovation is welcome and acceptable. However, it becomes unacceptable and impermissible if there is clear evidence that it violates the principles laid down by *sharia.* It must be noted that any advancement is permissible in Islam unless clear evidence prohibits it.

Recently, Fintech innovations have been more genuine, unlike previous conventional innovations in financial services; these innovations are changing the lives of people (Rupeika-Apoga et al., 2018: Thalassinos et al., 2015a; 2015b). Islamic Fintech caters to the needs of Islamic financial institutions and is designed to applythe principles laid down by sharia. This article has been classified into the broad categories of Islamic Fintech and Islamic Financial Technology opportunities and challenges.

Literature Review

Fintech from the Shariah's view

Islam governs all aspects of human life for those who follow the faith, including financial activities. Shariah is the name given to the specific code of law. The term "shariah" refers to the Islamic divine law that was derived from the Qur'anic injunctions and the Sunnah of the Prophet (PBUH) (Oladapo and Ab Rahman, 2018). Fintech will increase the competitiveness of the Islamic finance sector, promote financial inclusion by benefiting the less fortunate segments of society, and enhance consumer satisfaction and trust. Fintech, for instance, will increase competition, lower service costs, and close the credit gap in the Islamic financial sector. According to the World Bank (2020), the Islamic Fintech ecosystem is a clear example of how the Fintech revolution has positively influenced Islamic finance. Islam welcomes all forms of technology as long as they uphold Shariah (Islamic law). A new wave of financial development is made possible by providing innovative financial services characterized by improved customer experience at low cost. Since these technical financial services can identify users and verify transactions by utilizing high technology like artificial intelligence (AI), they can prevent money laundering. Blockchain technology and cloud computing will also control financial transactions and lower IBs' expenses. Fintech-based financial services include big data, Blockchain, Artificial intelligence, InsureTech, Regtech, and smart contracts.

Association of Islamic Finance and Islamic Fintech

One of the key features of Islamic finance is that it encourages asset-backed financing, ensures financial and social stability, addresses financial inclusion and supports society's comprehensive and overall development, which are essential for sustainable development. Islamic finance places great importance on the quality of life for all, social justice and fair-trade relations. Islamic finance prohibits trade and financial transactions with excessive risk, speculation and uncertainty to safeguard the interest of everyone concerned. Virtue to protect the interest, Islamic finance prohibits several practices such as ambiguity in contracts (*gharar*), gambling and contracts with a high degree of uncertainty and probability (*maisir*), fraud and all types of interest (*riba*) based transactions. The traders are not allowed to trade in the goods and services prohibited (*haram*) by Islam, such as unlawful, illegal goods declared by the state, certain weapons, pork, illicit drugs, pornography, etc.

Investment in Islamic banking's fintech

Investment in Islamic banking fintech has been growing rapidly in recent years, with many Fintech start-ups focused on providing innovative solutions for Islamic finance. One of the critical areas of Fintech in Islamic banking is digital banking, which includes online banking, mobile banking and e-wallets. Digital banking enables Islamic banks to offer customers a broader range of services, including account opening, fund transfer, bill payment, and e-commerce. It also facilitates the development of new products, such as digital sukuk, which can be traded and settled electronically. Another area of Fintech in Islamic banking is blockchain technology, which has the potential to enhance the transparency and security of Islamic financial transactions. Blockchain can be used for issuing and trading digital sukuk and recording and reporting sharia-compliant transactions. Investment in fintech for Islamic banking is increasing as it is seen as a way to improve the efficiency and competitiveness of Islamic financial institutions. Many Islamic banks partner with fintech companies or invest in start-ups to develop new products and services. Additionally, more venture capital funds and accelerators focus on Islamic fintech.

Challenges of Innovation in Islamic Banking

Security and privacy issue

Fintech, like any other technology-driven industry, is not immune to security challenges. Cybersecurity and client data storage in a safe location are two significant issues with Fintech security and privacy. Threats to the development of Fintech include data loss, mobile device loss, and hacking. Fintech innovation must use mobile or web-based technologies to secure payment or e-wallet transactions. When consumers' perceptions regarding the security of transactions and information privacy improve, trust in Fintech mobile technology can rise (Lee& Shin, 2018). There were 1,862 data breaches in 2021, with an average cost of $4.24 million. Concerns over data security and privacy have increased as a result of this new record level. Businesses must be mindful of the risk to both their financial and reputational well-being. To prevent a potential breach, the business must create a fintech app with a specified set of features, such as two-factor authentication, biometric authentication, 256-bit AES encryption, and warnings about all operations. Perimeter testing on a regular basis can help to ensure that hackers won't tamper with their solution.

Regulatory Shariah Compliance

Fintech companies operating in the Islamic banking sector must comply with the regulations and guidelines set by the central bank and other regulatory authorities. Each bank has its own Shariah council to evaluate new products, but they coordinate with other banks. There can be diverse opinions on whether a particular product is Shariah compliant, and approval may also depend on the jurisdiction. This can be a challenge as the regulatory framework for fintech in Islamic banking is still evolving and may vary across different countries. Islamic banking faces a difficult task in the competitive conventional market to provide services that comply with Shariah principles: finding solutions and developing new products such as developing Fintech for Islamic banking. Islamic scholars have created universal Shariah standards bodies like the Islamic Financial Services Board and the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) to avoid confusion. Additionally, Islamic banking and finance have unique financial instruments and contracts, such as Murabaha, Musharaka, Ijarah, and Istisna, which are not in the conventional banking system. Therefore, fintech solutions for Islamic banking must be able to support these instruments and contracts.

Absence of qualified employees and unambiguous policy

Another study by Rusydiana (2018) found that a lack of skilled human resources and clear government regulation is the largest barrier to the development of Islamic Fintech. Researchers further state that to develop a good ecosystem for the development of Islamic Fintech in the country, the government has to bring proper regulations, and educational institutions should nurture good research practices and provide trained personnel. The success of Islamic Fintech can be associated with several financial service areas, for example, cryptocurrencies, blockchain and other areas such as cross-border payments (Gambler, 2018; Michalopoulos and Tsermenidis, 2018).

Opportunities for Innovation in Islamic Banking

Islamic Fintech's growth offers fantastic potential for underdeveloped nations because it offers a low-cost alternative to traditional financial services. Additionally, it puts the regulatory agencies to the test in order to maintain stability and safeguard institutions and investors from fraudulent trade practices (Saba, 2019). Awareness programmes among university students who are using the technologies can also be initiated to ensure that Islamic Fintech continues to grows and have sustainable development (Saad, 2019). Should Fintech is to remain relevant for an extended period., it must be innovative, as the adoption of Fintech by Islamic financial institutions affects not only the Muslim community but also non-Muslims and the global finance world (Irfan, 2019).

Automated customer service using Chatbot

Chatbots play a crucial role in gathering helpful customer information through discussions and interactions. These AI-powered chatbots will then process the data to help them better comprehend their customers’ needs, expectations, and circumstances. Due to this feature’s availability around-the-clock, financial institutions may stay in touch with their clients and assist them through various processes. Business Insider reported that 67% of customers had used chatbots as part of their customer support experience. Streamlined online payment methods are also one of the opportunities for using Chatbot. Customers may be confused by the complexity of the money transfer procedure due to the availability of many digital payment methods. Chatbots facilitate this procedure by assisting consumers through each step of their transactions. It provides users with a smooth experience by considerably simplifying payment operations. For instance, the TransferWise Bot for Facebook Messenger is a chatbot that enables users to send money abroad while assisting them should they run into any problems.

The Emergence of Blockchain Technology in Islamic Banking Systems

Investment in Fintech includes using AI to automate the Islamic finance sector and the growth potential in Islamic trade finance through smart contracts and blockchain technology. Big data and data analytics also present opportunities in the financial sector to improve and enhance the banking industry and contribute to overall economic growth. Blockchain technology is a decentralized, open-source digital ledger that records transactions in blocks linked by encrypted signatures. A copy of the ledger is stored on each node in the network, and new blocks are added via a consensus procedure. Blockchain transactions may also contain smart contracts, commonly referred to as chain code. A public blockchain is unrestricted; anyone with an internet connection can access the network, verify blocks, and conduct transactions. Decentralized finance (DeFi) utilizing blockchain technology offers decentralization by cutting out intermediaries and creating a peer-to-peer network. This prevents any single entity from having too much power and creating a monopoly. Blockchain can also provide secure handling of banking transactions at the foundational level of application architecture. However, implementing a Shariah-compliant banking solution using blockchain technology will present its own set of challenges in real-world finance and will need to be further developed in the future.

Embracing customers' awareness and intention to adapt Fintech services

The Islamic Fintech industry is not behind as it has seized the opportunity and embraced Fintech-based innovative financial services and it is expected that Fintech innovations could add 150 million new customers to Islamic banking by 2021. Islamic financial institutions must take a bold strategy and include Fintech-based financial services such as advanced data analytics, AI, and blockchain in their product portfolio. Some critical development areas in Islamic Fintech-based services could be P2P lending, crowdfunding, digital payments, digital authentication, and sharia-compliant cryptocurrencies. Customers may believe that using Fintech services will help them gain more insights or perceptions on carrying out problem-free banking transactions. If the opportunities provided outweigh the perceived challenges, an individual may choose to adopt them. In other words, if customers have adequate knowledge of handling financial transactions using technological devices, they will be encouraged to use them. This finding could be because Fintech has achieved higher acceptance, and many bank customers are becoming more experienced in using technological means to perform financial transactions. This is in addition to government support and the growing interest in the Fintech market, which has created unique opportunities for bank customers and operators. Hence, customers are now more conscious and interested in using Fintech as long as it can meet their expectations regarding financial services and is not disruptive. This outcome is supported by previous studies emphasizing the importance of awareness in influencing customers' intentions (Saksonova and Kuzmina-Merlino, 2017; Ramdhony, 2013; Wan Ahmad et al., 2019).

Avenues for Future Research

Although this study highlights and identifies challenges and opportunities for innovation in Islamic Banking, there are some limitations to the current research. Future research can be conducted by combining two or more Islamic banks sampling populations and determining areas of study that should not be overgeneralized to certain populations only. Therefore, researchers may incorporate additional technological elements into future studies, including usefulness, application design, and expectation confirmation. This study also did not include user satisfaction in the research framework regarding theory integration.

Meanwhile, examining user happiness and user intent for embracing Fintech might result in some interesting insights. Future research endeavours can focus on three different aspects.

Firstly, future research can focus on a larger sample size of banks across a greater geographical region to determine the consistency of findings in different economies. Other than that, based on prior research, corporate governance mechanisms have a significant impact on the standard performance of banks as well. This phenomenon can be considered for future research, to determine the impact of corporate governance mechanisms on different aspects of intellectual capital and the sustainability of competitive advantage. Macroeconomic factors linked with changes in fiscal policies would directly impact banks' lending patterns, resulting in different performance patterns. This should also be reflected in intellectual capital outputs and should be explored further.

Conclusion

The study outlines the industry's financial technology innovation's problems and potentials. State Islamic banks now have a chance to catch up to their conventional counterparts because to the presence of Fintech. On the one hand, the rapid pace of technological innovation in Fintech poses a significant threat to traditional Islamic banking models, which are often slow to adapt to change. On the other hand, Fintech offers Islamic banks the opportunity to streamline their operations, reduce costs, and reach new customers through digital channels.

The article discusses several issues and opportunities in the Fintech industry, specifically in Islamic banking. Security and privacy issues, such as cybersecurity and data storage, are major challenges in the industry. Fintech companies operating in the Islamic banking sector must comply with the regulations and guidelines set by the central bank and other regulatory authorities. The absence of qualified employees and unambiguous policies also hinders the development of Islamic Fintech. However, there are opportunities for innovation in Islamic banking, including the growth potential for underdeveloped nations and the use of automated customer service using chatbots. Furthermore, investment in Fintech includes using AI to automate the Islamic finance sector and the growth potential in Islamic trade finance through smart contracts and blockchain technology.

Using AI, blockchain, and big data can revolutionize the way Islamic banking operates, making it more accessible and automated. Islamic trade finance has a lot of room for growth, and blockchain can streamline the business process and increase revenues. Big data can provide valuable insights on improving and enhancing the banking sector while contributing to the country's growth. To fully take advantage of the opportunities presented by Fintech, Islamic banks must embrace innovation and invest in new technologies. This requires a shift in mindset and culture within the industry, as well as collaboration with Fintech start-ups and other players in the ecosystem. By doing so, Islamic banks can position themselves for growth and remain competitive in an increasingly digital and interconnected world.

However, implementing these innovative technologies must be done properly to fully reap the benefits while overcoming the challenges faced in the industry. Islamic banks must also address the challenges posed by Fintech, such as regulatory compliance, cybersecurity risks, and maintaining customer trust. With innovation using financial technology (Fintech), Islamic banking is undergoing a re-engineering process. This requires a concerted effort to develop robust risk management frameworks and security protocols, as well as strong partnerships with regulators and other stakeholders.

In summary, Fintech represents a game-changing opportunity for Islamic banking, but it also poses significant challenges that must be overcome. By embracing innovation and collaboration, while also addressing the risks and challenges, Islamic banks can position themselves for success in the digital age.

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