

Global Landscape of the Islamic Fintech: Opportunities, Challenges and Future Ahead

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Abstract

Fintech is the compound of two independent words i.e. finance and technology. It can be defined as "Computer programs and advanced technologies used to support or enable banking and financial services". Fintech has become one of the most dynamic and energetic segments of the financial services marketplace around the globe. Islamic Fintech is in its infancy stage as compared to the global Fintech industry. However, it is also growing exponentially. New Islamic fintech platforms have been established in various countries i.e. Malaysia, Bahrain, Brunei, Saudi Arabia, and the UAE. Islamic robo advisors have been introduced and the blockchain technology is also being deployed by some Islamic Fintechs. There is a lack of literature on Islamic Fintech and the present paper is an attempt to fill this gap using scientific methodology. This paper gives an overview of the Islamic Fintech industry and its global landscape. The major objectives of this paper are to understand and interpret a new phenomenon (Islamic Fintech industry), and to study the challenges and propose recommendations. The study uses the qualitative research method with the inductive approach in creating an overview of the phenomena that has not been researched enough so far. Findings show that the Islamic Fintech has the potential to revolutionize the whole Islamic financial industry by using the advanced technologies. The Islamic Fintechs have the potential to reshape Islamic finance by improving the efficiency of Islamic financial services and to deal with the existing challenges.

Keywords: Islamic Fintech, Blockchain, Islamic Finance, Opportunities, Challenges

1. What is Islamic Fintech?

As Shariah-compliant Finance grows and the institutions switch to mobile and internet banking, the sector believes it can capitalize on the strong opportunities with meaningful steps taken to develop fintech ecosystems in the key markets to grow the industry. But how does one really define Islamic fintech? How does it differ

from the conventional fintech for that matter?

Etymologically, Islamic fintech is the amalgamation of technology and Islamic Finance. This underpins that any product or service that spawns from fintech has to abide by the rules extracted from the Qur'an and Sunnah collectively known as the Shariah. True to its fintech label, its digital distribution of the Shariah-compliant financial products and services are delivered through innovative digital channels that are known as omni-channels. The Islamic fintech platforms utilize revolutionary technologies like Artificial Intelligence (AI), blockchain, big data, extensive cloud computing, and Internet of Things (IoT) devices in providing Islamic financial services in a more sophisticated and a more transparent way. Its activities will involve deploying new tech-based business models to promote economic, environmental, financial, and social goals. These goals involve better services across all Islamic financial services and product performance. This also works for the broader benefits like financial inclusion, poverty alleviation and social justice (Mohamed & Ali, 2018). Islamic fintech would enable greater access to Islamic financial services in cheaper, easier, and more efficient ways to provide opportunities for financing, payments, and investments aligned to the intended objectives of the Islamic Divine Laws (maqasid Al-Shariah) (Abojeib & Habib, 2019).

2. Match between Islamic Finance and Fintech

The Islamic financial system has an in-built and inherent character of risk sharing and rule-compliance (Askari, Iqbal, Krichene, & Mirakhor, 2012). However in practice, Islamic banking and finance, similar to the conventional finance industry, relies heavily on risk transfer and/or the shifting of risk from lender to the borrower. This incongruence does not sit comfortably in the different sections of the Muslim society with regards to Islamic banking and financial services. Since the emergence of Islamic banking in 1960s and 70s, this industry has faced much criticism due to its mimicking of the conventional interest-based risk-transfer/shifting modus operandi of banking (Khan, 2010). Likewise, the consumers of the Islamic banks expect guaranteed or fixed returns similar to the existing conventional banks. There is a poor understanding of the profit and loss-sharing mechanism that an ideal Islamic Finance system should uphold. The consumers, like the banks, should be willing to undertake the risk and share the outcome, be it profits or losses. This is the basis of risk-sharing or having "skin-in-the-game". Both parties have vested interests in a transaction or investment and are likely to work closely to achieve the shared objectives. The core values of caring, cooperating, preventing possible harm, etc. are then ingrained in such agreements.

Today, Islamic banking and finance is heavily based on risk transferring and risk shifting. The balance sheets of Islamic banks show the concentration of two products i.e. Murabahah which is a trade based mark-up and Ijarah which is a lease based product. Islamic banks have very low percentage of truly risk sharing products on their balance sheets which are Mudarabah and Musyarakah. Also, Islamic banking and finance, which should have operationalized the ideals of the Shariah to pursue capitalistic goals alongside social aims, have made a little headway in financial inclusion among the underbanked and unbanked population.

The democratization of the formal financial services is indeed crucial for the economic empowerment of the Muslim ummah or the general public. The true soul of Islamic finance is to instill inclusivity and shared prosperity which at this stage, the current Islamic banking model does not seem fit to the bill. The transformation of Islamic banking institutions from a risk transferring to a risk sharing model should be built on norms and rules which are the essence of a truly Islamic economy. It should not be a system to compete with the existing interest-based risk-transfer/shifting conventional system. The rhetoric of Islamic Finance literature and conferences are enriched with the discussion of risk sharing but the real understanding and implementation of the risk sharing model is very limited and requires a disruption.

Islamic fintech provides an opportunity for the adoption and application of the risk sharing model in Islamic financial institutions through small innovative startups who want to contribute to the Islamic finance industry. One example is neo-banking or virtual banks. This Islamic neo-banking model provides the opportunities to the financiers and investors who are looking for true Islamic risk-sharing, interest-free products and services which are not currently possible through the existing Islamic banks. The modus operandi of the Islamic fintech should be highly congruent with the asset-backed, interest-free, risk sharing, under-leveraged real sector model of the ideal Islamic economy.

Islamic fintech can then be articulated through the democratization of the financial services and the delivery of financial services via new digital channels. Its essence should include the elimination of asymmetric information, fraud, no-confidence and distrust between counterparties, be they financial institutions, regulators, family offices, or the customers. It also reduces the deceptive ambiguity in the operations and business models of not only counterparty transactions but creates positive ripple effects throughout the entire supply chain within the Islamic economic eco-system. For instance, monitoring through a public distributed ledger

(blockchain) in the application of smart contracts, Islamic Fintech can bring more efficiency and transparency in their operations. Similarly, the usage of IoT devices in takaful can make insurance claims submission and processing more nimble and agile. The cash waqf model on blockchain could also be a great breakthrough in waqf management as well.

Social and ethical impacts of the financial services are also one of the main promises of Islamic fintech. For example, the financing for a welfare project is often not possible through traditional banking and financial institutions, but now through crowdfunding, take LaunchGood, and Skola Fund, it is possible for both individuals and small businesses of any sector to get funding for their social impact projects.

3. Why Does Islamic Fintech Lag Behind in the Global Map of Fintech?

History has witnessed that Islamic banking at the commercial level started and emerged in 1970s. From the banking perspective alone, Islamic Finance started emerged very late on the arena of banking as compared to the conventional banking which started in the 1660s with the formation of the Bank of England.

However, in the 20th century, Islamic revivalists worked to define interest as *riba* to enjoin the Muslims to lend and borrow at "Islamic Banks" that avoided interest-bearing fixed rates. By the 21st century, this Islamic Banking movement had created "institutions of interest-free financial enterprises across the world" (Choudhury, 1992). The movement started with activists and scholars in the late 1940s and early 1950s (Siddiqi, 1981). They believed that the commercial banks were a "necessary evil," and proposed a banking system based on the concept of *Mudarabah* where the shared profit on investment would replace interest.

And this revival of greater Islamic observance was not unjustified. The developments in the fields of social sciences, humanities, and natural sciences made by the Muslims were remarkable. They were the best innovators and inventors of their times. Their focus was investing time and money in learning, education, and inventions. Muhammad ibn Musa al-Khwarizmi was one of the first to have introduced algebra, numeric digits, and the basic notions of algorithms to the world. These basics of algebra and algorithms are now considered the pillars of technology since every modern device and technology is based on some fundamental algorithm. Freedman (2006), in his book "Introduction to Financial Technology" clearly mentioned that the father and pioneer of the technological

revolution was a Muslim Mathematician al-Khwarizmi. The Compendious Book on Calculation by Completion and Balancing, translated into Latin by Robert of Chester in 1145, was used until the 16th Century as the principal mathematical textbook in the European universities. Unfortunately, the Muslims to date have been unable to follow the path of their great ancestors who had made defining and world-changing concepts which reverberate still, centuries later, till today.

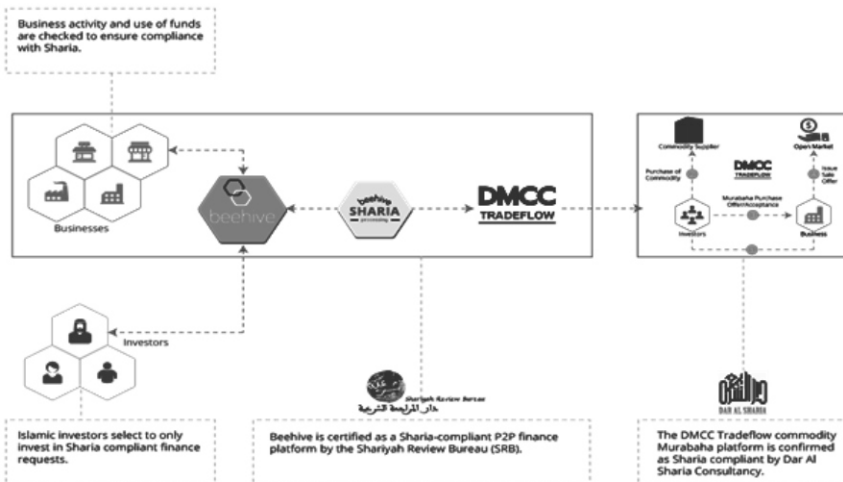
Nevertheless, the tide of the fintech revolution seemed to have awoken some segments of the Islamic society. About 120 Islamic fintech players have emerged on the Islamic fintech landscape; most of these 120 players are less than five years old. Comparatively, the conventional fintech global landscape consists of more than 2000 Fintech platforms; half of which have been around for more than five years. In itself, it is encouraging to note that massive frustrations with the current Islamic banking and finance models are now being translated to wider innovation for improved models and use cases.

The excitement about fintech is not a just fantasy or a passing fad. Fintech is something that will put the whole financial industry (conventional and Islamic) on a level playing field. The segment that gives greater priority to innovation and openness will capture the future market share and dominance. For the Islamic Finance industry, this can bridge the centuries old gap in the banking sector, and can become an opportunity to springboard alongside the conventional system to offer and deploy competitive products that are Shariah-compliant through the effective use of new technologies for innovative business models and capabilities to scale.

Beehive also works with Islamic legal advisors and Islamic financial services experts to establish structures that permit investments in a Shariah compliant manner. According to the CEO Craig Moore, all businesses campaigning on their site are being checked to make sure that the business activities and the use of funds are in line with the rules of the Shariah. Any business that does not work according to the Shariah principles and rules will be considered as a conventional investment and will be processed in the conventional way.

Beehive has launched a platform named Commodity Murabahah Trading Platform (CMTP) with the cooperation of UAE'S Dubai Multi Commodities Centre (DMCC). The CMTP facilitates the online transfer and exchange of the ownership and possession via tradable warrants. This platform also provides a solution to Islamic finance industry and access to locally stored Shariah compliant commodities for the execution of commodity murabahah transactions and transfers ownership and possession electronically. Besides DMCC, CMTP Dubai also joined hands with Emirates Islamic Financial Brokerage (EIFB) to offer the Nasdaq Dubai Murabahah Platform — an Islamic financing digital platform.

Figure 4.2 Working Process of Beehive



Source: Beehive.com

Beehive applies mode of commodity murabahah for purchasing and reselling of the commodities traded on the Dubai Multi Commodities Center (DMCC) at fixed prices.

Beehive does not directly deal with loans, even though they received 250 funding applications from multiple startups. Beehive has six thousand registered investors who mostly belong to UAE. Beehive has channelized a total worth of US\$40 million among their customers. It has received a formal and official working license in March 2017 after the issuance of P2P regulations from Dubai Financial Services Authority DFSA. These regulations showed the willingness of the regulators towards embracing fintech as they have an aim to become the hub of fintech.

With a proper P2P regulatory framework in place, Beehive was able to secure US\$5 million in the first venture round led by Riyad Taqnia Fund in December 2017.

Easi Up

Easi Up was founded in 2014 in Paris, France. It is a platform that focuses on the educational projects. This platform allows for everyone (namely European residents) to show and make visible their projects and campaigns for the investors so to get investment and funding to convert their dreams into reality. Because of the lack of proper funding, the activities are limited. But, it provides an opportunity to youth entrepreneurs and students for getting funds for promoting ethical and Shariah compliant projects through Islamic and ethical ways.

Ethis Crowd

Ethis Crowd is the first Islamic crowd funding platform based on the real state which offers the facilitation of funds on the real estate projects. This platform has 17,000 on board investors who invest in real estate projects especially in Asia.

The headquarters of this platform are established in Singapore and has regional offices in Jakarta (Indonesia), Kuala Lumpur (Malaysia), Dubai and South Africa. The platform has accomplished a housing project in Indonesia of worth US\$ 2.2 million in the first twenty months of the campaign.

Figure 4.3 Track Record of EthisCrowd

Traction: Past Performance of EthisCrowd



Source:(Ethis Crowd, 2016)

The platform also presents opportunities to the users who are interested in businesses and startups and can fund them from a minimum of US\$800 to get started. Club Ethis matches an investor with a startup that is based on the individual's background and preferences. It is Shariah-compliant and does not deal typically in alcohol, pork, gambling, speculation, or loan and interest-based finance. This attracts the Muslim audience and the investors from the Southeast Asia and the Middle East.

Ethis has collaborations with different communities and organizations including TanganDiAtas.com, one of the largest SME/Entrepreneur groups in Indonesia, Kapital Boost based in Singaapore which provides hybrid Islamic Crowdfunding and mainly focuses on SME's, and with LOKAmotion Malaysia which is a retail startup incubator that is making waves in Malaysia.

In 2016, Securities Commission Malaysia awarded six P2P Lending licenses one of which is the world's first license for Shariah-compliant P2P awarded to Ethis Kapital Sdn Bhd., making them the first authorized platform in the ASEAN region.

Eureca

Eureca is one of the earliest equity crowdfunding platforms ever created. It provides its member-investors, who include casual or angel investors and institutional firms, to buy shares in growth-oriented businesses. The platform was

launched in 2013. The platform has received a license from the UK Financial Conduct Authority and Securities Commission Malaysia in 2015. The platform has offices in London, Dubai, and Kuala Lumpur. Eureka offers potential investment opportunities from the Middle East, Europe, and Southeast Asia to a wide network of investors, according to its website (eureka.com). The platform is neither strictly Shariah-compliant nor provides halal financing, but according to its managing director Sam Quawasami, the platform provides equity finance which, in principle, is more aligned with the Islamic finance spirit of risk-sharing through *mudarah* and *musyarakah* models.

FundingLab

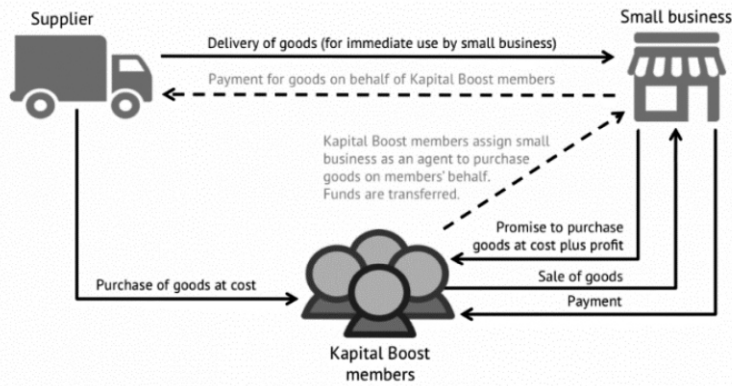
FundingLab is a non-profit Scottish Charitable Incorporated Organization. The platform enables the underprivileged young entrepreneurs and students by providing financing through crowdfunding. The platform has adopted a reward-based crowdfunding model by making sure its compliance with the Shariah.

The platform has a network of investors and users in Pakistan, Palestine, and Bangladesh and wants to develop this crowdfunding model to help more people especially young entrepreneurs, students, and fresh graduates who want to start their businesses but have no or little capital. The platform intends to spark the spirit of doing business among the Muslim youth and has initiated collaborations with different platforms and academic institutions like LUMS, a renowned university in Pakistan.

Kapital Boost

It was founded in July 2015 especially to focus and tackle the issues of lack of Shariah compliant retail investment opportunities. The platform mainly focuses on MSMEs which will lead to the growth and development of the less privileged communities. This Singapore-based platform adopted hybrid crowdfunding model which involves reward and donation-based crowdfunding — an option to investors to invest in MSMEs or partake in a donation campaign. This crowdfunding platform has received a Shariah pronouncement from the Financial Shariah Advisory & Consultancy (FSAC) on its *Murabahah* crowdfunding structure. The Pronouncement process took several months to complete. As a part of its review, FSAC's Shariah Committee was presented with the business model, processes, legal structure, and documentation relating to Kapital Boost's crowdfunding. The following figure depicts the working processes of Kapital Boost.

Figure 4.4: (Working Process)



Source: (Cosseboom, 2015)

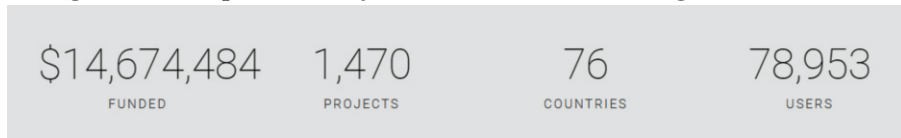
Kapital Boost provides asset purchase and invoice financing which are used to help MSMEs and meet their capital needs. Kapital Boost matches MSMEs with the investors who pool funds to collectively purchase goods or equipment and, thereafter, on-selling the same to the SMEs at a markup. KapitalBoost generates competitive annual returns (15-24%) for its investors. Additionally, the platform is the only one in Singapore that does not charge any investor fee. Since its launch in July 2015, Kapital Boost has raised more than S\$1.3 million for 26 micro, small, and medium enterprise (MSME) campaigns, with an annualized average return of 22%. As at October 27, 2016, twelve of the campaigns have paid off their funding.

Launch Good

Launch Good is the largest Islamic crowdfunding platform mainly focused on the Muslim community worldwide which started operations in October 2013. Launch Good is one of the most active crowdfunding platforms at present. Project creators choose a maturity date and a minimum funding goal and usually provide rewards to the contributors at different levels. Co-founder and COO Amany Killawi distinguish Launch Good from other platforms describing it as an empathic platform which helps people raise funds with the help of a complementary campaign coach to provide support and feedback on every step of the way. She claims that Launch Good campaigns are twice likely to succeed than other campaigns because they are invested in each campaign doing well, because every success is a success for the Muslim community. Other contributing factors include having the lowest fees in the industry and the access to a community that cares and believes in your cause.

Today, they have launched a wide range of crowdfunded projects including those that go beyond helping only Muslim communities (e.g. repairing Jewish cemeteries, rebuilding torched churches, etc.) through their site and have raised their profile along with millions of dollars in doing so. The platform now has thousands of active users and donors in almost 75 countries-an attribute which reflects their truly inclusive Islamic spirit. The following figure shows the number of the total projects launched by Launch Good and quick snapshot of some of its significant statistics.

Figure 4.5: Snapshot of Projects and Funds and Coverage as of Dec 2017.



Source: LaunchGood.com

Launch Good has been featured in 2014 by the American Muslim Consumers Conference's Entrepreneur Showcase as one of the six emerging startups in a shark tank style competition for a \$10,000 prize.

Narwi

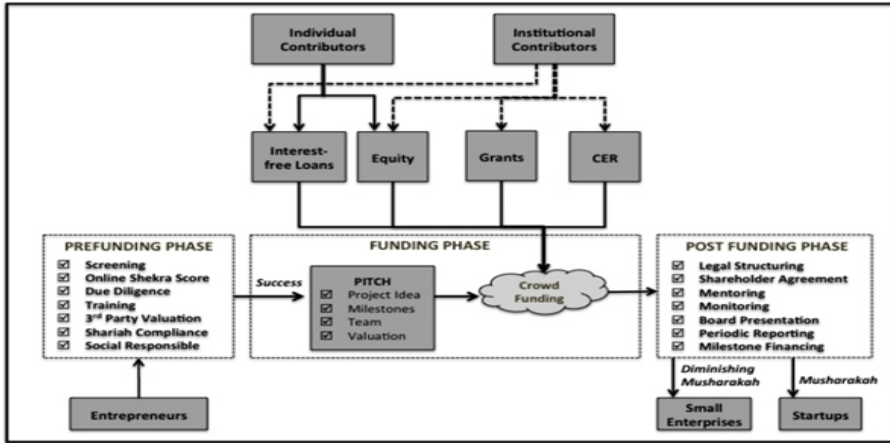
Narwi was founded and launched in June 2015 by Silatech in Qatar. It is an online non-profit Islamic crowdfunding platform that is enabled and supported by Kiva.org which is the one of the world's largest online microlending platforms. The projects funded by Narwi are financed through Shariah compliant products. The platform provides services in Palestine, Yemen, Iraq, Jordan, Egypt, Lebanon, and Somalia, and intends to expand into Morocco and Tunisia.

Narwi is a platform that allows donors to support very small and micro enterprises. The micro-entrepreneurs can establish an endowment, or Narwi-Waqf, with as little as US\$25, which created a significant number of jobs in the Middle East and North Africa (Thomson Reuters, 2016).

Shekra

The platform went 'live' in Cairo in November 2016. There are seven founders of this platform who come from very different backgrounds such as aviation, technology, investment and banking, who have pooled their resources to support Egyptian startups. Shekra established a framework through which it defined its core characteristics and opportunities that exist in the MENA market. Unlike other crowdfunding platforms, Shekra relies on a closed network of investors due to the regulatory restrictions in the MENA region (Marzban & Asutay, 2014).

Figure 4.6: (Working Process of Shekra)



Source: (Marzban & Asutay, 2014)

Skolafund

Skolafund is a web platform for the needy students who have difficulty in paying off their school fees. They have no choice but to crowdfund for their higher education goals.

Skolafund went 'live' in April 2015 with an alpha version website that lasted until August 2015. During this first period of four months, the platform raised approximately RM 25,000 to crowdfund 6 students by 125 members of the community. After this success, the team decided to increase their online presence and have crowdfunded more than 42 scholarships and counting. They intend to make higher education accessible and affordable to those who qualify. They strongly believe that no one should be deprived of the education merely because he/she cannot afford it.

Zoomal

It was launched in 2013 and asserted itself as a leading platform in the region that provides equity crowdfunding. The platform has completed crowdfunding of 200 projects. The majority of the projects were related to Egypt, Jordan, Morocco, Algeria, and Lebanon.

The platform provides financing alternative to the regulated institutions i.e. banks and helps the individuals by leveraging the internet and social media. (Oddone, 2015).

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It does not specifically target the halal companies or Shariah compliant finance, but according to its CEO Abdullah Abbasi, the majority of the projects on the site are actually Shariah-compliant. He went further to say that they have a plan to develop a certification scheme for projects such as sadaqah jari'ya as Shariah-compliant products.

b. Islamic Fintech Deploying Blockchain

Blossom Finance

Blossom Finance is a startup that was established first in San Francisco and later relocated to Jakarta with the intention to focus on microfinance in Indonesia. Blossom did not make public the details of its first investment in a microfinance institution in Indonesia until May 2015.

According to the Blossom's CEO Matthew Joseph Martin, he became a Muslim in 2010 and thus developed an interest in Islamic finance. Blossom only gives money

to those microfinance institutions which operate on a profit-and-loss-sharing principle instead of risk transfer of interest-based systems. In fact, Blossom does not handle loans directly. It works with Shariah-compliant microfinance institutions. They make partnerships with institutions and the underlying process of collecting and disbursement of funds is operated as a sharing model using the blockchain technology.

The transfer of money from investors to microfinance institutions is done by deploying the blockchain technology which reduces the costs and also time, especially for cross-border money transfers. Through the whole process, Blossom ensures the implementation and adherence to Shariah rules, so as to move money within a short time at low cost in a transparent way. The beneficiaries receive money in the local currency (Indonesian Rupiah) and the investors can invest and cash out their returns in their local currencies like Euros, British Pounds, and US dollars (Freischlad, 2016).

Goldmoney Inc

Goldmoney Inc is a Canadian fintech company that has received the certification of Shariah compliance for its gold-based financial products. It is the firm that has deployed blockchain technology for its process of providing financial products especially the Shariah-compliant financial products. The firm claims that their financial products are fully backed by gold reserves and that they use the immutability of the blockchain ledgers for the collection of money or investments from the investors and the disbursement of funds and returns (Vizcaino, 2017). It is certified by the Bahrain-based Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and ensures the implementation of the recently launched Halal Gold standards by AAOIFI (Maierbrugger, 2017).

According to a company statement, it has more than 1.3 million users across 150 countries and manages US\$1.7 billion in client assets. They believe that being Shariah-compliant will considerably raise their profile in the market, and demand will grow from the Muslim-majority countries globally.

Finterra

Finterra is a waqf chain platform and the overarching technology is blockchain. Uptill now, Finterra has its head offices in five countries including Singapore, Malaysia, Hong Kong, and United Arab Emirates. Finterra has 700 thousand subscribers to their digital wallet on board. They are offering 1 billion digital tokens for trade to the public. Moreover, Finterra also provides consultancy, solutions, and

software regarding blockchain applications. Finterra is aiming to expand their platform in more countries (Finterra, 2018).

c. Islamic Robo Advisors

World's First Robo Advisor

A robo advisor called Wahed Invest is the world's first automated Islamic investment platform. Initially New York-based Wahed Invest Inc, a financial advisory company founded by Junaid Wahedna launched its platform on the 26th September 2016. This robo advisor is an automated platform which has the ability to analyze thousands of halal securities globally for asset allocations with the higher potential of growth for their customers. Its main objective is to provide easy access to Shariah compliant asset management for the 2 billion Muslims globally, also for non-Muslims who are interested in doing ethical investing. Wahed Invest offers a low minimum investment amount of US\$7,500 to start, according to its website (2016). They are given license by the regulatory body, Securities and Exchange Commission (SEC). It is also supervised and monitored by the Board of Ethical Review. The board has the renowned names in international ethical finance including Sheikh Taha Abdul-Basser, Shariah Board member of Fajr Capital and former Islamic Chaplin at Harvard University (Maierbrugger, 2016).

Asia's First Robo-Advisor

On 27th October 2016, two months later after the launching of the world's first Islamic robo-advisor, the Kuala Lumpur-based Farrington Group declared that they would be introducing Asia's first Shariah Compliant robo-advisor. This online tool named "Algebra" will provide automated portfolio and asset management advice. The platform is available to all investors from any jurisdictions with a minimum fee of US\$200 per month (Abdullah, 2017).

d. Others

Investment Account Platform (IAP)

Malaysia is undoubtedly one of the key jurisdictions of Islamic Finance where the Islamic financial services industry has introduced new standards along with innovative Islamic financial products. The Investment Account Platform (IAP) is no different. This new initiative is a multibank platform that provides the cross-border multicurrency channel by linking it to the regional and global economies. It expedites the channeling of funds from institutional investors to provide financing for large scale viable ventures. The IAP will be able to provide investors with access to a wide range of investment opportunities, and to the Islamic banks, new sources of funds. The platform is owned and developed by a wholly owned unit of Raed

Holdings, IAP Integrated Sdn. Bhd, supported by a consortium of Islamic banks comprised of Bank Muamalat Malaysia, Maybank Islamic, Affin Islamic Bank, Bank Islam Malaysia, Bank Kerjasama Rakyat Malaysia, and Bank Simpanan Nasional. It can be expected that more banks will join the platform and the number of companies listed is expected to double very soon (MIFC, 2016).

Bursa Suq Al Sila (BSAS)

Another online platform that was launched in Malaysia for commodity Murabahah transactions is the Bursa Suq Al Sila (BSAS) online platform which was developed by Bursa Malaysia Bhd. This digital suite is a trading platform that uses Shariah compliant commodity Murabahah and provides the facilitation of murabahah and tawarruq transactions. This online platform experienced an exponential growth between 2009-2014 when it witnessed an annual growth of 178%. This shows the acceptability and demand of the Shariah-compliant products mainly from the Muslim population of the MENA and Asian regions (MIFC, 2016).

International Turnkey Solutions (ITS) 'ETHIXS'

'ETHIXS' International Turnkey Solutions (ITS) is a platform in Turkey. They offer innovative solutions for Islamic banks related to core banking, trade finance, delivery channels, online banking, branch automation and reports in addition to other banking services. The working mechanism of ITS ETHIX is fully in line with the International Accounting Standards (IAS) and Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI).

The platform offers an integrated system for financial institutions and banks to deliver Shariah compliant products. It also empowers Islamic banks to make improvements in operational efficiency by reducing costs in different areas of Islamic banking. As a standalone module, it is easy to integrate and offer full support through its back-end accounting functionalities with straight-through processing (STP) built on a Service Oriented Architecture (SOA) platform and web services-based model.

ETHIXS offers software based services and Shariah compliant IT solutions for Islamic financial institutions. They have been awarded as the best Islamic financial technology provider by the Islamic Finance News (IFN).

As Sidq

The As Sidq platform is Malaysia's first online and digital Shariah compliant platform for personal Islamic banking and finance. It was launched and introduced

in 2009 by a Malaysian company called Sedania Corporation Sdn. Bhd.

This platform claimed to provide true halal banking with a completely automated and online fintech platform that permits financial services providers mainly Islamic banks to give cash (liquidity) to their customers on a deferred payment basis. It also ensures full Shariah compliance and uses the Islamic finance products based on the tawarruq concept (Majelan, 2017).

As Sidq has received an approval of Bank Negara Malaysia BNM and is in accordance with the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) international standards according to its website AsSidq.com. RHB Islamic Bank was the early adopter of this platform, and the platform has been recognized internationally as an outstanding technological product. As Sidq has won numerous awards including the 'Most Innovative Islamic Finance Transaction' during the 2010 Sukuk Summit, a winner at the KLIFF Islamic Finance Awards 2010 as well as Frost and Sullivan's 'Most Innovative Product / Application of the Year 2010' (Majelan, 2017). To date, approximately 20 financial institutions have adopted this platform in Malaysia and As Sidq continues to stay ahead through collaborations with the key players in the industry.

e. Islamic Fintech Alliance

In April 2016, a cluster of eight Islamic crowdfunding platforms, including Ethis Crowd, Funding Lab, Kapital Boost, Natwi, EasiUp, Blossom Finance, Launch Good and Skola Fund joined together to set up an 'Islamic Fintech Alliance'.

Figure 4.7: Founding Members of IFT Alliance



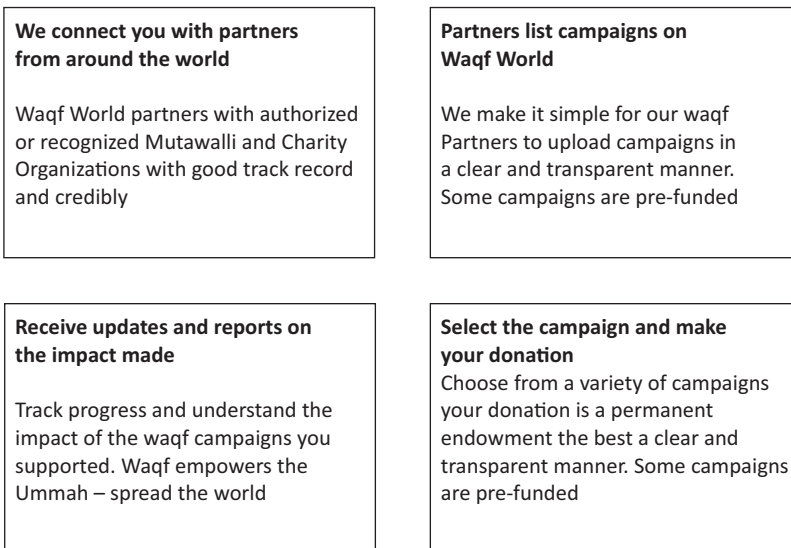
Source: islamicfintechalliance.com

The primary objectives of this alliance were to foster greater safety and develop trust by promoting and implementing the shared standards for the Islamic fintech. They also wanted to broaden the access of Islamic fintech and its social impact by ensuring the support and assistance of a wide network of innovators and eventually to establish and develop a sustainable and truly global ecosystem of Islamic crowdfunding by supporting and with the support of regulators and stakeholders.

f. World's First Islamic Endowment Crowdfunding Platform

The former Malaysian prime minister Tun Abdullah Badawi launched the waqf crowdfunding platform called Waqf World. It was officially revealed as the world's first waqf platform at the 12th World Islamic Economic Foundation Forum (WIEF) held in Jakarta on 2-4 August 2016. Initially, the idea of developing such a platform was proposed by the research center for Islamic Economics and Finance of Universiti Kebangsaan Malaysia (UKM) in a discussion which was organized by the Islamic Development Bank's Research and Training Institute (IRTI) in January 2016 (Alois, 2016b). The managing partner of Waqf World, Adi Rahman welcomes any waqf organization from around the globe to list their projects on the site.

Figure 4.8: Working Process of the Waqf World



Source: waqfworld.org

Waqf is one of the oldest yet the strongest Islamic institutions that can unite and bring socio-economic development to the Muslim World for a positive change. Hence the development of the Muslim community (ummah) is the focus of WaqfWorld.org. According to Tun Abdullah Badawi, the former Prime Minister of Malaysia, Waqf World uses technology to improve cash waqf flows to mutawallis (who are authorized or recognized waqf trustees or managers) and charities for their crowdfunding campaigns to raise funds for various initiatives which include Islamic microfinance, education and human capital development, humanitarian relief, and social enterprises.

5. Islamic Fintech is an Opportunity for IFI's

The report provided by (Accenture, 2016) shows that banks are now recognizing that fintech companies typically are more of an opportunity than a threat. The same results are also found in a survey conducted by (Finextra & Dovetail, 2017). The majority of the survey's respondents think that fintech is a great opportunity for financial industry. In another report —(PwC, 2016a) when a question was asked to the respondents that what are the main opportunities related to the rise of fintech, majority of the respondents said that fintech reduces costs and improves customer retention. Similarly, in another survey also conducted by (PwC, 2016e) insurers concluded that the most significant gain from fintech is cost reduction and disintermediation. The report also highlights the demand of financing for education, health, and building small businesses. As the matter of fact, Islamic banks are not serving them with the existing structures of the products. –Shaikh, (2018) also enumerates that Islamic banks are concentrating in big urban cities rather than rural or low middle class cities and are offering the products which are more expensive than the conventional banking products.

Islamic fintech also possesses the opportunities for Islamic financial institutions. In a recent survey conducted by the Council for Islamic Banks and Financial Institutions (CIBAFI), the majority of respondents from Islamic financial industry opined that Islamic Fintech was a great opportunity for Islamic financial institutions in terms of cutting cost and offering innovative products and eventually reach to unbanked Muslim population (Vizcaino, 2018).

Fintech can play its crucial role in the region of South East Asia by promoting financial inclusion. KPMG, a consultancy and research firm, reports that only 27% of the total population (600 million) of this region have account in banks. This shows that 438 million people of the region are out of the streamlined financial industry and they are availing financial services.

Similarly, in Cambodia, the financial inclusion is only 5%. This is one of the reasons that poverty is prevailing in those regions and countries. Contrary to these numbers, the number of mobile penetrations and internet is surprisingly very high in these regions. Fintech can be helpful for providing low-cost and better services on digital footprints that will assist in alleviating the people out of the poverty circle.

6. Impediments for Islamic Fintech

We know that innovation is a key aspect in the development of Islamic finance in the digital economy. Fintech has the potential to play a major role, primarily to improve processes and cost effectiveness while maintaining strict Shariah compliance for the benefit of the industry. Fintech is necessary for Islamic finance to maintain and grow its market share - a failure to keep pace would weaken the players' competitiveness. What then impedes the adoption of Islamic Fintech by Islamic financial institutions?

Still the principal challenge to Islamic fintech is the regulatory environment, which is constantly evolving. A good example is the highly evolving nature of the Initial Coin Offering (ICO) market. The Islamic finance industry already has a lot on its plate, be it standardization, developing regulations, and innovating new products. Regulatory limitations and concerns could hinder the ability of Islamic finance institutions to forge ahead in adopting new models linked to various fintech themes such as decentralization and privacy. Another factor is that fintech has its significant cost and integration requirements before any economic benefit can be derived. This could push fintech to the backburner as the resources may be limited to work on disruptive initiatives within the company.

Impediments to change and its challenges are the part and parcel of an industry and organization in any sector. It requires significant mindset and organizational realignment, and sufficient resources to support it. In the end, the real winner is the one who is able to tackle those challenges with the appropriate strategy, plan, and change management.

In order to balance the use of the latest technology to provide better services while controlling new operational risks, the Islamic fintech industry may overcome such challenges through the following considerations:

- **Regulatory support:** The financial industry is considered to be one of the most regulated industries. To foster the environment of innovation and entrepreneurship, supportive regulations and policies have great importance.

- Financial support: There are large number of companies and firms that do financethe conventional fintech platforms at seed, angel, and venture levels. But, for the Islamic Fintech platforms, opportunities of financing are not enough and it is very hectic as well.
- Shariah compliance: This is the top priority of the Islamic fintech and its basic elements which make them Islamic. Shariah advisory scholars now need to be adept in the underlying technology which drives digital Shariah solutions to adequately assess Shariah compliance. These Shariah scholars also need to be versed in economics and finance in order to make sound decisions. It requires the future scholars to be multi-disciplinary just like their predecessors of the past Golden Age of Islam.
- Agility and Adaptation: Agility and adaptation are very important in the fast-changing world of technology. Without agility and adaptation, Islamic fintech cannot compete with its conventional counterpart in an industry where virtually every segment is being reimaged.
- Entrepreneurial Courage and Persistence: This is intuitively essential, although it is not widely discussed in the traditional financial literature. Any entrepreneurial endeavor requires immense courage and persistence. The Islamic world needs its young people to do so and develop entrepreneurial efforts to overcome the challenges of the future of Islamic Finance.

7. Collaboration is Better than Competition

It is paramount for both traditional Islamic financial institutions and Islamic fintech to meet the needs of the digital transformation and remain on the track in the journey of innovation to remain relevant and sustainable.

Traditional Islamic financial institutions are considered slow in reacting to the changes due to many limitations including additional Shariah regulatory controls and risk averse culture, which do not tend to plague their conventional counterparts. However, Islamic financial institutions do have some key advantages if they recognize them. They have, over a relatively short period of time, built customers' trust, a large network of interested individuals, and ethical businesses and financing resources. To adapt and remain competitive, Islamic banks have to overcome the old business models which cannot be modified by implementing new strategies. In short, the fastest way to evolve for the traditional financial institutions is to embrace new partnerships and collaborations with younger and forward-looking start-ups and fintech developers who provide the technological skill-sets to reinvent the future of banking and financial services.

8. Conclusion

Islamic fintech is an opportunity for the Islamic financial industry in general and for the Muslim entrepreneurs in particular. In this era of digital transformation, customer behaviour is changing with the advent of each new technology in the market. In the same way, their expectations from the service providers are also increasing. Islamic finance industry has to take initiatives to develop digital transformation strategies in a way that they can harness the power of fintech. Banking and financial industry is facing disruptions from the new entrants at the one hand and from the customers at the other. This situation forces to take robust strategic decisions. The banking industry is recognizing these facts and claims that the industry's growth will face real stagnation due to innovative technologies and introduction of the new and disruptive business models. Financial institutions are competing and striving to meet the customers' expectations by offering convenient and simple services at their digital channels. Another challenge is that tech companies are also entering into financial industry by launching payment applications, peer to peer lending platforms, and robo advisories. Moreover, the regulatory strictness and harder liquidity criteria from the regulators are acting as obstacles for banks and are reducing their leverage on balance sheet.

The fintech and the blockchain have a potential to create a mechanism for financial transactions and activities based on transparency and trust within the existing global economy. The blockchain will remove the need of intermediacy and bring a trust mechanism in banking operations from impersonal exchange to personal exchange. It is proclaimed that blockchain will be a technological backbone for financial industry within next five years. It will be done through the application of blockchain from smart contracts, crypto currencies, crypto exchanges, public ledgers, money transfers, and many other components which will come in the future.

From a broader perspective, fintech will replace the conventional ways of banking/finance/takaful in the coming years. If Islamic economies do not embrace it and develop their own technological eco-system, they will lose the unprecedented opportunity to level up a 450years gap in finance. The adoption of all forms of financial technology will allow Islamic Finance to adapt to the changing landscape of modern economic transactions and carve its niche in the future digital economy.

References

- Abojeib, M., & Habib, F. (2019). Blockchain for Islamic Social Responsibility Institutions. In *FinTech as a Disruptive Technology for Financial Institutions* (pp. 221–240). IGI Global.
- Accenture. (2016). *Fintech and the evolving landscape: landing points for the industry*. Retrieved from <https://www.finextra.com/finextra-downloads/newsdocs/accenturefintech2016.pdf>
- Alois, J. (2016, April 8). Islamic Fintech Alliance Launched. Retrieved February 11, 2017, from <https://www.crowdfundinsider.com/2016/04/83978-islamic-fintech-alliance-launched/>
- Askari, H., Iqbal, Z., Krichene, N., & Mirakhor, A. (2012). *Risk sharing in finance: The Islamic finance alternative*. John Wiley.
- Cosseboom, L. (2015, December 5). Experienced credit analyst gets into P2P lending with an Islamic finance startup. Retrieved February 11, 2017, from <https://www.techinasia.com/southeast-asia-islamic-investing-kapital-boost-profile>
- Ethis Crowd. (2016, November 14). Request for Statistics about Ethis Crowd group hussnain756@gmail.com Gmail. Retrieved from <https://mail.google.com/mail/u/0/#search/ahmad%40ethiscrowd.com/158196b6bcf9f0ad?projector=1>
- Finextra, & dovetail. (2017). *Payments Transformation: Modernising to Stay Relevant in the Digital A*. Retrieved from <https://www.finextra.com/surveys/survey.aspx?surveyguid=9d2938cf-345f-43a5-9564-0f28c8398eb8>
- Finterra. (2018). *Social Solution for Blockchain: Finterra The Financial Frontier* (p. 41). Retrieved from Finterra website:<https://cdn.finterra.org/Finterra-whitepaper.pdf>
- Freedman, R.S. (2006). *Introduction to Financial Technology*. New York: Academic Press, Elsevier.
- Freischlad, N. (2016, May 16). Blossom offers Islamic micro-financing in Indonesia. Retrieved February 9, 2017, from <http://archive.is/LeYdd>
- Khan, F. (2010). How 'Islamic' is Islamic banking? *Journal of Economic Behavior & Organization*, 76(3), 805–820.

- Marzban, S., & Asutay, M. (2014). Shariah-compliant Crowd Funding: An Efficient Framework for Entrepreneurship Development in Islamic Countries. In Research Gate. <http://dx.doi.org/10.13140/RG.2.1.2696.1760>
- Mohamed, H., & Ali, H. (2018). Blockchain, Fintech, and Islamic Finance: Building the Future in the New Islamic Digital Economy. Walter de Gruyter GmbH & Co KG
- PwC. (2016a). Catching the FinTech wave: A survey on FinTech in Malaysia. Retrieved from <https://www.pwc.com/my/en/publications/catching-the-fintech-wave.html>
- PwC. (2016b). Opportunities await: How InsurTech is reshaping insurance. Retrieved from <https://www.pwccn.com/en/industries/financial-services/publications/opportunities-await-how-insurtech-is-reshaping-insurance.html>
- Shaikh, S. A. (2018). Role of Islamic banking in financial inclusiveness in Pakistan: promise, performance and prospects. *International Journal of Financial Services Management*, 9(1), 88–102.
- Vizcaino, B. (2018, May 2). After downturn, Islamic finance eyes profits, fintech: survey. Reuters. Retrieved from <https://www.reuters.com/article/us-islamic-finance-strategy/after-downturn-islamic-finance-eyes-profits-fintech-survey-idUSKBN1I30KV>