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Fintech in the Light of Islamic Shari'ah: Concept and Application

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Abstract

Fintech is the merger of two terms: finance and technology. Fintech service is a financial service that makes financial transactions faster, as well as it saves time and costs. The worldwide future financial transactions seem to be carried out without the need of physical money. As such, the changing ways of global financial transactions give a great impact on public interest (Maslahah) of human life. Islamic finance provides financial services to customers in accordance to the rules and regulations prescribed by Islamic Shari'ah. For the Muslim the issue of Halal (permissibility) and Haram (impermissibility) is very important when they accept the Fintech advancement to be used. Thus, observing the Shari'ah principles and Maqasid al-Shari'ah in all transactions has been a very crucial aspect in this regard. This study has been prepared to contribute positively to the understanding of Fintech from Islamic Shari'ah perspective for the benefit of academia, industry, regulators, investors and other Fintechusers bi-iznillah.

Key Words: Fintech, block chain, Digitalization, Islamic Finance, Shariah, Islamic Bankin, Digital transformation

Introduction

Islamic finance is a fast-booming segment of global finance. Serving a core population of 1.8 billion Muslims world-wide and a wider global ethical finance audience, its role is growing in global significance especially as it relates to global social financing needs.

Financial technology is one of the most widespread terms used for research in finance industry in present time. Financial Technology (Fintech) is the use of modern innovative technology in the field of finance. It is basically the use of innovative and disruptive technology for providing the financial services. Fintech as a concept peaked up in the late 2010s (Haddad, 2018). Fintech catered to this need of more security for the investors by providing innovative and secured financial services. The other reason for the emergence of Fintech could be attributed to the need for the financial services at more affordable cost which provides mobility and faster pace **(Anikina et al., 2016)**.

The primary reason for the emergence of Fintech has been the global financial crisis of 2008 (Haddad, 2018). Global Financial crisis was the period where people lost confidence in the financial system and were looking for something which gives them more assurance in terms of their investment. The severity of financial crisis in 2008 has laid the way for Islamic Financial systems to emerge as the vehicle of recovery from financial crisis.
Fintech should be understood to cover all aspects of the application of technological advancement in delivering, facilitating, or enabling financial services. Therefore, Fintech includes block chain applications and other web-based services utilized in the financial services industry as well as offline-to-online (O2O) and Internet-of-things (IoT) applications. One could simply say the list is endless and such should be the general understanding of Fintech rather than confining it to the most prevalent applications such as block chain technology and crypto currencies.

The daily lives of human beings, and even the non-human, are now tied to technological applications where robots have taken over the roles of financial advisors. While regulators and lawmakers try to catch up with the rapid developments in financial technology, it appears the rapid rate of development in the Fintech sector is outpacing regulatory frameworks. This uncertain situation is more complicated in a niche industry such as the Islamic financial services industry, which has additional faith-based filters in its product-development process. This, therefore, makes a case for the need for thought leadership in relation to this uniquely important subject in order to guide policymakers, regulators, and practitioners on the dynamics of Fintech in Islamic finance, and provide a good understanding of the Shar'ah, legal and regulatory parameters for Fintech solutions.

Objectives of the Study:

The main objective of this study is- to contribute for understanding of Fintech (virtual banking) from Shari'ah (Islamic Law) perspective, and other objectives are-

a) To make familiar this issue (Fintech) for the benefit of academia, industry, regulators, investors and other users of Fintech;
b) To buildup leadership relations through the dynamics of Fintech in Islamic Finance;
c) To enhance the services qualities of Islamic Banks and to draw the much attention from the Western Fintech industry and
d) To prove the fact that- Islam is always in favour of innovation and creativity.

Literature Review:

Recently it is observed that clients of the Islamic banks at home and abroad are receiving services from Fintech. In the meantime, many research and thesis papers, other publications as well as seminars, symposia and conferences are being arranged on this topic. In the bellow some literatures have been reviewed to justify the ongoing research paper.

Ibrahim Musa Unal and Ahmet Faruk Aysan(2022) in their paper on - "**Fintech, Digitalization, and Block chain in Islamic Finance: Retrospective Investigation"** discussed elaborately. The scope of the analysis is limited to journal articles to understand the trends in the indexed journals. The increasing interest in Fintech, Block chain and digitalization in Islamic Finance created a new area in the literature, requiring a systematic review of these academic publications. Islamic fintech has great potential mainly because of the overlapping norms of Shari'ah and fintech, making it easier to implement technological disruption into Islamic finance. Moreover, the trust shift to Islamic finance could be merged with the opportunities of fintech and increase the potential of Islamic fintech even more.[*FinTech* **2022**, *1*(4), 388-398; https://doi.org/10.3390/fintech1040029]

The paper on-"**The global Islamic fintech banking market: trends and outlook"(2022)** has been collected from the internet has discussed as- the global Islamic fintech banking market: trends and outlook. Islamic FinTech follows Shari'ah principles and is hence a type of technology that is ethical, religiously acceptable and one which embraces environmental, social, and corporate governance (ESG) elements. Elsewhere, Islamic Chain is looking to create transparent and accountable delivery mechanisms for philanthropy and compassionate giving, using block chain technology and decentralized digital identity. [https://www.consultancy-me.com].

Dr. Siti Muawanah Lajis(2022) in her paper-**"Islamic Fintech: Trends and Implications to Islamic Finance Professionals",** she mentioned-As of year 2020, Islamic fintech has reached the size of USD49 billion, experiencing an annual growth of 21%, and is expected to reach USD128 billion by year 2025. This development is indeed commendable when compared with the performance of conventional fintech which is growing at 15% annually. Notwithstanding this, in terms of transaction volume in comparison with its conventional counterpart, Islamic fintech is yet to make a formidable impact as it presently commands a mere 0.72% share of the global fintech market. Development of Islamic fintech varies from country to country. A lot depends on the state of readiness of enabling institutions such as the legal and regulatory frameworks, innovation and creative centers as well as talents.[**https://www.ciifglobal.org/2022/02/17/islamic-fintech-trends-and-implications-to-islamic-finance-professionals/]**

Michael Lipka(2020) in her paper- Islamic fintech: Reaching the next generation of believers advance technologies, from blochchain to artificial intelligence, vertual technology and transforming financial services.Islamic finance is no different. Shari'ah bases Fintech are usuing in Islamic and conventional nationans alike. After Pendamic huge number of Islami Banks anf financial institutions are progressing through Fintech and now they are extending services towards the non-Muslims in effective and efficient manner.

Methodology of the Study

This is a conceptual as well practical paper. The study is based on review of some literatures from primary and secondary data. For secondary data several libraries on electronic banking and digital technology have been sighted. Besides different officials, private records, published and unpublished materials, journals, research report and seminar papers etc. have been used.

Limitation of the Study

The study is not assumed free from limitations. Although adequate precautionary measures have been taken in the present study, it is supposed to be contented in the matter of reliability of those data. The main three limitations are mentioned below:

1) This study only concentrates on electronic banking and digital technology and based on secondary data.
2) Scarce of adequate literature is a serious drawback to proceed with the study.
3) No statistical tools have been used in this study.

What is Fintech?

The term **'Fintech'** refers to the synergy between finance and technology, which is used to enhance business operations and the delivery of financial services.Fintech can take the form of software, a service, or a business that provides technologically advanced ways to make financial processes more efficient by disrupting traditional methods.**(Zaid, Boudraa. 2018)**

Fintech as a term emerged in 1972 by Abraham Leo Bettinger by saying "FinTech can be defined as a contraction which combines bank experience and expertise with information technology" **(Bettinger, 1972)**. Schueffel (2016) said "FinTech is the new term in finance industry and objective of which is to improve the financial services through the use of technology".

Milian et al. (2019) mentioned that "FinTech is a thrill or hype in the media or an important innovation which can be attributed to the field of finance".

In the words of Dorfleitner et al. (2017) "FinTech is basically the composition of companies or group of companies providing the modern, innovative and financial services through technologies" while Sanicola (2019) said "FinTech is about both, promoting the technology to enhance the use of financial and also about the promotion and growth of digital consulting".

Financial technology 'Fintech', according to the Institute for Digital Innovation and Research in the Polish capital Dublin (2018), is technological inventions and innovations in the field of the financial sector, and these inventions include a set of digital programs that are used in the financial operations of banks, including: transactions with customers and financial services such as money transfer exchanging currencies, calculating interest rates and profits, knowing the expected profits for investments, and other banking operations.

Some of the most prominent applications of Fintech are as follows:

1. Mobile payments
2. Automated investment apps (Robo-advisors)
3. Crypto currency
4. Online lending
5. Crowd funding platforms.

Technologies that Contribute to Fintech

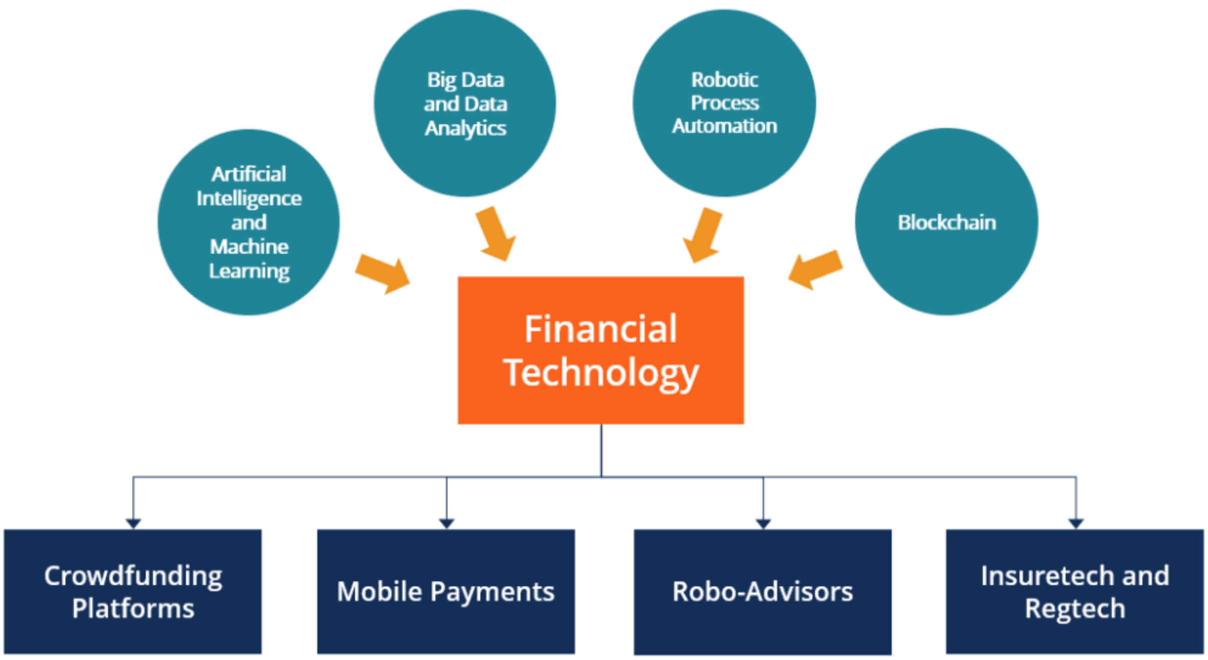
- **Artificial Intelligence (AI) and Machine Learning (ML):** Some of the Fintech applications of AI and ML include credit scoring, fraud detection, regulatory compliance, and wealth management.

- **Big Data and Data Analytics:** Through large datasets, consumer preferences, spending habits and investment behavior can be extracted and used to develop predictive analytics. Predictive analytics refers to predicting how consumers are likely to behave using past information and a mathematical algorithm. The collected data also helps in formulating marketing strategies and fraud detection algorithms.

- **Robotic Process Automation (RPA):**The most widespread applications of RPA in finance are:
  - Statistics and data collection
  - Regulatory compliance management

- Communication and marketing through e-mails and chatbots
- Transaction management

- **Blockchain:** Blockchain technology is being adopted at a large scale in the financial industry, primarily due to its ability to securely store transaction records and other sensitive data. Each transaction is encrypted, and the chances of successful cyber-attacks are relatively low when Blockchain technology is employed. Blockchain technology is also the backbone of many crypto currencies.



Shari'ah-compliant Fintceh

Islamic finance is a managing system of dealing with Islamic Shari'ah standards. Incomprehensive terms, Islamic finance aims to ensure a fair relationship between the parties as well as to ensure that there is a dimension of profit and risk-sharing that encompasses business transactions based on Shari'ah-compliant financial technology (S. B. M. Hasan, 2018). Shari'ah-compliantFintech aims to offer creative solutions for financial products, services, and investments consistent with Shari'ah.

The application of Fintechin Islamic finance includes both the traditional possibilities as well as some other dimensions such as Shari'ah consultancy, ethicalevaluating and the structure of partnership products that conform distinctively to Shari'ahcompliance. The development of Fintech implementations for Islamic financial services and products will not only be monitored according to the regulations of various jurisdictions, but also Sharia'h governance should be emphasized (Todorof, 2018).

Fintechin the light of *Maqasidal-Shari'ah*

The fundamental objectives of the Shari'ah or *Maqasid al-Shari'ah* are to ensure the well-being and welfare of mankind (maslahah; Pl. masalih), both in this world and the hereafter. Maqasid are the key to better understanding of Shari'ah in its true perspective (Saad, Faisal, 2019). According to Imam al-Ghazali (d. 505 AH/1111 AC), the main objective of the Shari'ah is to promote the public interest and the well-being of the people, which lies in preservation of their religion (din), their life (nafs), their intellect ('aql), their progeny (nasl) and their wealth (mal). So whatever ensures and covers the safeguarding of these five origins, is a public interest, and whatever leaves these five, is a harm and against public interest.

Therefore, the *Maqasid al-Shari'ah*are the law's meanings and objectives as manifested in most or all of its rulings, or they may be said to be the objectives of the Shari'ah and the hidden wisdom which the Lawgiver has placed within each of its rulings.In principle, the main objective of *Maqasid* is seeking of benefit (manfa'ah) and repelling of harm (madarrah) for the public interest (maslahah) as directed by the Lawgiver.

Basically, the use of financial technology (Fintech) is considered as permissible (mubah) in Islam. This is based on the fiqh maxims (QawaidFiqhiyyah) which states "The originality of things is permissibility". It is considered permissible if the use does not contradict with the Shariah principles. *Maqasid al-Shari'ah* creates a balance in the use of information technology so that the usage is always on the balance sheet of goodness (maslahah) and avoidance of any harm

(mafsadah) either to individuals or communities, which are based on the Quran and Sunnah.
Through the convenience of financial technology (Fintech), the general public can carry out daily activities such as online transaction of money, online payment for vehicle takaful, online transaction for investment activity and any financial transactions and communication easier and faster. However, in using financial technology, it is deemed necessary to observe the purposes or intentions (qasd) for each transaction activities so that there is no contradiction to the Shariah principles.

The ease services of financial technology nowadays open space for every individual and society to make any financial transaction without borders. Therefore, a Muslim who believes in Allah SWT should take into account the boundaries embodied in the Shari'ah principles. Even though the use of such technology is the will, the need and the want of the present day, it is necessary to take account of the preservation of religion by not being involved with anything prohibited by Allah SWT.

Preservation of religion is obligatory during development of financial technology facilities so that it cannot lead to commit a sin or disobedient to Allah SWT.

Therefore, the application of financial technology needs to be controlled by the regulatory authority both ethically and legally, so that it cannot be misused to cause the user to neglect the remembrance of Allah SWT including any prohibited elements such as riba, gharar and maysir in financial transactions. The continuous development of financial technology without restrictions and controls would affect religious soundness as well as the physical and mental health of a person. The use of financial technology is in harmony with the Shari'ah objectives that provide the convenience to individuals and communities whilst in carrying out their day-to-day activities.

Shari'ahIssues ofFintech

Fintech covers a wide spectrum of application of innovative technology in financial services. So, the discussion here should be done on all major Fintech applications such as online crowd funding platforms, e-commerce, smart contracts, blockchain technology and cryptocurrencies etc.

When it comes to Fintech solutions in Islamic finance, Shari'ah compliance is paramount and this should be based on the same principles applicable to commercial transactions with particular reference to the prohibited elements in commercial contracts and operations for financial services.

The same general principles can be applied to specific instances. This will, however, require legaladaptation (takyiffiqhi) to address the peculiarities of Fintech, as there are no precedents to these disruptive innovations. This has been proposed recently by the Dubai Financial Services Authority (DFSA) which seeks to subject Shari'ah-compliant equity crowdfunding platforms to the original rules applicable to Islamic financial institutions**(Oseni Umar A. and Ali S. Nazim, 2019).**

A former Secretary General of the Islamic Financial Services Board (IFSB), Jaseem Ahmed (2017) summarised the importance of considering Shari'ah and regulatory issues while embracing the solutions, Fintech has to offer to the Islamic financial services industry:

> From the Sharīah perspective, there are two complementary principles at stake: **first**, the principle that in fiqh al-mu´āmalāt innovations are allowed unless they fall under an explicit prohibition, and **second**, the rather detailed requirements of Islamic law for the validity of exchange contracts. Contractual uncertainty may pose a challenge in many Fintech cases.

At the same time, subject to conformity with Sharīah principles, solutions from other Fintech areas such as blockchain and smart contracts may help to improve operational efficiency in Islamic finance. The Shari'ah compliance challenge is in identifying the perimeter of permissible innovation, when the formal requirements of classical contracts are not met, whilst elucidating the modifications that would permit access to the new technology on a Shari'ah-compliant basis.

These concerns in setting the Sharīʻah perimeters of permissible innovations and applications are addressed briefly in the bellow:

i. Blockchain

Blockchain technology has gained a lot of attention and has attracted worldwide interest from a variety of stakeholders. Blockchain and artificial intelligence is the new trend for Fintech innovations.

Blockchain is an expanding list of blocks. Each block contains transaction data, a timestamp and a cryptographic hash code of the previous block (Nakamoto, 2008). The key interesting feature of the blockchain is its resistance to data modification and traceable transactions.Blockchain technology has several evident advantages because of its nature and the underlying technological structure.Another crucial feature of blockchain is the transparency; blockchain transactions are traceable and visible to all the users of the blockchain. Immutability is another key feature of the blockchain. It is almost impossible to make any changes to the transactions on blockchain or to the blockchain.

This technology is in accordance with the basic Shari'ah principle of permissibility.

Therefore, blockchain, if used fairly, can be a boon to the Islamic banking and finance for providing traceable transactions and transparency. It can boost the trust in Islamic financial dealings, transfers and transactions (Abu-Bakar, 2018).It can also give a new direction in the use of blockchain for Islamic finance and Shari'ah compliant financial services.

ii. Cryptocurrency, Bitcoin, Ethereum etc.

Cryptocurrency is the electronic cash which can be used in place of the fiat money as a medium of exchange. It uses blockchain technology which provides basis for secure, traceable and immutable financial transactions. The creation of additional units is also controlled with the help of blockchain **(Andy, 2011; Polansek, 2016).**

Cryptocurrency systems do not have a central control system unlike the traditional central banking systems and digital currency like Amazon cash etc., (Allison, 2015). One major issue every digital cash payment network has is double spending. Double spending means that the same amount has been spent twice by the same entity. In digital cash payment network, a central server keeps the balance record to stop double spending. In cryptocurrency systems, there is no centralized system, it is a decentralized network, therefore, the network keeps the history and list of all the transactions and any transactions has to be approved by the peers which eliminates the case of double spending **(Ameer, 2018).**

Virtual currency is unlike real currency and brings a lot of risk for the users and it also poses a threat to the real economy **(Zahudi, 2016).** Despite of the fact that bitcoin is one of the hottest properties, it has not received much attention from the scholar community.

Muslim scholars have mixed views over sharia compliance of crypto currencies. Some famous scholars like grand Mufti of Egypt Shaikh Shawki Allam**,** has out rightly rejected the cryptocurrency on the ground that it violates the basic principles of Islam that is declared haram. To be declared it halal, it must be complying with the *Maqasid al-Shari'ah*. There are more than 2800 cryptocurrencies and all of them are not currencies, they can be called as crypto assets. The coin is not the only type of crypto assets. The crypto assets do not fulfill the criteria of store of value, unit of account and medium of exchange to be called as a currency **(Yakubowski, 2019).**

There is an element of gharar in the bitcoin transaction as real value of currency is not known, prices are highly volatile, also there is variance in store of value and method of value. Because the fundamental principles of finance say that the gharar is against the sharia and it is haram **(Abu Bakar, 2017),** gharar is defined as the uncertainty, deception and risk. In another study on Bitcoin and cryptocurrency it was concluded that since bitcoin lacks intrinsic value and has zero supervision of the central bank it can easily be misused. It also violates the basic principle of Islamic economics i.e., social justice, because of these reasons the bitcoin is considered as against sharia and should be prohibited **(Meera, 2018).**

For the Shari'ah compatibility of the cryptocurrency, it should observe all legal requirements, as of now, there is no operational procedure or standard system which can verify compliance with legal requirements. This is a negative aspect of cryptocurrency in the market which says that since there is no supervision.

However, according to some researchers, it is difficult to say that the cryptocurrency is haram as a whole **(Asif, 2018).** There is scope to develop the digital currency compatible with Islam using Blockchain technology. If we are able to develop a digital currency which is as per the ethos and principles of shari'ah, it will be a great revolution in the field of finance and technological advancement **(Alzubaidi and Abdullah, 2017).**

iii. Crowd Funding

Crowdfunding, in general, is a method of raising capital through the internet from a large pool of individuals. Specifically, it is a way of raising funds from the public by marketing campaigns through social media to share information, pictures, videos and details about a project. Crowdfunding has gained popularity among fundraisers due to its simpler procedure compared to the traditional fundraising methods, such as bank loans.

This also creates more investment opportunities for investors. Crowdfunding involves a tripartite relationship, which consists of the crowdfunding platform (CFP) operator, the fund seekers or issuers (entrepreneur) and the crowd funders (investors or donators).

The crowdfunding operator is responsible for providing and managing an online platform to enable the issuers to reach the crowd funders. The issuer or entrepreneur provides information regarding a project, which can be anything from charity to new product development.

To be qualified as an Islamic crowd funding platform, all operations and procedures must be Shariah-compliant. All transactions and activities must not involve prohibited elements such as gharar (uncertainty) and riba (interest).

For Islamic crowd funding, four parties are involved. They are the fund seeker, the funder or investor, the platform operator and the Shari'ah committee. The Shari'ah Committee is responsible for ensuring that the operation strictly adheres to Shari'ah principles and practices. They must carry out regular assessments and audits on the crowd funding platform.

iv. Smart Contract and Fintech

Similar with any contracts in Islamic finance, smart contract in Fintech also relies on the concept of Shariah. Shariah is Islamic guidelines based on Holy Quran, *Sunnah* (sayings and actions of the Prophet Muhammad PBUH), *Qiyas* (analogy) and *Ijma'* (scholars' consensus) as the primary source of the rulings. As mentioned before, the sale and buy contracts must be free from '*Maghrib'* elements; *maysir* (gambling), *gharar* (uncertainty) and *riba'* (interest) elements. At a glance, smart contract and Islamic Fintech has nothing to do with gambling like in casino, but in Islamic perspective, *maysir* prohibition here means the contracts should be free from betting, speculation and derivaties such as forwards, options and so on. It also must be free from *gharar* (uncertainty) which means dubious contracts, vague contracts and questionable buying and selling. *Riba'* (interest or usury) is the vital element that differentiate between conventional contracts and Islamic contracts. *Riba'* is strictly prohibited in the Quran as Allah said in Holy Quran "But Allah has permitted trade and forbidden riba'.." (Al-Baqarah: 275). The contracts also should abide other basic rules of *muamalat* (Islamic financialtransaction) such as promoting justice, avoiding *tadlis* (cheating) and *ikrah* (coercion) in which the contracts cannot have deceptive contracts or advertisement, and adhere to other guidelines stipulated in financial transaction.

In Islamic finance contract, the product offered must have a valid contracts as stipulated in Quran, Sunnah, *Ijma'* (consensus) and *Qiyas* (analogy*)* There are many various valid contracts that have been used extensively by the traditional Islamic banks such as *Hiwalah* for credit card, *Wadiah* for deposit accounts and many more. It means, every product in Islamic finance have gone through the tight process and procedure for product development stages to compliments the notion of Islamic finance for whole.

The same principles applies in smart contract in Islamic Fintech.

Challenges of Shari'ah compliance in Fintech

Leaving Fintech without regulation or robust legal framework will render the whole disruptive innovation susceptible to abuse, misuse and devastating manipulations. Therefore, regulatory technology or RegTech may have to step up its proactive regulations to regulate Fintech applications.

Beyond RegTech, there is a need for regulatory guidance for the application of Fintech in financial services as recently experienced in Malaysia with the enactment of the Capital Marketsand Services (Prescriptions of Securities) (Digital Currency and Digital Token) Order 2019.

On 31 March 2016, the Office of the Comptroller of the Currency (OCC) of the United States released a White Paper that outlines its support for responsible innovation in the country's federal banking system. The OCC defines "responsible innovation" as:

> The use of new or improved financial products, services, and processes
> to meet the evolving needs of consumers, businesses, and communities

> in a manner that is consistent with sound risk management and is aligned with the bank's overall business strategy. (Curry, 2016). This recognizes and acknowledges the OCC's receptivity to innovative solutions such as Fintech as long as they uphold sound risk management and corporate governance principles, and comply with relevant laws and regulations, and protect consumer rights.

In evaluating the innovative products and services offered and/or performed by banks, the OCC formulated eight principles which mirror its perspective of Fintech solutions. Therefore, the OCC would:

> Support responsible innovation, Foster an internal culture receptive to responsible innovation, Leverage agency experience and expertise, Encourage responsible innovation that provides fair access to financial services and fair treatment of consumers, Further safe and sound operations through effective risk management, Encourage banks of all sizes to integrate responsible innovation into their strategic planning, Promote ongoing dialogue through formal outreach, and Collaborate with other regulators. (Curry, 2016)

These principles are quite important in a global financial industry that experienced economic meltdown barely a decade ago and the ability of Fintech innovations to effectively navigate strict financial laws and regulations in different jurisdictions. While it is important to create room and accommodate start-ups through Fintech, consumer protection laws must be strengthened and relevant laws and policies must be put in place to avoid an unprecedented devastating financial crisis.

From the Shari'ah perspective, financial issues that have significant impacton people's lives and the overall economy cannot be left entirely in the handsof individuals. The state may step in to regulate an industry to ensure financialstability and consumer protection, particularly when unsuspecting investors maybe the subject of financial abuse. The Islamic concept of hisbah which saw theintroduction of the office of muhtasib (or ombudsman) in the early days of Islam is a testimony to this assertion **(Rashid 2004).** The muhtasib regulated the marketand ensured financiers as well as vendors complied with the rules to avoid any business misconduct that would negatively impact the public (Abdul Hak et al. 2013). Such practice may be replicated in the modern application of Fintech innovations in the Islamic financial services industry. For instance, as discussed earlier, individuals may not be legally empowered to determine the medium of exchange through cryptocurrencies. The constituted authority in the state may need to set the minimum regulatory standards as being experienced in some jurisdictions such as Singapore, the United States, and more recently, Malaysia.

Fintech and Islamic BankingIndustry

Islamic banks have already started to use some financial technologies in their transactions and operations.Yet Islamic banks can improve their product offerings by incorporating many otherFintech-based solutions. It is expected that the integration of Fintech-based solutions could enhance the Shari'ahcompliant feature of Islamic banking products and make it cheaper. As such,Islamic banking products will receive much-required attention from the Western Fintech industry.

Recent Fintech platforms using blockchaintechnology and backed by gold are found to be Shari'ah-compliant according to the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI). Therefore, one of the agenda for future research could focus on the identification of various instruments that could be applied to the Islamic finance industry.

Current Practice of Shari'ah compliant Fintech in Bangladesh

Technology has made tremendous changes to human livelihoods. People now adopt information technology in various aspects of daily life. The use of technology is growing dayby day, mostly in the banking sector of Bangladesh. Although financial technology is still in itspreliminary phase in Bangladesh, and apart from mobile banking services, electronic payment facilities or BillPay, digital commerce payment, and other visible services have been introduced in Bangladesh not long ago **(Ali Husain, 2018).** Cell phones have appeared as an effective platform for several other market activities beyond connectivity and interaction **(Ali &Mohamed, 2018).**

Banking services can also be provided to those with no bank account. In recent years, mobile banking Fintech firms like bKash have been on top in Bangladesh. Besides bKash, there are many other companies like Nagad, mCash, t-cash, and UCash, even though their market value is not high **(Rubaiyat, 2020).**

Bangladesh is a highly polulated Muslim majority country that has tremendous potential for Islamic Fintech. Islamic Fintech has contributed to both transforming modern finances and reforming the conventional forms of finance in Bangladesh. Before the advent of Bkash, the number of mobile phone users in Bangladesh in 2011 was 63 million, which become 143 million in 2017, according to the Bangladesh Telecommunication Regulatory Commission (BTRC).

The country currently has 10 full-fledged Islamic banks, 35 Islamic bank windows from traditional banks. Islamic banking comprises almost 27% market share of the entire banking industry in Bangladesh. With such a significant market share, if Islamic banks of the country can deliver their service to consumers through the Fintech facility, large group of customers will show up to them.
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IBBL is one of the pioneers of tech-based services in Bangladesh. It has been providing one line service for all its customers since long. The bank has the second largest ATM/CRM network throughout the country. Recently IBBL has launched a virtual product titled ‘CellFin’ which is unique, affordable, and versatile in nature and supposed to bring a revolution in the technology based financial market in the country. Almost all the banking operations can be performed using this single app-based product. Customers can avail the following services using CellFin:

- To open bank account (MSA, MSSA, SMSA etc.) without going to bank premise.

- To transfer fund not only to IBBL account but also to accounts with other banks.
- To pay different types of bill (Kidma, Credit Card, Electricity etc.)
- To receive foreign remittance.
- To withdrawal cash without using ATM or Cheque book.
- To transfer fund from CellFin to CBS account, Debit or Credit Card & vice-versa.
- To check balance of account & card
- To recharge mobile
- To buy Air, Bus & Launch ticket.

Though these services have yet not been able to reach expected level of the customers, we may hope if the Islamic banks are able to spread their tech-based services widely, the people of Bangladesh will be more attracted to the Islamic banking and thus, Fintech will achieve an enormous success in the country's Islamic banking industry.

Conclusion and Recommendation

Fintech has revolutionized the globe's financial, industrial, and social sectors. This industry has increased in recent years after the advent of mobile payments, online banking, and crypto currencies. It is possible to deliver much more excellent and improved services ataffordable prices through Fintech. Customers may get a range of services from home. The use of technology saves both time and expense to the customer. The next wave of growth for Islamic finance can be propelled using Shari’ah-compliant financial solutions through digital channels.

Any innovation is welcome in Islam as long as it does not violate the basic teachings of the Quran and Sunnah. The prospect for Islamic Fintech is really bright in Islamic world and among the Muslim users of financial services as it provides opportunities for innovation and can provide financial services at affordable cost.Islamic Fintech is ready to provide financial services sought by the all class of people who are seeking ethical, fast, and low cost financial solutions for modern finance.

The use of Fintech in Islamic Finance or Islamic Fintech poses lot of challenges as well as it explores numerous opportunities. Islamic Fintech can give a boost tostartups as it is transparent, accessible and easy to use and can gain customer confidence with an ease which is very important for the startups. So we may recommend from this seminar the following suggestions:

- Shari'ah Fintech Needs Policy, Supervision and a Comprehensive Regulatory Framework
- More studies exploring challenges and opportunities
- Exploring easy and applicable ways and methods to adopt Shari'ah compliant Fintech
- Conducting national and international seminars/conferences to engage academicians and Fintech experts.

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