The Scientific Journal of King Faisal University

Humanities and Management Sciences

Financial Technology and Islamic Insurance: The Saudi Context

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LINK	RECEIVED	ACCEPTED	PUBLISHED ONLINE	ASSIGNED TO AN ISSUE
https://doi.org/10.37575/h/mng/220039	28/11/2022	13/05/2023	13/05/2023	01/09/2023

NO. OF WORDS	NO. OF PAGES	YEAR	VOLUME	ISSUE
7982	7	2023	24	2

ABSTRACT

This study investigates the adoption of financial technology (FinTech) in the Islamic insurance industry, also known as the Takaful industry, as well as its challenges and prospects. A qualitative method was employed, comprising interviews with nine experts from top senior management and policy-making positions in Saudi Arabia's FinTech and Islamic insurance sectors. The data collected were recorded, transcribed, coded and analysed based on seven themes. The primary findings indicate that FinTech adoption in the Islamic insurance industry has penetrated core departments such as claim management, sales, actuarial, risk assessment and database management. However, it requires expansion into health and life insurance departments. Additionally, FinTech has fostered innovation, attracted quality talent, enhanced efficiency and facilitated flexible working environments. The study's implications include the need for a separate Takaful and insurance regulatory body distinct from the Saudi Central Bank (SAMA) to accelerate FinTech adoption. Centralising data in one location through cloud services is necessary, and top management and policymakers in Saudi Arabia should devise strategies to further the adoption of FinTech in the Islamic insurance industry. This research is a pioneering empirical work on cutting-edge FinTech adoption in the Islamic insurance industry in Saudi Arabia.

KEYWORDS

Islamic finance, Islamic insurance, Saudi Arabia, insurtech, takafultech

CITATION

Altwijry, O., Mohammed, M. O., & Alshammari, A. A. (2023). Financial technology and Islamic insurance: The Saudi context. *The Scientific Journal of King Faisal University: Humanities and Management Sciences*, **24**(2), 49–55. DOI: 10.37575/h/mng/220039

1. Introduction

This study investigates the adoption of financial technology (FinTech) in the Islamic insurance industry, also known as the Takaful Industry, along with its challenges and prospects. The Kingdom of Saudi Arabia is regarded as the world's largest Takaful market (COMCEC Coordination Office, 2019) and the largest in terms of Islamic FinTech market size (GIFR, 2021a). The Takaful industry has exhibited consistent growth for decades, experiencing a premium growth of 2.3% in 2020, with the sector's penetration ratio increasing from 1.28% in 2019 to 1.48% in 2020 (Saudi Arabian Monetary Authority [SAMA] website, 2021). Saudi Arabia launched a FinTech regulatory sandbox environment in 2018 (FinTech Saudi, 2020) to bolster the competitive advantage of the country's Islamic insurance industry. Since then, the Kingdom has established itself as one of the leading players in the Islamic FinTech sector.

According to the index developed by the Global Islamic FinTech Report (GIFR, 2021b) published by Salaam Gateway, Malaysia, Saudi Arabia, UAE, Indonesia and the UK are the top five countries with the most robust FinTech ecosystems. The index comprises 32 indicators across five categories: Islamic FinTech market and ecosystem, talent, regulation, infrastructure and capital. The Kingdom held the largest share (37%) of the USD 49 billion Islamic FinTech market in 2020, followed by Iran, with 19% (GIFR, 2021a). However, the contribution of FinTech to the Takaful market in the Kingdom, based on index score indicators (GIFR, 2021b), does not correspond to this market dominance. This discrepancy raises several critical research questions: What state-of-the-art technologies in the Kingdom's Islamic insurance industry constitute its adoption of Islamic FinTech? What challenges and prospects does this adoption present? Regrettably, there is a dearth of empirical work addressing these research questions. The existing literature primarily consists of descriptive general market projections provided by various reports, such as the GIFR (GIFR, 2021a), Global Islamic Economy Report (GIER), the Standing Committee for Economic and Commercial Cooperation of the Organisation of Islamic Cooperation (OIC) (COMCEC) and the Arabian Business Bulletin. While these market projections serve as a useful starting point, they cannot replace specific empirical research in such a significant area.

Consequently, this study is a pioneering empirical and applied effort aimed at exploring FinTech and Takaful issues in the Islamic finance industry. The paper is organised into five sections, including the introduction. Section two reviews the relevant literature on the adoption of FinTech in the Islamic insurance industry in Saudi Arabia, while section three focuses on the research design and methodology employed in the study. Section four presents and discusses the study's findings; section five, the concluding section, summarises the study and offers recommendations for future research.

2. Review of Related Literature

This section reviews the relevant literature on the Islamic insurance industry and FinTech in the Kingdom of Saudi Arabia. Leading Islamic institutions have defined Islamic insurance or Takaful with several common features: it is based on mutual assistance, mutual financial benefits, mutual guarantee and Tabarru', or donation to a common pool of funds (OIC Fiqh Academy, 2012; IFSB, 2018; AAOIFI, 2017; IFSA, 2013). Consequently, Takaful's theoretical model is essentially grounded in mutual benefits and cooperation. Common Takaful models offered in the market include the pure Wakalah model, pure Mudarabah model, Ta'awun (cooperative) model, Waqf model, modified Wakalah model, modified Mudarabah model, Wakalah-Mudarabah hybrid model, Waqf-Mudarabah hybrid model and Waqf-Mudarabah-Wakalah hybrid model. The Kingdom of Saudi Arabia adopts the Ta'awun (cooperative) model, which operates as a joint-stock company.

Takaful is an integral part of Islamic finance, with its assets valued at USD 2.88 trillion in 2019 and expected to reach USD 3.69 trillion in 2024 (GIER, 2021). The global Takaful market reached a value of USD

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23.7 billion in 2019 and is expected to grow at a compound annual growth rate (CAGR) of around 11% during the forecast period (2021-2026) (IMARC Group, 2021).

In Saudi Arabia, the growth of the Islamic insurance industry has been impressive. The total assets of the industry grew by 8.9% from SAR 60.52 billion (USD 16.14 billion) in 2019 to SAR 65.87 billion (USD 17.57 billion) in 2020, while total investment increased by 3.5% from SAR 29.26 billion (USD 7.8 billion) in 2019 to SAR 30.29 billion (USD 8.08 billion) in 2020 (KPMG Firm, 2020). The Insurance Market Report 2020, issued by SAMA (2020), provided several interesting highlights for the year 2020. First, the total gross written premiums in 2020 grew by 2.3%, reaching SAR 38.78 billion (USD 10.34 billion), compared to SAR 37.89 billion (USD 10.1 billion) in 2019, while health insurance remained the largest line of business, contributing 58.9% to the total gross written premiums. Second, insurance penetration (ratio of insurance premium to GDP) increased from 1.28% in 2019 to 1.48% in 2020. Third, the sector's net profit (after zakat and tax) increased by 61.6% from the corresponding figure in the previous year, reaching SAR 1.38 billion (USD 368 million) in 2020, thus improving return-on-assets and return-on-equity ratios.

Lastly, of significance was that 2020 witnessed several mergers, reflecting SAMA's efforts to support the sector in consolidation and acquisition to achieve the objectives of Saudi Vision 2030. The mergers are also expected to strengthen the financial position of insurance companies, enabling them to better protect policyholders' rights, enhance customer services, manage costs, improve efficiency, provide diverse insurance products and attract talented resources. The mergers in 2020 include those between Walaa and MetLife-AIG-ANB Cooperative Insurance Company, Gulf Union and Alahlia Cooperative Insurance Company, Aljazira Takaful and Solidarity (binding merger agreement) and Enaya and Amanah Insurance Companies (a memorandum of understanding [MoU] for their potential merger).

In 2003, the Saudi Arabian government officially published the Law on Supervision of Cooperative Insurance Companies, assigning the task of supervising the insurance sector to the SAMA. In 2020, the SAMA continued to refine existing regulations and introduced new ones in response to the dynamic business environment. These new regulations encompass rules governing the activities of insurance aggregators, insurance product approval, guidelines for bancassurance activities, rules pertaining to actuarial work and the issuance of at least 44 circulars on various subjects (SAMA, 2021).

The GIFR (GIFR, 2021a) revealed that the FinTech transaction volume within OIC countries was estimated at USD 49 billion in 2020, with a projected growth of USD 1288 billion by 2025. From this amount, the InsurTech or TakafulTech sector accounted for 12%, while the largest share of 44% was attributed to fundraisings, such as P2P lending and crowdfunding. FinTech presents significant opportunities for micro-Takaful penetration in underserved financial communities and new frontiers beyond the Muslim world (Oseni & Ali, 2019).

In Saudi Arabia, the FinTech industry has been expanding rapidly. It is estimated that the value of FinTech transactions will increase between 2017 and 2019 at a rate of over 18% each year, reaching more than USD 20 billion in 2019. The FinTech market in the Kingdom is expected to achieve transaction values exceeding USD 33 billion by 2023 (FinTech Saudi, 2020). According to the same report, payments account for two-thirds of the market and nearly 98% of the user base.

There is a strong interest in Saudi Arabia for FinTechs to utilise application programming interfaces (APIs), machine learning, artificial intelligence and blockchain technologies (FinTech Saudi, 2020). Furthermore, the FinTech market in the Kingdom has experienced several innovations, including London Stock Exchange-listed Supply@ME Capital (SYME) planning to introduce Shariah-compliant inventory monetisation FinTech solutions and Islamic FinTech Ta3meed becoming the first Islamic FinTech in Saudi Arabia to offer purchase order financing (GIFR, 2021a). Additionally, Saudi Arabia has admitted another nine FinTechs into its regulatory sandbox, indicating the rapid pace of development in Saudi's Islamic FinTech sector (GIFR, 2021a).

However, the existing literature on FinTech relating to Takaful or insurance in Saudi Arabia remains limited and insufficient. For instance, Al-Hanawi et al. (2020) examined the effects of financial inclusion on health coverage, utilising regression analysis to conclude that individuals in low-income brackets are more likely to be financially excluded and face reduced chances of accessing health coverage.

Existing research on FinTech in Saudi Arabia has primarily focused on topics unrelated to Takaful, the Islamic insurance industry. For instance, Najjar et al. (2020) investigated seven inherent challenges associated with IT governance in the country's financial sector. Utilising a questionnaire survey method, this study identified four factors contributing to these challenges: inadequate persuasive communication, insufficient financial and human support, limited commitment from top management and a lack of understanding of regulations. In a separate study, Benyoussef and Hemrit (2019) sought to evaluate the efficiency of insurance companies in Saudi Arabia. Employing data envelopment analysis (DEA) on a sample of 23 insurance companies, the authors compared the efficiency of Takaful and cooperative insurance in 2014. Their findings indicated that insurance companies faced inherent issues of enforceability and verifiability due to unavoidable trade-offs between inputs and outputs, affecting overall technical efficiency and scale efficiency.

Almulhim (2019) conducted another study using two-stage DEA to assess the performance of 26 conventional insurance and seven Takaful firms in Saudi Arabia's insurance market between 2014 and 2017. This research aimed to evaluate the efficiency of the two production stages. The results revealed decreasing average efficiency scores for both types of firms. The author suggested that the Saudi insurance market required new consolidation and foreign participation regulations to boost its dynamism.

A review of the available literature reveals a scarcity of empirical research examining FinTech adoption in the Islamic insurance industry within the Saudi context. To the best of the authors' knowledge, this research area remains underexplored. Consequently, the present study seeks to address this research gap by investigating the adoption of FinTech in the Islamic insurance sector in Saudi Arabia.

3. Research Methodology

This paper adopts an exploratory research design, considered suitable in situations where limited literature has examined the subject (Neuman, 2014), specifically the adoption of FinTech in the Islamic insurance industry within the Saudi Arabian context. This paper utilises a qualitative method in the form of semi-structured interviews to gather expert opinions on the challenges and prospects of adopting FinTech in the Islamic insurance industry in the Kingdom of Saudi Arabia.

The target population for this study comprises FinTech, Takaful and Islamic finance experts, including professionals, regulators and academics. The sample frame was identified based on their substantive areas of expertise and knowledge in the field (Sandelowski, 1998). The sample size determined for the study consists of 12 experts, deemed adequate, as no set number of

interviews is required for a flexible design study (Robson & McCartan, 2016). Purposive sampling, combined with snowball sampling, was employed as the sampling technique. These techniques are suitable because experts are anticipated to be informative, with a deep understanding of the issues and can refer to other experts within the network (Neuman, 2014).

The interview questionnaire contains 10 open-ended questions, enabling the experts to express their opinions freely when addressing the questions (Neuman, 2014). The questions pertain to issues related to the adoption of FinTech in the Islamic insurance industry in the Kingdom of Saudi Arabia. As Sandelowski (1998) suggested, peer experts validated the questionnaire items. Table 1 below presents the interview questionnaire.

Table 1: Interview Questions

No	Questions
1	To what extent is it true to say that FinTech has been fully adopted in the Islamic insurance industry in Saudi Arabia since the launch of FinTech Saudi in 2018?
2	What were the major efforts in putting infrastructure in place to realise the necessary digital transformation for the adoption of FinTech in the Islamic insurance industry? To what extent are these efforts successful?
3	Why do you think adopting FinTech would attract innovations and quality talents and enhance the competitive advantage of the Islamic insurance industry in the Kingdom?
4	To what extent has the adoption of FinTech enhanced the efficiency and quality of products and services in the Islamic insurance industry in the Kingdom?
5	How has the adoption of FinTech enhanced the governance of the Islamic insurance industry in the Kingdom?
6	Why do you think the adoption of FinTech in the Islamic insurance industry in the Kingdom would lower operational costs, enhance security, realise faster payment, provide better transactions and enhance efficiency and transparency?
7	Do you think the existing regulatory framework is challenging to the adoption of FinTech in the Islamic insurance industry in the Kingdom?
8	Studies show that the adoption of FinTech entails the following challenges: weak financial inclusion, lack of digital awareness, conservative culture, trust deficit, security deficit, weak infrastructure, absence of legal protection regulations and lack of impact investment, among others. To what extent are these challenges true in the case of FinTech adoption in the Islamic insurance industry in Saudi Arabia?
9	What are the prospects for the Islamic insurance industry in Saudi Arabia after the adoption of FinTech?
10	What other suggestions would you provide to the Islamic insurance industry in the Kingdom adopting FinTech to enhance its efficiency, competitiveness, quality of products and services, innovations, investments, human resource quality and growth?

In light of the COVID-19 pandemic, the researchers could only interview 9 out of the intended 12 experts. Most of the interviews (7 out of 9) were conducted online through in-depth Zoom meetings and mobile phone calls, while the remaining two took place face-to-face. The experts were initially contacted by mobile phone and email to explain the study's objectives and the interview process. On average, the interviews lasted approximately 45 minutes. The data acquired were recorded in the Zoom cloud and through mobile phone recordings before being transcribed, analysed, coded and categorised into themes to facilitate the presentation of the results.

4. Results and Analysis

This section presents and discusses the overall findings from the interview data obtained from experts on the issues related to the adoption of FinTech in the Islamic insurance industry in Saudi Arabia. The section is structured into two subsections: the first presents the profiles of the experts interviewed, and the second presents and discusses the interview data results.

4.1. Profiles of the Experts

Table 2 below provides the profiles of the nine experts interviewed by gender, profession and institution in the Kingdom of Saudi Arabia. The experts have been coded with 'E' for expert followed by a number. Thus, Expert 1 is coded E1; Expert 2 is coded E2 and so on until Expert 9.

Table 2: The Profiles of the Experts

Expert	Gender	Profession	Institutions in Saudi Arabia
E1	Male	Vice of Chief Financial Officer	The Mediterranean and Gulf Cooperative Insurance and Reinsurance Company (MEDGULF)
E2	Male	Vice Director of Financial Department	Acig Company
E3	Male	Chief Executive Officer	FinTech Saudi
E4	Male	Vice President of IT	AlRajhi Takaful
E5	Male	Vice President of Digital Transformation	AlRajhi Takaful
E6	Male	Vice President of IT	AlRajhi Takaful
E7	Male	Digital Marketing Manger	AlRajhi Takaful
E8	Male	Academician [Assistant Professor]	Qassim University
E9	Male	Chief Executive Officer	Saudi Tech Company

As shown in Table 2 above, all the experts in the sample are male. Such gender bias is often inevitable in a predominantly male-dominated profession. The experts vary by profession and institution, but almost all nine experts have at least obtained bachelor's degrees in information and communication technology, conventional insurance and Takaful, Islamic banking and finance, Shariah, digital marketing or FinTech. Most of them (7 out of 9) are top management officers in their respective institutions: two of them are chief executive officers of the largest FinTech companies in Saudi Arabia; three of them are vice presidents (two presiding over information technology, and one in charge of digital transformation) in large Takaful companies in the Kingdom; two are a vice chief financial officer and vice director of the financial department, respectively. Meanwhile, one expert is the digital marketing manager in a large Takaful company, and the other is an academician specialising in Takaful and FinTech.

The experts' backgrounds demonstrate that they are suitable and relevant for this study. Nearly all of them have extensive and sufficient experience in FinTech and Takaful in the Kingdom of Saudi Arabia. They were all able to provide valuable, credible, accurate and rich information on the related issues raised during the interview sessions.

4.2. Data Analysis

Based on the responses from the experts, seven themes were identified, corresponding to the interview questions:

- Full Adoption of FinTech in the Islamic insurance industry
- Infrastructure and Digital Transformation
- Attracting Innovation and Quality Talent
- Enhancing Efficiency, Quality of Products and Governance
- Impact of FinTech on Cost-saving in the Islamic insurance industry
- Challenges and Prospects of the Islamic insurance industry Adopting FinTech in the Kingdom
- Suggestions for the Islamic insurance industry Adopting FinTech in the Kingdom

Table 3 presents the seven themes and their corresponding interview questions. The results are presented and discussed based on these themes in subsections 4.2.1 to 4.2.7.

Table 3: The Seven Themes and Their Corresponding Interview Questions

Themes	Interview Questions
Full Adoption of FinTech in the Islamic Insurance Industry	To what extent is it true to say that FinTech has been fully adopted in the Islamic insurance industry in Saudi Arabia since the launch of FinTech Saudi in 2018?
Infrastructure and Digital Transformation	What were the major efforts towards putting infrastructure in place to realise the necessary digital transformation for the adoption of FinTech in the Islamic insurance industry? To what extent are these efforts successful?
Attracting Innovation and Quality Talent	Why do you think the adoption of FinTech attracts innovation and quality talents and enhances the competitive advantage of the Islamic insurance industry in the Kingdom?
Enhancing Efficiency, Quality of Products and Governance	To what extent has the adoption of FinTech enhanced the efficiency and quality of products and services in the Islamic insurance industry in the Kingdom?
	How has adopting FinTech enhanced the governance of the Islamic insurance industry in the Kingdom?
Impact of FinTech on Cost-saving in the Islamic Insurance Industry	Why do you think adopting FinTech in the Kingdom's Islamic insurance industry would lower operational costs, enhance security, realise faster payments, provide better transactions and enhance efficiency and transparency?
Challenges and Prospects of the Islamic Insurance Industry Adopting FinTech in the Kingdom	Do you think the existing regulatory framework is challenging to the adoption of FinTech in the Islamic insurance industry in the Kingdom?
	Studies show that adopting FinTech entails the following challenges: weak financial inclusion, lack of digital awareness, conservative culture, trust deficit, security deficit, weak infrastructure, absence of legal protection regulations and lack of impact investment, among others. To what extent are these challenges true in the case of FinTech adoption in the Islamic insurance industry in Saudi Arabia?
	What are the prospects for the Islamic insurance industry in Saudi Arabia after the adoption of FinTech?
Suggestions for the Islamic Insurance Industry Adopting FinTech in the Kingdom	What other suggestions would you provide to the Kingdom's Islamic insurance industry in the adoption of FinTech to enhance its efficiency, competitiveness, quality of products and services, innovations, investments, human resource quality and growth?

4.2.1. Full Adoption of FinTech in the Islamic Insurance Industry

To address this theme, experts were asked the following corresponding question, as shown in Table 3: 'To what extent is it accurate to state that FinTech has been fully adopted in the Islamic insurance industry in Saudi Arabia since the launch of FinTech Saudi in 2018?' The opinions of the experts on this theme are mixed. Four believe that FinTech has been fully adopted in the Islamic insurance industry in Saudi Arabia, supporting their views for various reasons. For instance, they mention that FinTech has become more accessible, its usage has become more widespread, and technology adoption in the Islamic insurance industry has reached core departments such as claims management, sales, actuarial services, risk assessments and database management. One of the experts (E7) in this group made the following statement:

> *Indeed, FinTech is fully adopted in the Takaful industry. It is highly effective, and without using technology in the Takaful industry in Saudi, we would not have achieved what we have today. At AlRajhi Takaful, for example, we have gradually adopted technology for over eight years until we achieved 100% digital and online for motor, visiting visa and medical malpractice products. Additionally, we observed a decrease in sales and transactions from physical branches, whereas there is a constant increase in sales through digital sources every year* [E7].

In contrast, three experts argue that FinTech has not been fully adopted in the Islamic insurance industry in Saudi Arabia. Among the reasons they provide to support their views are limitations in data collection, data analytics, user experiences and the need to extend FinTech adoption to significant areas of the insurance industry, such as health and life insurance. The following view is shared by an expert (E2) in this group:

> *I would say it is not fully adopted, although it has been adopted in some areas of Takaful products and services in Saudi. Furthermore, in the last few years, the industry has gradually adopted technology to improve transactions by using more digital solutions, particularly in terms of payment solutions and sales.*

Meanwhile, two experts offered a general perspective on the issue. They related their experiences with how the adoption of FinTech in the Islamic insurance industry has progressed over the years and the type of support provided by the Kingdom to advance this progress. Below is the view shared by one of these two experts (E4):

> *Before I joined the Takaful industry five years ago, all the technology solutions were rather outdated and ineffective. However, we are now far better than we were five years ago in terms of payment solutions, customer services and product reliability. More specifically, our focus in adopting technology is on the customer experience, and we have made great strides in this area, even though technology developments and solutions are vast and fast-paced* [E4].

4.2.2. Infrastructure and Digital Transformation

The corresponding question relating to the second theme (see Table 3 above) was posed to the experts to solicit their opinions: 'What were the major efforts in putting infrastructure in place to realise the necessary digital transformation for adopting FinTech in the Islamic insurance industry? To what extent have these efforts been successful?'

> *Almost all the experts are positive and unanimous in their views that there have been tremendous efforts and support from the Kingdom and various related agencies in supporting infrastructure and digital transformation to realise the adoption of FinTech in the Islamic insurance industry. They acknowledge that there is continuous improvement in the adoption of FinTech in the Islamic insurance industry, where the system has become more integrated, and support is received from e-government services and database providers. They cited examples of such support, including authentication, security and data collection by the Absher platform and payment solutions from the SADAD platform. With regard to the extent of success of these efforts, most of the experts' responses implicitly address this in the first part of the question. Below are some responses from individual experts.*
>
> *Saudi e-government digital services are among the most advanced digital services, providing sufficient infrastructure for technology adoption and usage, especially in terms of identification and payment. This is evident in the financial sector. Moreover, telecom companies offer well-developed internet services covering most of the country, leading to better experiences and more solutions. Moreover, most (if not all) Saudi people have Internet access and are familiar with the latest technology. More than half of the younger generation population uses apps and technology in most aspects of their lives. Additionally, takaful companies adopt technology in most of their transactions and procedures [E6].*
>
> *There has been a considerable effort towards developing infrastructure from the government, takaful and insurance companies or third parties. In terms of the government, e-government has contributed significantly to the development of FinTech in the takaful industry – from authentication via the Absher platform to payment solutions from the SADAD platform. Consequently, takaful companies do not face any problems in these areas. Regarding third parties, there are numerous opportunities, such as integration between takaful companies and service providers (e.g. hospitals and car dealers), which have helped achieve faster services, wider coverage and more accurate information. Takaful companies utilise various digital platforms to facilitate their processes, either in sales or claims. For instance, Alrajhi Takaful fully (100%) issues motor insurance through digital platforms using their website, digital application and third-party websites (agents)* [E5].

4.2.3. Attracting Innovation and Quality Talents

To explore the third theme, experts were asked the following question, as shown in Table 3 above: 'Why do you think the adoption of FinTech attracts innovation and quality talent and enhances the competitive advantage of the Islamic insurance industry in the Kingdom?' The experts provided several reasons why they believe the adoption of FinTech in the Islamic insurance industry in the Kingdom would attract innovation and quality talent and enhance competitive advantage. The following are some of the key reasons they cited:

Concerning innovation, experts maintain that technology is inherently innovative and cannot progress without innovation. As a result, the industry would inevitably attract innovation. Additionally, FinTech adoption is fundamentally driven by technology, making innovation imperative. Lastly, there is significant growth potential and opportunity in InsurTech, which is progressively becoming mainstream and a trend in the Islamic insurance industry, and all these developments necessitate innovation.

In terms of quality talent, the experts concur that it is closely associated with technology. Moreover, the experts believe that quality talent is drawn to the Islamic insurance industry's adoption of FinTech for the following primary reasons. First, as mentioned above, InsurTech in the Kingdom presents vast growth opportunities, and the demand for highly skilled talent will continue to increase. Second, quality talent is enticed by competitive financial returns and the industry's efficient, flexible working environment. Third, the technology industry appeals to many young people and the new generation. The experts' responses concerning enhancing competitive advantage are limited and mainly implied. The following are some extracts of the individual experts' views on this theme.

> *Due to the substantial investment in technological solutions from governments worldwide, digital companies, non-digital companies and individuals have an impact on markets, including financial sectors and Takaful industries. As a result, talent finds opportunities in these various sectors and industries, of which Takaful is one, and they continue to grow with enormous potential [E8].*
>
> *It is evident that qualified talent is attracted by innovation, in which technology is the primary driver. Technology also drives innovation in the Takaful industry, which still offers significant growth opportunities and attractive returns [E1].*

Other perspectives from individual experts include, for example, E5's view: 'Talent now sees opportunities in the Islamic insurance industry in Saudi Arabia due to technology adoption, which would translate into improved income and working environments from which talent

can benefit financially'. Similarly, E7 believes that 'The Islamic insurance industry in the Kingdom is now highly attractive for talent, particularly with the adoption of FinTech and InsurTech, both of which have become recent trends'. Another intriguing perspective is shared by E2, who said, 'We see more talent joining the market today, as there are increased opportunities for them to benefit from the rapid and high demand for Takaful products and services that have yet to mature'.

4.2.4. Enhancing Efficiency, Quality of Products and Governance

The fourth theme was divided into three sub-themes: enhancing efficiency, improving product quality and strengthening governance efficiency. To address these sub-themes, experts were asked the following two corresponding questions, as shown in Table 3 above: 'To what extent has the adoption of FinTech enhanced the efficiency and quality of products and services in the Islamic insurance industry in the Kingdom?' and 'How has the adoption of FinTech enhanced the governance of the Islamic insurance industry in the Kingdom?'

Regarding the first sub-theme, enhancing efficiency, the experts unanimously agree that adopting FinTech has increased efficiency in the Islamic insurance industry due to rapid and straightforward processes, improved accessibility and faster decision-making procedures. The following are some comments from the experts related to the first sub-theme.

> *Adopting FinTech promotes efficiency through fast, easy and interactive processes. As long as the customer has an internet connection, they can conduct all procedures related to customer information, government requirements, or Takaful companies' documents, as these are integrated into a single digital platform. Consequently, products are more reliable and able to meet specific customer needs, and the service is enhanced and expedited. Moreover, Takaful companies can contact customers easily and directly, leading to improved interaction and communication for better customer satisfaction [E5].*

> *Efficiency is achieved through larger sales volumes, rapid and straightforward payment systems, reduced product and service costs, vast databases, profitable businesses and minimised errors or mistakes in risk assessments [E6].*

Most experts agree that adopting FinTech in the Islamic insurance industry has improved the quality of products and services. This is because customers have a wider choice of a variety of quality products that are both reliable and readily available. The range of products offered is more affordable, faster and easily accessible with reduced human effort and cost and meets customer needs. The quality of these products and services is progressively enhanced through the use of digital solutions. The following are some interesting extracts from the experts' comments concerning the second sub-theme.

> *The quality of most Takaful products and services has improved as technology has become an integral part of each product and service's structure. For instance, claims that previously took more than 10 days to settle (using substantial human effort) can now be approved within a few hours, and customers receive a payment within one or two days [E2].*

> *Although there are some limitations in adopting technology in the insurance sector in Saudi Arabia, product and service quality is gradually improving due to the adoption of digital solutions [E9].*

Most experts concur that adopting FinTech has significantly improved governance efficiency within the Islamic insurance industry. This is evident through rapidly and precisely disseminating information, data and reports to board members and the industry's regulatory body. Additionally, there is a high degree of transparency in procedures, along with reduced moral hazards and fraud, culminating in enhanced corporate governance. The following are some notable perspectives from experts on the third sub-theme.

> *The digitalisation of most administrative and sales processes has enabled top managers, including board members and other executives, to receive more accurate data and reports. This helps to mitigate ambiguity, errors and uncertainty. Moreover, the regulatory body can obtain prompt and precise information on this industry, thereby fostering better governance [E4].*

> *FinTech adoption has greatly benefited the industry, as all pertinent information is recorded and shared with multiple parties, such as top managers, board of directors, government (regulatory bodies) and customers. This has substantially increased transparency and trust while minimising misinformation and abuse by the relevant authorities [E5].*

4.2.5. Impact of FinTech on Cost-saving in the Islamic Insurance Industry

In response to the fifth theme, experts were asked the following question, as shown in Table 3 above: 'Why do you think the adoption of FinTech in the Kingdom's Islamic insurance industry would lower operational costs, enhance security, realise faster payments, provide better transactions and enhance efficiency and transparency?'

The experts unanimously agreed that adopting FinTech in the Islamic insurance industry in the Kingdom would lower operational costs, enhance security, realise faster payments, provide better transactions and enhance efficiency and transparency. They identified the positive impacts of adopting FinTech in the Islamic insurance industry and provided several reasons to substantiate their views. The experts stated that technology offers authentic, fast and high-quality services and products at lower costs and with reduced hidden risks. They mentioned that risk assessment is more accurate and is based on actual data rather than probability, which usually incurs higher costs. They added that adopting technology has a substantial capacity, and with better facilities, it can achieve economies of scale, foster business growth and expand customer outreach. The experts also noted that with the adoption of FinTech, human efforts and errors were minimised, and the need for intermediaries and a chain of agents was significantly reduced. Below are some of the interesting views of individual experts.

> *Human efforts and errors are minimised. In addition, we see a reduction in the chain of agents between the company and customers, which has helped to reduce costs and facilitate faster and easier connections. Moreover, technology enables faster and more authentic receipt and delivery of documents from customers and third parties, which assists in expediting the payment of claims and premiums [E2].*

> *Due to the immense capacity of technology, much better facilities will be offered at a lower cost. For instance, digital solutions do not require agents, offices in different cities or staff, which incur high costs and provide services of lower efficiency [E7].*

4.2.6. Challenges and Prospects of the Islamic Insurance Industry Adopting FinTech in Saudi Arabia

This theme comprises two sub-themes, specifically the challenges and prospects related to FinTech adoption in the Islamic insurance industry in the Kingdom. The experts were asked three questions corresponding to these sub-themes [Table 3]. The first sub-theme question encompassed challenges associated with the regulatory framework, financial inclusion, digital awareness, conservative culture, trust deficit, security deficit, infrastructure, legal protection regulations and impact investment. The second sub-theme explored the prospects of the Islamic insurance industry in Saudi Arabia following FinTech adoption. The experts offered varied opinions on both sub-themes.

The experts addressed various questions concerning the challenges the Islamic insurance industry faces in adopting FinTech in the Kingdom. Expert responses were mixed in terms of whether the existing regulatory framework challenges FinTech adoption in the Islamic insurance industry. Approximately 70% contended that challenges related to the regulatory framework are minimal, as the

SAMA has been supportive in ensuring continuous improvement in the financial sector, including the adoption of FinTech in the Islamic insurance industry. Conversely, other experts maintained that the existing regulatory framework poses a challenge for several prominent reasons. First, they argued that it is challenging because the SAMA, a single regulatory authority, is solely managing the dynamic Islamic insurance industry. They suggested that a separate regulatory authority for Takaful is necessary. Second, they regarded the insurance law enacted in the Kingdom in 2008 as being implemented quite late. Third, the existing framework is reportedly not consistently updated in line with the industry's dynamics, and fourth, the experts expressed concerns about red tape and bureaucratic requirements. Here are some views from individual experts:

> *Sometimes, the regulatory framework is hampered by bureaucracy and strict conditions. For example, obtaining approval for the digital processing of specific products from the regulatory body is occasionally challenging. For instance, employment insurance for a company with more than 20 employees must be completed offline, as it must be executed by the owner, the CEO, or their Wakeel (agent), with the submission of additional document requirements. Data infrastructure also encounters critical and strict regulations that prevent Takaful companies from adopting more digital solutions in data storage, analytics and international cloud [E7].*

The experts were specifically asked whether the following factors pose challenges to the adoption of FinTech in the Islamic insurance industry: low financial inclusion, lack of digital awareness, conservative culture, trust deficit, security deficit, weak infrastructure, absence of legal protection regulations and lack of impact investment. The experts' responses to these factors were mixed, with the majority asserting that they do not pose severe challenges to the adoption of FinTech. Nevertheless, some experts have identified other specific challenges the industry faces in adopting FinTech. For instance:

> *I do not perceive these challenges as largely existing within Saudi Arabia's Takaful industry. However, one of the biggest challenges is the disallowance of cloud services. Presently, this is not permitted within the entire financial sector in Saudi Arabia if the cloud server is not located in the Kingdom. To date, local servers for cloud services have not been introduced. Proper understanding is required to minimise security risks if and when they become available. Consequently, all financial companies, including Takaful companies, must have their own servers or outsource them to third-party providers with servers located in Saudi Arabia. Moreover, without access to international cloud services, the industry misses out on most of the latest updates and services, and the cost of alternatives is higher [E5].*
>
> *I believe there is an absence or lack of updated legal regulations relating to the Takaful industry in Saudi Arabia, which could be one of the critical challenges facing this sector. There are still unclear rules for certain insurance and Takaful practices that cause financial losses or losses in time and effort. These issues slow the growth and innovation of this sector [E8].*
>
> *I do not think that the challenges facing the industry are substantial. However, I believe the following challenges in the case of Saudi Arabia are important to address: 1) absence of data integration between Takaful companies and other partners, including ministries such as the Health and Interior Ministry; 2) utilising more data to identify the actual cost of compensation instead of identifying cost based on probability; and 3) lack of information-sharing among important stakeholders in the industry [E9].*

The experts were asked about the prospects of the Islamic insurance industry in Saudi Arabia following the adoption of FinTech. Most of them held positive views and considered the prospects of adopting FinTech in the industry promising. For example, E3 stated, 'I believe the industry will continue to grow significantly as more technological solutions are introduced, providing advantages not only to policyholders but also to Takaful companies, the economy and all other spheres of life'. Another expert [E4] shared a similar outlook: 'It is a vast industry, and more products and services will be provided through innovative technological solutions, ultimately aiding in the development of the Takaful industry'. Likewise, E7 opined, 'The industry is remarkable, as digital technology will play an essential role in the near future given the substantial support and investments towards technology and Takaful products and services from the government, regulatory body and the Takaful industry'. However, two experts [E8 and E9] expressed reservations regarding their prospects due to a few issues. One of them remarked, 'Although the industry is expanding, several concepts have yet to be made familiar to individuals and companies. Furthermore, the government should enforce the need for insurance products, such as travel, health and home insurance, to the public'. [E8] The other expert commented, 'The regulatory framework should be made clearer and more specific, and digital solutions must be increased to meet the development of this sector'. [E9]

4.2.7. Suggestions for the Islamic Insurance Industry in the Adoption of FinTech in the Kingdom

In the final theme, the seventh theme, experts' opinions were solicited through the corresponding question presented in Table 3 above: 'What other suggestions would you provide to the Kingdom's Takaful industry in adopting FinTech to enhance its efficiency, competitiveness, quality of products and services, innovations, investments, human resource quality and growth?'

The experts provided various suggestions for the Takaful industry in the Kingdom concerning the adoption of FinTech to enhance its efficiency, competitiveness, quality of products and services, innovations, investments, human resource quality and growth. One expert [E2] warned of the absence of legal protection regulations. Similarly, another expert [E1] highlighted the need for 'a specific and independent regulatory body for insurance and Takaful in Saudi Arabia to expedite procedures and the development of the sector'. This view was echoed by an expert [E4], who commented on the necessity for 'clearer and more specific regulations for technology adoption and product development that could provide guidelines to Takaful companies'. Another expert [E8] emphasised that 'the Takaful and insurance regulatory body must be separate and independent from the central bank (i.e. SAMA)'. Expert [E6] offered the perspective of 'having a cloud service based in Saudi Arabia'. Concurrently, expert [E7] expressed the opinion that efforts should be directed towards 'centralising all government and private sector data in one location, similar to the case of Dubai, as more data leads to better service provision'. Below is an excerpt from an individual expert.

> *I would like to offer two suggestions: 1) International cloud hubs like Microsoft and Google should be invited to establish servers in Saudi Arabia, as this would significantly improve technology solutions and services; 2) Technology companies ought to be encouraged to invest in databases that facilitate information integration, which can contribute to better risk assessment. Subsequently, lower premium prices increased efficiency and profitability for Takaful companies and their shareholders and stakeholders [E5].*

5. Conclusion and Future Research

This study represents a pioneering empirical examination of FinTech adoption in the Islamic insurance industry in Saudi Arabia. The primary findings demonstrate that FinTech has been comprehensively adopted within the industry, with digital services and products becoming increasingly accessible and widespread. This is facilitated by continuous improvements in infrastructure development, digital transformation and system integration, supported by e-government services and database providers.

The adoption of FinTech in the Islamic insurance industry has attracted innovation and high-quality talent, given the sector's significant growth potential, opportunities in InsurTech, competitive

financial returns and efficient, flexible working environments. However, the study also identified key challenges related to FinTech adoption in the industry, such as the existing framework not being consistently updated in line with industry dynamics, concerns regarding bureaucratic requirements and a lack of cloud services within the Kingdom. Despite these challenges, the prospects for FinTech adoption in the Islamic insurance industry remain promising, partly due to technological advancements' immense potential and continuous innovation.

Experts have provided several recommendations to enhance the adoption of FinTech in the Islamic insurance industry in Saudi Arabia. One suggestion is the establishment of a separate Takaful and insurance regulatory body, distinct from the SAMA. This proposal, however, could potentially undermine SAMA's existing regulatory activities, such as the issuance of new rules related to insurance products and guidelines on bancassurance activities and actuarial work, as discussed in section 2 of this paper. Additionally, experts have recommended creating a Saudi Arabia-based cloud service and centralising all government and private sector data within a single platform.

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