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New Resources For Islamic Finance: Islamic Fintech

İslami Finans İçin Yeni Bir Kaynak: İslami Fintekler

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Abstract

Financial Technologies (fintech) is the application of digital technology in financial services. It has been accelerated after the 20008 crisis. Fintech initiatives could be both disruptive and supportive for the finance industry. Even the sector has benefited from these innovations, most of the applications could change the game. The race started with cryptocurrencies (especially bitcoin) but in the meantime, fintech are diversified into more than 50 sub-branches. Almost all of them are innovative, applying high tech and competitive. Although the conventional banks (CBs) and financial intermediaries are giants (with respect to fintech start-ups) fintech are targeted new and worthless customers. Most of the start-ups find their path for growing their assets within this concept. Besides giant tech companies are formed their payment and financial systems and named Bigtech. On the other hand, almost %50 of fintech initiatives are collaborating with banks. Their innovations are based on optimizing and enriching the bank mechanism including mobile payment systems. These firms need customers to develop their findings and banks to apply their applications.

In recent years, some fintech sub-branches such as crowdfunding, P2P lending, lendtech, etc. are based on social developments. The number and volume of these fintech are growing rapidly. The objection of new initiatives are changing into social projects and collaboration which are not subjected by CBs. Especially after the Covid-19 pandemic, these start-ups are being hyped projects in fintech ecosystem. In Islamic finance, unlike the capitalist mentality, intention and social benefit are primary goals. Islamic fintech could serve humanity and be even profitable. In this aspect, this group of fintech could serve as Islamic consciousness.

The term "Islamic fintech" represents the fintech that designs and works according to Shariah principles. Some sub-branches of fintech are fit in the Islamic perspective that avoids interest (riba), uncertainty (gharar), and chance/gambling (maysir). Islamic finance -in general- shape by global financial standards and products. Almost all Islamic banking products are derived from conventional banks. So, they must compete and make a profit like CBs. Since CBs have no limitations and hunger for profit, Islamic banks (IBs) could not be able to keep up with them. Islamic fintech could serve as an intermediary for IBs without restrictions. Fintech initiatives do not need physical branches, centers, and appearance. They settled on the internet, could reach the unbanked population, and have the lowest spread for transactions. With these advantages, Islamic fintech could be the new resource for Islamic finance.

There is more than 150 Islamic fintech around the world. Almost half of them are constructed in Islamic countries and others are in developed ones. Islamic fintech in the USA, UK, and Europe are much more professional. It seems that competition makes them better players in the same ecosystem. Islamic fintech has some opportunities and challenges. These challenges are based on the Shariah-compliance perspective and global issues. Almost every fintech start-ups (including non-Islamic ones) are faced the same challenges. On the other hand, Islamic fintech has opportunities because of being "Islamic". The Muslim population is ready to accept these firms, the unbanked population is concentrated in Muslim countries, and the Islamic tenet supports social generosity which could be an advantage for them. In this article Islamic fintech landscape has been evaluated. The benefits of fintech in Islamic finance are recognized and challenges and opportunities for Islamic fintech are studied. In the end, recommendations are listed and explained for the emerging of Islamic fintech.

Key words: Islamic Fintech, Fintech, Islamic Finance

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Özet

Finansal teknolojiler (kısaca fintech), basitçe dijital teknolojilerin finansal servislerde kullanılması olarak isimlendirilebilir. Özellikle 2008 krizinden sonra fintekler ivme kazanmıştır. Fintekler, finans endüstrisi için hem yıkıcı hem de destekleyici durumdadır. Sektör bu buluşlardan faydalansa bile birçok uygulama sektör için oyun değiştirici olmaktadır. Yarış kriptoparalar (özellikle bitcoin) ile başlasa da fintekler günümüze gelinceye kadar 50 alt branşa ayrılmıştır. Bunların hemen hepsi yenilikçi, yüksek teknoloji kullanan ve yarışmacı uygulamalardır. Konvansiyonel bankalar (KB) ve finansal aracılar -finteklere nazaran- ne kadar büyük olsa da fintekler yeni ve KB'ler için değersiz müşterileri hedeflemektedir. Birçok start-up varlıklarını büyütmek için bu yolu seçmektedir. Bunun yanında, büyük teknoloji firmaları bankaları aradan çıkararak kendi ödeme sistemini ve finansal düzenini kurmuştur. Bunlara ise Bigtech denilmektedir. Diğer yandan fintek girişimlerinin yaklaşık %50'si ise bankalarla iş birliği halindedir. Uygulamalarının optimize edilmesi ve zenginleştirilmesi için bankalara ihtiyaç duymaktadır. Özellikle mobil ödeme sistemlerinde bankalar ana alıcı konumundadır. Bu firmaların buluşları müşteriyi ve banka uygulamalarını hedeflemektedir.

Yakın zamanda bazı fintekler – kitlesel fonlama, P2P borçlanma, lendtech gibi – sosyal gelişim ve dayanışmayı öncüllemektedir. Bu finteklerin sayısı ve hacmi hızla artmaktadır. Yeni uygulamaların merkezi konvansiyonel bankaların önem vermediği sosyal projelere ve imeceye kaymış durumdadır. Özel-

likle Covid-19 pandemisinden sonra bu projeler fintek ekosisteminde öne çıkmaya başlamıştır. İslami finans için, kapitalist anlayışın aksine, niyet ve sosyal fayda ana amaçlardır. İslami fintekler insanlığa hizmet edebilir ve yine kar da sağlayabilir. Bu açıdan bakıldığında bahsedilen gruptaki fintekler İslami vicdana hizmet edebilecektir.

"İslami fintek" kavramı Şer'i prensiplere göre yapılandırılan ve çalışan fintekleri ifade etmektedir. Bazı fintekler İslami anlayışın uzak durduğu faiz (riba), belirsizlik (gharar) ve şans/kumar (maysir) bileşenlerinden ayrı olarak kurgulanmaya müsaittir. İslami finans genelde küresel finansal standartlar ve ürünlerle şekillenmektedir. Hemen tüm İslami bankacılık ürünleri konvansiyonel bankacılıktan türetilmiştir. İslami bankalar bu şartlar altında konvansiyonel bankalarla rekabet etmeye çalışmaktadır. Fakat konvansiyonel bankaların sınırları olmadığından ve kar etmek hırsıyla çalıştığından İslami bankaların bu kurumlarla yarışması zor olmaktadır. Fintek girişimlerinin ise fiziksel şubelere, merkezlere ve görünürlüğe ihtiyacı yoktur. Bunlar internet ortamında bulunan, banka müşterisi olmayan kişilere ulaşabilme imkânı olan ve işlem maliyetlerini en düşük seviyede tutma opsiyonuna sahip kurumlardır. Belirtilen avantajlarıyla İslami fintekler, İslami finans için yeni bir kaynak ve konvansiyonel bankacılığın kısıtlarından çıkış yolu olabilecektir.

Dünya çapında 150'den fazla İslami fintek kuruluşu bulunmaktadır. Hemen yarısı İslam ülkelerinde, diğerleri ise daha çok gelişmiş ülkelerde yer almaktadır. İslami fintekler ABD, Birleşik Krallık ve Avrupa'da daha profesyonel şekilde çalışmaktadır. Görünen o ki yarışmacı ortam onları ekosistem içerisinde daha iyi oyuncular haline getirmektedir. İslami finteklerin bazı fırsatları olduğu kadar karşılaştığı zorluklar da bulunmaktadır. Bu zorluklar Şer'i uyumlu olma zorunluluğundan kaynaklandığı gibi evrensel sebepler de olabilir. Hemen her start-up (İslami olmayanlar da dahil olmak üzere) benzer zorluklarla karşı karşıyadır. Diğer yandan İslami finteklerin "İslami" olmasından dolayı da bazı avantajları bulunmaktadır. Müslüman nüfusun bu kurumları daha kolay kabullenmeleri, bankacılık sistemine dahil olmayan nüfusun ağırlıklı olarak İslam ülkelerinde yaşaması ve İslami öğretinin diğerkâmlığı ön planda tutması İslami finteklerin avantajları arasında sayılabilir. Bu makalede İslami fintek düzlemi değerlendirilmiştir. Finteklerin İslami finansa katkıları ile İslami finteklerin karşılaştığı zorluklar ve fırsatlar ele alınmıştır. Son bölümde ise İslami finteklerin büyümesi ve gelişmesi için bazı önerilere yer verilmiştir

Anahtar kelimeler: İslami Fintekler, Fintek, İslami Finans

Introduction

Fintech[1] defines the application of digital technologies in financial services[2]. The progressive technological system has evolved an effective impact on the financial services among features of fintech[3]. The term "Fintech" is an abbreviation of Financial Technologies and an engagement of technological and digital innovations with the finance sector. These revolutionary technologies have an impact, not only on the financial services but also the sector itself.

Fintech has been changing the financial sector[4] and shape the future of the financial industry[5]. It is both disruptive[6] and supportive[7] for the financial markets. Fintech could increase customer welfare, lower the probability of a financial crisis[8], increase efficiency, customer centricity, and transparency[9]. Most of the fintech start-ups serve as an individual-oriented, target to the customer as each one of the customers is unique. Since these firms are micro-scale entrepreneurship, every project is valuable.

Fintech is seen as the future of the financial industry. Although the history of modern fintech is almost two decades, there are more than 20,900 fintech start-ups globally. There has been a %70 increase in the number of fintech in 2020[10]. Corporate VC investments doubled from 2016 ($11.8 billion) to 2018 ($23.1 billion). The financial corporations invested $8 billion in 2019, in which $3.5 billion were invested by banks[11]. Coronavirus caused a drop in VC funding to $6.1 billion in Q1 of 2020, in other words, the worst Q1 performance

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1 The plural form of fintech is also fintech.

2 Sangwan, Vikas et al. (2019), "Financial technology: a review of extant literature", *Studies in Economics and Finance*, Vol. 37 No. 1, pp. 71-88.

3 Lee, In & Shin, Yong Jae (2018). "Fintech: Ecosystem, business models, investment decisions, and challenges". *Business Horizons*, *61*(1), 35-46.

4 Hudaefi, F.A. (2020), "How does Islamic fintech promote the SDGs? Qualitative evidence from Indonesia", *Qualitative Research in Financial Markets*. https://doi.org/10.1108/QRFM-05-2019-0058

5 Lee, David Kuo Chuen & Teo, Ernie G. S. (2015). "Emergence of FinTech and the LASIC Principles". *Journal of Financial Perspectives*, *3*(3), 1-26.

6 Chanson, Mathieu et al. (2018). "Initial Coin Offerings (ICOs): An introduction to the novel funding mechanism based on blockchain technology". *Advances In Management Information Systems Research.*

7 Capgemini Research Institute (2020). "*World Fintech Report 2020*". Access date: 17.09.2020

8 Van Loo, Rory (2018). "Making innovation more competitive: The case of fintech". *UCLA Law Review*, *65(1)*, ٢٣٢-٢٧٩.

9 Gomber, Peter et al. (2018). "On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services". *Journal of Management Information Systems*, *35*(1), 220-265.

10 Szmigiera M. (2020). "*Fintech – Statista Segment Report*", June 8.

11 CBInsight (2020). "*The state of Fintech Q1'20 Report: Investment & Sector Trends To Watch*", Access date: 21.10.2020

since 2016[12]. Fintech investment is expanding beyond the major markets[13]. Five companies in 2018 became unicorns (worth more than $1 billion) and 24 fintech start-ups reached this status in 2019[14]. On the other hand, international tech giants such as Samsung, Alibaba, Apple, IBM, Microsoft, and Amazon are investing in global fintech companies by merger and acquisitions while recording $3.5 billion in 2019[15].

CBInsight[16] has divided fintech into 10 main subjects: lending, blockchain/cryptocurrency, regtech, personal finance, payments/billing, insurance, capital markets, wealth management, money transfer/remittances, and mortgage/real estate. Digital payment is the biggest segment in the fintech market[17]. This segment is expected to grow %12.8 CAGR from 2019 to 2023 and the total value of transactions is expected to reach $6.7 trillion by 2023[18]. Natural language processing and artificial intelligence is a key factor for the banking sector, especially for customer service operators. According to Juniper Research (juniperresearch.com), consumer retail spends over chatbots will rise from $2.8 billion in 2019 to $142 billion by 2024, which represents a %400 average annual growth for four years[19]. Transaction value and assets under management (AUM) in personal finance reached $607.4 million in 2018[20] and is projected that digital wealth management companies will reach $600 billion by 2022. Digital lending is an exaggerated branch of fintech which was $4.1 billion in 2019, coincide a 30.1% year-on-year growth. The Project of S&P shows that loan-origination fintech activities will be $73.7 billion in 2022, with $35.6 billion from personal loans and $24.5 billion from refinancing student debts. Cryptocurrencies are an extremely growing sector, especially after the success of Bitcoin and Ethereum. According to CoinMarketCap (www.coinmarketcap.com) statistics, there are 3647 cryptocurrencies and the global crypto market is $360 billion. Conversely, the market is dominated by bitcoin

12 CBInsight (2020). "*The state of Fintech Q1'20 Report: Investment & Sector Trends To Watch*", Access date: 21.10.2020

13 CBInsight (2020). "*The state of Fintech Q1'20 Report: Investment & Sector Trends To Watch*", Access date: 21.10.2020

14 Singh, Manish (2020, February). "*Fintech startups raised $34B in 2019*". Access date: 21.10.2020

15 Pollari I. & Ruddenklau A. (2020). *The Pulse of Fintech H2 2019, KPMG International* Access date: 21.10.2020

16 CBInsight (2020). "*The state of Fintech Q1'20 Report: Investment & Sector Trends To Watch*", Access date: 21.10.2020

17 Szmigiera M. (2020). "*Fintech – Statista Segment Report*", June 8.

18 Statista (2020). "*Digital Market Outlook: Fintech Worldwide*", Statista.

19 https://www.juniperresearch.com/press/press-releases/chatbots-to-facilitate-$142-billion-of-retail

20 CBInsights (2019). "*Global Fintech Report Q3 2019*". Seventh Avenue: Cbinsight, Access date: 18.05.2020

with almost % 59 market-shares and it seems that most of the crypto coins cannot attract investors. The underlying technology of bitcoin is blockchain which has various usages. However, only %24 of businesses declare that they are familiar with blockchain. In 2017 blockchain companies reached +400 million funds, which was equal to a 79% increase compared to 2016.

Islamic finance is an emerging market that commands a volume of US$2,05 trillion and is expected to reach US$2,5 trillion at the end of 2019[21] and US$3,9 trillion by 2023[22]. Islamic banking accounted for US$ 1.7 trillion of the Islamic finance industry's total assets in 2017[23]. According to Thompson Reuters, the digital revolution is beginning to transform the Islamic banking sector and is still dominated by large domestic and OIC-based financial institutions. Islamic finance offers a broad range of products and services. Shariah-compliant assets growth-rates are double-digit over the past decade and looking beyond the new territories, in and outside the Muslim world[24].

Many banks in the Middle East and Africa are launching tech-departments and forming joint ventures with fintech firms[25]. There are promising government-led initiatives such as DIFC's US$100 million fintech fund to support Islamic fintech, Islamic Fintech Alliance in Singapore, and Al-Baraka Bank Accelerator in Turkey[26].

Literature

Although Fintech gained momentum after 2008, it started to find a place in academic studies after the spread of cryptocurrency and especially bitcoin. With the rise of fintech start-ups after 2015, the academic literature on fintech has started to increase. Since Islamic fintechs are brand new, the literature on the subject has just begun to form. The lack of concrete data is the biggest obstacle in quantitative studies on this issue. Because the awareness of Islamic fintech is low, time is needed to reach a sufficient size both from the user and from the company's point of view. However, some studies still provide

21 Salaam Gateway (2019). "*Islamic Finance Volume Expected to Hit $2.5 Trillion in 2019*". Access date: 17.06.2020

22 DinarStandard (٢٠١٨), "*Islamic fintech report 2018: current landscape and path forward*", Access date: 19.07.2020

23 Thomson Reuters (2018). "*Islamic Finance Development Report 2018*". Thomson Reuters, 1–44. Access date: 19.06.2020

24 Eid Wael Kamal & Asutay Mehmet (2019). *Mapping the risks and risk management practices in Islamic banking*. John Wiley & Sons.

25 Alam Nafis, Gupta Lokesh, & Zameni Abdolhossein (2019). Digitalization and Disruption in the Financial Sector. In *Fintech and Islamic Finance* (pp. ٩-١). Palgrave Macmillan, Cham.

26 Thomson Reuters (2018). "*Islamic Finance Development Report 2018*". Thomson Reuters, 1–44. Access date: 19.06.2020

numerical results. Shaikh et al.[27] examine the determinants that affect bank users' acceptance of Islamic fintech in Malaysia and resulted in that ease of use, usefulness, and consumer innovativeness are effective but subjective norms and self-efficiency are ineffective. Bulatova et al.[28], search for the economic prerequisites for the effective growth of Islamic finance and Islamic fintech. They set up a simulation of the influence of fintech industry on the development of sustainable growth and Islamic finance.

Islamic fintech could affect development and growth. According to Hudafei[29] in Indonesia, Islamic fintech firms promote agriculture and SMEs. Within selected Islamic fintech firms, they found that some SDG targets have been reached and these firms are effective for distributing social funds such as infaq, waqf, and sadaqah. Similar results have been found by Baber[30] since he investigated the influence of fintech and crowdfunding in Malaysia and the UAE. He applied a questionnaire to 535 customers in both countries and found that crowdfunding, which is integrated with Islamic banks, could help in social entrepreneurship, microfinance, global zakat, and the sadaqah system.

Fintech is a new era for Islamic finance, so digging into challenges and opportunities for fintech and Islamic finance is an important task for Muslim academicians. Saba et al.[31] analyze the status and potential of fintech applications. They focused on the opportunities for Islamic financial institutions and the challenges faced in implementing solutions. Firmansyah and Anwar[32] tried to reach several Islamic fintech firms in Indonesia and Singapore. They disseminated a questionnaire to understand their profile, prospect, and challenges. Unfortunately, only six firms answered, and resulted that Islamic fintech firms' main challenge is regulation.

27 Shaikh, Imran Mehboob et al. (2020), "Acceptance of Islamic financial technology (FinTech) banking services by Malaysian users: an extension of technology acceptance model", *Foresight*, Vol. 22 No. 3, pp. 367-383.

28 Bulatova, Elvira Ildarovna et al. (2019). "The fintech and Islamic finance synthesis in the modern World". *3C TIC. Cuadernos de desarrollo aplicados a las TIC*, 258-273.

29 Hudaefi, Fahmi Ali (2020), "How does Islamic fintech promote the SDGs? Qualitative evidence from Indonesia", *Qualitative Research in Financial Markets*.

30 Baber, Hasnan (2020). "FinTech, Crowdfunding and Customer Retention in Islamic Banks". *Vision*, *24*(3), 260-268.

31 Saba Irum et al. (2020). "FinTech and Islamic Finance-Challenges and Opportunities". *Review of Economics and Development Studies*, *5*(4), 581-890.

32 Firmansyah, Egi Arvian, & Anwar Mokhamad (2019, January). "Islamic financial technology (FINTECH): its challenges and prospect". In *Achieving and Sustaining SDGs 2018 Conference: Harnessing the Power of Frontier Technology to Achieve the Sustainable Development Goals (ASSDG 2018)*. Atlantis Press.

One of the valuable contributions is a literature review that gives a brief extension of the research. Hasan et al.[33] made an extensive review and resulted that Shariah compliance is the main challenge for the growth of Islamic fintech. They suggest that Islamic fintech might collaborate with Islamic Financial Institutions (IFIs) in terms of operational efficiency, customer retention, transparency, and accountability. Rabbani & Khan[34] classified Islamic fintech into three broad categories; Islamic fintech opportunities and challenges, cryptocurrency/blockchain Shariah compliance, and law/regulation. In the end, they proposed that if IFIs want to increase efficiency, transparency, and customer satisfaction, the main key is to adopt fintech and become partners with fintech users.

The sector is very dynamic, and variables are unstable. Sector reports are explanatory for the snapshot of the Islamic fintech ecosystem. The Global Islamic Fintech Report[35] gives a brief snapshot of Islamic fintech start-ups that follows the previous research of Islamic Fintech Landscape[36] by IFN and Islamic Fintech Report[37] by Dinarstandard. The report discovers more about the sector, the experience of the founders, the view of the industry, and detects the areas where more support is needed. One of the local reports for Malaysia is prepared by MDEC, named MDEC Islamic Fintech Report 2020[38]. It is a collaborative endeavor with stakeholders of the Islamic fintech ecosystem and deep dives into the industry. They also listed the opportunities and challenges in the Shariah fintech sector in Malaysia.

Recently, book studies on Islamic fintech have started to attract attention. In the book edited by Oseni & Ali[39], fintech's roles as financial intermediation were explained, and followed by legal and regulatory issues for Islamic fintech and case studies. Since Malaysia has the most developed Islamic fintech ecosystem, the examples for the case study were selected from start-ups in Malaysia. Cryptocurrency and regulatory issues, which are problematic areas for Islamic finance, are also examined in the book. For Islamic finance, the potentials of fintech subfields such as blockchain technologies, smart contracts,

33 Hasan, Rashedul et al. (2020). "Fintech and Islamic Finance: Literature Review and Research Agenda". *International Journal of Islamic Economics and Finance (IJIEF)*, *3*(1), 75-94.

34 Rabbani, Mustafa Raza et al. (2020). "FinTech, blockchain and Islamic finance: an extensive literature review". *International Journal of Economics and Business Administration*, 8(2), 65-86.

35 Basit, Abdul Haseeb (2019). "The Global Islamic Fintech Report", Elipses.

36 Fintech, I. F. N. (2017). "IFN Islamic Fintech Landscape expands to include seven new entities". *IFN Fintech*, *1*(8).

37 DinarStandard (٢٠١٨), "*Islamic fintech report 2018: current landscape and path forward*", Access date: 19.07.2020

38 Shukri, Surina (2020), "*MDEC Islamic Fintech Report 2020*", Access date: 14.09.2020

39 Oseni, Umar A., & Ali, S. Nizam Ali (Eds.). (2019). *Fintech in Islamic finance: Theory and practice*. Routledge.

and crowdfunding are also examined. Fintech and Islamic finance book by Alam, Gupta, and Zameni[40] examine fintech as an emerging market and disruptive for financial markets, then the effects on Islamic finance as well. The application of blockchain, cryptocurrency, and smart contracts in Islamic finance was researched, Shariah-tech and financial regulations were discussed. In the introductory section, challenges, and success factors for Islamic fintech are discussed. Mohammed & Ali[41] are researchers who prepared the first book about fintech and Islamic finance. In the first chapters of the book History of fintech, importance and applications are explained, while the following chapters discussed Islamic fintech, blockchain, and the response of Islamic finance. The authors also examined Islamic fintech and its future in some countries. In the book where Naifar[42] took place as an editor, the impact of fintech on Islamic finance was discussed. Researchers from different countries took place in the book. In the first section of the book fintech is a disruptive technology for Islamic finance, in the second section fintech risk management and regulation, in the third section financial inclusion and stability in the fintech era are examined. The fact that the authors are from different countries has helped them carry the experiences and developments in those countries to their chapters. It has gained rich content with case studies on subjects such as crowdfunding, application of AI, regulation, the dual banking system.

The fintech ecosystem is dynamic and non-stationary. With its up-to-date and rapidly renewed organizations, fintech is also able to innovate and produce. Symposiums and webinars on the future of Islamic finance and its role in Islamic finance have been increasing in recent years. Sessions held in different countries, especially in Malaysia and the UK, bring together sector representatives and academicians to share their views.

When the studies on Islamic fintech are examined, it is seen that regulation, the effect on Islamic finance, and Shariah compliance of blockchain and cryptocurrency come to the fore. There are also sub-branch-based works such as crowdfunding, wealth tech, regtech, taka-tech (insurtech). Islamic fintech poses a lot of challenges and opportunities[43]. Fintech services are cost-effective, transparent, and easily accessible compared to Islamic banking and finance. They can easily reach Muslim society and younger generations, as

40 Alam Nafis, Gupta Lokesh, & Zameni Abdolhossein (2019). Digitalization and Disruption in the Financial Sector. In *Fintech and Islamic Finance* (pp. ٩-١). Palgrave Macmillan, Cham.

41 Mohamed, Hazik & Ali, Hassnian (2018). "Blockchain, Fintech, and Islamic Finance". In *Blockchain, Fintech, and Islamic Finance*. De Gruyter.

42 Naifar, Nader (2020). *Impact of Financial Technology (FinTech) on Islamic Finance and Financial Stability*. IGI Global.

43 Rabbani, Mustafa Raza et al. (2020). "FinTech, blockchain and Islamic finance: an extensive literature review". *International Journal of Economics and Business Administration*, 8(2), 65-86.

well. This study explores the contribution and impact of Islamic fintech on Islamic finance. It would be beneficial for Islamic finance to use fintech in the new age of financial structuring so that it can grow despite its limits and the limitations of conventional banking. This is a necessity rather than a preference. With the study, the vision of fintech and the expansions it will bring to Islamic finance are explained. Islamic fintech also faces several challenges and opportunities. These threats and opportunities are also considered.

This paper has been organized as follows: Section 2 reviews the literature of Islamic fintech. In Section 3, a general assessment of the Islamic fintech companies that exist today has been made and setting out the conditions for the fintech initiative to be considered as Islamic. In Section 4 the topics, areas, and expansions in which Islamic fintech can help Islamic finance are explored. In Section 5, the challenges, and opportunities of Islamic fintech were explained and recommendations were made for the improvement of the sector. Section 6 covers the discussion and conclusion.

Islamic Fintech Landscape

Although different reports on Islamic fintech are published from time to time, the current information source is the list prepared by IFN (Islamic Fintech News) and finocracy (a fintech company). Companies that want to be included in the Islamic fintech list apply online. The applicant start-ups are examined and listed by the IFN management. To enroll, companies must (i) be a fintech (ii) offer a product/service that is compatible with Sharia. Companies do not need to be compatible with Shariah, have a Shariah Advisory Board, or have a certificate of Shariah compliance. It is sufficient to prove that the products are fully or partially compatible with Sharia. However, it is preferred to have a board and/or to have Sharia Certificate. According to the Global Islamic Fintech Report[44] %76 of Islamic fintech are expecting to be Sharia Certified but almost %68 felt that certificate is not necessary to be considered as Islamic.

One of the limitations of the study is that start-ups must apply to enter the list. Because companies that have not applied or have not completed their applications yet are not listed, so the number of companies included in the landscape does not cover the entire Islamic fintech universe. However, it is also impossible to determine these initiatives. For this reason - as there is no other resource - IFN Fintech Landscape is taken as the main source. On the other hand, if a start-up ceases to comply with Shariah over time, shuts down, or stops its projects, it is removed from the list.

Islamic fintech initiatives are spread around the world. Although Malaysia and the Gulf countries are predominant, there is at least one fintech start-

44 Basit, Abdul Haseeb (2019). *The Global Islamic Fintech Report*, Elipses.

up, especially in countries with a dense Muslim population. According to IFN Islamic Fintech Landscape, in the USA there are 12 Islamic fintech, 24 in the UK, 18 in Malaysia, 11 in Indonesia, and 11 in UAE. It is especially important for Islamic fintech diversity that the financial system is solid, economically developed, and established in the countries such as the USA and UK, which are monetary hubs. Britain's long-standing initiatives in Islamic finance, supporting Islamic Banking and Finance, and designing products suitable for the Muslim population to attract petrodollars - primarily the Arabian Peninsula - have brought Britain to come forward. London is the second-largest financial center and has increased this momentum. Malaysia, on the other hand, is known as an Islamic finance center in the world. With an annual volume approaching $ 300 billion, Malaysia is the country that directs Islamic finance. However, it is taking the necessary steps to create an ecosystem for Islamic fintech with the regulations it has enacted, like Singapore[45]. As the UAE and Qatar recognize the importance of technology, they support and/or lead the establishment of fintech start-ups with government support.

The initiatives in the Islamic fintech landscape are classified by IFN as alternative banking (6), blockchain & cryptocurrencies (6), crowdfunding & P2P finance (34), data & analytics (5), digital banking (8), incubators (venture builders) (6), payments / remittance & FX (10), personal finance management / trading & investment (20), robo-advisors (5) and take tech (takaful, insurance) (1). Most of the companies focus on crowdfunding and personnel finance management. This distribution should be considered normal. The fintech start-ups of the charity and zakat organization, which is the basis of Islamic teaching, focus on digital zakat, donation, and charity programs. On the other hand, the understanding of cooperation and collectivity, which also exists in Islamic culture, also constitutes a subculture for crowdfunding companies.

Although the origin of fintech is against incumbent banks, most of the fintech enterprises offer auxiliary products to banks. For this reason, it is normal for the personnel finance management area to be developed in Islamic fintech. Although fintech does not need much financial support at the establishment stage or the seed level, funds are needed to reach the target audience and grow over time. Since banks have discovered this area, they prefer to invest in fintech start-ups that help them optimize their systems and help them reach more customers. Global banks such as BNP Paribas, JP Morgan, BBVA, support fintech start-ups or incorporate them with Merger & Acqui-

45 Fan, Pei Sai (2018). "Singapore Approach to Develop and Regulate FinTech", In Handbook of *Blockchain, Digital Finance, and Inclusion*, 1, 347-357.

siion[46]. In Malaysia[47], one of the countries with the highest number of Islamic fintech, Islamic finance and Islamic fintech studies are being developed under the leadership of the Bank of Negara Malaysia.

Islamic Fintech for Islamic Finance

Although IF Industry is relatively small for conventional finance, the sector was estimated at almost $2,4 trillion in 2017, including Islamic banks, Sukuk, Takaful, and various Shariah-compliant investments[48]. It has a potential for growth in the value of total assets estimated to reach $3 trillion in 2020[49]. The Islamic financial assets are growing at two-digit rates for three decades and not only Islamic countries such as UAE, Malaysia, and Indonesia but also the countries with large Muslim populations such as the USA, UK, Singapore, Italy have opened Islamic banks or bank divisions[50].

Islamic finance works with Shariah principles and products are prepared within the framework of these rules. Its working principle includes profit-loss sharing and the prohibition of charging interest to loans. Joint ventures such as mudarabah and musharakah are common products of Islamic finance that are counted as Islamic. Other products such as Murabaha, salaam, istisna'a, ijarah, Sukuk are derived from conventional finance products. But Islamic finance and Islamic banking are limited by both Islamic rules and the restrictions of conventional finance and banking. Therefore, it is difficult for Islamic finance to compete with global markets.

In the basic understanding of Islamic finance, the main aim is serving humanity. In other words, intention and social benefit come before the capitalist understanding of Islamic finance. Conventional finance, which focuses entirely on earnings, makes lenders more indebted with interest, focuses on protecting their interests rather than an overall benefit. But Islamic finance also must make a profit and compete with its conventional rivals. For this reason, it cannot offer fewer dividends and earnings than its competitors. Since Islamic fintech can trade with lower spreads, it will also provide the opportunity to provide the flexibility that is necessary for Islamic finance to compete with its conventional competitors. On the other hand, there are start-ups among Islamic fintech organizations aiming to maximize social benefit. These

46 Capgemini Research Institute (2020). "*World Fintech Report 2020*". Access date: 17.09.2020

47 Shukri, Surina (2020), "*MDEC Islamic Fintech Report 2020*", Access date: 14.09.2020

48 Hanieh, Adam (2020). "New geographies of financial power: global Islamic finance and the Gulf", *Third World Quarterly*, 41:3, 525-546

49 Widityani, Salma Fadhilah et al. (2020). "Do Socio-Demographic Characteristics And Islamic Financial Literacy Matter For Selecting Islamic Financial Products Among College Students" In Indonesia?. *Journal of Islamic Monetary Economics and Finance*, *6*(1).

50 Nawaz, Huma et al. (2019). "Beyond finance: Impact of Islamic finance on economic growth in Pakistan". *Economic Journal of Emerging Markets*, *11*(1), 8-18.

firms include not only zakat, donation, and immigrant aid companies, but also companies such as Ethis Global, which builds housing for low-income people with crowdfunding.

One of the constraints of Islamic banks is the cost of branching investments. To reach more customers and become a global brand, banks need to branch out and increase the number of branches. But the fact that operational costs are too high, the expected benefit is not satisfactory, and the feasibility costs are too high, competitors have financial power, which limits Islamic banks. Islamic fintech, on the other hand, reaches customers through online channels without the need for branching. Thus, the profitability is increased by lowering operational cost, and arises the opportunity to do business in any desired country. Islamic fintech offers an easy and effective solution to overcome this problem faced by banks.

Islamic banks cannot invest in all areas. Some business lines ,that are prohibited by Sharia rules, cannot be funded such as the entertainment industry, weapons, drugs, pork, and alcohol. Besides, it is not possible to make speculative movements, buy/sell derivative products, cannot use leverage and transactions with a high chance factor. The earnings must be halal and the business/transactions comply with Islamic norms. However, it is not possible to increase profitability and expand investment channels. Islamic fintech offer banks the opportunity to diversify their investments within Sharia standards. It will be possible to construct investment alternatives that meet the standards of Islamic banks but cannot be listed by them. Banks aim to minimize the risk for investment. Fintech can bear a higher risk for a higher return. Options like investing in start-ups in different fields, making risk analysis by inquiring through unofficial channels, etc. are in the portfolio of fintech. While evaluating the credits, banks come to the forefront of credit scores and Basel criteria. However, while evaluating the projects, fintech could develop informal risk assessment criteria such as credibility in social media, the way the project was presented, and the reputation of the person. In this respect, they will help the development of Islamic finance.

There is one or more Islamic fintech in almost every sub-area of the fintech landscape. These companies produce products that support financial institutions as well as produce products/services in areas where they do not want to enter. For example, areas such as payment systems, multi-bank usage, accounting, investment consultancy are not areas that can be done by just one bank. Customers usually work with more than one bank and want to make their accounting management simplier and more effective. They seek to be able to trade at any time and place with online payment systems and to pay low commissions. Instead of calling a consultant for investment and acting on his directions, it is a priority to reach alternatives that he can always see and compare. Financial institutions cannot adequately respond to such requests while mediating monetary activities. They also want customers to use their channels for each business/transaction. Instead, Islamic financial institutions will have the opportunity to increase their profitability by supporting Islamic Fintech and providing cash flows through their institutions. A sufficiently growing fintech start-up will also offer opportunities for financial institutions to create a suitable customer network. On the other hand, start-ups that are discovered and grown at the seed stage have a role to increase the functionality of financial institutions. Big banks around the world collaborate with fintech through M&A. Islamic fintech is very suitable for areas such as crowdfunding, SME funding, micro-loans. Fast-growing fintech in these areas, where banks avoid entering, will be another investment channel for banks. The investment range can be expanded by providing finance to projects that have been analyzing risks and feasibility works conducted by fintech. In this way, the limited pool of customers and depositors will also be expanded. On the other hand, fintech organizations that do business with the support of banks will have an advantage in finding investors and growing their business, as they will inspire trust in customers.

The unbanked population is quite high in Muslim countries. According to Global Findex Database (globalfindex.worldbank.org), about 1,7 billion adults remain unbanked i.e., without an account at a financial institution or a mobile application. Almost 31% of adults have no account, globally. Half of the unbanked adults come from the poorest 40% of households within their economy. Since Muslim countries are grouped as underdeveloped or developing countries, the unbanked population is much higher than Muslim countries, in general. Unbanked populations in some Muslim countries are Afghanistan (85%), Azerbaijan (71%), Bangladesh (50%), Egypt (66%), Indonesia (51%), Iraq (77%), Lebanon (55%), Nigeria (60%), Pakistan (79%), Sudan (91%) and Turkey (31%). There are several reasons for the high population of unbanked: the undeveloped banking system, the banks not seeing the poor people as profitable, the people do not need to integrate into the banking system because of the undeveloped financial markets, and the religious reasons in Muslim countries. It is seen that Muslims stay away from banks due to religious sensitivities. Since fintechs tend towards individuals on a micro-scale, they can include the unbanked population in the fintech ecosystem without adding them to the banking system. For example, in countries where insurance is not developed, individuals can be insured with micro-insurance. An opportunity to invest can be offered by opening an account with a very small amount of savings. Since Fintech operates on a micro-scale by its nature, it will be an effective channel to reach this population that banks cannot reach. Thus, Islamic finance will spread to the base in Islamic countries, and both its balance sheet and customer portfolio will expand.

Financial markets are one of the sectors with the highest technological integration. Innovations in the field of informatics are mostly used in the finance sector. The distinction between fintech 1.0, fintech 2.0, and fintech 3.0 is based on the prevalence of technological innovations. It is assumed that the Fintech 1.0 phase started in 1866 with the transatlantic cabling between Europe and the USA. In this way, the development of international telex and subsequent financial services has been achieved[51]. The period of Fintech 2.0 begun with the SWIFT system (1973) and the establishment of multinational electronic networks[52]. Moreover, in the 1980s, a substitution of physical trading by electronic trading and a clear system for exchange. Usage of the internet consolidated this era with real-time processes among banks, fully electronic exchanges and trading stocks, and real-time deals of other derivatives. Fintech 3.0 has begun with the invention of blockchain and cryptocurrencies in 2008 and constructing alternative financial channels as well. Since the fintech periods are not the subject of the study, they are briefly mentioned.

Recent innovations in computing, such as artificial intelligence, cloud computing, machine learning, and Big Data Analysis, have been applications that financial institutions have rapidly started to use in the last 10 years. Thanks to these technologies, it aims to be more effective, efficient, advantageous, and competitive. But investment in technology and R&D is always over costing. Although banks and financial institutions want to use technology, they cannot give enough weight to product development and perspective creation. There are two reasons for this: (i) product development is not the priority because financial institutions are more prominent in the field of implementation (ii) costs are increasing at the point of finding competent staff and sustainability. Fintech can provide supportive assistance for financial institutions at this stage. Fintech, which makes innovations in the field of informatics applicable and adapts to the financial sector, offers solutions to financial institutions and banks. These start-ups, which make software with artificial intelligence, machine learning, and data analysis, can cooperate with banks, and ensure the active use of different investment channels. On the other hand, they can also offer back-up services such as cloud computing, cybersecurity, and data security that financial institutions need. Thus, banks and institutions can provide

51 Nicoletti, Bernardo (2017) "Financial Services and Fintech". In: *The Future of FinTech*. Palgrave Studies in Financial Services Technology. Palgrave Macmillan, Cham.

52 Alt Rainer, Beck Roman, Smits Martin T. "FinTech and the transformation of the financial industry". *Electron Markets* 28, 235–243 (2018).

security and optimization by outsourcing instead of creating high-cost units within their bodies. As technology advances, cybercrime such as technological theft, hacking, and information theft are also increase. Banks are exposed to cyberattacks. In such an attack, the bank whose data is stolen loses more than the data. Banks will not only lose data but also face with reputational risk. For this reason, banks should set the priority goal of not losing reputation beyond data security. Similar problems apply to Islamic financial institutions. The Islamic finance sector must also use technological innovations. Countries with financial power, such as the UAE and Qatar, have sufficient finance to buy technology, while for many Muslim countries - because of its cost - it is difficult to access technology. Islamic financial institutions must also use information technologies effectively to compete in global markets. For this reason, sending young people to be educated in countries that are advanced in the field of informatics should be one of the important policies to be considered.

One of the important aspects of Islamic finance is that it carries "Islamic" norms in social assistance. Islamic fintech can play an active role in increasing social welfare. There are successful practices mediated by Islamic fintech. For example, Crowded (a fintech company) has supported more than 10,000 farmers in the agricultural sector in Indonesia. Kapitalboost has financed 78 SMEs in Malaysia, Indonesia, and Singapore using the profit-sharing method. EthisCrowd has been funding real-estate projects in Indonesia and Malaysia since 2015 (ethis.co). Danasyariah has financed 51 projects with murabaha and profit-sharing. Besides, it collects charity funds by zakat and infaq for the disadvantaged community[53]. Fintechs have the potential to be influential in charity organizations. In addition to distributing aid under the qard hasan to the needy, fintech is also important for using it in a way that contributes to the economy.

Fintech could act as a non-bank intermediary platform[54]. Through Fintech, banks can carry out their costly business/transactions and operations through their branches in other countries. Global Islamic financial institutions can carry out similar operations through fintech. So, they can beat-the-market[55].

53 Hudaefi, Fahmi Ali (٢٠٢٠), «How does Islamic fintech promote the SDGs? Qualitative evidence from Indonesia», *Qualitative Research in Financial Markets*.

54 Irfan, Harris & Ahmed, Daniel (2019)." Fintech: The opportunity for Islamic finance". In *Fintech in Islamic Finance* (pp. ٣٠-١٩). Routledge.

55 Rabbani, Mustafa Raza et al. (2020). "FinTech, blockchain and Islamic finance: an extensive literature review". *International Journal of Economics and Business Administration*, 8(2), 65-86.

Challenges and Opportunities for Islamic Fintech

In the new era, the requisite expansion of the financial sector will be made with fintech. The Covid-19 period has shown the importance of financial innovations. The fintech ecosystem, which helps the finance industry to gain different perspectives, has its challenges and opportunities. In addition to the same problems in the Islamic fintech market, additional issues can be added due to its being "Islamic". The challenges, opportunities, and recommendations for Islamic fintech are listed below.

Challenges

- Islamic finance actors are reluctant to fund Islamic fintech[56]. Investors are not yet investing in Islamic fintech, as they do not know exactly what they are investing in and do not set their expectations.
- The absence of Shariah-based regulations prevents the increase of Islamic fintech. If the Shariah-based regulations, which are expected to be made, are regulated, the demand for Islamic fintech will also increase.
- Since they do not know enough about the services offered by Islamic fintech, they are timid when investing[57]. Since the websites of Islamic fintech organizations are not professionally prepared, they are insufficient to attract interested people.
- Shariah scholars' different views on bitcoin and other cryptocurrencies[58] delay both investors and entrepreneurs from entering this field. Creating a clear view of cryptocurrencies will also pave the way for start-ups to create new cryptocurrencies.
- Local fintech start-ups are not effective enough for tech entrepreneurs as compared to the global competition[59].
- Almost all fintech entrepreneurs in GCC are undergrided by governmental organizations. If a fintech that is supported by the government does not prove its maturity in the short term, it will be difficult to grow up. Initiatives that cannot become competitive in the free market will also undermine the confidence in Islamic fintech.
- Educational institutions and academicians must provide qualified

56 Shukri, Surina (2020), "*MDEC Islamic Fintech Report 2020*", Access date: 14.09.2020

57 Hasan, Rashedul et al. (2020). "Fintech and Islamic Finance: Literature Review and Research Agenda". *International Journal of Islamic Economics and Finance (IJIEF)*, *3*(1), 75-94.

58 Hasan, Rashedul et al. (2020). "Fintech and Islamic Finance: Literature Review and Research Agenda". *International Journal of Islamic Economics and Finance (IJIEF)*, *3*(1), 75-94.

59 Shukri, Surina (2020), "*MDEC Islamic Fintech Report 2020*", Access date: 14.09.2020

researches[60]. Islamic fintech cannot get enough support from the academy. Since academicians are just beginning to grasp the importance of fintech, there are not enough articles written on this subject. On the other hand, since providing data on fintech is a problem, research papers cannot be prepared with real data.

- Lack of trained human personnel[61] in Islamic finance and fintech. There is an overwhelming shortage of competent personnel in the technology and software industry worldwide. Especially in underdeveloped and developing countries, the lack of technical personnel is observed in all areas. One of the most important challenges for Islamic fintech is the lack of experienced personnel to appeal to many subfields.
- Absence of high-level direction on Islamic fintech agenda[62]. It will be useful to create a specific vision for Islamic fintech and to determine policies for this goal. It will be the best scenario to do this by the state.

Opportunities

There are mudarabah and musharakah products that separate Islamic finance from conventional finance and make it "Islamic". These products, which determine the partnership structure, are not used much by banks. One of the factors that will accelerate the development of Islamic fintech is tended to mudarabah and musharakah as the type of partnership that can easily establish by fintech.

- Shariah-based products such as sukuk and takaful can be made faster and more liquid[63]. There are no serious initiatives in these areas yet. Especially in sukuk marketing, fintech will be effective in attracting small investors.
- Islamic fintech firms could increase transparency, monitoring, and

60 Rabbani, Mustafa Raza et al. (2020). "FinTech, blockchain and Islamic finance: an extensive literature review". *International Journal of Economics and Business Administration*, 8(2), 65-86.

61 Rabbani, Mustafa Raza et al. (2020). "FinTech, blockchain and Islamic finance: an extensive literature review". *International Journal of Economics and Business Administration*, 8(2), 65-86.
Firmansyah, Egi Arvian, & Anwar Mokhamad (2019, January). "Islamic financial technology (FINTECH): its challenges and prospect". In *Achieving and Sustaining SDGs 2018 Conference: Harnessing the Power of Frontier Technology to Achieve the Sustainable Development Goals (ASSDG 2018)*. Atlantis Press.

62 Shukri, Surina (2020), "*MDEC Islamic Fintech Report 2020*", Access date: 14.09.2020

63 Baber, Hasnan (2020). "FinTech, Crowdfunding and Customer Retention in Islamic Banks". *Vision*, *24*(3), 260-268.

accountability[64]. Especially the regtech is suitable for such services. Regtech products, which will be offered in Islamic standards, will be useful for ensuring the transparency of Islamic institutions.

- The existence of institutions such as AAOIFI and IFSB that determine the Shariah-compliant standards, being effective, and having a right to comment in the Islamic finance world will also accelerate the determination of Shariah-compliant standards for Islamic fintech. The reputation of these institutions will ensure the acceptance of accreditations granted by them.
- Being Shariah-compliant will be an attractive factor for Muslim communities. Although ensuring Shariah compliance is seen as a barrier to competing with international fintech companies, it will be an impressive factor for the Muslim population that is unbanked and/or avoid conventional banks. Islamic fintech, in collaboration with traditional Islamic banks, can offer cost-effective digital solutions at a lower spread[65]. Islamic banks have a broad customer portfolio with a variety of products that appeal to all segments. Islamic fintech can use this experience and customer portfolio as a starting point.
- Islamic fintech start-ups can provide a various and wide range of innovative solutions and products. Since they are focused on niche sub-sectors, each entrepreneurship could increase the effectiveness of Islamic finance.

Recommendations

Islamic fintech should be seen as intermediary institutions that will bring Islamic finance into a competitive position in the new era. It would be appropriate to take some steps to develop and mature the sector. Suggestions for making the sector competitive, ensuring uniformity, and preparing the ground for new players to enter the sector are given below.

- By creating a regulatory sandbox, start-ups can be helped in developing, modifying, and perfecting their products during the incubation period. Malaysia and Indonesia have already started to attract fintech initiatives by creating such infrastructures.
- The young generation can be targeted by courses to develop human resources. These training centers can even be created online. The

64 Hasan, Rashedul et al. (2020). "Fintech and Islamic Finance: Literature Review and Research Agenda". *International Journal of Islamic Economics and Finance (IJIEF)*, *3*(1), 75-94.

65 Rabbani, Mustafa Raza et al. (2020). "FinTech, blockchain and Islamic finance: an extensive literature review". *International Journal of Economics and Business Administration*, 8(2), 65-86.

young generation can be directed to the required areas, such as software, IT, and security so that they can be experts. With the support of the academy, every aspiring young person can be encouraged to enter the software sector without preconditions. This strategy will bring benefits in the short, medium, and long term.

- One of the most important aspects of Islamic finance is its social perspective. The Islamic fintech ecosystem can also play an active role in the effective operation of the zakat and sadaqah establishment in cooperation with the NGO and waqfs.
- The roles and expectations of stakeholders and third parties can be clearly defined by preparing Islamic fintech guidance[66].
- One of the main areas of Islamic fintech is crowdfunding[67]. By encouraging the B2B collaboration, larger funds can be transferred to crowdfunding. Thus, the effectiveness and awareness of crowdfunding start-ups will increase, and they will become a global player.
- It can be ensured that Islamic banks and financial institutions are more aggressive in supporting fintech. Promoting these initiatives can be encouraged by facilities such as tax exemption. Examples such as AlBarakaGaraj (Turkey), Central Bank of Bahrain, Bank Indonesia, Bank Negara Malaysia show that good results are obtained from such supports.
- The structure of the ecosystem should be determined by preparing Islamic fintech regulations. Drawing concrete boundaries regarding Shariah Compliance needs will also serve as a roadmap for new start-ups.
- Investments in fields such as Artificial Intelligence, cyber-security, big data analysis, and data mining will appeal not only to Islamic fintech but also to conventional fintech. These branches can be determined as priority areas to expand the customer portfolio and to comprise a non-Muslim society.
- The main channel for fintech to reach their stakeholders is website. When the websites of Islamic Fintech are examined, it is seen that they are insufficient in terms of content and information and have no attractive side. Websites of Islamic fintech should care about the visual quality as well as the service provided and should have the equipment to inform their website visitors.

66 Shukri, Surina (2020), "*MDEC Islamic Fintech Report 2020*", Access date: 14.09.2020

67 Basit, Abdul Haseeb (2019). "*The Global Islamic Fintech Report*", Elipses.

RESULT AND SUGGESTIONS

Islamic finance has come a long way from the time it started with its modern form until today. The Islamic finance sector, which has growth potential, has provided product/service and portfolio diversity by adapting to technology and global financial markets. In addition to Islamic-sensitive customers, non-Muslim people with ethical concerns have become customers of Islamic financial institutions. Islamic finance, which has become an alternative to conventional finance, makes a difference with its instruments. But it has difficulty while competing with major international actors and has trouble increasing its profitability as it has lagged in product diversity. In addition to these, if they work according to Islamic standards, it is not possible to use the opportunities and alternatives that global players have.

Islamic fintech can offer an insight into the opportunities that Islamic finance needs. Islamic fintech combines the flexibility, transparency, and advantages of fintech with the requirements of Islamic finance. In the field of finance, Islamic fintech can be seen as one of the ways of doing ethical trade without entering the interest, gharar, and maysir practices which are prohibited by Islam. With its structure that emphasizes the individual and the service to the individual, fintech fully coincides with the Islamic perspective. Also, since it includes the freedom to set profit spreads, there is no need to trade at the margins forced by conventional banking. Islamic financial institutions, which are advantageous in reaching the Muslim population, can expand their customer portfolio at very low costs with Islamic fintech.

In the financial markets, it has been seen that the competition in the future will be made over financial technologies. Islamic fintech will enable Islamic financial institutions to exist in the race, stand out and/or beat the market. The reasons stated here will also ensure the existence of Islamic financial institutions in the future. For this reason, Islamic fintech needs to be supported, diversified, and strengthened. A great race and innovation have started in the fintech industry. An Islamic fintech is easy to turn into a conventional fintech. Islamic fintech start-ups that do not find the necessary support and interest will evolve into a conventional formation. New start-ups and young entrepreneurs turn to conventional fintech, as they are not vital in Islamic fintech.

Legal regulations and sandboxes should be prepared for the formation and development of Islamic fintech. The steps to be taken by the states and regulatory authorities in this regard have great importance. The countries that need to take the fastest steps in the legal framework are the countries that have the biggest share of Islamic finance such as Malaysia and Saudi Arabia. For this purpose, necessary attention should be paid to ensure that the arrangements made work and become usable in other countries.

With the awareness that the future is shaped by the work done in the present, Islamic fintech should be developed now. Thus, Islamic finance can grow faster, compete in international markets, and serve people with its social understanding. It is our greatest wish that the predictions and recommendations made in the study will evoke effective individuals and institutions.

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