

FinTech-Driven Transformation of Islamic Finance in the Arab Region: Addressing Institutional Asymmetries through Structural Reconfiguration

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Abstract:

This study examines the impact of FinTech adoption on the structural transformation of Islamic finance in the Arab region, focusing on addressing institutional asymmetries and advancing strategic frameworks. Employing a mixed-methods approach, it analyzes implementation patterns in digitally advanced contexts such as the Gulf Cooperation Council (GCC) countries, in contrast to less equipped environments in the non-GCC MENA region, including North Africa and other Middle Eastern nations. The findings highlight operational efficiency, youth-driven innovation, and the emergence of Shari'ah-compliant digital tools as key enablers of Islamic FinTech growth. Nevertheless, persistent challenges remain, including fragmented regulatory systems, weak Shari'ah governance, underdeveloped digital infrastructure, and limited institutional capacity. To overcome these barriers, the study proposes a strategic roadmap grounded in harmonized regulation, inclusive innovation, and context-sensitive models of Shari'ah governance. The results offer actionable insights for policymakers, regulators, and financial

institutions aiming to foster a resilient, integrated, and Shari'ah-compliant FinTech ecosystem across the Arab region and beyond.

Keywords: FinTech, Islamic Finance, Islamic FinTech, Arab Region, Institutional Asymmetries, Strategic Frameworks.

INTRODUCTION

The digital transformation that has redefined the global financial ecosystem over the past decade has catalyzed the rise of financial technology (FinTech), reshaping how financial services are delivered, accessed, and governed. FinTech has transcended conventional sectoral and geographic boundaries, establishing new standards for operational efficiency, customer interaction, and innovation.

Islamic finance has not remained on the sidelines of the global FinTech transformation. Instead, it has become an active participant, marked by the rise of Shari'ah-compliant fintech startups, digital banking platforms, and the integration of advanced technologies such as artificial intelligence, blockchain, and smart contracts. These developments reflect more than superficial digitization; they signal a deep rethinking of operational and product models aligned with Islamic ethical principles.

This shift is particularly significant in the Arab region, which has historically served as a key center for Islamic financial activity. Institutions across the Gulf Cooperation Council (GCC) countries, as well as the broader non-GCC MENA region, are increasingly adopting fintech innovations. Among these, Shari'ah-compliant digital payments have emerged as the most mature and widely implemented segment, acting as a gateway for broader digital transformation in Islamic finance.

Despite notable advancements, the pace and pattern of FinTech integration across the Arab region remain uneven. This disparity stems largely from significant gaps in digital infrastructure, institutional capacity, and regulatory preparedness. Countries with advanced digital economies and progressive regulatory frameworks,

such as the UAE, Saudi Arabia, and Bahrain, are leading innovation in Shari'ah-compliant digital finance. In contrast, other nations continue to struggle with institutional inefficiencies, limited technological resources, and fragmented or nascent regulatory systems, all of which impede their ability to fully capitalize on the transformative potential of FinTech within Islamic finance.

Crucially, the success of Islamic FinTech across the Arab region will depend on how effectively regulatory frameworks, both national and cross-border, can enable structural transformation without compromising Shari'ah compliance. In this context, supportive policy environments, robust investment in digital infrastructure, and enhanced regional coordination are essential to cultivating a cohesive, resilient, and ethically anchored Islamic FinTech ecosystem.

Research Question

How can FinTech be leveraged to drive the structural transformation of Islamic finance in the Arab region while addressing institutional asymmetries and ensuring Shari'ah compliance?

Subquestions

To guide the investigation and deepen the analysis of the main research question, the following sub-questions are proposed:

1. How can Islamic FinTech unlock new opportunities for innovation, entrepreneurship, and financial inclusion across diverse Arab markets?
2. What are the main challenges hindering the integration of Islamic FinTech in the Arab region, and how can they be addressed?
3. Which strategic pathways are essential for restructuring Islamic FinTech into a cohesive, resilient, and Shari'ah-compliant ecosystem across the Arab region?

Methodological Approach

This study adopts a targeted mixed-methods approach to investigate the FinTech-driven transformation of Islamic finance in the Arab region. The qualitative component consists of a systematic review of relevant academic and policy literature, focusing on institutional asymmetries, regulatory diversity, and governance models. The quantitative strand draws on regional and international financial data to assess digital readiness, adoption patterns, and structural disparities. Together, these methods enable a comprehensive analysis of how FinTech is reshaping Islamic finance through structural reconfiguration across a fragmented institutional landscape.

Objective of the Study

This study aims to examine the structural and institutional conditions shaping the adoption and integration of FinTech into Islamic finance systems across the Arab region. It conceptualizes FinTech not merely as a technological innovation, but as a vehicle for institutional transformation, mediated by regulatory frameworks, Shari'ah governance mechanisms, and the maturity of financial sectors. The objective is to construct an analytical framework that accounts for the uneven trajectories of Islamic FinTech and to identify the institutional enablers and constraints that influence its sustainable development. In doing so, the study contributes to the design of inclusive, resilient, and Shari'ah-compliant digital financial ecosystems tailored to the structural realities of the Arab region.

Significance of the Study

The significance of this study lies in its framing of Islamic FinTech not simply as a digital trend but as a strategic entry point for institutional reconfiguration and ethically anchored financial inclusion within the Arab region. By addressing structural asymmetries and regulatory fragmentation, the study offers a nuanced understanding of how FinTech can be harnessed to support Shari'ah-compliant innovation in diverse institutional environments.

Its findings provide actionable insights for policymakers, regulators, and financial institutions aiming to construct equitable, future-ready, and digitally integrated Islamic finance infrastructures in the region.

Previous Literature Review

Recent literature has increasingly addressed the convergence of FinTech and Islamic finance. This review outlines key contributions that examine institutional and ethical aspects. It focuses on regulatory influences and the integration of innovation with Shari'ah principles.

Kilic & Turkan (2023) explored the evolution of Islamic fintech and its applications in banking, Takaful, and crowdfunding. They emphasized the role of AI, blockchain, and RegTech in enhancing compliance and transparency. The study highlighted fintech's potential to promote ethical financial inclusion aligned with Islamic principles.

Hasan et al. (2020) reviewed literature on fintech and blockchain in Islamic finance, highlighting gaps in AI adoption, especially in Takaful. It identified key impact areas such as automation and financial access. The study proposed future research into Shari'ah-compliant digital models guided by ethical innovation.

Rabbani et al. (2020) analyzed fintech and blockchain from ethical and regulatory lenses in Islamic finance. The study emphasized concerns around cryptocurrency acceptance and compliance. It recommended harmonized standards to enhance transparency and unlock blockchain's potential for just, efficient finance.

Ali et al. (2019) provided a global landscape of Islamic fintech, analyzing 64 startups across 20 countries. The study identified investment gaps, regulatory challenges, and successful models like LaunchGood. It called for improved digital infrastructure, financial literacy, and integration of innovation with Shari'ah compliance.

Saba et al. (2019) addressed the practical challenges Islamic financial institutions face in adopting fintech, focusing on Pakistan. It discussed weak digital infrastructure, regulatory overload, and real

cases like Meezan Upaisa. The study stressed the need for proactive policies and institutional cooperation to ensure ethical fintech integration.

Together, these studies provide a foundational landscape for analyzing Islamic FinTech. Yet, most offer generalized or global perspectives. In contrast, the present study adopts a comparative intra-Arab framework, distinguishing between different regions. By doing so, it reveals how regulatory quality, institutional readiness, and Shari'ah governance differ across the Arab world and how these variations shape the uneven integration of Islamic FinTech.

1. An Overview of the Financial Technology Landscape

The evolution of financial technology (FinTech) has become a defining feature of contemporary financial systems, warranting a foundational understanding before examining its regional and sector-specific implications. As a synthesis of "Finance" and "Technology," FinTech employs advanced digital innovations to optimize operational efficiency, streamline financial processes, and enable the development of novel business models¹. Its transformative impact on global financial systems is widely recognized, as it continues to redefine the boundaries of traditional financial services and reorient the future of the financial industry.

The evolution of FinTech has positioned it as a multidimensional field that cuts across various sectors of the financial ecosystem. It is no longer seen as a peripheral phenomenon but as an integrated force influencing how financial services are designed, accessed, and experienced. This expansion has been driven by a convergence of structural and behavioral factors, including a growing mistrust in conventional financial institutions, dissatisfaction with legacy banking systems, and the broader demand for transparency, speed, and convenience. Events such as financial crises have amplified these trends, encouraging consumers to embrace technology-enabled alternatives that promise greater security, efficiency, and responsiveness².

These foundational changes in consumer behavior, coupled with the widespread adoption of smartphones and the Internet, have laid the groundwork for the technological commoditization of finance. As information and communication technologies (ICT) have become more affordable and accessible, FinTech has thrived, integrating seamlessly into financial services. The growth of e-commerce has played a significant role in this transformation, creating a need for instant and secure payment systems and tools to reduce the associated costs of financial transactions. These developments have provided fertile ground for innovations such as crowdfunding, peer-to-peer lending, and the emergence of cryptocurrencies, which have fundamentally altered how people access financial resources and engage with investments.

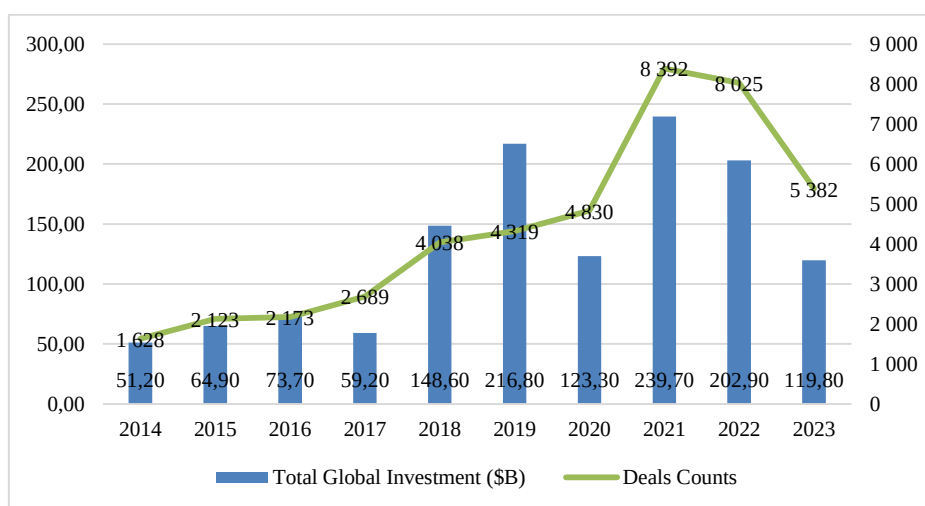
As a result, the range of FinTech innovations continues to expand across various domains, reshaping traditional financial services to become more efficient, accessible, and secure. The introduction of crowdfunding and peer-to-peer lending platforms has democratized access to credit, making it possible for individuals and businesses to secure funds directly from other individuals, bypassing traditional intermediaries³. In the realm of payments, the rise of instant payment systems has enabled faster, more convenient transactions, with solutions like mobile wallets offering a seamless experience for consumers and businesses alike. Furthermore, cryptocurrencies like Bitcoin have revolutionized the way payments and investments are perceived, offering decentralized financial systems that operate outside traditional banking frameworks⁴.

Another significant innovation is the development of robo-advisors, which leverage artificial intelligence to provide personalized financial advice. This enables investors to receive personalized recommendations tailored to their financial goals, risk preferences, and other relevant factors. Additionally, the implementation of blockchain technology has greatly enhanced transaction security, providing a transparent, immutable ledger for financial transactions. Biometric technologies, including fingerprint and facial recognition systems, have further strengthened

authentication processes, ensuring greater security for digital transactions. Lastly, cloud computing and big data analytics are enabling the delivery of personalized financial services⁵, giving financial institutions the ability to offer more efficient, data-driven solutions that cater to the individual needs of customers.

FinTech innovations have profoundly reshaped the financial services landscape, enabling the creation of dynamic, responsive, and secure systems that cater to the demands of a rapidly digitalizing and globalized economy. This transformation is evident in the significant growth of investments in the FinTech sector, as illustrated in the accompanying Figure 1, which highlights the increasing global investment volumes over recent years.

Figure 1. Global Investment in Financial Technology (2014-2023)



Prepared by the researchers based on data from KPMG International. Pulse of Fintech Reports. 2019–2024. Available at:
<https://kpmg.com/fintechpulse>

The global FinTech sector has undergone rapid transformation over the past decade, both in terms of capital flows and the number of deals concluded annually. This activity peaked in 2021, with investments reaching \$239.7 billion across 8,392 deals, the highest level ever recorded in the industry. This surge is largely attributed to the widespread adoption of digital solutions during the COVID-19

pandemic, which significantly accelerated the digitization of transactions across both institutions and individuals.

However, this upward trend did not persist. Since 2022, a clear downward shift has emerged, with total investments declining to \$119.8 billion in 2023, and the number of deals falling to 5,382. This contraction is linked to a combination of factors, including tighter monetary policies, increased caution in funding decisions, and rising capital costs, all of which have slowed the pace of investment in FinTech firms, particularly those in early-stage development.

In terms of sectoral distribution, investments in 2023 were primarily concentrated in consumer-facing solutions, with digital payments leading the way by attracting approximately \$17.2 billion in funding. In contrast, sectors such as Insurtech, blockchain technologies, and cryptocurrencies experienced uneven growth. Meanwhile, investment in RegTech and cybersecurity remained below expected levels, despite the structural importance of these domains in strengthening the resilience of the financial system⁶.

2. Islamic Finance and the Strategic Centrality of the Arab Regions

Islamic finance refers to a system of financial practices that are fundamentally rooted in the principles of Shari'ah (Islamic law). While commonly equated with interest-free banking, Islamic finance encompasses a broader ethical and legal framework that prohibits *riba* (unjustified gain), *gharar* (excessive uncertainty), and *haram* (impermissible) economic activities. It promotes risk-sharing, asset-backed transactions, and ethical investment aligned with the values of justice, transparency, and social welfare⁷.

Unlike conventional finance, which is primarily guided by profit-maximization within secular legal structures, Islamic finance integrates financial intermediation with religiously motivated goals. These include the pursuit of socio-economic equity, support for real economic activity, and the inclusion of *zakat* (obligatory almsgiving) as a redistributive tool. Central to its operation is the use of profit-

and-loss sharing (PLS) models, such as *mudarabah* and *musharakah*, where both risk and return are shared equitably between parties⁸.

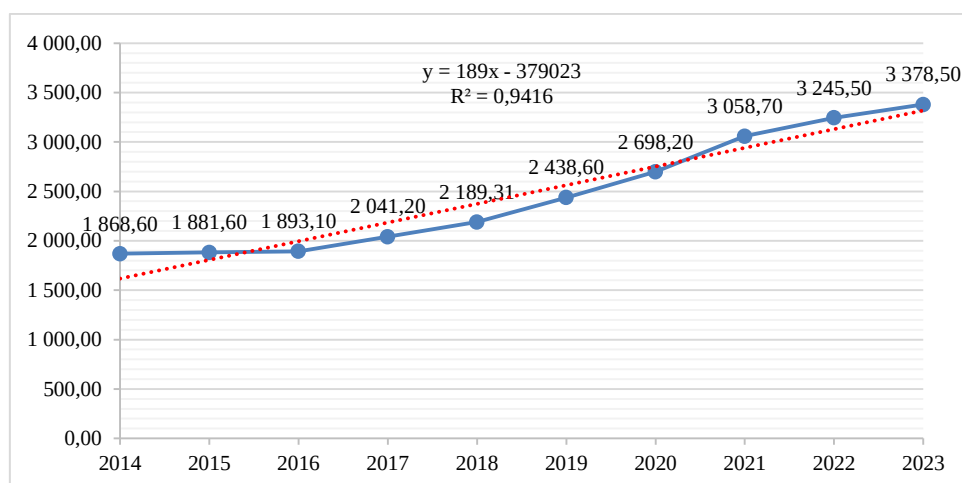
Islamic finance spans a wide array of financial sectors and instruments, including Islamic banking, *sukuk* (Islamic bonds), *takaful* (Islamic insurance), and equity-based contracts like *mudarabah* and *musharakah*. These instruments reflect the system's foundational commitment to risk-sharing, asset-backing, and ethical investment. As such, Islamic finance has created a distinct institutional landscape that aligns commercial activities with Shari'ah mandates, offering a practical alternative to interest-based financial systems.

Far from being a peripheral or context-specific innovation, Islamic finance has become a globally embedded financial paradigm. It has gained traction not only in Muslim-majority countries but also in international markets seeking ethical and sustainable finance solutions. The values-driven nature of Islamic finance, rooted in transparency, justice, and shared responsibility, has positioned it as a credible response to the limitations of conventional financial models, especially in the wake of global financial crises.

Tracking the evolution of Islamic finance assets, both in magnitude and composition, reveals critical insights into the sector's institutional depth and strategic transformation. Originating in niche markets, Islamic finance has evolved into a globally interconnected network encompassing diverse asset classes, financial intermediaries, and regulatory frameworks. Within this expanding ecosystem, the Arab region has played a pivotal role, not only as a historical incubator of Islamic financial principles but also as a contemporary driver of regulatory innovation and institutional leadership.

The sustained expansion of Islamic financial assets over the past decade, as illustrated in Figure 2, underscores the sector's advancing institutional maturity and its deepening integration into the global financial architecture. This upward trajectory reflects growing investor confidence, enhanced regulatory responsiveness, and the increasing cross-border viability of Shari'ah-compliant instruments.

Figure 2. The Global Islamic Finance Assets (2014–2023) (USD Billion)



Prepared by the researcher based on data from the Islamic Financial Services Board (IFSB). Annual Islamic Financial Services Industry Stability Reports. 2015-2024. Kuala Lumpur: IFSB. Available at: <https://www.ifsb.org>

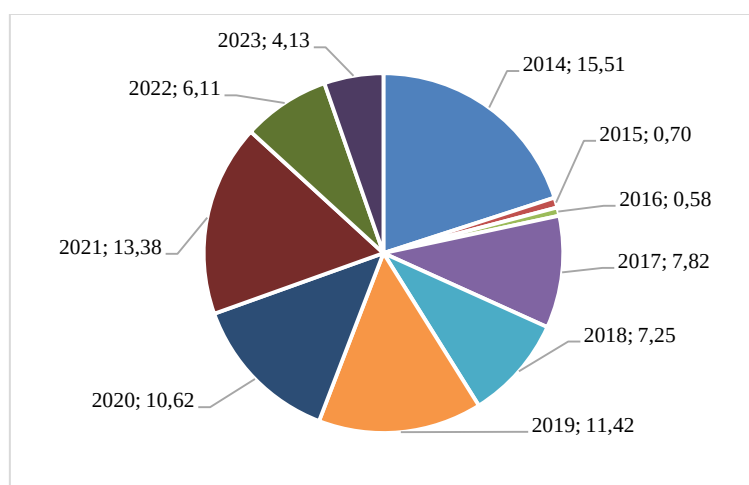
The statistical data reflecting the global growth of Islamic finance assets between 2014 and 2023 reveal a clear dynamic in the industry's expansion. Total assets rose from approximately \$1.87 trillion in 2014 to nearly \$3.38 trillion in 2023. This steady decade-long growth signals the consolidation of Islamic finance not merely as an alternative in emerging markets, but as a strategic component within the architecture of the global economy. This trend has been further reinforced by the gradual expansion of institutional infrastructure and the adoption of alternative financing models by both Islamic and non-Islamic economies.

The trajectory illustrated by the data points to a consistent annual increase averaging \$189 billion, based on the estimated linear equation ($y = 189x - 379023$). The high coefficient of determination ($R^2 = 0.9416$) reflects a strong structural consistency in this trend, indicating that the observed growth is neither random nor circumstantial. Rather, it stems from an accumulation of regulatory and institutional developments, growing market confidence, and the

evolution and global acceptance of Shari’ah-compliant financial instruments.

To visually reinforce this analytically observed trajectory, Figure 3 presents annual percentage growth rates, offering a dynamic perspective on the sustained expansion of Islamic finance over the last decade.

Figure 3: Global Growth Rate of Islamic Finance Assets (2014–2023) (%)



Prepared by the researcher based on data from Figure 2

Despite the overall upward trend in the global value of Islamic finance assets, annual growth rates have exhibited significant fluctuations over the years. Although the global value of Islamic finance assets has generally followed an upward trajectory, annual growth rates have fluctuated notably. Growth reached 15.51% in 2014, dropped below 1% in 2015–2016, peaked at 13.38% in 2021, then declined to 6.11% in 2022 and 4.13% in 2023. These shifts reflect the sector’s transitional phase, influenced by macroeconomic conditions, regulatory shifts, global liquidity, and the varying digital and sustainability readiness of Islamic financial institutions.

This variability indicates that growth is shaped not only by expansion but also by structural dynamics such as changing investor behavior, evolving instruments, and shifting demand. Despite short-

term fluctuations, long-term growth remains steady, driven by increased trust in Shari’ah-compliant products, rising sukuk demand, and supportive regulatory trends.

2.1 Structural Composition of Islamic Financial Assets (2014–2023)

The structural distribution of Islamic financial assets across core sectors, banking, sukuk, investment funds, and takaful, reflects varying degrees of maturity and functional depth within the industry. The following table presents a longitudinal overview of asset values from 2014 to 2023, offering insights into sectoral dynamics and their relative contributions to the industry's overall composition.

Table 1. Islamic Financial Asset Components (2014–2023) in USD Billion

Years	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Islamic Bank Assets	1 476,70	1 496,50	1 493,40	1 557,50	1 571,30	1 765,80	1 841,80	2 104,10	2 249,20	2 372,17
Islamic Sukuk Assets	294,70	290,60	318,50	399,90	530,40	543,40	689,50	775,70	829,70	850,00
Islamic Investment Fund Assets	75,80	71,30	54,60	66,70	61,50	102,30	143,80	154,60	136,60	132,29
Takaful Assets	21,40	23,20	26,60	17,10	26,11	27,07	23,10	24,30	30,00	24,05

Prepared by the researcher based on data from the Islamic Financial Services Board (IFSB). Annual Islamic Financial Services Industry Stability Reports. 2015- 2024. Kuala Lumpur: IFSB. Available at: <https://www.ifsb.org>

Table 1 reveals distinct growth patterns across Islamic finance sectors between 2014 and 2023, reflecting varying degrees of institutional maturity and resilience.

Islamic banking remained the dominant pillar, growing steadily from \$1.48 trillion to \$2.37 trillion with a CAGR of 5.41%. Despite minor slowdowns, the sector maintained upward momentum, underscoring its structural stability and central role in the industry.

Sukuk showed the fastest growth, rising from \$295 billion to \$850 billion (CAGR 12.49%). Periodic surges in 2018 and 2020 reflect its growing use in sovereign and institutional financing. Although 2023 saw slower growth (2.45%), the long-term trend remains strong.

Islamic investment funds experienced moderate and volatile growth, increasing from \$75.8 billion to \$132.3 billion (CAGR 6.38%). Sharp swings such as a 66% rise in 2019 and a –3.16% decline in 2023 highlight the sector’s exposure to market fluctuations and the need for better risk governance.

Takaful, by contrast, remains the weakest link. Assets rose marginally from \$21.4 billion to \$24.1 billion (CAGR 1.31%) but with erratic movements and recent contractions, including –19.83% in 2023. Persistent challenges, such as weak market penetration and regulatory gaps, limit its potential.

Overall, Islamic banking consistently comprises around 72% of total assets, followed by sukuk at 22%, investment funds at 4%, and takaful at less than 1%, revealing a structurally unbalanced industry with clear priorities for development.

2.2 Regional Distribution of Islamic Finance Assets

The regional distribution of Islamic finance assets from 2014 to 2023 provides a visual representation of shifting concentrations across key global markets. Table 2 compares major regions, with a particular focus on the Arab region, distinguishing between the Gulf Cooperation Council (GCC) countries and the non-GCC Middle East and North Africa (MENA) region, alongside Southeast Asia and other emerging hubs.

Tabla 2. Regional Distribution of Islamic Finance Assets (2014–2023) (USD Billion)

Years	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Gulf Cooperation Council	702,20	744,10	801,10	861,60	927,10	1 106,60	1 318,70	1603,5	1 740,30	1 799,67
Middle East and North Africa	641,80	624,00	565,70	596,40	550,90	631,30	546,20	531,60	604,90	426,95
Asia	419,30	412,40	425,50	499,60	617,60	573,50	670,60	720	757,40	877,54
Africa	23,80	25,50	30,60	31,40	17,20	37,90	46,90	64,60	55,20	20,07
Other	81,10	75,60	70,20	61,20	76,70	89,30	115,80	139,00	87,70	254,27

Prepared by the researcher based on data from the Islamic Financial Services Board (IFSB). Annual Islamic Financial Services Industry Stability Reports. 2015-2024. Kuala Lumpur: IFSB. Available at: <https://www.ifsb.org>

Table 2 offers a comparative regional overview of Islamic finance asset distribution between 2014 and 2023, highlighting divergent growth patterns and institutional disparities. The Arab region, particularly the Gulf Cooperation Council (GCC) countries, positions itself as the leading global hub for Islamic finance. Islamic financial assets in the GCC rose from \$702.2 billion in 2014 to nearly \$1.8 trillion in 2023. This sustained expansion reflects high institutional maturity, supported by robust regulatory frameworks, proactive state-led strategies, and increasing demand for Shari’ah-compliant financial services. Despite episodes of global financial volatility, the GCC has maintained a consistent upward trend peaking in 2022, reinforcing its central role in the global Islamic finance architecture.

In contrast, the MENA region, which includes North Africa and other Middle Eastern countries outside the GCC, has followed a more volatile and structurally constrained trajectory. Their collective assets declined from \$641.8 billion in 2014 to \$426.95 billion in 2023, with significant contractions in 2016 and again in 2023. These fluctuations

are rooted in persistent structural barriers, such as political instability, underdeveloped regulatory institutions, and limited capital mobilization, despite intermittent phases of growth.

Southeast and South Asia form the second-largest and most dynamic regional bloc, with assets increasing from \$419.3 billion in 2014 to \$877.54 billion in 2023. This progress has been primarily driven by Malaysia, Indonesia, and Pakistan, where Islamic finance has been systematically integrated into national development frameworks, emphasizing digital innovation and financial inclusion.

Sub-Saharan Africa, while smaller in scale, is emerging as a more engaged participant. Its assets peaked at \$64.6 billion in 2021 before declining to \$20.07 billion in 2023. Countries such as Nigeria and Sudan are working to expand their Islamic finance sectors, although infrastructural limitations and regulatory inconsistencies continue to constrain sustainable growth.

In addition, other emerging markets, including Europe, the Americas, and parts of Asia, exhibited moderate yet steady growth, rising from \$81.1 billion in 2014 to \$254.27 billion in 2023. This trend reflects increasing international interest in ethical and ESG-aligned finance, with sukuk issuance and Islamic investment funds gaining traction beyond traditional jurisdictions.

Overall, the data confirms the Arab region's leadership, particularly the GCC, in Islamic finance, while Asia displays strong forward momentum. Other regions present a combination of latent potential and structural impediments, as the expanding appeal of Islamic finance signals its transformation into a globally relevant, multidimensional financial system.

3. FinTech and Islamic Finance: Ethical Grounding and Market Adaptation in the Arab Region

Beyond asset concentration and regional positioning, the ethical dimension remains pivotal to Islamic finance's digital evolution. As digital transformation accelerates across industries, financial technology has moved beyond its role as a mere disruptor to become

a structural component of modern financial systems. The Islamic finance sector, situated at the intersection of tradition and innovation, is increasingly leveraging this momentum to explore new pathways for growth and ethical alignment. This convergence of FinTech and Islamic finance warrants a closer look at the technological advances and institutional shifts driving this integration. At the same time, it invites a deeper interrogation of how the ethical principles rooted in *Maqasid al-Shari'ah* can serve as a moral compass for the development of inclusive, value-based FinTech solutions.

3.1 Islamic FinTech Ethics Through the Lens of Maqasid al-Shari'ah

As Islamic finance evolves in response to digital transformation, aligning financial technologies (FinTech) with the ethical and legal imperatives of Maqasid al-Shari'ah becomes increasingly essential. This framework, rooted in the preservation of life, intellect, religion, lineage, and property, offers a principled foundation for assessing the moral viability of modern financial innovations⁹. Accordingly, FinTech must not only improve efficiency and inclusivity but also remain in harmony with Islamic values. When developed within this ethical scope, Islamic FinTech solutions are viewed as legitimate tools for promoting human welfare, social equity, and ethical finance.

Drawing on Maqasid al-Shari'ah, the adoption of FinTech tools in Islamic financial systems is underpinned by several key legal and ethical concepts. First is the principle of original permissibility (*al-ibāhah*), which states that financial innovations are permissible unless they violate prohibitions such as *riba* (interest), *gharar* (excessive uncertainty), or *maysir* (gambling). Second, the principle of means and objectives (*al-wasā'il wa al-maqāṣid*) stresses that the legitimacy of a financial tool depends on its intended outcomes. If FinTech advances goals like transparency, financial inclusion, and equitable risk-sharing, it aligns with the broader aims of Islamic finance. Third, the principle of hardship begets ease (*al-mashaqqah tajlib al-taysir*) supports adopting technologies that reduce transaction burdens and expand access to ethical finance¹⁰.

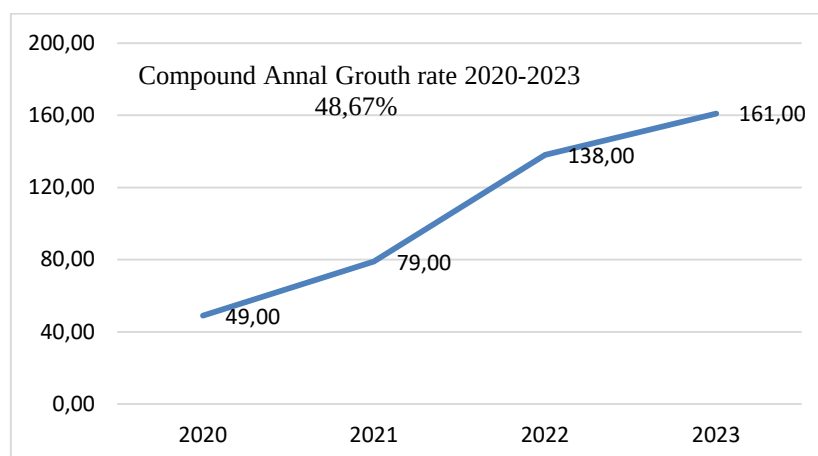
Islamic financial institutions, however, must navigate critical challenges to ensure FinTech applications comply with Shari'ah. Solutions involving *riba*, such as interest-based loans or credit cards, are categorically impermissible. Additionally, FinTech products must avoid *gharar* by ensuring clarity, fairness, and transparency, and must exclude *maysir*, in line with Islamic finance's emphasis on responsible investment and the avoidance of speculation.

Several FinTech innovations have demonstrated compliance with these principles. Shari'ah-compliant digital payment platforms facilitate interest-free transactions and improve accessibility, particularly for underserved communities. Crowdfunding platforms enable ethical capital mobilization for projects such as affordable housing and sustainable development¹¹. Robo-advisory services offer personalized, Shari'ah-aligned investment guidance, expanding access to tailored ethical finance. Likewise, blockchain technologies, when used transparently, can strengthen accountability and trust in financial transactions¹².

By embedding the objectives of *Maqasid al-Shari'ah* into FinTech design and implementation, Islamic finance can modernize its offerings while preserving its moral identity. This alignment ensures that digital financial innovation not only delivers operational efficiency but also contributes meaningfully to the broader mission of social justice and ethical economic development.

Given this ethical grounding, assessing the current trajectory of Islamic FinTech through empirical indicators such as market share and growth dynamics provides critical insight into its practical influence and evolving position within the global financial ecosystem. Figure 4 illustrates this trend.

Figure 4. The Global Islamic Fintech Market Size (2020–2023)



Prepared by the researchers based on data from DinarStandard & Elipses. Global Islamic Fintech Report. 2021–2024. New York. Available at: <https://www.dinarstandard.com/islamic-fintech>

Figure 4 presents the evolution of the global Islamic fintech market from 2020 to 2023, tracking both the absolute market size and the annual growth rate. The data illustrate a strong upward trajectory in the early years, followed by signs of stabilization. In 2020, the market size stood at USD 49 billion, marking a foundational year for measurable activity in this emerging segment. A significant expansion occurred in 2021, with the market reaching USD 79 billion, representing an annual growth rate of 61.22%. The momentum accelerated further in 2022, as the market size surged to USD 138 billion, accompanied by an exceptional 74.68% growth rate, the highest recorded in the period.

This steep rise reflects the increasing maturity of Islamic fintech solutions, the expansion of Shariah-compliant digital platforms, and growing investor confidence in faith-based innovation models. However, by 2023, the pace of growth decelerated to 16.67%, even as the market continued to expand to USD 161 billion. This

slowdown suggests a shift from the rapid expansion phase toward a more stabilized and consolidated growth pattern, potentially driven by market saturation in key segments and broader global investment headwinds.

Overall, the figure underscores the strategic importance and growing relevance of Islamic fintech in the global financial ecosystem, while also highlighting the natural progression of market cycles from acceleration to consolidation.

3.2 Islamic FinTech From Established Centers to Emerging Markets in the Arab Region

The global Islamic FinTech landscape is marked by pronounced regional disparities and dynamic growth paths. Within this context, the Arab region comprising the Gulf Cooperation Council (GCC) and the wider Middle East and North Africa (MENA) is intensifying its efforts to establish itself as a competitive center for Shari'ah-compliant financial innovation.

Within this context, the GCC countries demonstrate clear **leadership and regional dominance**, ranking second globally in the number of Islamic FinTech companies, with 23% of the total, surpassed only by Southeast Asia, which accounts for more than 30%. Most GCC-based FinTech firms were established between 2015 and 2020, with a brief slowdown in 2021, followed by a sharp resurgence in 2022. Saudi Arabia leads the region with 47 Islamic FinTech companies out of a total of 108, followed by the United Arab Emirates with 37¹³. These developments are supported by strong regulatory frameworks, national transformation agendas, and targeted investments in digital infrastructure.

In parallel, the broader MENA region demonstrates **promising potential** but remains in the early stages of Shari'ah-compliant FinTech integration. Currently, MENA accounts for a modest 4% of the global FinTech market, yet its growth prospects are underpinned by favorable demographics, expanding financial sectors, and a

rapidly evolving digital environment. Egypt leads this regional bloc with 13 active Islamic FinTech institutions, reflecting the gradual build-up of momentum in North African and Levant markets¹⁴.

These dynamics underscore a dual narrative of leadership and latency. While the GCC countries have positioned themselves as regional pioneers, leveraging robust regulatory frameworks and national digital agendas to scale their FinTech ecosystems, the broader MENA region is gradually gaining traction, driven by demographic opportunity and digital acceleration. Bridging this divide will be essential to fostering a more unified, inclusive, and competitive Islamic FinTech ecosystem across the Arab region.

3.3 Service Segmentation and Strategic Priorities of Islamic FinTech in the Arab Region

As Islamic FinTech gains momentum across the Arab region, its progression reveals varying patterns of service focus and market reach. The spread of digital offerings from payment solutions to alternative financing unfolds unevenly across different national contexts, shaped by disparities in regulatory readiness, digital infrastructure, and financial inclusion agendas. These underlying contrasts not only reflect differences in economic maturity and institutional priorities but also define the evolving contours of FinTech engagement across the region's Islamic financial landscape. This differentiated landscape is further illustrated in the table below, which outlines key variations in service penetration across selected Arab markets.

Table 3. Islamic Fintech Services Penetration in the Arab Region (%)

Service	Gulf Cooperation Council	Middle East and North Africa
Enabling Technologies	9,26	21,00
Peer-to-Peer Lending	7,41	-
Robo-Advisors	5,56	-
Personal Finance Management	4,63	5,00
Digital Banks	3,70	-
Insurance and Takaful Technologies	0,93	-
Crowdfunding	0,93	-
Wealth Management	0,93	-
Payments	22,22	21,00
Alternative Finance	14,81	42,00
Trading and Investment	12,04	-
Digital Assets	10,19	-
Crowdfunding	-	-
Trading and Investment	-	5,00
Direct Personal Finance	-	5,00

Prepared by the researchers based on data from the Al Baraka Forum (2024a &2024b). Available at: <https://forum.albaraka.site/reports/>

Table 3 highlights key service areas in the Islamic FinTech landscape across the Arab region, with Alternative Finance (56.81%) and Payments (43.22%) emerging as dominant components. These services reflect a broad push across Arab markets to promote

financial inclusion and access to ethical funding solutions, aligned with the region's digital transformation ambitions.

In the domain of payment services, the data reveals a close numerical distribution between the Gulf Cooperation Council (GCC) countries (22.22%) and North Africa and other Middle Eastern countries outside the GCC (MEN), which collectively contribute 21%. However, this apparent parity masks a structural imbalance: the GCC achieves a similar share with far fewer countries, indicating a higher concentration of digital payment activity and ecosystem maturity relative to the more fragmented MENA landscape. This suggests that while both sub-regions are committed to developing digital payment infrastructures, GCC countries are operating with greater intensity and institutional coordination.

Alternative finance, however, shows a more asymmetric pattern. MENA countries lead this segment with 42%, compared to 14.81% in the GCC. This divergence reflects a strategic reliance on Islamic crowdfunding, peer-to-peer lending, and other non-bank financing models in North Africa and the Levant, where access to traditional banking remains limited for startups and underserved populations.

Enabling technologies (9.26% in the GCC vs. 21% in MENA countries) form the digital backbone of FinTech services. While GCC states leverage advanced infrastructure for platform development and integration, MENA countries emphasize scalable and inclusive technological solutions to bridge digital access gaps.

Further segmentation shows that the GCC dominates in services such as robo-advisors (5.56%), digital assets (10.19%), and trading platforms (12.04%), reflecting its advanced digital capacity and investor sophistication. In contrast, MENA countries show higher engagement in personal finance management (5%), direct personal finance (5%), and trading platforms (5%), emphasizing grassroots-level financial empowerment and entrepreneurship.

Notably, services like crowdfunding and peer-to-peer lending are either exclusive or significantly more active in MENA countries,

highlighting tailored responses to local financing needs in economies with limited formal credit channels. Meanwhile, digital insurance (takaful tech) and wealth management tools remain largely concentrated in the GCC, underlining its role as a FinTech innovation center in the Arab world.

These trends suggest an emerging bifurcation, while GCC countries position themselves as innovation leaders with institutionalized FinTech ecosystems, MENA countries focus on inclusion-driven models that prioritize access, affordability, and alignment with *Maqasid al-Shari'ah*. Together, these service patterns reflect the dual function of Islamic FinTech in the Arab regions as both a driver of institutional modernization and a tool for equitable development.

Consequently, the evolving patterns of Islamic FinTech adoption are reshaping the operational logic of Islamic finance across the Arab region. The current ecosystem reveals a nuanced service landscape, one that simultaneously caters to advanced digital financial demands in more developed Arab economies and addresses inclusion-driven needs in emerging ones. This dual-track transformation is propelled by structural drivers unique to the Arab setting, including disparities in digital readiness, diverse consumer behaviors, and policy reforms aiming to harmonize innovation with Shari'ah principles. As a result, FinTech is not merely an overlay to Islamic finance in the Arab context but a strategic force reconfiguring its institutional design, service delivery, and socio-economic role.

4. The Transformative Impact of Islamic FinTech in the Arab Region

Islamic FinTech in the Arab region is undergoing a notable transformation, driven by digital innovation and ethical financial principles. However, this progress is tempered by structural and regulatory challenges that limit its scalability and impact. This section highlights both the enabling forces and the institutional constraints shaping its development.

4.1 Opportunities for Inclusive Financial Growth

Islamic FinTech has begun to significantly alter financial dynamics in the Arab region by enhancing efficiency, expanding access, and aligning services with ethical and Shari'ah-compliant values. The main areas where its impact is most visible and transformative include:

- Operational Efficiency and Product Diversification: Islamic fintech solutions streamline banking operations through automation and digital process optimization, reducing costs while improving service delivery¹⁵. They also support the diversification of Shari'ah-compliant financial products tailored to emerging consumer needs, strengthening the sector's competitiveness and adaptability.

- Enhanced Customer Experience and Digital Access: By leveraging mobile platforms, AI-driven interfaces, and cloud-based services, fintech enhances user engagement through personalized, seamless experiences¹⁶. This facilitates financial access for previously underserved populations, including rural communities and youth segments.

- Financial Inclusion with Ethical Orientation: Fintech tools align with Islamic principles such as *Maslahah* (public benefit), enabling broader financial inclusion through microfinance, digital wallets, and Islamic crowdfunding. These innovations are especially critical in North Africa, where large segments of the population remain unbanked.

- Empowering Youth and Entrepreneurial Ecosystems: Islamic fintech platforms, particularly peer-to-peer financing and crowdfunding, have opened up capital access for young entrepreneurs and SMEs, fostering a shift toward innovation-driven economies in Arab regions seeking to diversify beyond hydrocarbons¹⁷.

- Strengthening Cybersecurity and Regulatory Confidence: As digital finance expands, so does the need for robust cybersecurity frameworks. Islamic fintech firms in the Arab world are increasingly

integrating blockchain, biometric verification, and compliance-by-design models to ensure secure and transparent transactions.

- **Promoting Regional Integration and Strategic Synergies:** The Gulf Cooperation Council (GCC) countries, with advanced technological infrastructure and capital resources, are well-positioned to support fintech development in North African markets and other Middle East countries. In return, North Africa offers a vast, untapped user base. Strategic collaborations, cross-border investments, and harmonized regulatory frameworks can help build a unified Islamic fintech ecosystem across the Arab regions.

Together, these dynamics reflect not only the growing maturity of Islamic fintech in parts of the Arab world but also the region's potential to lead in shaping a resilient, inclusive, and Shari'ah-compliant digital financial future.

4.2 Structural and Institutional Constraints

While Islamic FinTech continues to expand across the Arab region, it remains constrained by structural, regulatory, and institutional barriers. The main challenges limiting integration, scalability, and inclusive growth within the sector include:

- **Regulatory Fragmentation and Legal Incompatibility:** The absence of harmonized regulatory frameworks across Arab jurisdictions hinders cross-border Islamic FinTech scalability. While GCC countries like the UAE and Saudi Arabia have developed FinTech sandboxes and specialized digital finance regulations, many North African states still lack tailored legislation, complicating data governance, investor protection, and the standardization of Shari'ah-compliant digital products.

- **Shari'ah Compliance Gaps:** There is a persistent disconnect between rapid FinTech innovation and the responsiveness of Shari'ah supervisory structures. The lack of centralized fatwa councils or unified standards leads to inconsistencies in product validation and Shari'ah rulings, particularly in the non-GCC Arab region with limited institutional Shari'ah governance.

- **Digital Infrastructure Disparities:** While GCC states generally benefit from high-speed connectivity and advanced ICT infrastructure, several North African countries and other Arab regions face limitations in broadband access and digital device availability, constraining FinTech diffusion and deepening digital inequality.

- **Institutional and Human Capital Constraints:** A shortage of professionals with dual expertise in Islamic finance and digital technology persists, especially in North African and Levantine Arab states. This talent gap is exacerbated by the limited presence of integrated educational and training programs focused on Islamic FinTech.

- **Integration with Conventional Financial Systems:** Islamic FinTech platforms often face interoperability challenges when engaging with legacy banking systems. This is particularly evident in countries where conventional finance dominates and lacks the flexibility to integrate Shari'ah-based digital models.

- **Cybersecurity and Operational Risks:** The expansion of blockchain and decentralized technologies heightens exposure to cyber threats. While GCC countries have implemented advanced cybersecurity measures, other Arab states still lack comprehensive oversight, increasing vulnerability to fraud and data breaches.

- **Public Awareness and Financial Literacy Deficits:** Limited understanding of FinTech, particularly in rural and marginalized communities across North African states and other Arab nations in the Middle East, poses a serious adoption barrier. The absence of targeted financial education initiatives undermines trust and inhibits engagement.

- **Lack of Strategic Coordination:** Although Arab regions share cultural and ethical foundations, institutional collaboration in Islamic FinTech remains minimal. The absence of regional innovation hubs, regulatory harmonization platforms, or joint capacity-building

initiatives impedes knowledge exchange and cross-market integration.

These structural impediments collectively represent a significant barrier to achieving cohesive growth and regional integration for the Islamic FinTech industry in the Arab world. They not only hinder expansion but also weaken the prospects for strategic alignment among Arab economies. In the absence of a unified vision and effective cooperation mechanisms, the risk remains that this sector will develop along fragmented paths, reinforcing divisions rather than contributing to a comprehensive financial transformation grounded in Shari'ah principles and ethical foundations.

5. Findings and Discussion

This study reveals that the intersection of financial technology and Islamic finance in the Arab region is evolving along two principal trajectories: one characterized by innovation-led institutional transformation and inclusion-oriented service delivery, and another constrained by structural fragmentation and regulatory asymmetries.

On the one hand, the integration of FinTech solutions has strengthened the operational agility of Islamic finance, particularly in countries with advanced infrastructure and strategic policy alignment. In the Gulf Cooperation Council (GCC) states, FinTech has facilitated more efficient transaction processing, diversified financial offerings, and enhanced consumer engagement through ethical, Shari'ah-compliant platforms. The alignment of these tools with national development visions has further institutionalized digital Islamic finance as a lever for economic modernization.

Conversely, in non-GCC Arab contexts, notably in North Africa, progress has been more tentative. Despite a growing entrepreneurial base and favorable demographics, the absence of enabling digital ecosystems, fragmented regulatory support, and limited public investment in FinTech-specific infrastructure has hindered broad-based adoption. Nevertheless, grassroots innovation, especially

among youth-led ventures, indicates a latent potential that remains contingent on institutional reform and capacity-building.

The study also finds that the majority of Islamic FinTech activity is concentrated in payment systems and alternative finance, where digital interfaces have improved access for underserved populations. However, the limited deployment of advanced technologies such as artificial intelligence, blockchain, and regulatory technology (RegTech) points to a gap in innovation depth, particularly in jurisdictions lacking the requisite technical expertise and capital frameworks.

Ethical imperatives rooted in Maqasid al-Shari'ah have played a central role in shaping user trust and product legitimacy. Islamic FinTech platforms offering mobile-based services, crowdfunding channels, and peer-to-peer financing have not only expanded financial access but also contributed to social inclusion, aligning with Islamic finance's broader goals of equity, risk-sharing, and public benefit.

Despite these advances, significant barriers persist. Regulatory fragmentation across Arab states continues to limit interoperability and cross-border expansion. The lack of harmonized Shari'ah governance frameworks introduces inconsistency in product validation and investor confidence. Additionally, disparities in digital infrastructure and talent availability, particularly the shortage of professionals versed in both Islamic jurisprudence and emerging technologies, impede the scalability and cohesion of Islamic FinTech ecosystems.

Ultimately, the findings underscore a bifurcated landscape: while GCC countries exhibit a coordinated and innovation-driven trajectory, non-GCC regions remain in a transitional phase, with uneven institutional readiness. Closing this gap will require strategic alignment, regulatory harmonization, and collaborative regional frameworks to support a resilient, inclusive, and authentically Islamic digital financial future.

5.1 Strategic Recommendations

Informed by the study's findings, the strategic framework outlined below is intended to steer the structural reconfiguration of Islamic FinTech across the Arab region. It addresses core regulatory, institutional, and technological deficiencies with the objective of fostering greater systemic coherence, operational resilience, and alignment with Shari'ah-based ethical principles across diverse national contexts:

- **Establishing a Unified and Shari'ah-Compliant Regulatory Ecosystem:** To enable the cross-border growth of Islamic fintech in the Arab region, it is imperative to develop a unified regulatory and legal framework grounded in Shari'ah compliance. This includes harmonizing licensing standards, digital financial laws, and supervisory mechanisms. Collaboration between central banks, regulatory authorities, and Shari'ah boards will foster consistency, transparency, and operational scalability across jurisdictions.

- **Reinforcing Shari'ah Governance in the Age of Digital Finance:** The pace of fintech innovation requires equally responsive Shari'ah oversight mechanisms. Establishing centralized, digital Shari'ah boards at the regional level supported by real-time fatwa systems, AI-assisted advisory tools, and cross-border scholarly networks can ensure faster, consistent, and credible validation of Islamic financial products, while boosting legal certainty and public confidence.

- **Building Integrated Human Capital for Islamic FinTech:** Sustainable innovation requires a workforce fluent in both Islamic finance and digital technology. Governments, universities, and financial institutions should jointly launch training academies, certification programs, and dual-discipline curricula that align technical skills with Shari'ah principles. Industry-academia collaboration can help close the talent gap and foster locally grounded innovation across the Arab region.

- **Investing in Smart and Inclusive Digital Infrastructure:** Robust digital infrastructure forms the backbone of financial transformation. Policymakers must prioritize investment in secure broadband connectivity, real-time payment systems, open banking frameworks, and data analytics platforms. Special attention should be given to bridging digital divides in rural and underserved areas, particularly in North Africa and parts of the Levant, to ensure equitable access to Islamic financial services.

- **Enhancing Risk Management and Cybersecurity in Islamic FinTech:** To protect the integrity of Shari'ah-compliant financial systems, tailored risk assessment frameworks and proactive cybersecurity strategies are essential. This includes real-time monitoring, encryption protocols, penetration testing, and scenario-based risk planning. Regular audits, both Shari'ah and technical, will strengthen institutional resilience and user protection.

- **Advancing Public Awareness and Financial Literacy for Trust-Building:** User adoption of Islamic fintech hinges on public trust and understanding. Comprehensive financial literacy campaigns should explain how fintech solutions align with Islamic ethics and protect consumer rights. Transparent communication about risks, benefits, and religious validity will empower individuals to engage confidently with digital financial services.

- **Supporting Islamic FinTech Startups through Incentives and Ecosystem Development:** Governments and financial regulators should create an enabling environment for Islamic fintech entrepreneurs through grants, tax incentives, regulatory sandboxes, and access to funding. Accelerators and incubators specifically tailored for Shari'ah-compliant business models will stimulate innovation and address local financial needs.

- **Encouraging Strategic Regional and Global Partnerships:** To accelerate learning and avoid duplication of effort, the Arab region should engage in structured collaboration with successful global fintech hubs. Regional alliances, joint research initiatives, and shared

policy platforms will enable the adaptation of proven models while maintaining alignment with Islamic values.

The proposed recommendations offer a structured response to the core barriers facing Islamic FinTech in the Arab region. Advancing this sector requires unified regulation, agile Shari'ah governance, skilled talent, and inclusive infrastructure. Real progress hinges on coordinated regional action and sustained alignment with Islamic ethical values.

Conclusions

The evolution of Islamic FinTech across the Arab region marks a critical juncture where ethical finance meets the urgency of digital transformation. This convergence is not merely a technological shift, but a potential redefinition of how financial systems can serve both economic growth and social justice within a Shari'ah-compliant framework. While significant strides have been made in some parts of the region, particularly in the Gulf, true regional advancement requires moving beyond fragmented efforts. A unified Arab approach, grounded in shared values and adapted to local realities, is essential to unlock the full potential of Islamic FinTech.

The real opportunity for the Arab region lies not only in adopting global innovations but in leading a distinct model of fintech development rooted in Islamic economic principles. This demands bold policy alignment, cross-border collaboration, and a conscious effort to integrate marginalized markets, especially in North Africa and underserved parts of the Middle East. If Arab states can align technological ambition with ethical integrity and regional solidarity, Islamic FinTech can become a defining pillar of financial leadership, offering the world a compelling vision of inclusive and principled financial innovation.

Scope and Research Constraints

This study explores the FinTech-driven transformation of Islamic finance in the Arab region without engaging in an in-depth analysis of individual national contexts, such as **Algeria**. Furthermore, the

scarcity of detailed and disaggregated data across the region limited the analytical depth. These constraints suggest the need for future research that addresses specific country cases and expands the focus to include broader FinTech applications within Islamic finance.

Conflict of interest

The authors declare no conflict of interest.

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Footnotes:

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