“Fintech innovations and Islamic banking performance: Post-pandemic challenges and opportunities”

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FINTECH INNOVATIONS AND ISLAMIC BANKING PERFORMANCE: POST-PANDEMIC CHALLENGES AND OPPORTUNITIES

Abstract

This study explores the pivotal role of financial technology (FinTech) in the performance of Islamic banks and financial institutions, considering both challenges and opportunities encountered during the pandemic-induced market disruptions. Amid lockdowns and economic uncertainties, the study delves into the strategies adopted by several countries, with a particular emphasis on Gulf Cooperation Council (GCC) countries, along with Jordan, Indonesia, Malaysia, and Pakistan, underscoring the importance of technological innovation in fostering a dynamic Islamic finance sector. Utilizing a data analysis approach, the study assesses the impact of heightened digitalization and the integration of FinTech on the resilience of the Islamic finance industry within an inherently volatile environment, marked by challenges during pre and post pandemics. The findings reveal that the adoption of FinTech fortifies the industry's resilience and unveils novel growth prospects. However, the study also identifies potential avenues for expansion, particularly in Sukuk issuance, through the implementation of regulatory guidelines and faster adoption. The research underscores the transformative influence of financial technology reforms on the growth trajectory of Islamic banks. In light of the superior performance of Islamic banking in selected domains, this study advocates for a paradigm shift within the industry, encouraging the robust development of FinTech solutions to enhance its global market presence.

Keywords FinTech, innovations, Islamic banks, performance, sustainability

JEL Classification F36, G24, Q55, Q56

INTRODUCTION

Islamic banks are significant players in the banking and finance industry, investing money according to Islamic principles. They operate globally, with a strong presence in Arab Gulf countries, Japan, South Korea, Britain, and many others (Hasan et al., 2020). The adoption of financial technology (FinTech) could enhance the Islamic banking sector's productivity, customer experience, and efficiency while reducing expenses and offering a broader range of products. The implementation of Sharia principles in FinTech could attract 150 million new banking customers over the next three years. The Islamic banking sector has grown substantially in recent years due to the development of Islamic FinTech and increased demand for Islamic banking products (Suzuki & Miah, 2022).

The COVID-19 pandemic has adversely impacted the banking sector, and technology or innovation in systems is recommended to improve the post-pandemic performance of Islamic finance. The United Kingdom is a top producer of FinTech, and Indonesia is the largest consumer of financial technology in the Islamic banking sector (Mohamed & Ali, 2022). Despite limited electronic services, banks, especially Islamic ones, have enhanced their competitiveness through the continuous improvement of electronic services. More than 78% of banks operating in Gulf countries seek to improve their electronic services continually, and more than 40% of global FinTech is used in Gulf countries (Gassner & Lawrence, 2018).

The impact of FinTech innovations and Islamic banking on the financial sector presents a unique perspective for the financial industry. As the world grapples with the repercussions of the post-pandemic period, both these domains face a variety of challenges and opportunities that require thorough examination. The relationship between these two drives, namely, the evolution of financial technology and the principles of Islamic finance, leads to critical issues and questions. Understanding the implications of FinTech innovations on Islamic banking performance is essential, as it not only impacts the industry's competitiveness but also its ability to meet the developing needs and potentials of its clientele in a post-pandemic world. Therefore, a comprehensive analysis of these challenges and opportunities is essential to inform strategies that foster sustainable growth and stability in the context of FinTech and Islamic banking.

1. LITERATURE REVIEW

Despite the multitude of studies that have been conducted on Islamic banks and their performance in various situations, such as pandemics, there has been limited research conducted on the association between Islamic banks and FinTech or digitalization. A review of the existing literature reveals previous studies conducted across the globe using different databases and identifies a research gap in this area.

This literature review discusses the role of financial technology (FinTech) in the instant development of Islamic finance, highlighting the emergence of new digital technologies that have transformed the financial sector (Alshater & Othman, 2020). The assimilation of FinTech in Islamic finance enables this sector to become more accessible to customers, more efficient, cost-effective, and competitive compared to the conventional banking approach (Naifar, 2019; Yarovaya et al., 2022). The studies indicate that new developments in FinTech such as artificial intelligence (AI), the Internet of Things (IoT) (Phan et al., 2020), robotic process automation (RPA) (Ullah et al., 2022), and blockchain have enabled the banking sector to provide a variety of services in the field of money transfer (Tandon et al., 2021), wealth management, insurance services, e-commerce, and digital currencies (Li et al., 2023; Uddin et al., 2020). Although this new reality during and post pandemic has posed a great challenge to Islamic banks and financial institutions alike, many Islamic banks have realized the importance of embracing Islamic financial technology and have designed their development plans to include innovative banking solutions that meet the changing needs of their customers (Naim, 2020; Yudaruddin et al., 2023). The review highlights the importance of qualified human resources, a favorable regulatory environment, and innovative business models in the effective use of Islamic financial technology (Feng et al., 2022). The study concludes that Islamic financial technology provides easier and less costly access to Islamic financial services, keeping pace with the aspirations of the new generation and achieving financial inclusion to alleviate poverty and establish social justice (Hassan et al., 2021; Wang et al., 2021).

The COVID-19 pandemic has significantly impacted Islamic banks and prompted them to accelerate their digital strategies and adopt Islamic financial technology innovations at a pace that was not possible before (Hui et al., 2019). Grassa et al. (2022) and Sidaoui et al. (2022) argue that the continued development and adoption of Islamic financial technology innovations will enable the Islamic banking sector to improve its product offerings and compete globally with traditional banks (Rabbani et al., 2021a). Islamic banks have become increasingly present in financial markets worldwide after pandemic (Baber & Baki Billah, 2022), offering diverse and competitive services to traditional banks (Grira & Labidi, 2021), especially in investing investors' money in compliance with Islamic Sharia principles (Altwijry et al., 2022). Banna et al. (2022) note that Islamic banks have

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contributed to the development of financial systems in many countries, especially in those with an Islamic character, and have constituted an important alternative to usurious traditional banks (Alexakis et al., 2019).

As of 2021, there were over 600 Islamic financial institutions in about 75 countries worldwide, including banks, insurance institutions, stock exchanges, and takaful institutions (Jubilee et al., 2021). Even non-Islamic countries such as South Korea, Japan, and Britain have opened Islamic transaction windows and issued Islamic bonds for infrastructure projects, indicating the widespread adoption of Islamic financial products and services (Rabbani et al., 2021a). The success of Islamic banks has posed a significant challenge for them as they compete with traditional usurious banks worldwide (Yudaruddin, 2023). Therefore, Islamic banks are leveraging modern financial technology innovations in customer service and transaction completion to improve efficiency and service delivery (Jamaruddin & Markom, 2020). Suzuki and Miah (2022) argue that recent financial technology innovations have significantly improved the competitiveness of banks, including Islamic banks (Alnsour, 2022). According to EY, 78% of banks in the Gulf countries seek to adopt more financial technology to enhance their electronic services (S&P Global, 2022).

From the available literature, it can be inferred that Indonesia, Malaysia, and the Gulf countries have shown a keen interest in leveraging modern financial technology innovations to enhance the performance of their Islamic banks (Baber, 2020). These banks have successfully utilized digital technology to offer competitive products and services, resulting in a significant boost in their performance. However, there is a lack of research that delves deeper into the specific strategies and tactics employed by these countries in implementing financial technology innovations in their Islamic banking sector.

2. METHODS

This study employs a comparative research design to analyze the performance of Islamic banks in adopting fintech before and after the COVID-19 pandemic. The research covers data from both the pre- and post-COVID-19 eras to assess the impact of the pandemic on fintech adoption. Various data sources were utilized for this study, including both qualitative and quantitative data. The data was collected from sources such as Global Islamic Fintech Reports of 2021 and 2022, GIFT Index (Estimating OCI Countries), Institute of Chartered Accountants, International Classification of Diseases (World Health Organization), Labuan International Business and Financial Center, and S&P Global.

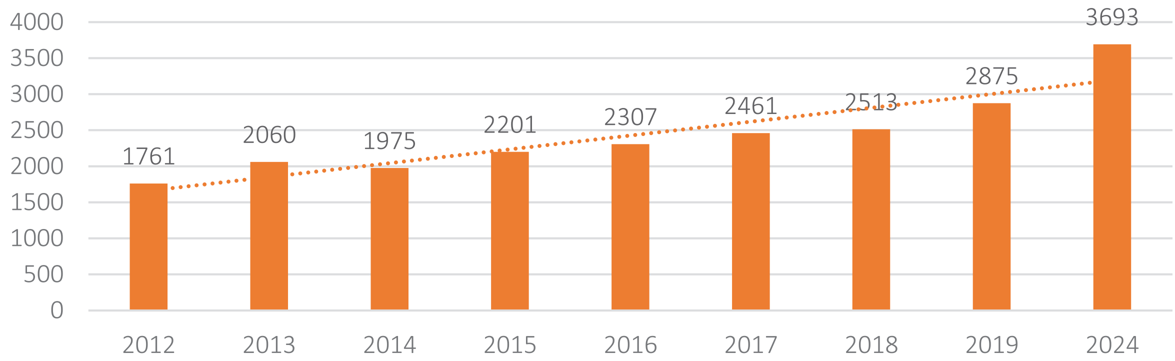
Quantitative analysis was administered using a comparative index approach was used to analyze the performance of Islamic banks in adopting fintech. Data was analyzed by calculating and analyzing relevant indices (e.g., fintech adoption index) using various data sources. The study also administered the Comparative Index Approach (CIA) to assess the performance of both Islamic and conventional banks in terms of fintech adoption and analysis before and after the COVID-19 pandemic to identify trends and changes in performance. Qualitative insights are gathered through past published articles, interviews, and surveys of key stakeholders in the Islamic banking and fintech sectors to provide a holistic view of the adoption process.

3. RESULTS

3.1. Performance of Islamic finance in the FinTech era

The results show that Islamic finance, which includes Islamic banking, Islamic bonds, Islamic insurance, Islamic capital markets, Takaful, and other IFIs, has seen significant growth in recent years (Figures 1 and 2). According to ICD-Refinitiv (2020), there are more than 1,526 Shari'a-compliant financial establishments in 72 countries, regulated in 46 countries, with assets expected to increase from USD 2.5 trillion in 2018 to USD 3.5 trillion by 2024. S&P Global 2022 reports that the growth of Islamic financial assets has increased from USD 1761 billion in 2012 to USD 2875 billion, with an expected growth to reach USD 2693 billion by 2024. The progress of 14% in global Islamic finance busi-

Source: Developed by the authors using data from S&P Global.



Note: 2024 is predicted data, in USD billion.

Figure 1. Growth of Islamic financial assets

Source: Developed by the authors using data from S&P Global.

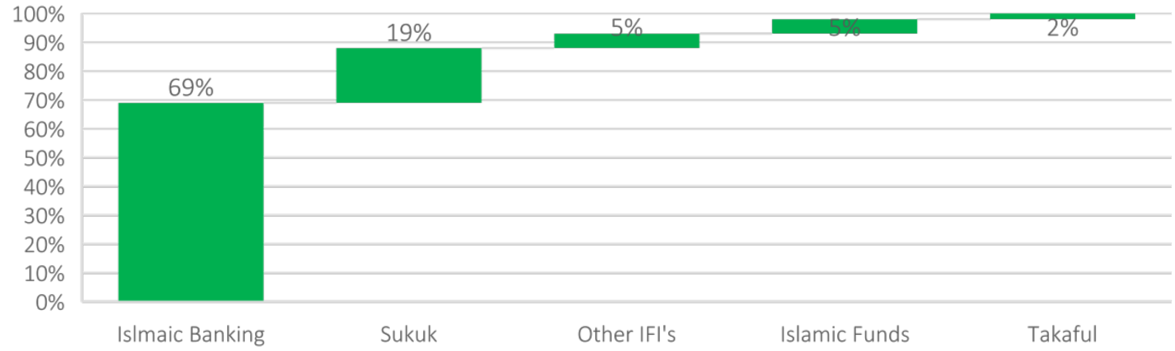


Figure 2. Global Islamic finance asset distribution

ness assets was due in part to improved amounts of Sukuk issuance in the usual established traditional markets in South Asia and GCC. Islamic banking is the largest Islamic finance division with a share of 70% (ICD, 2020) or USD 1.72 trillion in 2017, followed by Sukuk at USD 470 billion (18%), other financial institutions at USD 140 billion (6%), Islamic funds at USD 108 billion (4%), and Takaful at USD 46 billion (2%).

Islamic funds have made a significant contribution to the growth of the industry. The asset class grew 30% in 2019, predominantly in the GCC, with new markets of Islamic exchange-traded funds (ETFs) in several countries and environmental, social, and governance (ESG) associated investment resources made accessible through digital media that attract millennials.

Table 1. Top ten countries Global Average IFDI values

Source: Developed by the authors based on World Investment Report 2022 (UNCTAD, 2022).

Country	IFDI 2020	QD	Rank
Malaysia	111	94	1
Indonesia	72	27	2
Bahrain	67	38	3
United Arab Emirates	66	31	4
Saudi Arabia	64	59	5
Jordan	53	14	6
Pakistan	51	18	7
Oman	45	14	8
Kuwait	43	48	9
Qatar	38	28	10

Note: QD: Quantitative development; IFDI: Islamic Financial Development Indicator.

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The results indicated a global measure of the key drivers behind the development of the Islamic finance industry. Table 1 depicts an outline of the industry's present condition based on different indicators and ranks the top-performing nations. The IFDI covers 135 countries and has been providing quantitative data on development, management, awareness, and other critical factors. The overall global estimation for 2020 continued constant at 10.8, although there were variations in each of its five key indicators, including Knowledge and Corporate Social Responsibility, which enhanced from the preceding year, and Quantitative Development, Awareness, and Governance, which declined. The finding projected that the Islamic finance industry will attain USD 4.94 trillion by 2025, with Southeast Asian countries, such as Malaysia and Indonesia, maintaining their highest positions. The digital bank and fintech industry's growth, led by countries like Saudi Arabia, Bahrain, Malaysia, UAE, and Indonesia, was identified as one of the significant trends in 2021. The industry's performance indicator revealed that global assets increased by 14% to USD 3.374 trillion in 2020, with Sukuks, the second-largest division in Islamic finance, increasing by 16% driven by the Gulf Cooperation Council (GCC) and Southeast Asia.

4. ISLAMIC FINANCE AND COVID-19

The global economy has been negatively impacted by the COVID-19 pandemic and subsequent lockdowns. The effects of the epidemic have gone beyond the public health sector as regulators impose lockdowns to curb its spread. This pandemic has had a detrimental impact on the real economy, causing serious economic concerns. Data from the Economic Intelligence Unit projects a devastating effect of the COVID-19 crisis on fiscal and monetary growth in most countries. Although the COVID-19 virus is an exogenous shock to the economic and financial system, the Islamic financial services industry is not immune to such a crisis. The expected decline in the performance of Islamic financial services business is not significantly different from conventional business. However, data suggests that Sharī'ah-compliant products and equities have performed noticeably better than conventional equities.

4.1. Sukuk: Islamic capital market

The COVID-19 pandemic has affected the capital markets, which are an important source of investment. Expected credit rating downgrades will restrict fund accessibility to high-quality issuers, leading to an increase in severity. Non-payment and reshuffling are likely soon but at a considerably higher financing cost. Developed countries have announced asset acquisition programs that have caused a significant shift in debt and equity markets. The Islamic capital markets are also a significant element of the Islamic finance sector, with Sukūk being the most important contributor. Figures 3 and 4 illustrate the outstanding aggregate of Sukūk by sector as of 2020. The bulk of the outstanding Sukūk is held by financial institutions and sovereigns. The sovereign Sukūk market is less likely to be impacted by COVID-19, and in the case of Sukūk issued by financial institutions, numerous Islamic banks raised resources using Tier I and Tier II Sukūk to meet regulatory capital obligations over the past five years. Most of these issues have near-perpetuity maturities and do not pose significant risks unless there is a crisis in the ancillary market.

In the GCC region, Islamic banking and financial institutions have continued to outperform conventional banking (see Figure 5). The development of Islamic banks in the GCC countries is obvious through the extension of their credit books and asset sizes. Compared to their conventional counterparts, Islamic banks in the province have a retail attention that provides them with robust financing frameworks and a significant advantage in terms of liquidity coverage ratio (LCR). This benefit stems from their dependence on retail deposits, which has lower outflow ratios compared to the corporate deposit amount and institutional funding that conventional banks heavily depend on. As a result, Islamic banks have exhibited resilience and maintained their intensity even amidst the economic decline triggered by the pandemic in 2020. Furthermore, there has been a surge in the share of Islamic financing assets among the total financing assets. This positive trend is estimated to

Source: Developed by the authors based on Data analysis; Islamic development Bank; World Investment Report 2022 (UNCTAD, 2022).

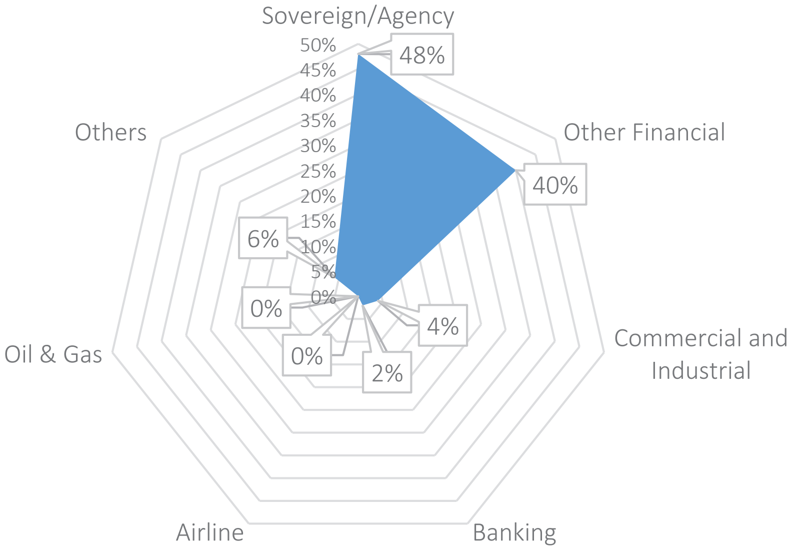
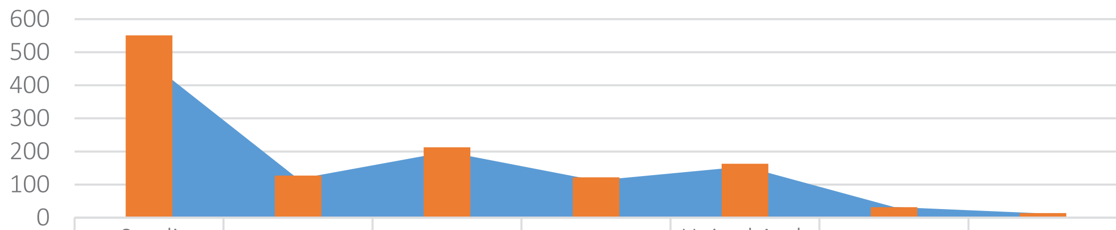


Figure 3. Sukuk's outstanding sector-wise

remain in 2021, as shown by the expanding number of mergers between Islamic and conventional banks in the GCC, leading to an increase in assets. In fact, Islamic banks have outperformed conventional banks in terms of asset volume growth between 2018 and 2019 in all countries within the region, except for the UAE. Overall, these developments highlight the robustness and promising prospects of Islamic banking in the GCC. The retail focus and stronger financing frameworks of Islamic banks, coupled with their ability to attract liquidity and sustain growth, position them favorably in the regional banking landscape.

In contrast to the weak performance of conventional financial institutions, particularly during the global economic crisis, Islamic banking institutions have demonstrated resilience on an international scale. Islamic banks operate based on fundamental principles that involve asset-financed financial products, profit-equalization reserves, and higher liquidity levels, which provide them with strength during times of market turbulence. While the risk profiles of conventional and Islamic financial systems differ, Islamic banks, on average, exhibit lower risk rates compared to their conventional counterparts. For Islamic banks, a higher leverage ratio and greater net profit margin contribute to their sustainability, whereas conventional banks often experience the opposite effect. However, it is important to note that Islamic banking's reliance on cash investments and the

Source: Developed by the authors based on Data analysis; Islamic development Bank; World Investment Report 2022 (UNCTAD, 2022).



	Saudi Arabia	Kuwait	Malaysia	Qatar	United Arab Emirates	Bahrain	Oman
2019	471.7	116.8	198.9	112.3	154.5	32.1	12.7
2020	551.1	127.1	212.5	121.7	162.7	31.6	13.5

Figure 4. Islamic banking asset share of total banking assets in selected economies

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Source: Developed by the authors using data from the Central Bank of Bahrain, Kuwait, UAE, Saudi Arabia, Qatar, Malaysia, and Oman.

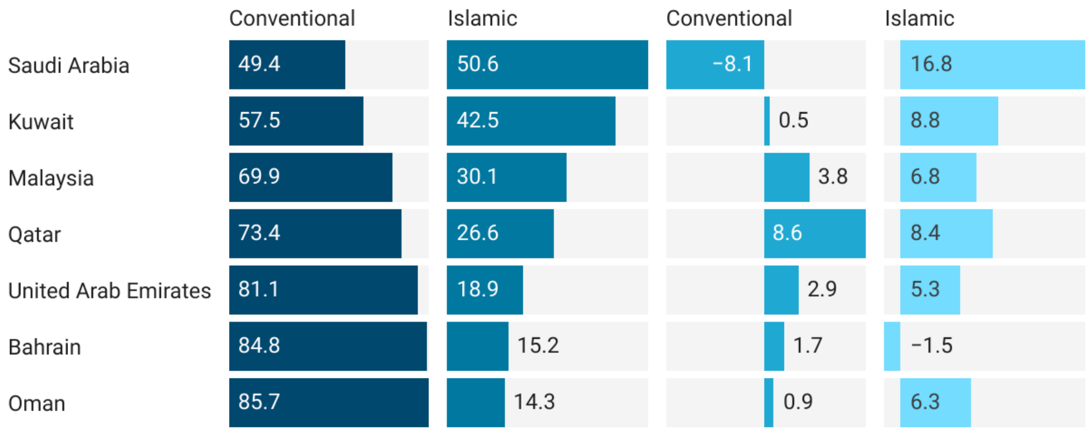

Figure 5. Islamic banking vs conventional banking assets by share and asset by growth during COVID-19

use of asset-backed products also exposes them to a relatively higher vulnerability to high-level inflation and real economic activities. Overall, the robustness of Islamic banking amidst challenging economic conditions highlights the effectiveness of its unique financial structures and principles. Their focus on asset-backed financing, profit equalization, and liquidity management enables them to navigate market downturns more effectively and maintain stability in the face of economic uncertainties.

Investing in Shariah-compliant equity (as shown in Figures 6 & 7) can provide protection against market risks, as demonstrated throughout the COVID-19 pandemic. During March 2020, the S&P Global 1200 fell by 23% year-on-year, while the S&P Global 1200 Shariah recorded a smaller decline of 17% year-on-year. From 2015 to 2020, the S&P Global 1200 (conventional) had a compound annual growth rate (CAGR) of 9.5%, while the S&P Global 1200 Shariah had a higher CAGR of 13.6% during the similar period. In absolute terms, the conventional S&P Global 1200 index saw a growth of 57.3%. In comparison, the S&P Global 1200 Shariah index experienced a higher growth of 88.9%, indicating an outperformance of 31.6% during the specified period. Apart from

Source: Developed by the authors based on S&P Dow Jones Indices.

Figure 6. Islamic equity indices (2011–2021 YTD)

Source: Developed by the authors based on S&P Global 1200.

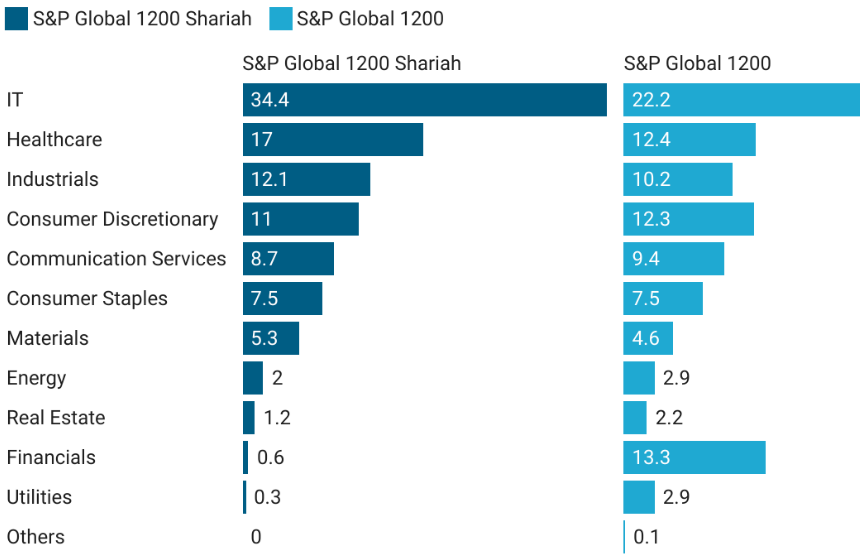

Figure 7. Sector breakdown

the underperformance in 2016, the Shariah index consistently outperformed the conventional index from 2015 to 2016.

The COVID-19 pandemic has created economic and social uncertainties, leading to sporadic fluctuations in global equity markets in 2020. According to reports, as of March 2020, the year-to-date performance of the S&P Global 1200 index showed a decline of 31.9%. In comparison, the S&P Global 1200 Shariah index had a relatively smaller decline of 28.0%, outperforming the conventional index by 3.9%. Despite the challenges and significant downturn observed until March 2020, global equity markets demonstrated resilience and ended the year on a positive note. By the end of 2020, the S&P Global 1200 index recorded a growth of 66.1%, while the S&P Global 1200 Shariah index experienced a higher growth of 70.2%, outperforming the conventional index by 4.0%. As illustrated in Figure 7, the tech and healthcare sectors played remarkable roles in Shariah-compliant indices performance. Therefore, these outcomes are considered effective market performers and open potential advantages of investing in Shariah-compliant indices.

5. DISCUSSION

The study has highlighted the post-pandemic opportunities and performance of Islamic banking and financial firms after the adaption of FinTech innovations. The outcome of the study and the data revealed the role of Fintech in various financial activities and how these tools transformed the process into the most profitable and productive. The finding showed that the adaptation of technology has reduced customer service time, lowered the cost of providing financial services, and increased their accuracy. The research noticed that information asymmetric has been drastically reduced due to the adoption of artificial intelligence and robotics in the banking sector with reduced costs and improved performance. The data also identified how the transformation of the banking sector could take place and would contribute significantly to the global economy by 2030. This identification supports a similar study conducted by (Jakšič & Marinč, 2019). Further, the results indicated that a pilot regulatory environment is needed to test financial products and services with advanced technologies without the burden of laws, regulations, and licenses. Emerging financial technology companies have revolutionized the field of financial systems globally and in the Arab region (Rabbani et al., 2021b). They have provided a large package of financial services that have transformed financial transactions from traditional to electronic. Banks and financial institutions have adopted many of these modern technologies to improve their operations and compete in the new financial environment. Legislative, supervisory, and regulatory frameworks are necessary

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to ensure the safe operation and development of financial technology and financial artificial intelligence (Mohammad et al., 2020).

Another important finding of the research indicates that Islamic finance or Shari'a-compliant finance encompasses various financial products, including Islamic banking, Islamic bonds, Islamic insurance, Islamic capital markets, Takaful, and other Islamic financial institutions. The findings indicate that the industry has been growing rapidly, with over 1,526 Shari'a-compliant financial establishments operating in 72 countries, regulated in 46 countries, and with assets expected to reach USD 3.5 trillion by 2024. The growth of Islamic finance assets has been attributed to improved Sukuk issuance in South Asia and GCC, as well as contributions from Islamic funds, which grew 30% in 2019. Islamic banking remains the largest Islamic finance division with a share of 70%, followed by Sukuk at 18%, other financial institutions at 6%, Islamic funds at 4%, and Takaful at 2%. The global Islamic Finance Development Indicator (IFDI) evaluates the key components driving development in the Islamic finance industry and ranks 135 countries according to their performance. The IFDI estimate for 2020 remained stable at 10.8, with changes observed in each of its five key indicators. According to a recent report, the projected reach of the Islamic finance industry is USD 4.94 trillion in 2025. The COVID-19 pandemic has negatively impacted the global economy, including the Islamic finance industry. However, Sharī'ah-compliant products and equities performed better than conventional equities during the pandemic. Similar studies such as Irfan and Ahmed (2018), Mohamed and Ali (2018), and Shafiq (2022) opined how the Islamic banking industry utilizes fintech to enhance that performance and survive in post-pandemic situations. According to Liu et al. (2020), many emerging financial technology companies in Arab countries are seeking to expand their cooperation and partnership with the banking sector, especially Islamic banks. This partnership can have a positive impact on these banks by helping them maintain their market share and survive in the market. To compete with traditional banks, the Arab banking sector needs to provide its customers with banking products and services that utilize financial and digital technology, as well as artificial intelligence, which presents an opportunity for the Arab banking sector to advance and keep pace with global developments in finance, especially Islamic finance (Oladapo et al., 2022; Zarrouk et al., 2021). However, the application of financial technology and artificial intelligence in banking operations carries risks that must be constantly reassessed to ensure the safety and integrity of financial operations and the stability of the financial and banking sector in general. These risks include strategic, operational, financing, compliance, electronic, outsourcing, and liquidity risk. Despite these risks, financial technology and artificial intelligence are expected to significantly impact the restructuring of banking operations in the future by reducing the need for a human element in completing most financial transactions requested by customers (Ajmal et al., 2021; Musabegović et al., 2019). While this option may contribute to the use of financial technology and artificial intelligence to improve the efficiency of banking operations and enhance the capabilities of employees, it also presents a potential threat. The intense competition between traditional financial institutions and financial technology companies has prompted many banks to introduce changes in their business models by expanding their reliance on technology and investing in its infrastructure (Anshari et al., 2020). Although there are concerns related to the technological penetration of internal bank information, the majority of executives in the Gulf Cooperation Council banks are still developing various solutions to overcome these obstacles and enhance inter-bank cooperation at the international level, with technological systems being the primary way to achieve this (Aldulaimi et al., 2022).

In summary, the partnership between the banking sector and emerging companies in the field of financial technology can benefit both parties by helping banks maintain their market share while allowing financial technology companies to expand their scope of cooperation. However, this partnership carries risks that need to be constantly reassessed to ensure the safety and integrity of financial operations. The use of financial technology and artificial intelligence can improve the efficiency of banking operations, but it also presents a potential threat. Banks need to invest in technology and infrastructure to compete with traditional financial institutions, while also addressing concerns related to the technological penetration of internal bank information.

CONCLUSION

The purpose of the study is to identify the role of FinTech in enhancing the performance of the Islamic banking sector and coping strategies for financial institutions during the pandemic. Since the pandemic exposed the Islamic finance industry's susceptibility to external threats, with both Islamic and conventional finance suffering similar consequences. The study found that in 2022, Islamic financial organizations focused on surviving the pandemic and low oil rates, resulting in a slower growth rate compared to the previous year. Despite this, total Islamic financial assets have reached USD 2.9 trillion by the end of 2022, matching the previous year's total. Research also unveiled how productivity stimulates growth and enhances resilience, swift and proactive measures are necessary. The study suggested that the implementation of technology, digital solutions, data-driven decision making, and data sharing across various finance sectors are expected to accelerate industry development. The data confirms that Islamic social finance instruments and exclusive investment products like Sukuk are projected to play a more significant role in the global market and provide alternative financing options during the pandemic-induced slowdown.

AUTHOR CONTRIBUTIONS

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Formal analysis: Abdul Aziz Abdul Rahman.
Funding acquisition: Abdul Aziz Abdul Rahman, Ahmed Rashad Amin.
Investigation: Habeeb Ur Rahiman, Ahmed Rashad Amin.
Methodology: Abdelrhman Meero.
Project administration: Abdul Aziz Abdul Rahman.
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Writing – original draft: Abdul Aziz Abdul Rahman, Habeeb Ur Rahiman.
Writing – reviewing & editing: Abdul Aziz Abdul Rahman, Habeeb Ur Rahiman, Abdelrhman Meero, Ahmed Rashad Amin.

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