Volume 16 | Issue 1 | March 2024

EISSN: 2289-4365

ISRA INTERNATIONAL JOURNAL OF ISLAMIC FINANCE

An International Refereed Journal
published by ISRA Research
Management Centre,
an imprint of
INCEIF University

INCEIF UNIVERSITY

ISRA RESEARCH MANAGEMENT CENTRE

This Journal is published by

International Shari'ah Research Academy for Islamic Finance (ISRA)
Research Management Centre

An imprint of INCEIF University

INCEIF UNIVERSITY
University Registration No. DU018 (W)
International Centre for Education in Islamic Finance (INCEIF)
(Company No. 200501036588 (718736-K))
Jalan Tun Ismail, 50480, Kuala Lumpur, Malaysia
T: +603 7651 4200 | F: +603 7651 4242 | W: www.inceif.org

E-ISSN: 2289-4365 https://journal.inceif.org/ijif

TABLE OF CONTENT

EDITORIAL TEAM

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024
pp. i-iv

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1

Chair of Editorial Advisory Board

EDITORIAL

بسم الله الرحمن الرحيم

In the Name of Allah, Most Gracious, Most Merciful

RESEARCH QUALITY AND IMPACT

Excellence in research quality and consideration of the practical and social impact as well as the original contributions to the field of knowledge are important determinants in the evaluation of a manuscript for publication. Journals seek to publish manuscripts of high quality to increase their readership, attract high calibre authors, and importantly, increase their impact through more citations, thus getting them to be included in high-ranking index databases.

A study by Margherita *et al.* (2022) specifically examined what represents quality in research practice and what are its characteristics. The authors proposed a multi-dimensional understanding of research quality and found 66 quality attributes that can be grouped into three aspects in the conduct of research:

- the research design: this relates to the conceptualisation of the research, its aims, methodology and assumptions, and would include attributes such as objectivity, interdisciplinarity, stringent argumentation, etc.
- the research process: this relates to the execution of the research activities, and would include attributes such as clarity, coherence, rigourousness, thoroughness, originality, conformance to ethics, etc.
- the research impact: this relates to the influence on academia, practitioners and the society, and would include attributes such as usefulness, novelty, generalizability, dissemination potential, social/political/educational/practical significance, etc.

While the above study presents a comprehensive framework for determining research quality, historically, quantitative evaluation of academic research quality (and productivity of authors) has been based on an analysis of the number of publications and their received citations, measured by an author's H-index. The H-index, short for Hirsch index, was developed by J.E.Hirsch as a quantitative metric to provide 'an estimate of the importance, significance, and broad impact of a scientist's cumulative research contributions' (Hirsch, 2005, p. 16569). It includes an assessment of both the quantity of publications (by taking into account the number of papers published) and an approximation of the quality of those papers (by assessing their impact on the target audience, measured by the number of citations to these articles).

INCEIF UNIVERSITY | ISRA RESEARCH MANAGEMENT CENTRE

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024
pp. 1–3

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.753

Academics and researchers seek to have a consistent stream of publications (which would reflect on their level of productivity or academic performance) and increase the citations to these publications (which would gauge their research quality and impact) to increase their H-index score. For instance, an H-index of 15 would mean that an author has published at least 15 articles that have each been cited at least 15 times. The H-index serves as a key indicator of the cumulative impact of an author's output and performance. It can also be used to compare researchers' performance across the same field of research, thus helping in decisions relating to academic recruitments, allocation of research grants, acceptance for research fellowships, or even nominations for excellence in certain research fields.

While H-index scores are usually calculated for individual authors, they can also be calculated for journals. Similar to an individual's H-index, a journal with an H-index of 15 would mean that they have published at least 15 articles that have each been cited at least 15 times. To increase their H-index, journals would often want to publish articles from highly-cited authors as it would help in increasing their own citescore when others cite those authors. Similarly, authors would like to publish in a high H-index journal as it would maximise their chances of being cited by other authors, and thus may improve their personal H-index score.

Like any other metrics measuring impact, the H-index has its own limitations—for example it puts at a disadvantage young researchers or new journals with a low number of publications and citations. Therefore it is useful to rely on multiple complementary metrics to have a more complete picture of research quality and impact. Among the citation-based metrics employed at the journal level are, notably, CiteScore, SCImago Journal Rank (SJR) and Source Normalized Impact per Paper (SNIP) which are calculated from data from Scopus for journals included in the database, and Journal Impact Factor (JIF) which is calculated by Clarivate Analytics for journals listed in the Science Citation Index Expanded (SCIE) and Social Sciences Citation Index (SSCI). Since *ISRA International Journal of Islamic Finance* is Scopus-indexed, its CiteScore and SJR and SNIP scores can be accessed at the Scopus website.

IJIF Volume 16 Number 1 March 2024

This is the first issue for 2024 and it considers eight articles on different contemporary topics in Islamic finance.

There are three articles that study country-cases within this issue. The first focuses on Africa and is titled '**Contribution of Islamic Finance to Inclusive Growth: A Comparative Study of the West African Economic and Monetary Union (WAEMU) and North African Countries**' by Ali Bamba Youssouf and El Hachloufi Mostafa. This article links Islamic finance development to inclusive growth and finds that the level of Islamic finance practice in North African countries is better than in WAEMU countries, thus contributing to the higher ranking of North African countries in the inclusive growth index developed in this study.

The second country-case assesses the inaugural *ṣukūk* issuance for real estate financing by the Libyan Investment and Development Holding Company (LIDCO). Titled '**Assessing Libya's First *Ṣukūk*: Sharīʿah Compliance and Financial Viability**' and authored by Mohamed Faraj Lemhishi and Mohammad Ghaith Mahaini, the paper highlights the legal and Sharīʿah challenges faced in the *ṣukūk* issuance.

The third country-study is in the Algerian context, titled '**Analytical Study of the Implementation of AAOIFI's Ethical Standards in the Algerian Islamic Banking System: Assessment and Recommendations**' by Boudjelida Abdelhak and Bouaita Abderrezzak. In light of the long-standing engagement of the country with AAOIFI, the article studies the legislative texts governing banking operations in Algeria to examine the extent to which the Algerian Islamic banking system has adopted AAOIFI's ethical standards.

Two other articles discuss the increasingly important issue of sustainability. The first, '**Sustainable Islamic Financial Engineering with Special Reference to Gulf Cooperatıon Council's Economies**' by Tariqullah Khan and Imene Tabet, seeks to develop an embedded Islamic economics and finance framework in line with *maqāṣid al-Sharīʿah* to facilitate the design of sustainable contracts and Islamic financial engineering. The paper focuses on the GCC countries to identify sustainability challenges and how Islamic finance can best respond.

The article '**Sustainable Investing and Islamic Finance: Evidence from the Organisation of Islamic Cooperation (OIC) Countries**' by Yuwen Dai, on its part, examines whether investing in the sustainability indices from OIC countries that are partners of the Sustainable Stock Exchanges initiative can outperform: (i) the global equity market benchmarks, and (ii) the Islamic benchmarks. It also conducts a case study on Borsa Istanbul, which has the best-performing sustainability equity index from OIC countries.

Another related concept to the sustainability discussion is about environmental, social and governance (ESG) impact. In the article titled '**ESG and ESG Controversies on Firm Risks in Emerging Markets: The Moderating Roles of Sharīʿah Screening and Legal Origin**' by Siew Peng Lee and Mansor Isa, the authors examine the issue of both ESG and ESG controversies and whether Sharīʿah screening and the legal environment influence the impact of ESG and ESGC on firm risks in emerging markets.

This journal issue also includes discussion on modern technologies, blockchain and artificial intelligence (AI):

- '**Blockchain Use Case in Islamic Social Finance**' by Sherin Kunhibava, Aishath Muneeza, Zakariya Mustapha, Maryam Khalid and Gopal Kiran, examines the application of blockchain technology in two Islamic social finance cases, notably Finterra and Blossom Finance.
- '**AI Applications for *Fiqh* Rulings in Islamic Banks: Sharīʿah Committee Acceptance**' by Othman Abdullah, Amir Shaharuddin, Muhamad Azhari Wahid and Mohd Shukor Harun, studies the acceptance of the use of AI in the *fiqh* ruling process by getting the view of Shariah committee members of Islamic banks in Malaysia.

We hope the articles published will contribute to the body of knowledge and benefit our readers.

Allah (SWT) is the Bestower of success, and He knows best.

Beebee Salma Sairally
ISRA Research Management Centre, INCEIF University, Malaysia

REFERENCE

Hirsch, J.E. (2005), 'An index to quantify an individual's scientific research output', *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 102 No. 46, pp. 16569–16572, https://doi.org/10.1073/pnas.0507655102

Margherita, A., Elia, G. & Petti, C. (2022), 'What is quality in research? Building a framewok of design, process and impact attributes and evaluation perspectives', *Sustainability*, Vol. 14 No. 5, https://doi.org/10.3390/su14053034

CONTRIBUTION OF ISLAMIC FINANCE TO INCLUSIVE GROWTH: A COMPARATIVE STUDY OF THE WEST AFRICAN ECONOMIC AND MONETARY UNION (WAEMU) AND NORTH AFRICAN COUNTRIES

Ali Bamba Youssouf
Department of Business Administration, University Institute of Abidjan, Ivory Coast
El Hachloufi Mostafa
Faculty of Legal, Economic and Social Sciences, Hassan II University, Casablanca, Morocco

Received
24 October 2020

Revised
19 December 2020
26 June 2021
29 December 2023
20 February 2024
5 March 2024

Accepted
11 March 2024

ABSTRACT

Purpose — In recent years, economic growth in the West African Economic and Monetary Union (WAEMU) has been positive, but the precariousness of the population has remained virtually unchanged. Thus, the search for inclusive growth should be considered, and that is the subject of this comparative study to determine the contribution of Islamic finance to inclusive growth.

Design/Methodology/Approach — First, this paper sets up an inclusive growth index to undertake a comparative study between WAEMU countries and North African countries before and after the integration of Islamic finance in order to examine the impact of Islamic finance in these countries. The paper then compares these two areas, WAEMU countries and North African countries, variable-by-variable, using a Student's t-test over the period 2010–2023. The group of North African countries included in this study is found to have a high Islamic finance development indicator compared to the WAEMU zone.

Findings — The results show that growth is more inclusive in North African countries. However, the lack of data on Islamic financial institutions operating in the countries examined makes it impossible to determine the extent of their contribution to the economies of these countries.

Originality/Value — The studies that have dealt with this topic have been limited to the relationship between finance and the components of inclusive growth. Others have chosen the quality of economic growth as the variable for inclusive growth. However, this study goes beyond that by showing the influence of Islamic finance on an index of inclusive growth that takes into account eight components. This adds value to the existing literature.

Keywords — Inclusive growth, Islamic finance, North Africa, West African Economic and Monetary Union (WAEMU)

Article Classification — Research paper

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024
pp. 4–20

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.749

INTRODUCTION

The West African Economic and Monetary Union (WAEMU) is an economic bloc composed of eight countries (Benin, Burkina Faso, Guinea-Bissau, Ivory Coast, Mali, Niger, Senegal and Togo), all of which share one central bank, the Central Bank of West African States (BCEAO). In recent years, this economic bloc has remained resilient in the face of economic turbulence. It recorded an average growth of 5.7 per cent in the first quarter of 2023, and the forecast for the last quarter of 2023 was 6.1 per cent (BCEAO, 2023a). Economic growth is one of the key indicators of a nation's economic progress; however, the Union's growth conceals a range of socio-economic vulnerabilities. It faces one of the highest poverty levels in the world, the lowest human development index, and high unemployment rates compared to benchmark countries (UNDP, 2018). This shows that economic growth in the region benefits only a small portion of the population. It should be noted that in 2021, Mali's gross domestic product (GDP) per capita was USD881.1 per year, and 46.6 per cent of the population lived below the poverty line. Similarly, Burkina Faso has a per capita GDP of USD893.1, with about 43 per cent of the population living below the poverty line. Ivory Coast has a per capita GDP of USD2,290, with 39.5 percent of its population living below the poverty line in 2018 (World Bank, 2023). Added to this is a financial system that does not play its intermediary role well. According to past literature, the financial system lacks the needed dynamism and sophistication (Jean-Philippe & Adeline, 2018). Thus, inclusive growth would be welcome in this Union.

The theme of inclusive growth began to gain momentum in 2006 after the publication of a World Bank report on equity and development (World Bank, 2006). Inclusive growth is growth that benefits all segments of the society without distinction. In other words, growth must not only be high, but it must also allow a large number of the population to participate and use its benefits, which will result in human and economic development (Klasen, 2010). This will be reflected in an improvement of the living conditions of the nation in terms of health, education, infrastructure and access to finance. Positive economic growth is desirable, but inclusive growth goes beyond this to generate a sustainable increase in wellbeing, which implies an equitable sharing of growth dividends among individuals and social groups (OECD, 2014). GDP has been used as an indicator of economic success for a long time, but researchers have criticised it as insufficient to measure wellbeing (Joseph *et al.*, 2009). This means that inclusive growth, beyond income and wealth, takes into account non-monetary factors such as health and education.

In this regard, this work is part of the search for a means by which WAEMU can achieve inclusive growth that would benefit a large number of its population. The objective of this paper is to examine the extent to which the financial system, and more specifically the Islamic financial system, would be a key means to contribute to inclusive growth. It may be noted that advocates of Islamic finance claim it promotes sharing and fights against exclusion. This work should raise awareness at the level of institutions and leaders because the Islamic financial system is still very neglected in the African region. ICD-Refinitiv (2022) reported that Africa represents only 2 per cent of the global Islamic finance industry, with the WAEMU area having only 18 Islamic financial institutions (BCEAO, 2023b).

The analysis shows that these WAEMU countries have maintained positive economic growth but without significantly reducing the rate of poverty. It suggests that this growth is not inclusive and that Islamic finance could be an important lever for inclusive growth in the WAEMU area.

The paper is organised as follows: the next sections review the past literature on this area of research, provide details on the methodology adopted, present and discuss the results, proffer recommendations, and conclude the study.

LITERATURE REVIEW

The scarcity of empirical or theoretical literature on the impact of finance on inclusive growth is due to the complexity of the definition and the non-existence of indicators of inclusive growth. Indeed, there is no clear and official definition of this concept. However, its impact on development comes from the statements of major institutions and researchers on development policy. Nonetheless, there is a consensus that it is growth that creates opportunities and makes them accessible to all—growth that allows all members of a society to participate in and contribute to its process on an equal basis regardless of social rank (Ifzal & Zhuang, 2007).

The sentiment that inclusive growth is ethical growth (Stiglitz, 2012) accords with Islamic teachings that all members of a society should have the same opportunity; they should benefit equally from natural resources, and society should provide the disabled with the conditions for a dignified life, including housing, education, health and other facilities (Mahmoud *et al.*, 2012). Inclusive growth is conceptualised through four dimensions: economic inclusion, social inclusion, political inclusion and spatial inclusion (an indicator that measures connectivity, access to the nearest market and public services) (Hakimian, 2016). Based on this assertion, inclusive growth is considered to be growth that promotes the well-being of the population, provides and equitably shares opportunities with the population in terms of easy access to financial services, a good health and education system, and helps in the reduction of unemployment, poverty and inequalities (Ifzal & Zhuang, 2007). Thus, within both Islamic and conventional finance, inclusive growth aims to achieve these objectives.

Conventional Finance and Inclusive Growth

The countries under review in this paper are those in which the conventional financial system dominates. These countries have been able to maintain resilient growth despite economic turmoil. However, this positive growth hides numerous scourges: unemployment, poverty and other challenges. This situation confirms the work of Kuznet (1955), who propounded that growth increases inequality.

To achieve inclusive growth, access to opportunities must be expanded so that a large proportion of the population can participate, regardless of their individual circumstances (Felipe, 2012). Indeed, inclusive growth is an integral part of the objectives of major institutions today. The OECD report (2014) contains statements about the importance of inclusive growth from the World Bank (WB), Asian Development Bank (AfDB), United Nations Development Programme (UNDP) and European Union (EU). While these institutions have different strategies, they all agree that achieving inclusive growth requires not only strong economic growth but also reaching a wide range of sectors and a significant portion of a country's workforce (OECD, 2014).

In order to achieve this objective, it is necessary to give the entire population equal access to markets and resources, to prioritise productive work, which alone creates surplus value, and then to consider the redistribution of income to increase income. These aims can be achieved through the ease of access to the financial system by both small and medium-sized enterprises (SMEs) and households. The financing of enterprises will allow for the creation of jobs and also the changeover of some from informal to formal businesses, which will be beneficial to the state. Access to financial services by poor households also generates savings.

A study carried out on a few countries of the Organisation for Economic Co-operation and Development (OECD) shows that the financial system increases income inequalities by granting credit to the highest income earners to the detriment of the lowest income earners (Cournède *et al.*, 2015). High-income earners have the advantage of benefiting from loans because the banks find them more profitable. This situation is not only a handicap for inclusive growth, it is also a long-term handicap for economic growth. This selectivity in the provision of finance is not limited to enterprises but often affects other sectors in African countries.

For the International Monetary Fund (IMF), inclusive growth can only be achieved from a debt, investment, growth and natural resources (DIGNAR) model. This model examines the effects of different public investment profiles, levels of investment efficiency and oil revenue trajectories on the accumulation of public capital, savings and public debt. The model is based on the proper functioning of the financial system. A financial system that plays its role well is said to be capable of absorbing enough resources through savings to place them into investments and help the state in its budgetary policies through a good allocation of its resources.

From these and previous recommendations, it is clear that the financial system can contribute to inclusive growth, but it must be developed with the support of the authorities. A study conducted on Cameroonian data is no exception. Using the Bayesian model averaging method, the study reveals how finance could contribute to inclusive growth (Ningaye, 2017). The results of this study show a low level of growth inclusion arising primarily from microfinance products that were made available to the poor population but were not adapted to their needs. The lack of a financial product tailored to a segment of the population is a flaw in the financial system or a handicap to financial inclusion. However, when finance is inclusive, it allows the economy to be pushed onto the path of sustainable growth because it will generate easy and affordable access to a large majority of the population. It will also enable agents to plan for consumption and investment (Corrado & Corrado, 2017).

In addition, researchers examined the role of institutions in the pursuit of inclusive growth through migrant remittances (Cha'ngom & Tamokwe, 2018). Using the generalised method of moments in 24 sub-Saharan African countries from 1984–2014, the study showed that migrant remittances contribute positively to inclusive growth, but only if financial institutions respect the rules and laws in these countries. Therefore, governments should participate in improving the quality of institutions as they can help the beneficiaries of these funds to allocate their remittances properly.

In addition, other researchers show the effect of finance on inclusive growth by other methods. An empirical study conducted over the period 2000–2016 on 54 African countries revealed the effect of public debt on inclusive growth (Jennifer *et al.*, 2019). The results of this study show that the size of the government influences inclusive growth positively and the size of debt influences inclusive growth negatively. Therefore, governments have to reduce public debt and make a good allocation of its borrowings to create jobs and provide training to a large part of the population. These optimal allocations could positively contribute to inclusive growth.

Another research conducted in Nigeria and India shows the effect of borrowing on inclusive growth (Chigbo *et al.*, 2020). The results of this study show that borrowing has a positive influence on inclusive growth in Nigeria but not in India. Therefore, Nigeria should take advantage of borrowing instead of aid to improve its inclusive growth. In the same vein, another study links finance and inclusive growth in sub-Saharan Africa. Using the generalised moment method, it shows that the informal sector has an impact on inclusive growth and the relationship between inclusive growth and financial inclusion is in the form of an inverted U-shape (Amponsah *et al.*, 2021).

In view of this literature on the relationship between conventional finance and inclusive growth, it is clear that there is a causal effect between these two variables. In African countries, this effect is often insignificant because of the quality of the financial institutions prevailing in those countries. Moreover, a review of the existing literature shows the absence of a good indicator to measure inclusive growth. Most of the works done in this regard have chosen the quality index of economic growth (e.g., Omar & Laamire, 2021; Amponsah *et al.*, 2023). However, researchers and large institutions are now focusing on the search for inclusive growth because of the challenges posed by economic growth and its inability to measure well-being. So, using the same measure of growth to capture inclusive growth has its own disadvantages.

Islamic Finance and Inclusive Growth

Several works (Andersen & Tarp, 2003; Patrick & Kpodar, 2015; Elmehdi, 2016; Youssouf Ali, 2022) show the positive impact of Islamic finance on economic growth. However, none explicitly addresses the link between Islamic finance and inclusive growth empirically.

It should be noted that Islamic law (*maqāṣid al-Sharīʿah*) advocates for the welfare of all people through the safeguarding of faith, life, intellect, family and wealth (Burhanudin *et al.*, 2023). Islamic finance, having its principles based on Islamic law, is against any kind of marginalisation and promotes the inclusion of all social strata in the economic system to eradicate poverty.

Having discovered that Islamic finance has successfully contributed in the reduction of poverty in the Organisation of Islamic Cooperation (OIC) countries, Mahmoud *et al.* (2012) argued in favour of more diversity of Islamic finance products for poverty reduction and inequality. Thus, based on this assertion, SMEs which have been marginalised by the conventional financial system now find financing through the Islamic financial system.

Aware of certain restrictions concerning the financing of SMEs, a group of practitioners studied, using the Ordinary Least Squares (OLS) method and the fixed effect model, the veracity of the claim that SMEs are generally underfunded. The results of their study show that Islamic banks in countries such as Turkey are more willing to finance SMEs than conventional banks (Ahmet *et al.*, 2016). Compared to African countries, Islamic finance in Turkey has achieved a good level of integration in the economy and can help SMEs better contribute to the economy.

A study conducted in Senegal confers similar results despite the weakness of the integration of Islamic finance in the country. It shows the predisposition of Islamic banking and Islamic microfinance to finance SMEs. Based on an econometric estimation of non-cylindrical panel data on a sample of 100 microfinance institutions (MFIs) based in Senegal over the period 2009–2017, the study shows that Islamic banks and MFIs participate in the financing of SMEs and help to reduce the financing gap of these enterprises. Access to Islamic financing also helps to increase the use of banks in Senegal and reduces exclusion (Seck, 2019).

In order to show the impact of Islamic finance on financial inclusion, other researchers conducted an economic regression using a sample of member countries of the OIC. The results of their study show that countries with a good practice of Islamic finance manifested a good level of financial inclusion and that SMEs in these countries had easy access to finance (Naceur *et al.*, 2015). Another study by Kurunkatil (2019) which sought to study Islamic finance and exclusion, conducted data analysis of a sample of 1,000 customers of both Islamic and conventional banks. The author found that the Islamic financial system is best adapted to combat exclusion and is the system that takes into account the lower social strata of the society the most. Indeed, this layer of the population is generally affected by socio-economic problems.

In order to understand the impact of Islamic finance on the socio-economic situation in West African countries, two researchers conducted a comparative study between countries practising Islamic finance and those not practising it. The evidence of their findings shows that countries practising Islamic finance manifest a good level of health, education and easy access to electricity and the Internet (Djoufouet & Nzongang, 2019).

In addition, work has been carried out to gain insight into the provision of Islamic or participatory financial products in the financing of the social and solidarity economy in Morocco. These authors conducted an empirical study based on a sample of 40 cooperatives. The results show that Islamic finance has given a new lease of life to social and solidarity-based entrepreneurship and indicate that the authorities should give Islamic finance a boost to further increase its impact (Drissi & Angade, 2020).

Furthermore, the effect of Islamic finance on income inequality in sub-Saharan African countries is demonstrated from an empirical study using generalised moments. The results of this study show that access to Islamic finance contributes to the reduction of income inequality in sub-Saharan African countries, as do other variables such as enrolment and investment in secondary education (Ngono, 2021).

To this can be added the study by researcher Youssouf Ali (2022), which examined the impact of Islamic finance on economic growth in the WAEMU zone. This study shows a small impact of Islamic finance on economic growth. This is explained by the weak integration of Islamic finance in this zone and also by the insufficient data on the Islamic financial system. The study of Majidi and El Yousfi (2022) equally reveals a positive causality of the development of the Islamic financial system on growth in ten Middle East and North African (MENA) countries.

In view of the above literature review, it must be acknowledged that the emphasis is on the quality of Islamic financial institutions to have an impact on inclusive growth. In developing countries that are members of the Islamic Development Bank (IsDB), the problem of financing SMEs through Islamic finance is said to be due to the weak infrastructure of Islamic finance institutions (Saaid Ali, 2013). Added to this are the managerial incapacity of SMEs and lack of appropriate structure (Hussein, 2016). In addition, like conventional finance, Islamic finance also needs the support of the relevant authorities.

The above literature review also reveals that there is a lack of literature on the impact of Islamic finance on inclusive growth per se. The works cited in this literature review dealt more with the components of inclusive growth such as poverty, inequality, financial inclusion and SME financing. In addition, there is a lack of studies linking Islamic finance to the indicators of inclusive growth. This paper will therefore address these gaps.

RESEARCH METHODOLOGY

This work involves the development of an inclusive growth index and a comparative study between seven WAEMU countries (Benin, Burkina Faso, Ivory Coast, Mali, Niger, Senegal and Togo, excluding Guinea Bissau because of unavailability of data) and seven North African countries (Algeria, Tunisia, Mauritania, Morocco, Egypt, Sudan and Libya) with regard to the contribution of Islamic finance to inclusive growth.

The comparative study was performed using the Student's parametric test method. Researchers tend to conduct comparative studies in several areas between two samples. The Student t-test, proposed in 1908 by William Sealy Gosset, is one of the most widely used tools for this type of analysis (Student, 1908). This test is applied to make a comparison between two independent samples (Ingrand, 2018). Researchers have used it to compare the level of wellbeing between African countries practising Islamic finance and African countries not practising Islamic finance (Djoufouet & Nzongang, 2019).

The Student's parametric test is a test that compares the means of two samples to see if they are statistically significantly different. In the case of this study, an independent unmatched Student t-test was done for two groups A and B with respective means, and size, $mA\ mB\ nA\ nB$ and common variance S:

$$t \quad = \frac{mA-mB}{\sqrt{\frac{S^2}{nA}+\frac{S^2}{nB}}} \tag{1}$$

However, a certain number of hypotheses must be respected: there must be no link between the two groups, there must be no outliers, the data must be normally distributed (normal law), and finally, there must be homogeneity of variances.

For the inclusive growth index, some researchers have developed their own definitions. Klasen (2010) and McKinley (2010), to name but two, are researchers who have tried to develop indicators of inclusive growth. Having different methods, they both agree that growth is inclusive when a large majority benefits from its spillovers. In this study, the method of setting up the inclusive growth index is inspired by the method adopted by Kacem *et al.* (2019) and that adopted in the case of the African Development Bank by Hakimian (2016). This method has been used by some researchers to also measure inclusive growth in some African countries (Whajah *et al.*, 2019).

Thus, the calculation of the overall inclusion score for each country uses the following formula:

$$Sji = 100\,.\left(\frac{mj-rj}{mj-1}\right) \tag{2}$$

$$\sum_{i=1}^{m} Sji\,.Wj \tag{3}$$

Where

- *Sji* is the standardized score for indicator *j* ranking for country *i*
- *Wj* is the weight of indicator *j*
- *i* = 1,… m: country *i* included in the dataset
- *j* = 1,… n: indicator *j* included in the dataset
- *rj* is the country ranking for indicator *j* (in descending order) and *mj* is the total number of countries for which data for indicator *sj* are available.

Thus, the inclusive growth index that will be implemented thanks to the above formulae will serve to make the comparison between the seven North African countries and the seven WAEMU countries, as mentioned earlier. This first comparison will be made over two periods: before the regulation of Islamic finance in the WAEMU zone by the authorities, i.e., over the period 2000–2009, and after the recognition of the Islamic financial system in the regulations, i.e., 2010–2023. The comparison will allow us to see the contribution of Islamic finance in inclusive growth while considering that the countries of North Africa have a higher level of the development indicator of Islamic finance compared to the WAEMU countries (ICD-Refinitiv, 2022).

Second, this study undertakes a variable-by-variable comparison of the two zones in the samples to determine the variables on which the contribution of Islamic finance is more accentuated. This comparison will be made over the period 2010–2023 (post-emergence of the Islamic financial system in the WAEMU zone).

The variables used are presented in **Table 1**. The 14 variables are divided into eight components: economic growth, labour force and employment, health and demography, education, gender, environment, inequality and poverty, and governance.

Table 1: Parameter Set

Components	Variables	Abbreviations	Definitions	Sources
Economic growth	GDP per capita growth (%)	GDP/C	GDP per capita growth	World Bank and OECD database
Labour force and employment	Employed workers (% of the active population)	T_SAL	Employees in paid employment with an employment contract	
	Employment/population ratio, persons aged 15 years and above (%)	R_EMP15	The percentage of the working-age population that was employed during the reference period	
	Employment/population ratio, 15–24 years old (%)	R_EMP24	The percentage of the population between 15 and 24 years of age employed during the reference period	

Table 1: Parameter Set (Cont.)

Components	Variables	Abbreviations	Definitions	Sources
Health and demography	Life expectancy at birth (years)	ESP_life	The number of years a newborn would live	World Bank and OECD database
	Under-five mortality rate	Tx_Mort	The probability that a newborn child will die before the age of five	

	Current health expenditure (% of GDP)	Dp_health	Current expenditure on health as a percentage of GDP	
Education	Girls to boys ratio, enrolled in secondary education	R_G/B_INS	The parity index between girls and boys enrolled in public secondary schools	
	Total public expenditure on education	DPSP_EDCT	Public expenditure on education as a percentage of total public expenditure	
Gender	Gender inequality index	Inequality	Gender inequality index	
Environment	Environmental performance index	EPI	Index to assess, compare and improve the effectiveness of environmental policies	EPI website
Inequality and poverty	GINI index	Gini	Index showing the distribution of variables (salary, income, assets) within a population	World Bank and OECD database
	Poverty gap at the national poverty line	ECRT_PAUV	The poverty gap at the national poverty line. The average deficit with respect to the poverty line (counting the non-poor as having a zero deficit) as a percentage of the poverty line	
Governance	Corruption perception index	CPI	The level of corruption in a country	Transparency International

Source: Authors' own

RESULTS AND DISCUSSION

After the implementation of the inclusive growth index, the results of the two periods are presented in **Table 2**. The table shows the results of the inclusive growth index over two periods.

Over the period 2000–2009, Tunisia ranked first in the group of North African countries. This position can be justified by the work done by the Tunisian government in promoting Islamic finance as a source of financing the economy. As Toussi (2011, p. 45) states, 'Islamic finance is now an important part of development programmes in Middle Eastern and North African (MENA) countries, and is also gaining ground in the region's financial landscape. It is a fast-growing activity, which meets the financial needs of individuals in accordance with their social and religious values'. This promotion of Islamic finance has also been a lever for the emergence of Islamic finance and has aroused interest among the general public and businesses.

Tunisia is followed by Algeria, Morocco, Libya and Egypt. The position of these countries can be justified by their contribution to the capital of the Islamic Development Bank. Egypt and Algeria are among the front-runners of the Islamic financial system. Several writings cite Egypt as the country where the first Islamic bank was created (Lahlou, 2015).

Table 2: Comparison of Inclusive Growth Index over the Period 2000–2009 and 2010–2023 between the Two Zones

North African Countries (Ranked in descending order)	2010–2023		North African Countries (Ranked in descending order)	2000–2009
Tunisia	58,9747739		Tunisia	61,6775665
Algeria	48,3143906		Algeria	50,3640547
Morocco	48,0772179		Morocco	48,0091638

Libya	43,7893105		Libya	47,0276468
Egypt	42,3597149		Egypt	46,2407568
Mauritania	19,6446266		Sudan	31,2788724
Sudan	18,8211857		Mauritania	22,3014415
Mean	**39,9973172**		**Mean**	**43,8427861**
WAEMU Countries (Ranked in descending order)	**2010–2023**		**WAEMU Countries (Ranked in descending order)**	**2000–2009**
Burkina Faso	37,8238614		Burkina Faso	36,4944988
Senegal	35,21419		Senegal	30,879829
Benin	32,5114414		Mali	30,4416747
Niger	31,0057878		Benin	29,0417081
Ivory Coast	30,4328664		Ivory Coast	26,3084175
Mali	28,5857013		Niger	25,8936985
Togo	22,9398648		Togo	21,4348002
Guinea Bissau	18,5073475		Guinea Bissau	15,9064453
Mean	**29,6276326**		**Mean**	**27,050134**

Source: Authors' own

These North African countries have a higher inclusive growth indicator than countries in the WAEMU zone. On the other hand, two countries in the North African zone, Sudan and Mauritania, have a lower indicator. The low level of inclusive growth in Sudan is justified by the socio-political problems the country has been experiencing for several years, especially in view of the Western sanctions the country faced that have had a significant impact on the conditions of the people. As for Mauritania, it is still at an embryonic stage in the integration of Islamic finance. So, considering the average for the groups, inclusive growth is found to be higher in the group of North African countries than in the group of WAEMU countries. The difference is more than 16. This prompts us to analyse the inclusive growth indicator over the period 2010–2023, the period during which Islamic finance is being integrated into the WAEMU zone.

Over the period 2010–2023, it can be seen that inclusive growth is still high in the countries of the North African region compared with the WAEMU region, even though some countries have seen falls in the indicator. Tunisia remains at the top of the ranking. Morocco has seen a slight improvement in inclusive growth. This can be seen from the Bank Al Maghrib statistics. Participatory financing by Moroccan Islamic banks rose from 4,556,528 dirhams in 2018 to 26,454,480 dirhams in 2023 (Bank Al Maghrib, 2023). This improvement is associated with the development of five Islamic banks over the same period.

The findings also show that the gap between the two groups (North African countries and WAEMU countries) has narrowed between the period 2000–2009 and 2010–2023. It went from 16 to 10, which would suggest the integration of Islamic finance in the WAEMU zone. This is due to the creation and takeovers of various Islamic finance institutions in the WAEMU zone. Between 2009 and 2010, Tamweel Africa Holding acquired the shares of Dar al-Maal al-Islami in the Islamic banks of Guinea, Niger and Senegal, increasing the capital and improving the strategy of these banks (Africa, 2023).

These results show that Islamic finance contributes to inclusive growth. This prompts us to look further by comparing the variables between the two groups of countries. Thus, after having examined the influence of Islamic finance on the inclusive growth index, the study continues to examine the influence of Islamic finance on the inclusive relations between the countries of the WAEMU zone and the North African countries. After satisfying the normality and heteroscedasticity tests, the Student's t-test is performed on the following two hypotheses: H0: equality between the two means and H1: no equality between the two means. The results are depicted in **Table 3**.

The first results revealed that countries with a high Islamic finance development indicator manifested a good level of inclusive growth compared with WAEMU countries. **Table 3** provides a variable-by-variable comparison. For the first variable (growth in GDP per capita), the Student test is not significant, which means that the H1 hypothesis is rejected and the H0 hypothesis is accepted. However, the difference in means shows that GDP per capita growth is better in the WAEMU zone than in North Africa while growth is more inclusive in North African countries. If the definition of inclusive growth is referred to, it can be said that in the WAEMU countries growth only benefits a small part of the population. This justifies the study's findings that the Islamic financial system is more participatory, allowing more opportunity to people to participate in the economy.

As for the other variables, they are all significant. Therefore, the H0 hypothesis is rejected and the H1 hypothesis is accepted, which means that there is a difference between these variables in these country zones.

With regard to the variables of the active population (R-EMP15) and employment component (R-EMP24), they are higher in the WAEMU countries than in the North African countries, whereas the T-Sal variable (paid employment) is higher in the North African countries. This shows that in WAEMU countries, the working population is more involved in the informal sector and that young people tend to enter the labour market without completing their studies. The early entry of young people in the workforce can be explained by their lack of means to complete their studies, despite the efforts of the authorities (DPSP-EDCT) in funding the education system in WAEMU countries.

The result of the ECRT_PAUV variable shows once again that the level of poverty is high in countries with a low level of the Islamic finance development indicator, i.e., countries in the WAEMU zone. It has been proven that the financial system developed reduces poverty through the granting of credit. The WAEMU zone is still a long way from achieving this, as poverty is still at its worst.

The granting of credit begins with the opening of an account, yet inclusion in the WAEMU zone is among the lowest in the world, and several reasons are cited to explain this in the Global Findex surveys—including lack of means, religion, lack of documents, distance from banks, etc. (Demirgüç-Kunt *et al.*, 2021). Many of these reasons do not apply for the North African countries which have a higher inclusion level achieved through a more inclusive banking system.

Table 3: Comparative Study of Inclusive Growth Variables

Variables	Regions	Min.	Max.	Mean	Student Test
GDP/C	North African Countries	-47.89	96.95	0.6650882	0.35
	WAEMU	-7.314	8.499	1.991713	
	Difference			-1.3266	
R_EMP15	North African Countries	34.53	45.1	39.3145	0.0001***
	WAEMU	42.415	79.266	61.1097	
	Difference			-21.7952	
	North African Countries	7.538	29.868	18.2814	

R_EMP24	WAEMU	21.718	71.136	41.365	0.0001***
	Difference			-23.0844	
R_G/B_INS	North African Countries	0.84610	1.191	0.9779	0.0001 ***
	WAEMU	0.537	1.2002	0.8213	
	Difference			0.1566	
ESP_life	North African Countries	63.016	76.474	70.73014	0.00001***
	WAEMU	55.023	68.526	60.0057	
	Difference			10.7243	
Tx_mort	North African Countries	10.8	75.9	30.9095	0.0001***
	WAEMU	38.6	134.1	92.59	
	Difference			-61.6873	
ECRT_PAUV	North African Countries	1.18	46.5	19.478	0.0001 ***
	WAEMU	35.2	48.7	43.523	
	Difference			-24.04	
T_SAL	North African Countries	41.8175	78.55	59.41896	0.00001***
	WAEMU	4.7069	34.322	17.57184	
	Difference			41.8471	
Dp_health	North African Countries	0.7315	4.9170022	2.3413	0.0001***
	WAEMU	0.4135	2.9201	1.086288	
	Difference			1.25505	
DPSP_EDCT	North African Countries	5.0396	24.84	15.63298	0.0005***
	WAEMU	9.069	26.1439	18.7981	
	Difference			- 3.1651	
IPC	North African Countries	11	43	29.79365	0.01**
	WAEMU	16	45	33.5833	
	Difference			-3.78968	
EPI	North African Countries	27.6	63.47	43.5147	0.0002***
	WAEMU	25.8	49.52	35.7279	
	Difference			7.7868	
Gini	NorthAfrican Countries	27.6	39.5	32.4928	0.0114**
	WAEMU	31.5	50.7	39.8523	
	Difference			-7.3595	
Inequality	North African Countries	0.166	0.663	0.4616	0.032**
	WAEMU	0.502	0.75	0.6171	
	Difference			-0.15547	

Note: * = Significant at 10 per cent
Source: Authors' own

Many people are marginalised by the traditional financial system in the WAEMU zone. On a large scale, this inequality can be visualised by the inequality and Gini variables, which are poor in this zone compared to North Africa. As far as the CPI is concerned, it is poor in North African countries compared with the WAEMU zone. This runs counter to the Islamic financial system.

On the whole, it is noted that countries with a good level of Islamic finance practice justify a good performance of the variables used. This suggests that Islamic finance is a lever to be used for rapid inclusion of growth and also for poverty reduction.

CONCLUSION

The WAEMU has maintained resilient growth in recent years. Despite this positive growth, the Union has not been able to resolve some of its socio-economic problems such as inequality, unemployment, high levels of poverty, among others. These vulnerabilities suggest that this positive economic growth is benefiting only a small section of the population. This motivates the search for inclusive growth rather than economic growth that hides substantial problems.

Islamic finance is a financial system that advocates the sharing of wealth and the inclusion of all social strata. This motivates the present study to show the impact of the Islamic financial system on inclusive growth. In this respect, the paper has developed an inclusive growth indicator to capture the level of inclusive growth in WAEMU and North African countries. The paper then compares these two groups of countries to see the impact that Islamic finance can have on the inclusive growth index. North African countries are considered to have a good level of Islamic finance practice compared to WAEMU countries.

The results show that the countries examined in this study that have a good practice of Islamic finance also rank well in the inclusive growth index and have good scores in terms of the variables used to compile this index. This suggests that Islamic finance contributes to improving socio-economic development and would be a way for WAEMU countries to improve their level of inclusive growth. Aware of the limits to economic growth, most countries and major institutions are looking for solutions to achieve inclusive growth. This study presents its contribution to this search in a practical way. It shows a viable way for WAEMU countries to improve inclusive growth.

The study is limited by the unavailability of data on Islamic financial institutions in the countries selected in the sample. This makes it impossible to determine the contribution of Islamic finance to the global economy. It is therefore recommended that the authorities of the WAEMU countries and those of North Africa step up promotions and training in the Islamic financial system, as this is the system that will be able to motivate the inflow of capital.

REFERENCES

Amponsah, M., Agbola, F.W. & Mahmood, A. (2023), ‘The relationship between poverty, income inequality and inclusive growth in Sub-Saharan Africa’, *Economic Modelling*, Vol. 126, https://doi.org/10.1016/j.econmod.2023.106415.

Amponsah, O., Gideon, A.A. & Stephen, A.T. (2021), ‘Informality-sustainable city nexus: the place of informality in advancing sustainable Ghanaian cities’, *Sustainable Cities and Society*, Vol. 67, https://doi.org/10.1016/j.scs.2021.102707

Demirgüç-Kunt, A., Klapper, L. & Singer, D. (2021), ‘Mesurer l’inclusion financière’, World Bank.

Djoufouet, F.W. & Nzongang, J. (2019), ‘From conventional microfinance to Islamic microfinance: an alternative to Africa’s socio-economic development?’, *Researches and Applications in Islamic Finance*, Vol. 3 No. 1, pp. 58–71.

Africa, T. (2023), ‘Tamweel Africa Holding’, available at: https://www.ta-holding.com/fr/historique (accessed 29 December 2023).

Ahmet, F.A., Mustafa, D., Adam, N. & Huseyin, O. (2016), ‘Is small the new big? Islamic banking for SMEs in Turkey’, *Economic Modelling*, Vol. 54, pp. 187–194.

Andersen, T. & Tarp, F. (2003), ‘Financial liberalization, financial development and economic growth in LDCs’, *Journal of International Development*, Vol. 15 No. 2, pp. 189–209.

Bank Al Maghrib (2023), 'Bank statistics and participatory finance', available at: https://www.bkam.ma/fr/Statistiques/Statistiques-sur-le-secteur-bancaire/Indicateurs-des-banques-et-fenetres-participatives (accessed 29 December 2023).

BCEAO (2023a), *Note Mensuelle de Conjoncture des Pays de l'UMOA*, BCEAO, Dakar-Sénégal.

BCEAO (2023b), *Overview of Islamic Finance in the WAEMU Zone*, BCEAO, Abidjan.

Burhanudin, H., Tastaftiyan, R. & Inas, N.F. (2023), 'Islamic law, Islamic finance, and sustainable development goals: a systematic literature review', *Sustanability*, Vol. 15 No. 8, pp.1–21.

Cha'ngom, N. & Tamokwe, P.G.B. (2018), 'Les transferts de fonds des migrants contribuent-elles à l'inclusivité de la croissance en Afrique subsaharienne?', *Munich Personal RePEc Archive*, No. 91321, pp. 1–23.

Chigbo, M., Adeniyi, O. & Orekoya, S. (2020), 'Econometric analysis of the deficit financing options-growth inclusiveness nexus in India and Nigeria', *Indian Economic Review*, Vol. 55 No. 2, pp. 313–338.

Corrado, G. & Corrado, L. (2017), 'Inclusive finance for inclusive growth and development', *Current Opinion in Environmental Sustainability*, Vol. 24 No. 2, pp. 19–23.

Cournède, B., Denk, O. & Hoeller, P. (2015), 'Finance and inclusive growth', *OECD Economic Policy Papers*, No. 14, pp. 1–46.

Drissi, S. & Angade, K. (2020), 'La finance Islamique et l'investissement à impact social: cas des coopératives de la région de Souss Massa', *Revue de Contrôle de la Comptabilité et de l'Audit*, Vol. 12, pp. 1–27.

Elmehdi, M. (2016), 'Finance Islamique et croissance économique: quelles interactions dans les pays MENA', Thèse.fr.

Felipe, J. (2012), *Inclusive Growth, Full Employment, and Structural Change: Implications and Policies for Developing Asia*, Anthem Press Edn., London.

Finance et Développement (2017), 'Vers une croissance inclusive', *Entre Nous*, pp. 26–27.

Hakimian, H. (2016), *Measuring Inclusive Growth: From Theory to Practice in North Africa*, BAD, Tunisia.

Hussein, E. (2016), 'Islamic finance for SMEs', *Journal of Economic and Social Thought*, Vol. 3 No. 3, pp. 438–453.

ICD-Refinitiv (2022), 'Islamic Finance Development Report 2022: Embracing Change', available at: https://icd-ps.org/uploads/files/ICD%20Refinitiv%20ifdi-report-20221669878247_1582.pdf (accessed 10 February 2024).

Ifzal, A. & Zhuang, J. (2007), *Inclusive Growth Toward a Prosperous Asia: Policy Implications*, Asian Development Bank.

IMF (2015), *Fostering More Inclusive Growth in the Republic of the Congo*, Washington DC.

Ingrand, P. (2018), 'Test t de Student', *Journal d'Imagerie Diagnotic et d'Interventionnelle*, Vol. 1, pp. 1–27.

Jean-Philippe, S. & Adeline, P. (2018), *Les Secteurs Bancaires en Afrique de l'Inclusion Financière à la Stabilité Financière*, Banque Européenne d'Investissement, Luxembourg.

Jennifer, W., Bokpin, G. & Kuttu, S. (2019), 'Government size, public debt and inclusive growth in Africa', *Research in International Business and Finance*, Vol. 49, pp. 225–240.

Joseph, S., Amartya, S. & Fitoussi, J.P. (2009), 'Rapport de la Commission sur mesure des performances économiques et du progrès social', available at: http://www.stiglitz-sen-fitoussi.fr.

Kacem, S., Abid, L. & Ghorbel-Zouari, S. (2019), ‘Measurement of inclusive growth: evidence from Tunisia’, *Economics of Development*, Vol. 18 No. 3, pp. 19–33.

Klasen, S. (2010), ‘Measuring and monitoring inclusive growth: multiple definitions, open question and some constructive proposal’, *ADB Sustainable Development Working Paper Series,* No. 12, pp. 2–3.

Kurunkatil, U. (2019), *Islamic Finance and Financial Exclusion in Minority Muslim Countries: The Case of India*, SpringerLink, pp. 223–235.

Kuznet, S. (1955), ‘Economic growth and income inequality’, *American Economic Review*, Vol. 1 No. 1, pp. 1–28.

Lahlou, K. (2015), *Economie et Finance en Islam: Une Éthique pour Stabiliser l’Économie et Recadrer la Finance*, 1st Edn., Casablanca.

Mahmoud, M., Iqbal, Z. & Rostom, A. (2012), ‘The role of Islamic finance in enhancing financial inclusion in Organization of Islamic Cooperation (OIC) countries’, *Islamic Economic Studies*, Vol. 20 No. 2, pp. 1–61.

Majidi, E.M. & El Yousfi, H. (2022), ‘Question de causalité entre croissance économique et développement financier Islamique: une approche empirique’, *Researches and Applications in Islamic Finance*, Vol. 6 No. 2, pp. 1–21.

McKinley, T. (2010), ‘Inclusive growth criteria and indicators: an inclusive growth index for diagnosis of country progress’, ADB Sustainable Development Working Paper Series, available at : https://www.adb.org/sites/default/files/publication/28493/adb-wp14-inclusive-growth-criteria.pdf (accessed 10 February 2024).

Naceur, S.B., Bajaras, A. & Massara, A. (2015), ‘Can Islamic banking increase financial inclusion?’, IMF working paper, available at : https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Can-Islamic-Banking-Increase-Financial-Inclusion-42710 (accessed 10 February 2024).

Ngono, J.F.L. (2021), ‘Finance Islamique et inégalités de revenus en Afrique Subsaharienne’, *Researches and Applications in Islamic Finance*, Vol. 5 No. 1, pp. 1–23.

Ningaye, P. (2017), *Rôle de la Micro-Finance dans le Financement d'une Croissance Inclusive en Afrique*, Cinquième Congrès des Economistes Africains, Malabo.

OECD (2014), *Inclusive Growth*, Organisation for Economic Co-operation and Development, Paris.

Omar, Z. & Laamire, J. (2021), ‘Repenser l’éducation pour une croissance inclusive garantie: essai empirique pour le cas du Maroc’, *Repères et Perspectives Economiques*, Vol. 5 No. 1, pp. 1–27.

Patrick, I. & Kpodar, K. (2015), ‘Islamic finance and economic growth: an empirical analysis’, *Revue d’Économie du Développement*, Vol. 23 No. 1, pp. 59–95.

Saaid Ali, A.E.E. (2013), ‘The challenges of Islamic trade finance in promoting SMEs in IDB member countries’, *European Scientific Journal*, Vol. 1, pp. 1–11.

Seck, M.S. (2019), ‘Complementarity Islamic bank of Senegal/microfinance institutions: an inclusive and sustainable financing model for Senegalese SMEs’, MPRA Paper, pp. 1–33.

Stiglitz, J. (2012), *The Price of Inequality: How Today’s Divided Society Endangers our Future*, W.W. Norton, New York.

Student (1908), ‘The probable error of a mean’, *Biometrika*, Vol. 6 No. 1, pp. 1–25.

Toussi, A. (2011), *Islamic Banking in the MENA Region*, Islamic Research and Training Institute, Jeddah.

UNDP (2018), *Human Development Indices and Indicators*, United Nations Development Programme, New York.

Whajah, J., Godfred, A.B. & Saint, K. (2019), 'Government size, public debt and inclusive growth in Africa', *Research in International Business and Finance*, Vol. 49, pp. 225–240.

World Bank (2006), *Equity and Development*, World Bank, Washington.

World Bank (2023), 'World Bank database', available at: https://donnees.banquemondiale.org/indicateur/SI.POV.DDAY?end=2015&locations=ZG-CI&start=1981&view=chart (accessed 2 October 2023).

Youssouf Ali, B. (2022), 'The impact of Islamic finance on the economic growth of the West African Economic and Monetary Union', *Portail de la Revue Scientifique Marocaine*, Vol. 6 No. 1, pp. 1–17.

ABOUT THE AUTHORS

Ali Bamba Youssouf, PhD, is an Ivorian by nationality, holding a master's in Actuarial Science and Risk Management from Hassan II University, Casablanca, Morocco and a PhD in Economic Sciences from the same university. He is currently an assistant professor in the Business Administration department of the University Institute of Abidjan, Ivory Coast. Dr Ali Bamba Youssouf is the coresponding author and can be contacted at: youssoufalibamba@gmail.com

El Hachloufi Mostafa, PhD, is of Moroccan nationality, holding two doctorates: one in economic sciences and another in applied mathematics from Mohamed V University, Morocco. He is currently a professor at the Faculty of Legal, Economic and Social Sciences, Hassan II University, Casablanca, Morocco.

DECLARATION

Credit Authorship Contribution Statement

- Ali Bamba Youssouf: Conceptualisation, Data curation, Formal analysis, Survey, Methodology, Project administration, Tools, Software, Visualisation, Drafting – Original draft, Drafting – Evaluation and modification.
- El Hachloufi Mostafa: Methodology, Project management, Validation, Assistance

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

We declare that we have not received any funding for this work.

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability
Data will be made available on request to the authors.

Disclaimer
The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix
None

SUSTAINABLE ISLAMIC FINANCIAL ENGINEERING WITH SPECIAL REFERENCE TO GULF COOPERATION COUNCIL'S ECONOMIES

Tariqullah Khan
Imene Tabet
INCEIF University, Kuala Lumpur, Malaysia

Received
2 July 2023

Revised
8 November 2023
18 January 2024
19 February 2024
11 March 2024

Accepted
11 March 2024

ABSTRACT

Purpose — This paper explores how Islamic economics and finance, when developed as an embedded framework for regenerative development in line with *maqāṣid al-Sharīʿah* (the objectives of Islamic law), can facilitate the design of sustainable contracts and Islamic financial engineering. This framework provides a mechanism to achieve the paradigm shift advocated by Islamic finance scholars to accommodate the sustainability agenda into the practical applications of Islamic economics and finance. The paper specifically focuses on the Gulf Cooperation Council's (GCC) economies.

Design/Methodology/Approach — This study employs an analytical research approach to evaluate the compatibility of Islamic social and commercial finance with sustainability objectives. The analysis is primarily qualitative and relies on the One Earth Framework proposed by Simpson *et al.* (2021) to structure the assessment of opportunities and challenges related to sustainability that Islamic economics and finance in the GCC region can help address.

Findings — The paper highlights the potential of Islamic economics and finance as an embedded framework to address sustainability challenges in the GCC countries. By examining the capacity of Islamic finance to accommodate sustainability pathways, it elucidates avenues for integrating sustainable practices within Islamic financial contracts and institutions.

Originality/Value — One of the key contributions of this paper is the introduction and development of Islamic economics and finance as an embedded framework. This pioneering concept not only lays the groundwork for a practical mechanism but also signifies a fundamental step in realising the paradigm shift within Islamic finance. This transformative approach enhances the relevance and effectiveness of Islamic finance in fostering sustainability, marking a significant advancement in the field.

Research Limitations — While the study provides valuable insights, it primarily follows an analytical approach and does not involve quantitative analysis. It serves as a starting point for further research on the integration of sustainability objectives in Islamic finance.

Practical Implications — The paper suggests practical implications for Islamic finance stakeholders, highlighting the potential for sustainable contract design and financial engineering.

Keywords — Islamic finance, Islamic financial engineering, Natural capital, Regenerative development, Sustainable contract design

Article Classification — Conceptual paper

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024
pp. 21–40

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.561

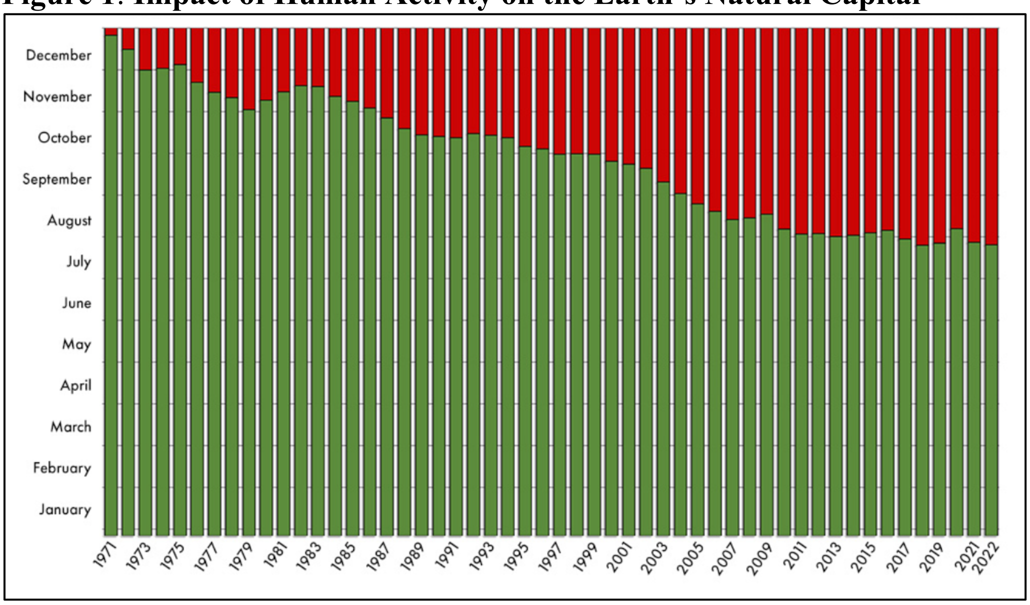
INTRODUCTION

Sustainability studies need to pivot natural capital. Contemporary dominant economic theories, corporate models, and policy prescriptions tend to overlook natural capital ecosystems and non-renewable and renewable natural resources. This is despite the fact that natural capital is inextricably linked to the global drive for sustainable development (pursued via changes in education and legal frameworks) to limit harm to ecosystems and enable clean alternatives via policy change and disruptive technologies. The United Nations (UN) has designated the period 2021–2030 as the UN decade for ecosystems restoration.

A telling metric of the impact of human activities on the earth's natural capital is Earth Overshoot Day. Calculated by the Global Footprint Network, this day represents the point at which the earth's biocapacity aligns with humanity's ecological footprint. Earth Overshoot Day is determined by dividing the planet's biocapacity (the annual ecological resources the earth can provide) by humanity's ecological footprint (our demand) and multiplying by 365, the number of days in a year.

Figure 1 illustrates the alarming and systematic degradation of the earth's natural capital. Natural capital encompasses the earth's natural resources and ecosystems that provide essential elements such as clean air, water, food and raw materials. When the demand surpasses supply, natural capital faces stress, leading to biocapacity depletion, loss of biodiversity and disruptions in ecosystems on an ever-increasing scale.

Figure 1: **Impact of Human Activity on the Earth's Natural Capital**



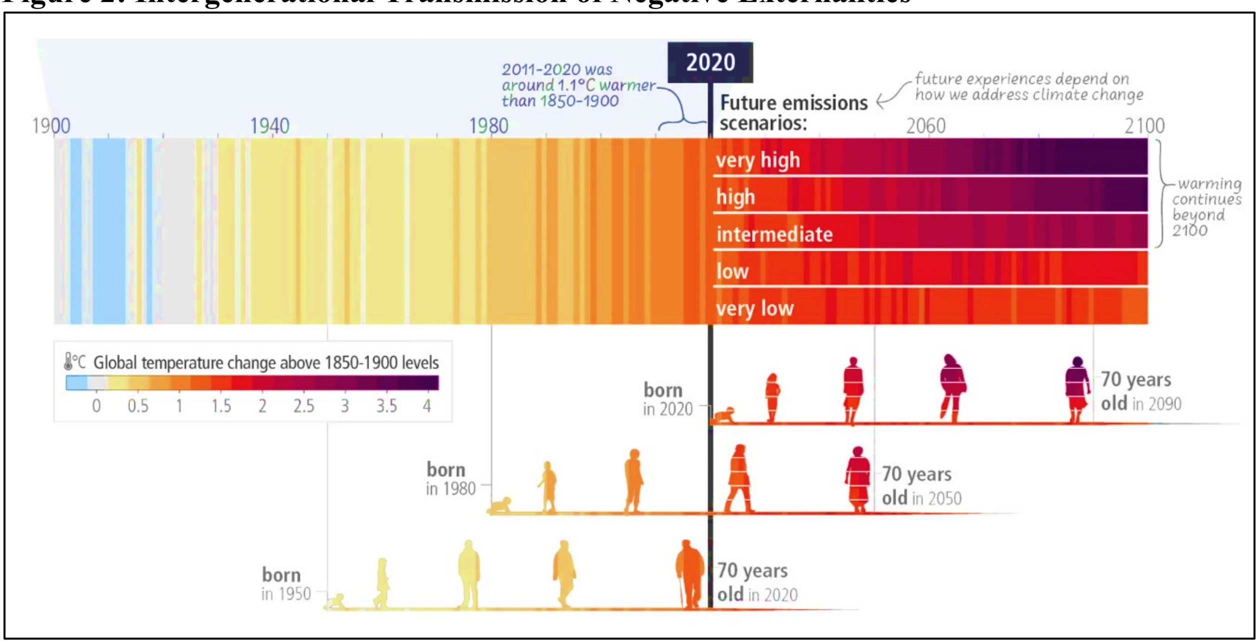
Source: Global Footprint Network (2024a)

The National Footprint and Biocapacity Accounts compile global ecological footprint and biocapacity indices annually. The latest data utilises 2018 data and United Nations statistics and employs the Global Carbon Project's data to estimate this year's Earth Overshoot Day. Earth Overshoot Day's precise date is less crucial than understanding the ecological overshoot's magnitude and its persistent year-over-year increase. The timeline from 1971 to 2022 in **Figure 1** demonstrates the Earth Overshoot Day's gradual advancement (excluding 2020, an anomaly due to the COVID-19 pandemic), signifying humanity's overuse of the earth's natural capital.

The most significant universal negative externality of human economic activities, transferred to future generations, is the loss of natural capital. Error! Not a valid bookmark self-reference. provides an overview of the intergenerational transmission of negative externalities under various climate scenarios (1.5°C, 2°C, 2.5°C, 3°C, and 4°C) from the 1900's to the years beyond 2100. Notably, Nordhaus (2018a) concludes that limiting global warming to 2 degrees Celsius (2°C) is unattainable, as suggested in his Nobel Laureate Lecture (Nordhaus, 2018b), recommending a focus on 3°C and beyond and the development of adaptive strategies.

The degree of warming by the year 2100 will have profound effects on 70-year-olds born in 2022. With a 1.2°C increase by 2023, global climate scenarios indicate that at 1.5°C, the world would witness significant climate refugees and altered lifestyles due to changing weather patterns and extreme events. However, at 2°C, extreme weather events would intensify, leading to the loss of ecosystems and biodiversity, declining agricultural productivity (causing food shortages), water scarcity and public health issues such as heat stress and disease outbreaks. At 2.5°C, 3°C, and 4°C, the incidence of extreme weather events, ecological collapse and biodiversity loss would escalate, triggering accelerated food and water shortages, displacement, conflicts, and humanitarian crises. Adaptation to rapid changes would lead to heat-related illnesses, infections, and mental health challenges, further threatening public health.

Figure 2: Intergenerational Transmission of Negative Externalities



Source: Intergovernmental Panel on Climate Change (IPCC) (2023, p. 7)

Crucially,

The National Footprint and Biocapacity Accounts compile global ecological footprint and biocapacity indices annually. The latest data utilises 2018 data and United Nations statistics and employs the Global Carbon Project's data to estimate this year's Earth Overshoot Day. Earth Overshoot Day's precise date is less crucial than understanding the ecological overshoot's magnitude and its persistent year-over-year increase. The timeline from 1971 to 2022 in Figure 1 demonstrates the Earth Overshoot Day's gradual advancement (excluding 2020, an anomaly due to the COVID-19 pandemic), signifying humanity's overuse of the earth's natural capital.

The most significant universal negative externality of human economic activities, transferred to future generations, is the loss of natural capital. Error! Not a valid bookmark self-reference. provides an overview of the intergenerational transmission of negative externalities under various climate scenarios (1.5°C, 2°C, 2.5°C, 3°C, and 4°C) from the 1900's to the years beyond 2100. Notably, Nordhaus (2018a) concludes that limiting global warming to 2 degrees Celsius (2°C) is unattainable, as suggested in his Nobel Laureate Lecture (Nordhaus, 2018b), recommending a focus on 3°C and beyond and the development of adaptive strategies.

The degree of warming by the year 2100 will have profound effects on 70-year-olds born in 2022. With a 1.2°C increase by 2023, global climate scenarios indicate that at 1.5°C, the world would witness significant climate refugees and altered lifestyles due to changing weather patterns and extreme events. However, at 2°C, extreme weather events would intensify, leading to the loss of ecosystems and biodiversity, declining agricultural productivity (causing food shortages), water scarcity and public health issues such as heat stress and disease outbreaks. At 2.5°C, 3°C, and 4°C, the incidence of extreme weather events, ecological collapse and biodiversity loss would escalate, triggering accelerated food and water shortages, displacement, conflicts, and humanitarian crises. Adaptation to rapid changes would lead to heat-related illnesses, infections, and mental health challenges, further threatening public health.

Figure 2 highlights that the baby boomer generation was the first to generate negative externalities on such an unprecedented scale, with the adverse impacts intensifying. The magnitude of these repercussions hinges on our present efforts to reduce greenhouse gas emissions, enhance resilience, and adapt to ongoing changes.

Indeed, addressing these existential threats necessitates an unparalleled transformation of our economies. This paper aims to explore the potential of Islamic economics and finance in mitigating the negative externalities of human actions. Specifically, with a focus on the Gulf Cooperation Council (GCC) countries, this paper seeks to identify challenges and opportunities and how Islamic finance can best respond. The objective is to address these questions with special reference to the design of contracts, institutions, and policies. The subsequent sections of the paper are organised as follows: the next section reviews the key literature on the climate, natural capital and finance nexus. It is followed by a description of the methodology employed in this study; presentation of the key findings; discussion of the sustainability pathway for Islamic financial contracts; and the concluding remarks.

LITERATURE REVIEW

This section conducts a literature review to explore the existing research on the intersection of the climate, natural capital, and finance, with a specific focus on Islamic finance within the GCC countries. The review aims to highlight key themes, gaps and insights that will inform the analysis carried out in subsequent sections.

Green Economic Transformation in GCC Countries

Sustainability studies have increasingly emphasised the pivotal role of natural capital, encompassing ecosystems and both renewable and non-renewable resources. However, within prevailing economic theories, corporate models, and policy directives, the importance of natural capital has often been overlooked. This section delves into the existing literature that highlights the evolution of green economic transformation among GCC countries where Islamic finance is of systemic significance, to analyse the role that Islamic economics and finance ought to play in managing these economies' ecological footprint and in driving the movement to a regenerative economy.

Human Development Index and Ecological Footprint

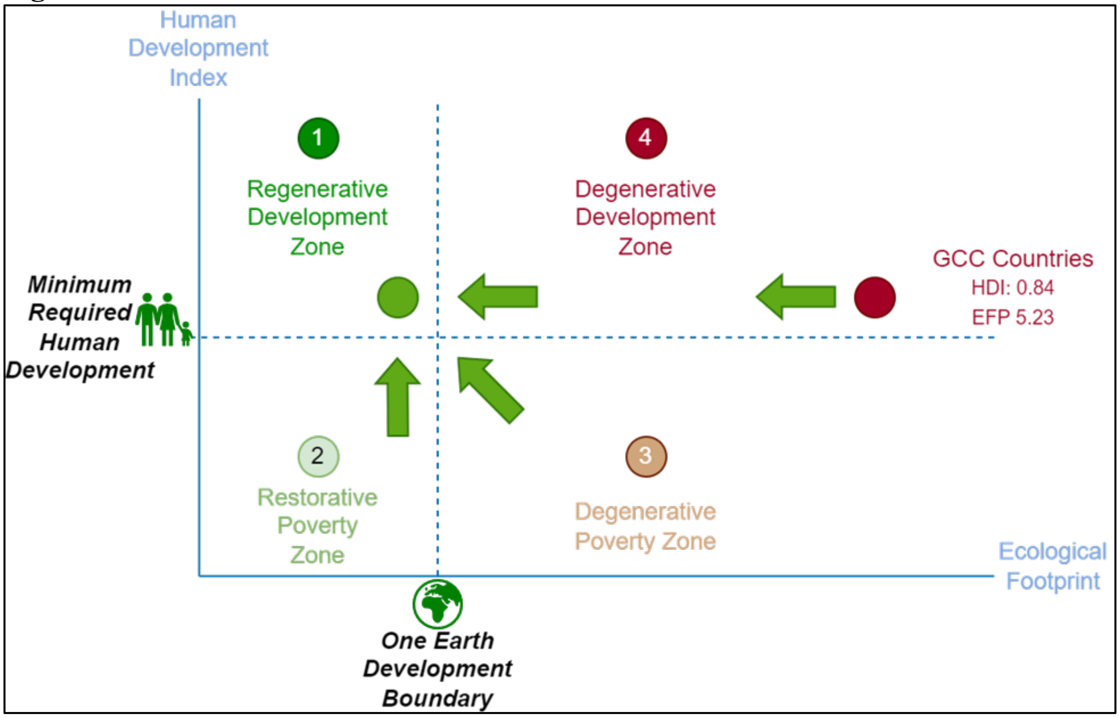
All GCC countries have achieved a high Human Development Index (HDI) as can be seen in Error! Reference source not found.. However, the average ecological footprint (in number of earths) for the GCC countries is 5.23—signifying that if each person of the earth can live like an average person in the GCC, 5.23 earths will be needed to maintain ecological balance. Like all developed countries, the GCC countries fall in zone 4 of **Figure 3**. The goal of sustainable development is to maintain the high levels of HDI but to undertake an unprecedented green transformation of the economies to move to zone 1 to be within the capacity of One Earth. This means that the GCC countries will need to undertake a massive green transformation of their economies to ensure that high HDI is maintained while simultaneously drastically reducing their ecological footprint. The challenges and opportunities of this imminent transformation are tremendous. Islamic economics and finance is one of the most important stakeholders of this transformation.

Table 1: GCC Countries' HDI and Ecological Footprint (Number of Earths Required)

GCC Country	HDI	Ecological Footprint (No. of Earths)	Comparable Country	HDI	Ecological Footprint (No. of Earths)
Bahrain	0.875	5.2	Portugal	0.866	2.9
Kuwait	0.831	5.0	Türkiye	0.838	2.1
Oman	0.816	4.0	Romania	0.821	2.3
Qatar	0.855	9.0	Chile	0.855	2.7
Saudi Arabia	0.875	3.1	Portugal	0.866	2.9
United Arab Emirates	0.911	5.1	Austria	0.916	3.8
Averages	0.860	5.23	Averages	0.860	2.78

Source: Global Footprint Network (2024b)

Figure 3: GCC Countries' Green Economic Transition



Source: Derived from **Error! Reference source not found.**. This framework was also used in Musari & Khan (2023)

Systemic Importance of Islamic Finance in GCC Countries

According to Islamic Financial Services Board (IFSB, 2022), if the share of Islamic banks is 10 per cent or more in a country's overall banking system, Islamic banking is considered of systemic importance. Based on **Table 2**, Islamic banking is of systemic importance in all GCC countries. The annual growth rate has also been significant even during the COVID-19 lockdowns. Moreover, the share of GCC countries in total global *ṣukūk* and Islamic mutual funds is noticeable, especially in the case of Saudi Arabia. The *takāful* industry further represents an important segment of national insurance industries.

Table 2: **Systemic Importance of Islamic Finance in GCC Countries as of 2021**

GCC countries	Percentage share of Islamic banking assets in national banking	Percentage annual growth of Islamic banking assets	Percentage share of national sovereign *ṣukūk* in global *ṣukūk* industry	Percentage share of national Islamic mutual funds in the global industry	Percentage share of *takāful* in total national insurance
Bahrain	21	3.3	1.2	0	12
Kuwait	52	6.3	5.3	1.5	39.3
Oman	15	0.7	2.8	0	0
Qatar	24	6.6	3.4	0	13.9
Saudi Arabia	77	30.6	41.6	35.2	100
United Arab Emirates	21	10	0.0	0.5	10.2

Source: Compiled from IFSB (2022)

Natural Capital Risks and Islamic Banks

Degrading natural resources and ecosystems which constitute the natural capital can harm the quality of Islamic banks' asset portfolios. Islamic banks, finance users, and financed companies face enhanced financial risks through the channels of natural capital risks. These risks encompass various dimensions:

- **Physical risks**: Climate change, natural disasters and harsh weather conditions can threaten Islamic banks' assets and operations. These risks damage property, disrupt business, and increase credit and operational risk.
- **Transition risks**: Moving towards low-carbon, sustainable economies creates transition risks. Policies, laws and market dynamics to reduce greenhouse gas emissions and promote sustainability may threaten Islamic banks' asset quality, especially where financing portfolios include hard-to-abate carbon-intensive sectors.
- **Legal risks**: Islamic banks' clients and counterparties may be penalised for environmental damages. These clients or sectors can damage a bank's reputation, legal obligations, and financed asset portfolios.
- **Reputational risks**: Ecologically hazardous operations of Islamic banks may add to their reputational risks. As environmental awareness rises, customers, investors and other stakeholders may leave or criticise non-sustainable financial institutions.
- **Regulatory risks**: Environmental regulations, policies, reporting and disclosure requirements may change. Environmental standards, disclosure regulations, and non-compliance fines may increase compliance costs and lower bank profitability as well as complicate and delay financing decisions.
- **Market risks**: As depositors, clients and investors' preferences change, the dynamics of strategic business positioning change. Banks with a poor record for sustainability may lose money, market share, and may even confront higher costs for raising resources as sustainable finance and responsible investing alternatives grow.
- **Liquidity risks**: As the uncertainty of asset quality grows due to transition risks, asset liquidity may worsen and overall funding liquidity may also become unfavourable.

In addressing these increasingly material risks, environmental risk assessments, sustainable financing products, responsible investing, client sustainability involvement, and robust disclosure practices are essential tools for Islamic banks. These measures not only mitigate risks but also position Islamic finance as a key player in sustainable and responsible banking practices within the GCC region.

RESEARCH METHODOLOGY

This study employs an analytical research approach to evaluate the compatibility of Islamic social and commercial finance with sustainability objectives. The analysis is primarily qualitative in nature and relies on the One Earth Framework proposed by Simpson *et al.* (2021) to structure and guide the assessment undertaken in this study.

To ensure a comprehensive exploration of the subject, data sources encompass academic articles, reports, and publications related to Islamic finance, sustainability, and the One Earth Framework. To ensure rigour and relevance, an extensive literature review is conducted, focusing on databases such as Brill, Emerald-insight, ScienceDirect, Scopus, and Wiley Online Library with keywords including Islamic finance, sustainability, and One Earth Framework. The inclusion criteria are defined to select literature relevant to the study's objectives. The literature review lays the background for the subsequent analysis, contributing to the development of a nuanced understanding of Islamic finance in relation to sustainability and to investigate how Islamic finance can accommodate sustainability pathways.

The sustainability objective of this study aims to investigate how Islamic social and commercial finance align with sustainability goals. The objectives encompass assessing the ecological impact of Islamic finance, identifying pathways for paradigmatic shifts, and exploring how Islamic financial contracts and institutions can contribute to sustainable practices.

To this end, the choice of the One Earth Framework is justified by its comprehensive and integrative approach to sustainability (Simpson *et al.*, 2021). It provides a structured lens to assess the ecological dimensions of Islamic finance. The framework's suitability to address the research questions lies in its ability to integrate ecological indicators with financial practices, offering a holistic perspective on sustainability.

The analysis process involves the application of the One Earth Framework to the selected literature. It seeks to discern patterns, gaps and opportunities within Islamic finance concerning sustainability objectives. Given the qualitative nature of the analysis, triangulation is incorporated by cross-referencing findings from diverse literature sources, thereby enhancing the credibility and validity of the study while avoiding potential biases.

FINDINGS: NEED FOR REGENERATIVE DEVELOPMENT OF ISLAMIC FINANCE

Islamic finance is founded on principles and purposes that dictate its role and objectives. The core principles of Islamic finance include balancing for-profit and not-for-profit activities, adhering to financial and non-financial prohibitions, protecting private property and free markets, fostering innovation, promoting ethical and Sharīʿah-based self-regulation, and recognising the rights of passive stakeholders, including future generations and natural capital.

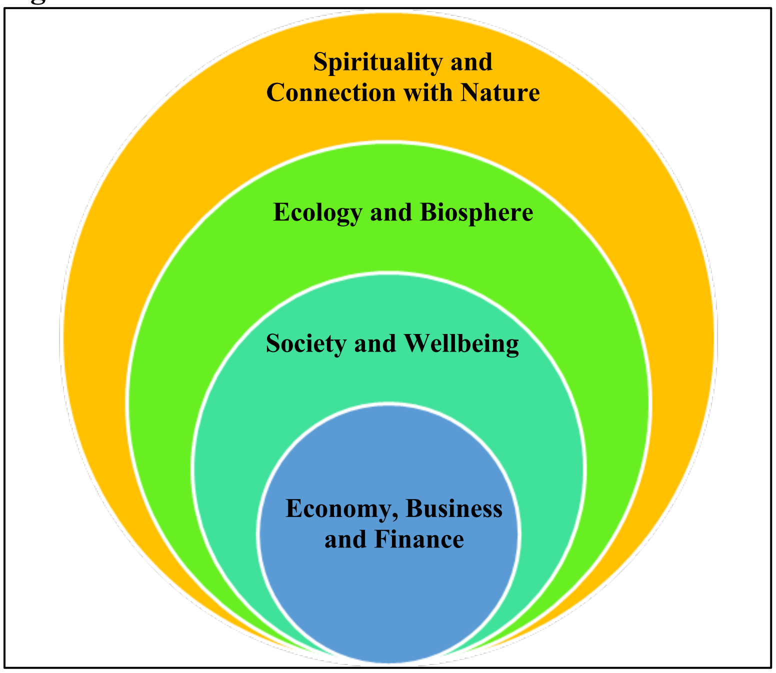
These principles align with the overarching purposes of Islamic finance, which are safeguarding religion and cultural heritage, preserving life and dignity, nurturing human intellect and personal development, securing the well-being of future generations, and maintaining wealth and livelihood. A holistic view embedded in the *maqāṣid al-Sharīʿah* (objectives of Islamic law) framework highlights the interconnectedness of these objectives with the environment, emphasising the need to protect and conserve natural resources.

Al-Qaraḍāwī (2022) considers the preservation of the environment and natural capital to be embedded in each of these five objectives of the Sharīʿah. For example, the existence of life is a precondition to practising religion, and that requires a conducive ecological environment. Furthermore, cleanliness/hygiene is one of the foundational pillars of the religion and its practice.

The *maqāṣid al-Sharīʿah* premises therefore present an embedded framework, as summarised in **Figure 4**. A well-functioning and sustainable economy requires a content and healthy society with adequate security and wellbeing, which in turn requires clean air, water and flourishing natural world and capital. The existence of a healthy ecological environment and biosphere facilitates people's strong spiritual connection with the natural world as its trustees and stewards.

As science-based evidence of global warming has become recently available, other researchers have added the ecological environment as an explicit sixth objective of the Sharīʿah (Asutay & Harningtyas, 2015). Furthermore, adherence to responsibility and stewardship is fundamental to responsible economics, social and ecological ideals, and as such, this may be considered a seventh objective of the Sharīʿah.

Figure 4: **The Embedded Islamic Economic Framework**

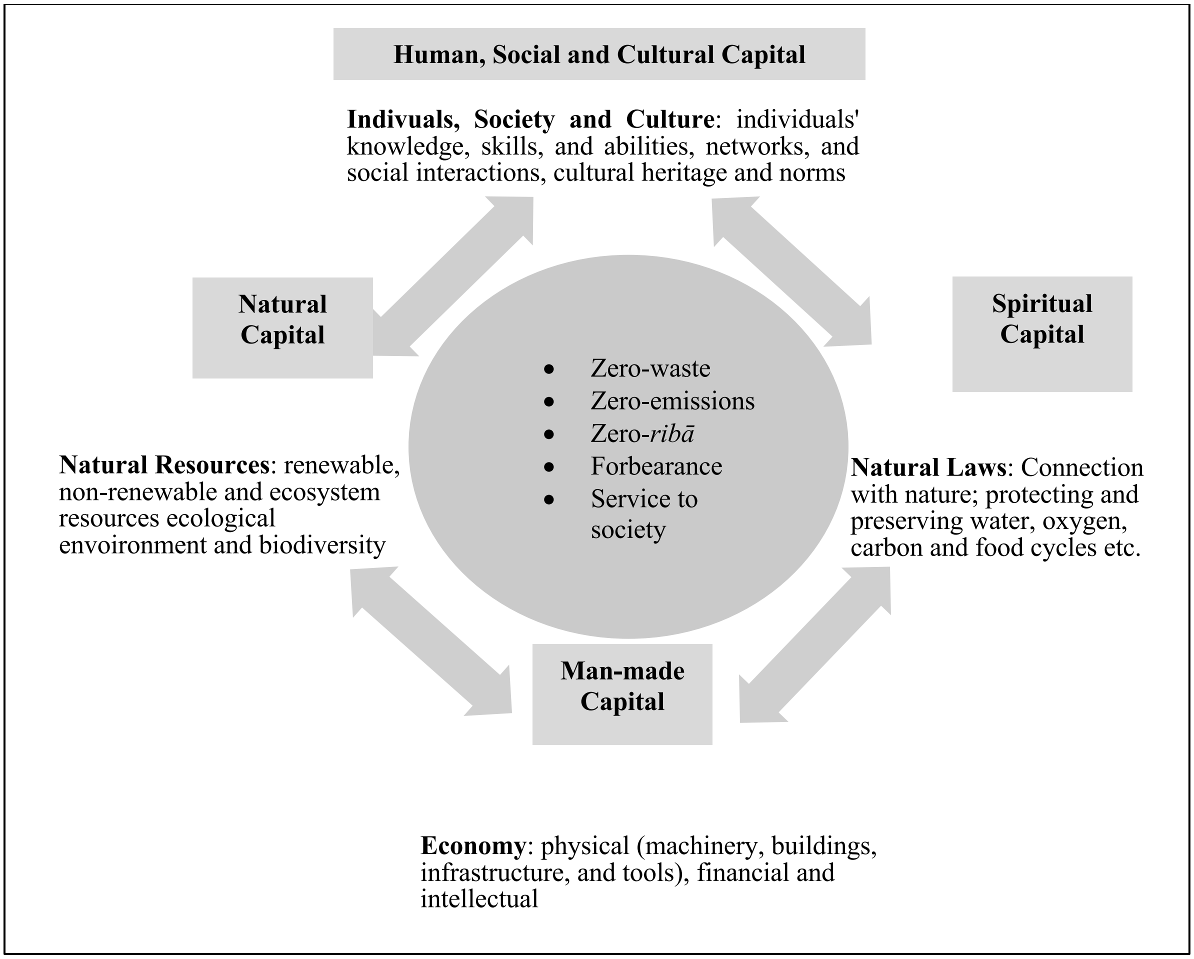


Source: Authors' own

Within this framework, Islamic economics and finance promotes various attributes and norms, such as being a trustee of Allah (SWT) on earth, avoiding usurious practices (*ribā*), practising the middle path (*wasaṭiyah*), establishing a universal balance (*al-mīzān*), prohibiting waste and extravagance, and acknowledging the rights of passive stakeholders.

This holistic view of Islamic economics and finance provides a stark contrast to the neoclassical economic model, which is best represented by Paul Samuelson's famous diagram of circular cashflows. In this framework, the economy exists in isolation of the society and the ecological environment, and what is not priced in the circular cashflows is the externality of the system for the society, such as inequalities, discrimination, etc., and for the ecological environment such as waste, pollution and biodiversity loss. The neoclassical paradigm exaggerates the positive externalities and trivialises the negative externalities. Therefore, the degradation and deterioration of natural capital may occur rapidly and unabated due to the disregard for fundamental costs/outcomes.

Figure 5: **Islamic Economics and Finance as an Embedded Framework**

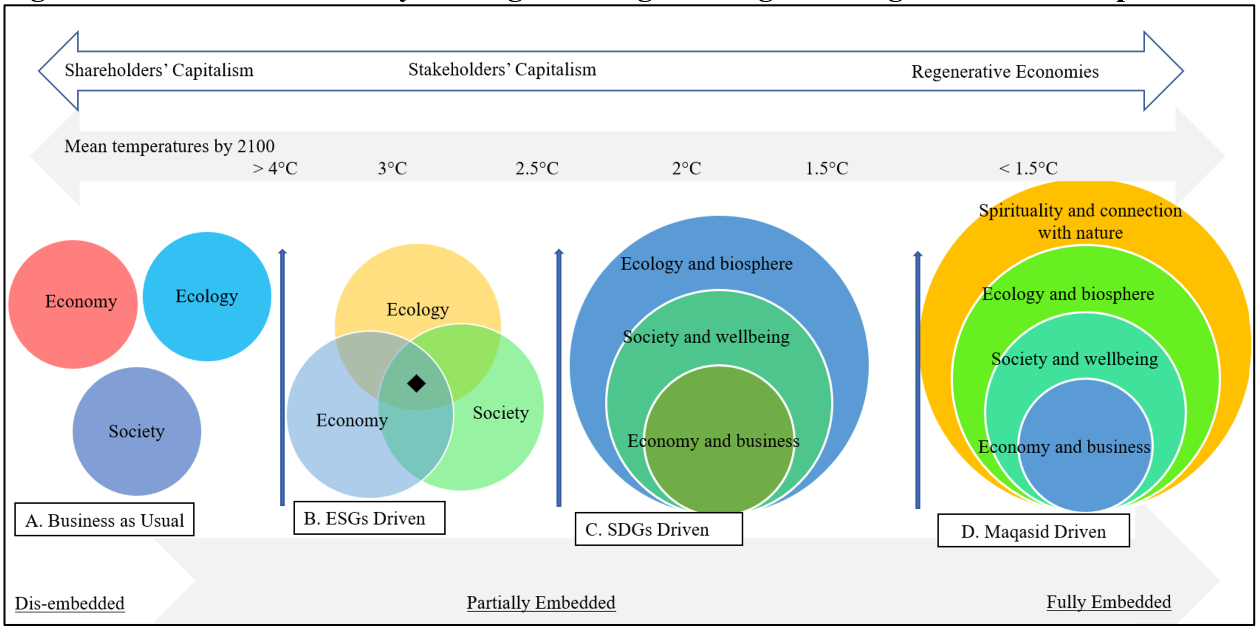


Source: Authors' own

Figure 5 summarises an Islamic economics framework derived from the embedded approach of the *maqāṣid al-Sharīʿah*. In the suggested framework, the economy exists as one component in the embedded system, its other components being natural capital, human, social and cultural capital, and spiritual capital. Since the components of the framework are intertwined and not isolated, the framework is inherently suitable for the internalisation of externalities and thus facilitate their management.

Adopting this framework into the pathway of achieving a regenerative economy will create an alternative path. **Figure 6** presents a summary of the future global warming scenarios under different paradigmatic approaches. The question that is posed is: can Islamic economics and finance contribute to keeping the global mean temperatures under bearable ranges of 1.5°C by year 2100?

Figure 6: **Alternative Pathways of Degenerating and Regenerating the Natural Capital**



Source: Authors' own

In **Figure 6**, four paradigmatic approaches are highlighted:

A. Business as Usual – Degenerative Development

The Intergovernmental Panel on Climate Change (IPCC) warns that if current high greenhouse gas emissions continue unabated, global temperatures may rise by 2.6°C to 4.8°C by the end of the 21st century, resulting in catastrophic consequences. This 'business as usual' scenario envisions widespread, irreversible damage to ecosystems and human societies. Urgent mitigation efforts are needed to avoid this dire outcome. Nordhaus (2018a; 2018b) provides prime examples of business-as-usual scenarios in which the models predict temperatures exceeding 3.5°C and the only mitigation strategy is to rely on adaptations.

B. Environmental, Social and Governance (ESG) Driven

ESG models aim to limit global warming to below 2°C, with an ideal target of 1.5°C. Achieving this goal requires substantial reductions in greenhouse gas emissions, along with the adoption of negative emissions technologies. However, many corporations do not fully adhere to ESG principles, risking widespread 'greenwashing' concerns. Recent studies indicate that operations of most ESG-disclosing companies still contribute to over 3°C of global warming.

C. Sustainable Development Goals (SDGs) Driven

The SDGs and the Paris Agreement set the path for the 2100 global temperature scenario. These international agreements aim to reduce emissions and keep global warming below 2°C. Achieving these goals necessitates substantial changes in global economics, the society and cooperation. Implementing the SDGs is challenged by resource gaps, calamities and conflicts between goals.

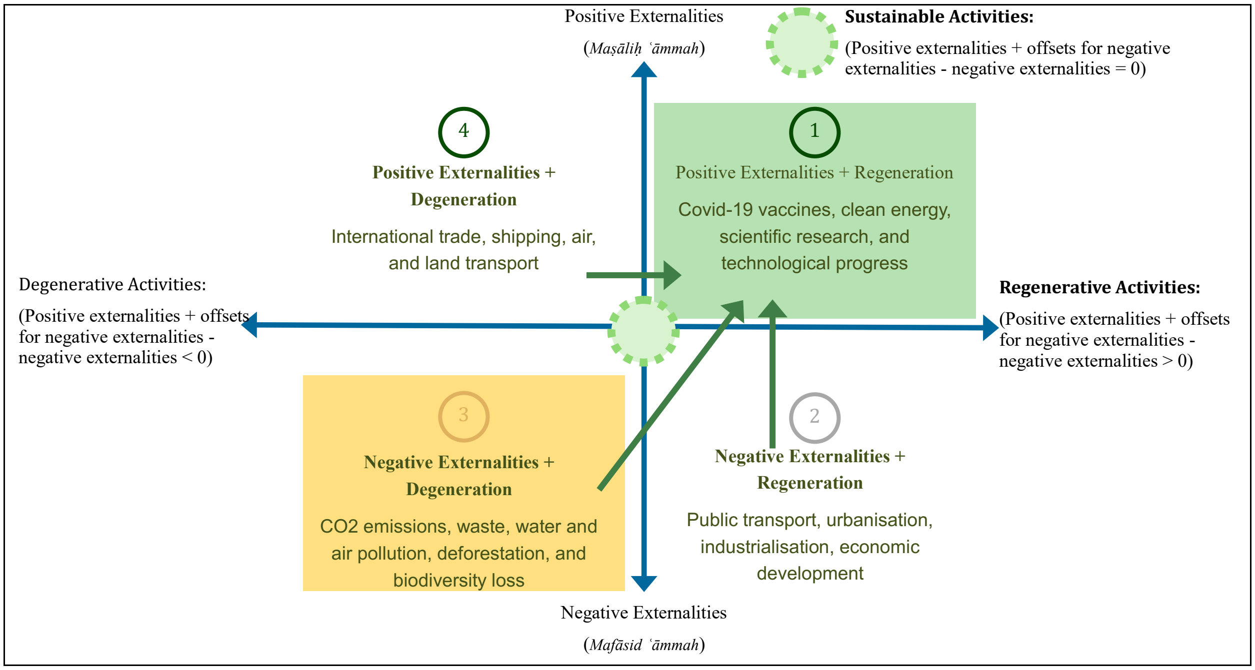
D. *Maqāṣid* Driven – Regenerative Development

The strength of the SDGs framework lies in its integration of social, economic, governance and environmental objectives. However, this integration requires addressing the negative environmental externalities generated by tackling poverty and hunger. For instance, as income rises, addressing poverty while causing air and water quality deterioration may lead to increased healthcare costs. Regenerative development focuses on enhancing the earth's natural processes, biocapacity and natural capital. It involves shifting human activities towards regeneration to reduce negative externalities (public harms, i.e., *mafāṣid ʿāmmah*) and enhance positive ones (public benefits, i.e., *maṣāliḥ ʿāmmah*). Internalising externalities through insetting strategies that would consider social, environmental, and economic costs within the product pricing can mitigate the social harm caused by economic activities. Insetting strategies involve integrating environmental and social sustainability initiatives directly into a company's supply chain or operational activities. This approach differs from traditional offsetting methods by focusing on internal actions within the company's own value chain to address sustainability challenges.

Regenerative development advocates restoration and enhancing biodiversity and the ecological environment by integrating it within the business process. Reducing the extraction of non-renewable resources and their wastage through circular businesses, promoting energy efficiency and clean energy generation and usage, investing in carbon capture and negative emission technologies will enhance regenerative development. Offsetting the remaining negative externalities by supporting other external regenerative activities and initiatives will further strengthen the regenerative processes. The three distinct states of the natural capital-focused development process can be summarised in three equations:

1. **State 1 Degenerative**: Positive externalities + offsets for negative externalities – negative externalities < 0
2. **State 2 Sustainable**: Positive externalities + offsets for negative externalities – negative externalities = 0
3. **State 3 Regenerative**: Positive externalities + offsets for negative externalities – negative externalities > 0

Based on these equations, the various activities can be organised into four quadrants, pictured in **Figure** 7: Degenerative, Sustainable and Regenerative Activities



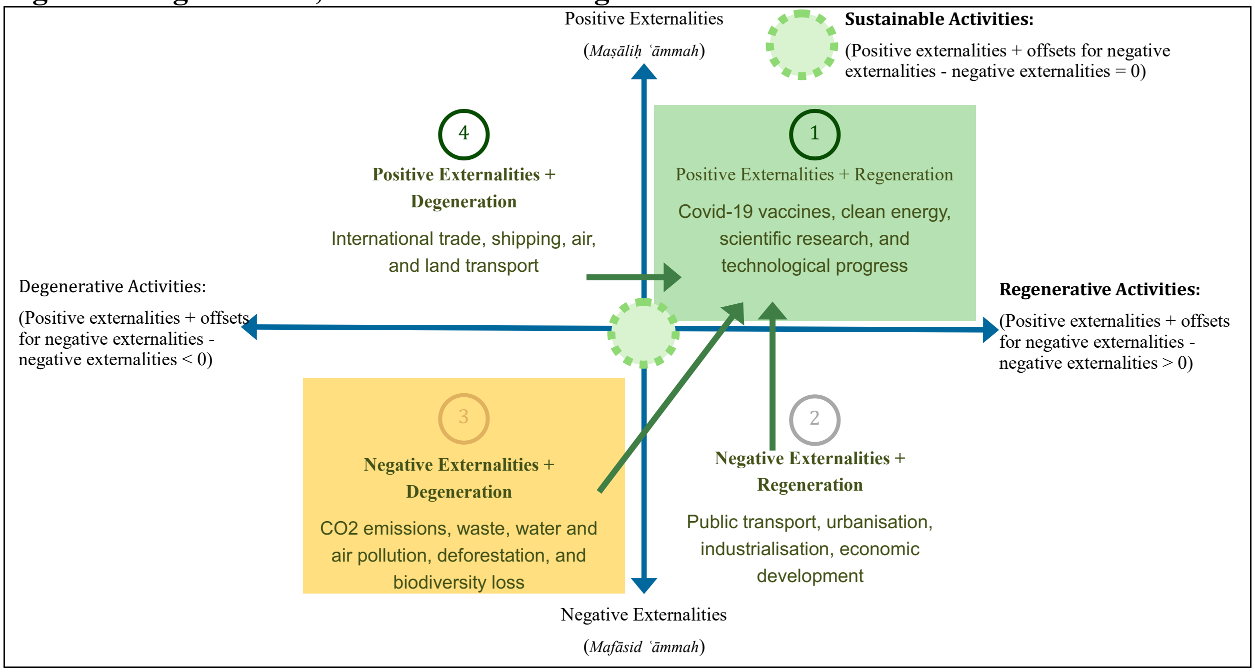
Source: Authors' own

. The examples of activities that will fall in quadrant 4 are international trade, shipping, air and road transport where there are considerable positive externalities but with respect to the natural capital, such activities are likely to be degenerative because of carbon emissions, resource extraction, waste, and biodiversity losses. On the other hand, producers' responsibility, legislation, industrial symbiosis and waste reduction, reliance on cleaner energy, carbon capture technology, etc., are examples that can reduce the negative externalities and move the activities to quadrant 1.

Quadrant 4 represents activities which have clear negative externalities and are degenerative. Examples are all types of waste generation, air and water pollution, fossil fuel and coal energy, etc. It is obvious that a combination of carbon capture technologies and coal-based less costly clean energy as well as zero-waste strategies will shift the activities to quadrant 1.

Quadrant 2 represents activities that are regenerative but have negative externalities. Examples are solar energy storage batteries, mass public transit, etc. Although mass transit is gradually shifting to clean energy and moving to quadrant 1, the externalities of energy storage facilities depend on clean technologies.

Figure 7: **Degenerative, Sustainable and Regenerative Activities**



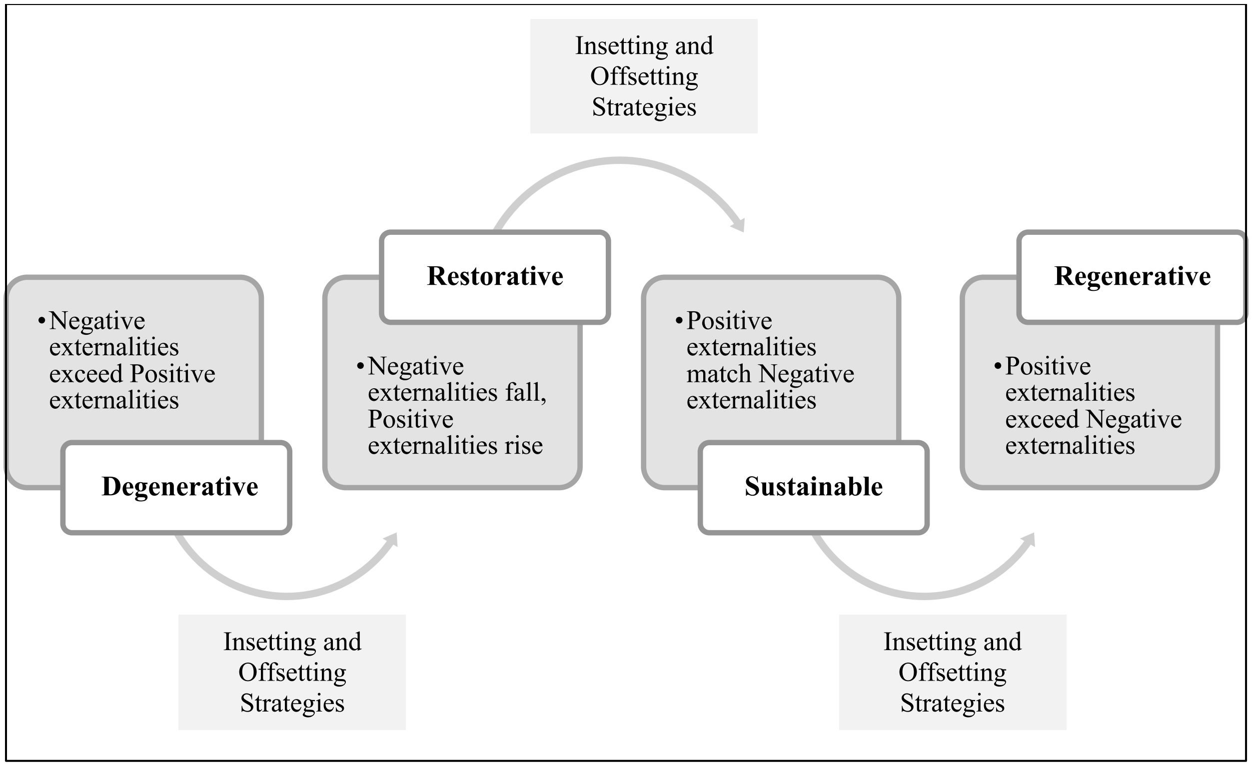
Source: Authors' own

Depending on its current state, the transformation of a business can be divided into four stages:

1. The **degenerative stage**, where the negative impacts of the business (*mafāṣid*) outweigh the positive impacts (*maṣāliḥ*) and the business contributes to the degradation of the earth's biocapacity and natural capital.
2. The **restorative stage**, where by the application of insetting and offsetting strategies, the negative impacts decrease and the positive impacts increase over time, but the overall result is still negative, though the business is contributing to the restoration of the earth's biocapacity.
3. The **sustainable stage**, where the negative and positive impacts of the business on the earth's biocapacity are balanced and the business neither degrades nor regenerates the earth's biocapacity.
4. The **regenerative stage**, where the positive impacts of the business outweigh the negative impacts and the business is making a net contribution to enhancing and preserving the earth's biocapacity.

Insetting and offsetting strategies remain valid in all the three stages of transformation of a degenerative business. Some examples of the strategies are given in **Figure 8**.

Figure 8: Insetting and Offsetting Strategies and Business Transformation



Source: Authors' own

DISCUSSION: SUSTAINABILITY PATHWAY FOR ISLAMIC FINANCIAL CONTRACTS

The previous section explored the significant potential for a green transition in the GCC countries, with implications for economies worldwide. Within this context, Islamic economics and finance may play a crucial role. Economic, business and financial activities in Islamic economics are traditionally categorised as either for-profit (commercial) or not-for-profit (social) pursuits. Historically, commercially-incentivised activities employed unstructured contracts such as *muḍārabah* (profit sharing), *mushārakah* (profit-and-loss sharing) or deferred sales. However, since the inception of Islamic banking in 1975, structured products have been developed, such as *murābaḥah* to the purchase orderer (MPO), *ijārah* (lease) ending-in-ownership, and declining partnerships. Further information about the financial contracts is available in Kahf (2015) and the AAOIFI Shari'ah Standards (2023).

Design of Sustainable Contracts

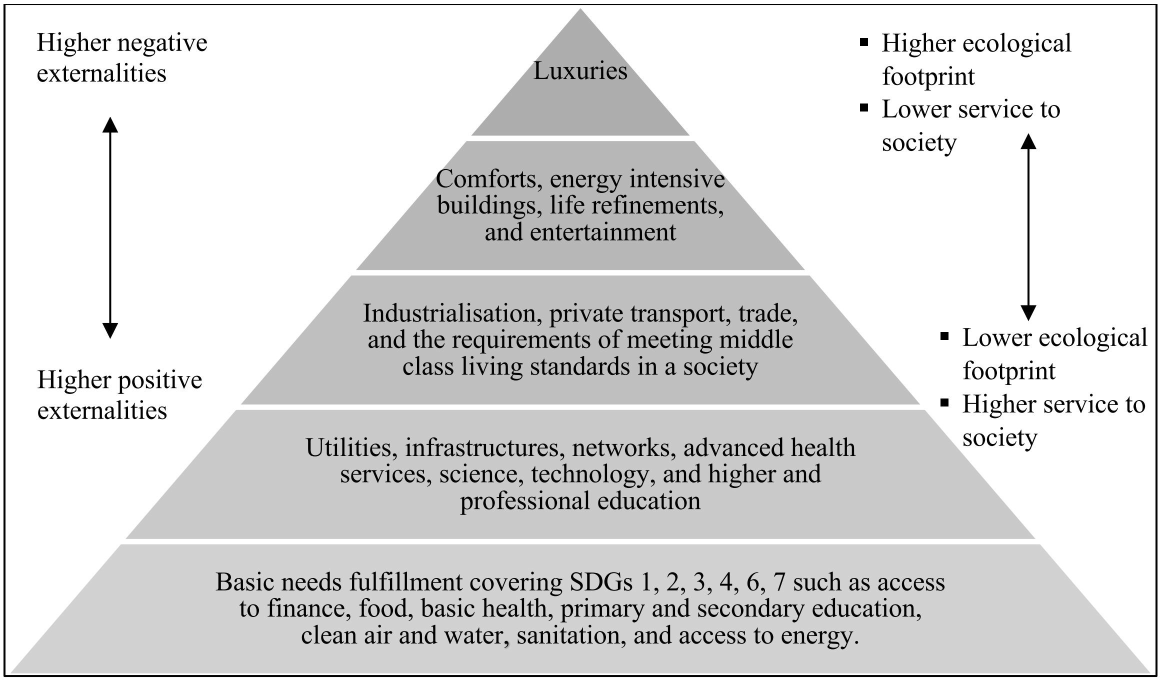
Certain scholars in Islamic economics favor unstructured products, particularly *muḍārabah-mushārakah* which have risk-sharing qualities. Nevertheless, the practice of Islamic finance is dominated by MPO, which is becoming the mainstream Islamic finance contract. The MPO has evolved into commodity *murābaḥah* (*tawarruq*) with the aim of serving as a comprehensive mechanism to replicate conventional loans. While MPO and *tawarruq* both have their proponents and are substantively similar, the difference hinges on whether the asset buyer actually takes possession of the asset or if an agent (the bank) sells the asset and delivers the generated cash to the buyer. Sustainability of the contract design—especially in the context of industry choices (e.g., fossil fuels vs. clean energy) and business types (e.g., traditional small and medium enterprises (SMEs) vs. green SMEs)—often remains unaddressed.

All areas of Islamic finance, including banking, *ṣukūk* (Islamic investment certificates), mutual funds, *takāful* (Islamic insurance) and Islamic social finance, rely on financial contracts as outlined in the AAOIFI Shari'ah Standards. These contracts define rights, obligations, terms, risks, and dispute resolution. To integrate environmental sustainability, contracts should support long-term environmental and social responsibilities, aligning with the principles of Islamic finance. The following key considerations are needed to develop a sustainability pathway for designing Islamic financial contracts:

- **Sharīʿah basis**: Sharīʿah compliance forms the foundation of Islamic financial contracts and the associated financial services industry. Traditionally, compliance has been determined through negative screens, ensuring the absence of prohibitions that would deem the contract Sharīʿah non-compliant such as interest, gambling and ambiguity. Halal, in this context, is defined by its compliance and adherence to a set of predefined rules. Recognising the growing importance of sustainability, and the potential adverse environmental and social impacts of economic activities, it becomes imperative to consider these externalities and consequences in assessing a financial contract's alignment with Sharīʿah principles as the Sharīʿah inherently advocates for dealings that are beneficial and free from harm to the society and the environment.
- **Service to society:** Design of financial contracts must promote service to society. One possible way to interpret service to society as a rubric is to evaluate how the contracts contribute to the social welfare and well-being of the stakeholders and the broader community. For example, a financial contract that supports the provision of basic needs of the society—e.g., eradicative poverty (SDG 1), zero hunger (SDG 2), good health and wellbeing (SDG 3), quality education (SDG 4), clean water and sanitation (SDG 6), affordable clean energy (SDG 7), etc.—serves the society in the best way.

Figure 8 lists a society's needs in order of their environmental impact. HDI and ecological footprint data reveal that as HDI rises, inequalities grow and the negative environmental footprint also grows. Higher standards of living are associated with higher ecological footprints, and lower standards of living with lower footprints. Financial contracts designed to meet basic needs will hence be environmentally sustainable as well.

Figure 8: Hierarchy of Needs and Ecological Footprints



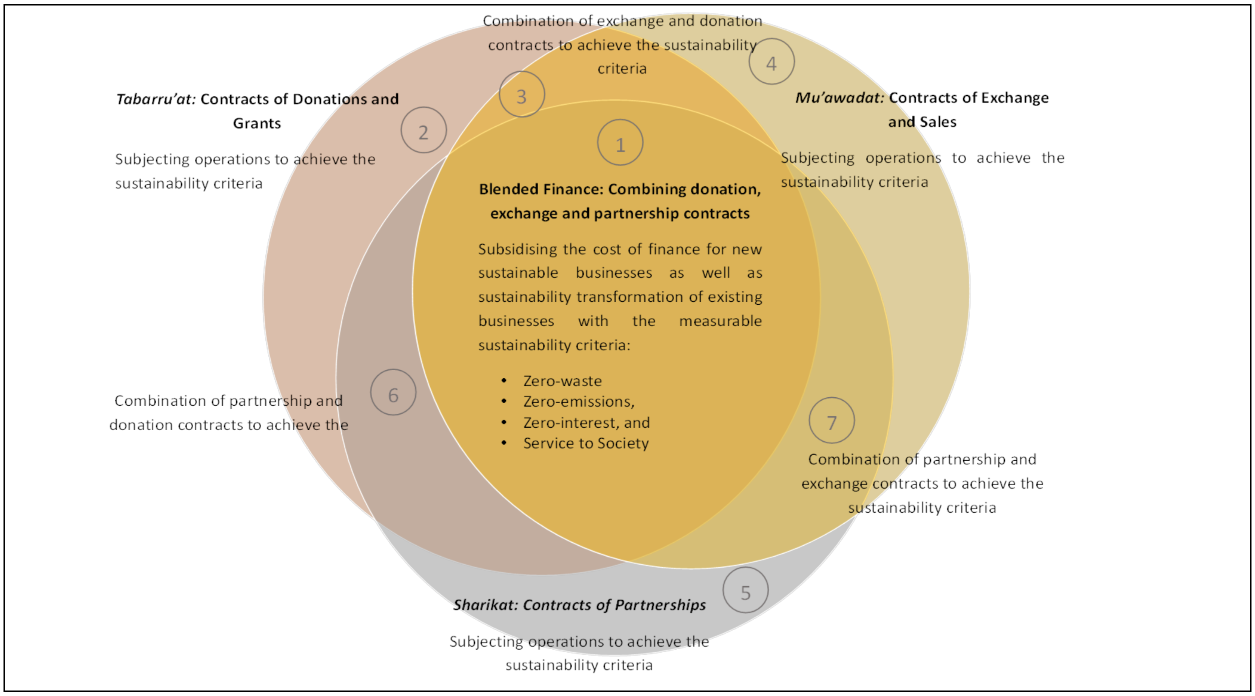
Source: Authors' own

To achieve the following objectives, the considerations below should be taken into account in the engineering of financial contracts:

- **Social impact**: Contracts should consider how they affect stakeholders, addressing social risks, promoting social justice, diversity, equity, and social impact investing.
- **Waste-reduction plans**: Contracts should facilitate zero-waste strategies, contributing to resource efficiency and environmental resilience.
- **Water plan**: Contracts should include documented water usage plans to incentivise water conservation and management.
- **Energy use**: Contracts and disclosures should encourage clean energy use and fossil fuel reduction, aligning with renewable energy mandates.
- **Offsets**: Contracts can incorporate 'net-zero offsets' to compensate for greenhouse gas emissions, promoting carbon sequestration and sustainability initiatives.
- **Sustainable supply chains**: Contracts should reward sustainable raw material and product purchases, supporting sustainability audits and disclosures.
- **Diversity**: Contracts can support social inclusion and diversity, and focus on reducing social inequality.
- **Financial sustainability**: Contracts should promote responsible investing and sustainable financial products and services.
- **Governance and disclosures**: Contracts may require good governance through timely and accurate disclosures, enhancing transparency and accountability.

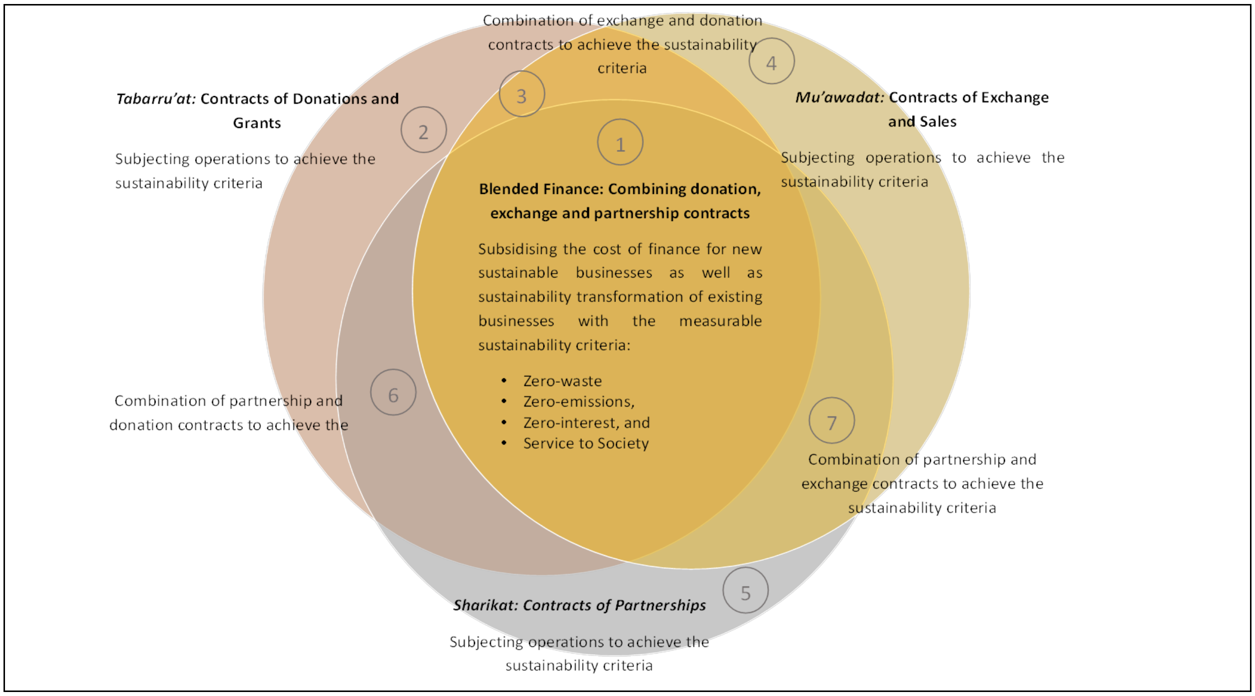
Integrated Framework for Islamic Financial Engineering

This article has introduced a sustainability pathway for the design of Islamic finance, with a primary focus on natural capital, among other considerations. Below is a proposed re-evaluation of Islamic financial contracts. **Figure 9**: Integrated Framework for Sustainability of Islamic Financial Contracts

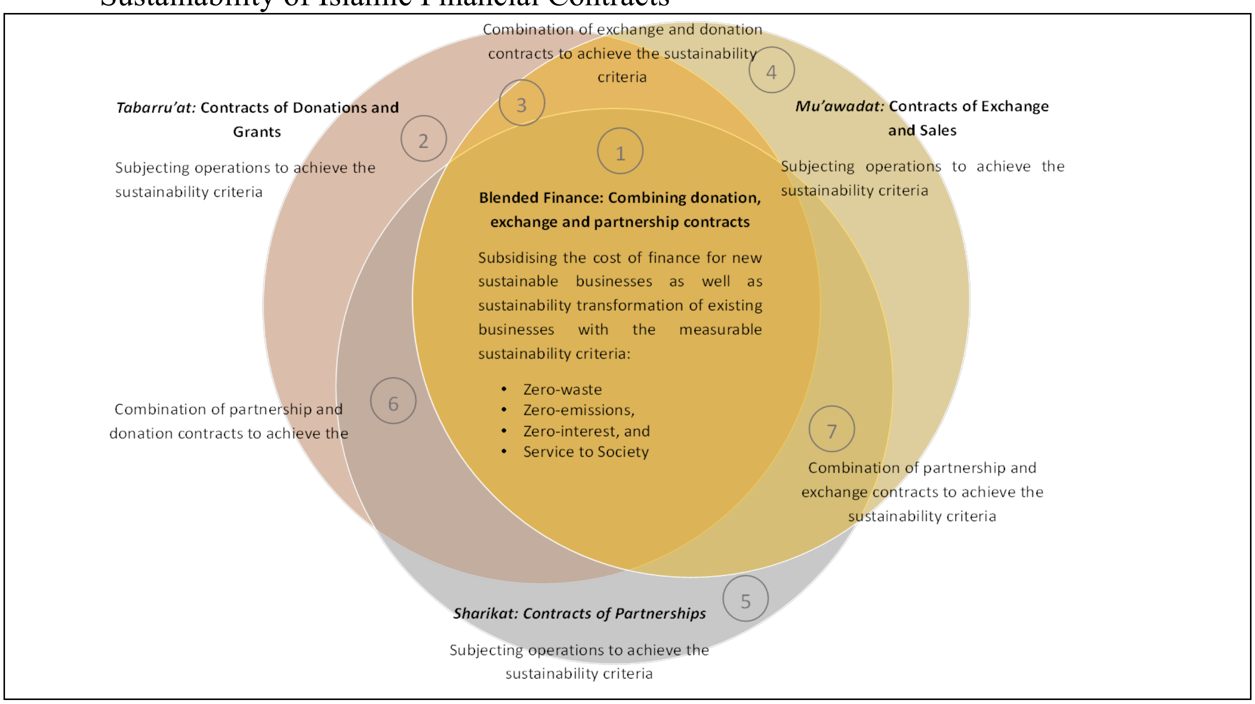


Source: Authors' own serves as a summary of the comprehensive discussion, emphasising the following key points:

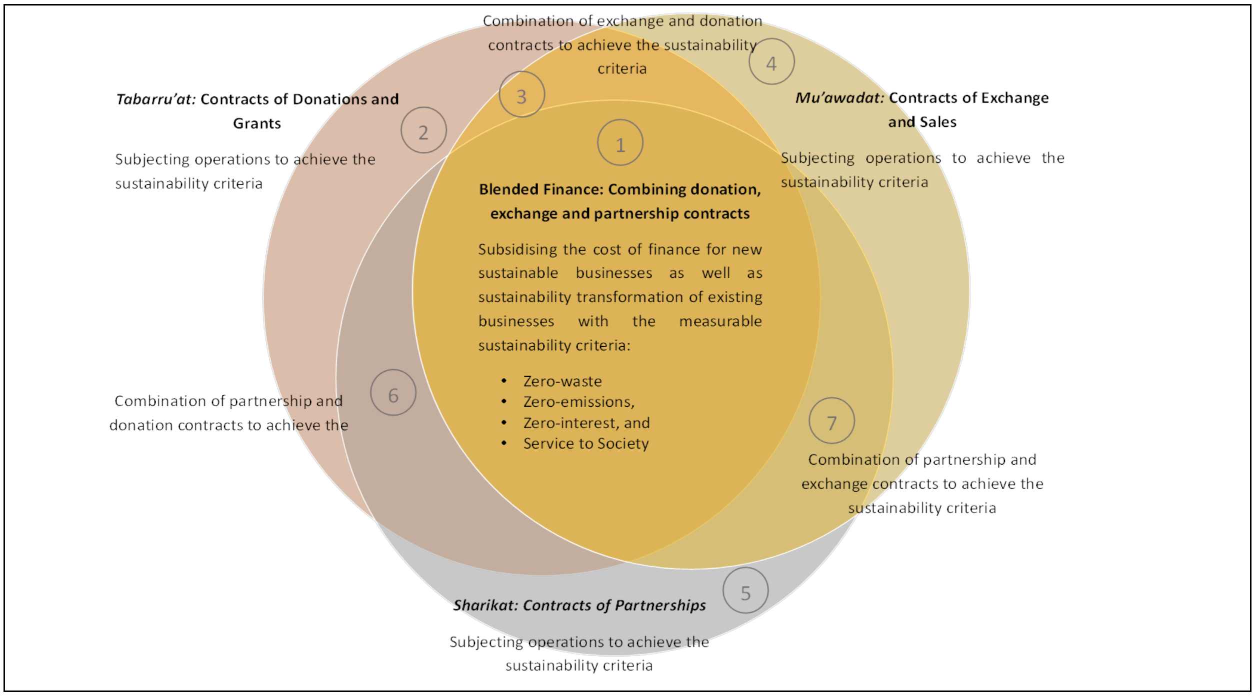
1. Sustainability is highly consistent with the *maqāṣid al-Sharīʿah* and the values system on which Islamic economics and finance are based, and therefore must be integrated in all types of financial contracts. Examples as shown in Figure 9: Integrated Framework for Sustainability of Islamic Financial Contracts



2. Source: Authors' own are: (2) all contracts of donation and grants, (4) all exchange and sale contracts, and (5) all revenue sharing contracts; all of which must integrate the sustainability objective.
3. Likewise, the different contracts should be blended where possible to achieve sustainability objectives. Examples as reflected in Figure 9: Integrated Framework for Sustainability of Islamic Financial Contracts

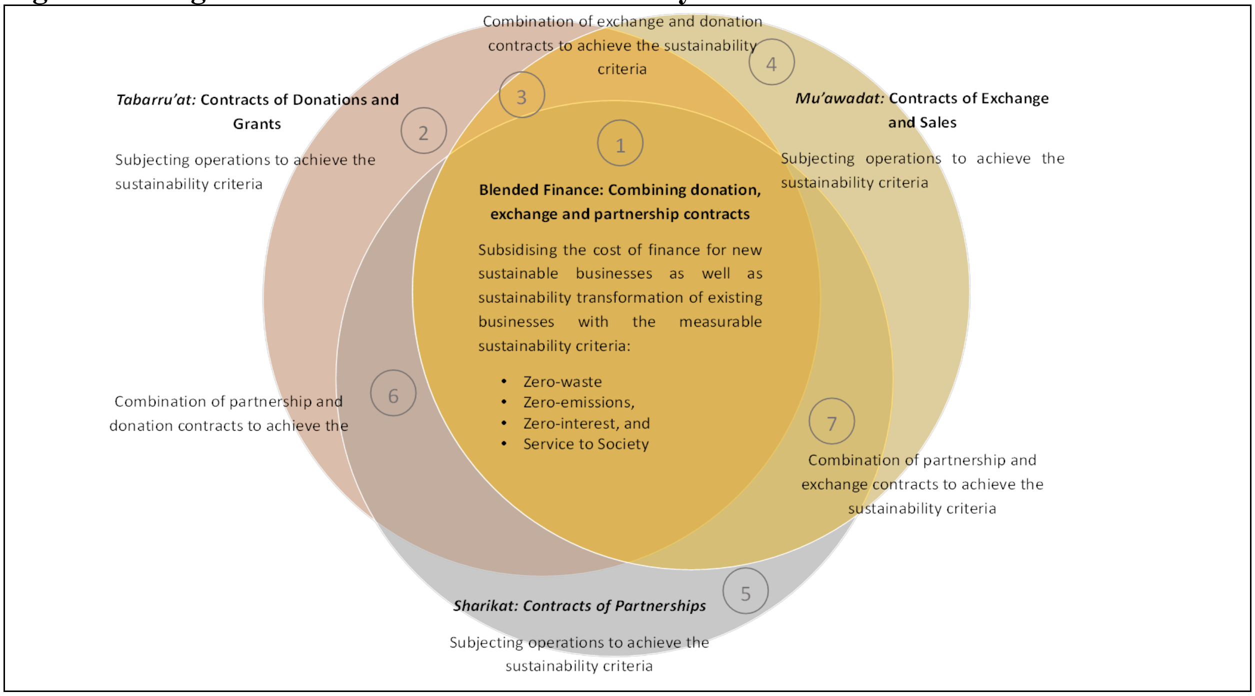


4. Source: Authors' own are: (3) combination of exchange and donation contracts, (7) combination of exchange and partnership contracts, and (6) combination of partnership and donation contracts to achieve the sustainability objectives.
5. Finally, in terms of Figure 9: Integrated Framework for Sustainability of Islamic Financial Contracts



6. Source: Authors' own, (1) all types of contracts can be blended to achieve the sustainability objectives.

Figure 9: **Integrated Framework for Sustainability of Islamic Financial Contracts**



Source: Authors' own

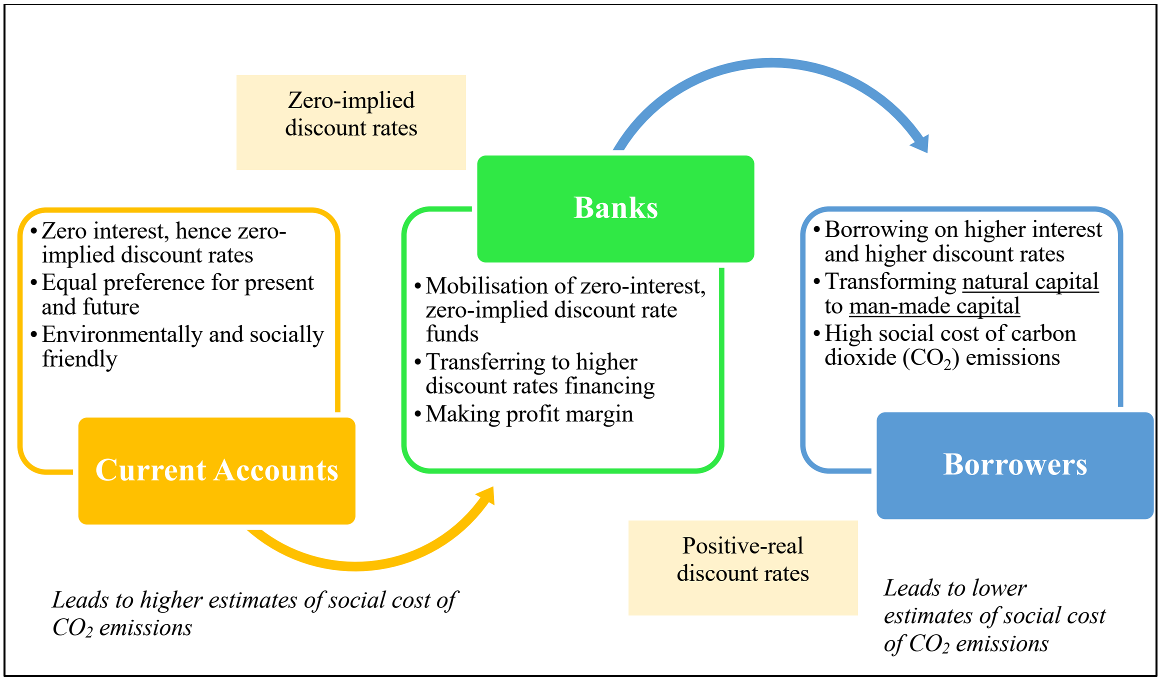
Sustainability Mismatch between Funds and Assets

The effectiveness of financial and economic transactions in promoting environmental sustainability hinges on a fundamental element: discount rates. Ensuring that current needs, demands, and action targets are met without compromising the requirements of future generations is central to sustainability. Consequently, the future holds equal importance to the present in sustainable considerations. Discount rates play a pivotal role in this context, as they can either undervalue future benefits and costs, thereby risking underinvestment in sustainable practices and policies, or appropriately value future advantages when set at low or zero rates.

High discount rates reflect an emphasis on present consumption over the long-term effects of climate change. Such rates prioritise market-driven economic growth, including financial gains, employment, and innovation, while neglecting non-market benefits such as environmental protection and natural capital.

One of the challenges arises from the discrepancy between depositors, who implicitly have low discount rates, and borrowers, who demand high discount rates. While the classical banking model is based on loans being funded by deposits, the contemporary banking landscape is extensively more complex. Notably, liquidity requirements, once integral to this relationship, have been largely supplanted by capital adequacy requirements, focusing on solvency in relation to weighted assets. There is a link between the discount rate and its conduciveness to sustainability as it directly impacts the allocation of resources and the consequent impact on the economy and the environment over time. **Figure 10** summarises this mismatch.

Figure 10: **Discount Rates and Sustainability Mismatch between Deposits and Financing**



Source: Authors' own

The Social Cost of Carbon (SCC), which quantifies the economic damages caused by each additional ton of carbon dioxide (CO_2) emissions, offers a useful measure to evaluate the benefits and costs of policies aimed at reducing greenhouse gas emissions and enhancing carbon sequestration. Addressing the mismatch between the perceived low discount rates of depositors and the actual high discount rates of borrowers can significantly contribute to enhancing sustainability. Achieving this alignment can be accomplished by adhering to the sustainability pathways for contract design, as discussed in the preceding sections.

CONCLUSION

The first section of this paper introduced natural capital in Islamic finance literature and identified the alarming crisis of sustainability management in terms of the fast degradation of natural capital and its very serious consequences for future generations. Section two then related the discussion of section one with the GCC economies. The section suggested that GCC countries, having already achieved high levels of HDI, need to focus on maintaining it but bringing their ecological footprint within the planetary capacity of one earth. This requires an unprecedented green economic transformation and diversification to shift away from their current reliance on exhaustible resources to renewable energy and enhanced natural capital.

Cultural values play an important role in reducing negative externalities and increasing positive externalities of human business and consumption activities. Section three suggested that Islamic economics and finance hold great promise of facilitating and supporting the green economic transformation of GCC countries. In the framework of *maqāṣid al-Sharīʿah*, it also discussed regenerative development as the ideal goal and the prospects of Islamic economics and finance in achieving the goal.

Section four highlighted the need for the Islamic economics and finance values and aspirations to be translated into sustainability pathways. The section discussed the sustainability levels of contracts, institutions, and systems. Islamic economics inherently offers a *maqāṣid al-Sharīʿah*-based sustainability pathway—new criteria of doing business at its core ideally being zero-waste, zero-emissions, zero-*ribā*, forbearance, and service to society. Each contract must adopt such a pathway and all institutions must support the shared sustainability pathway. Systems level reforms are needed in several areas including the creation of: (i) a social subsidy through blended finance, (ii) integrated bailout and finance users' support programme, and (iii) removing the sustainability mismatches between sources of funds and financing.

The research offers several prospective implications. Firstly, focusing on natural capital, the regenerative development framework suggested in the paper can be the basis for further research. Secondly, the sustainability pathway suggested can be considered as the basis of evaluating the design of Islamic financial contracts. Thirdly, the institutional and systems levels reforms suggested are relevant for various stakeholders including Islamic finance infrastructural and architectural institutions as well as the industry itself. Finally, the research may induce reforms of different economic policies, including monetary and fiscal, and there is a growing need for government policies to support sustainability efforts of different stakeholders.

REFERENCES

AAOIFI (2023), *Shari'ah Standards*, Accounting and Auditing Organization for Islamic Financial Institutions, Manama, Bahrain.

Al-Qaraḍāwī, Y. (2022), *Conservation of the Environment in Islamic Law*, English translation by ISRA Research Management Centre, Kuala Lumpur.

Asutay, M. & Harningtyas, A.F. (2015), 'Developing *maqasid al-shariah* index to evaluate social performance of Islamic banks: a conceptual and empirical attempt', *International Journal of Islamic Economics and Finance Studies*, Vol. 1, pp. 5–64.

Global Footprint Network (2024a), 'Past earth overshoot days', available at: https://www.overshootday.org/newsroom/past-earth-overshoot-days/ (accessed 31 January 2024).

Global Footprint Network (2024b), 'Country overshoot days', available at: https://www.overshootday.org/newsroom/country-overshoot-days/ (accessed 26 January 2024).

IFSB (2022), *Global Islamic Finance Stability Report 2022*, Islamic Financial Services Board, Kuala Lumpur.

Intergovernmental Panel on Climate Change (IPCC) (2023), 'Climate change 2023 synthesis report: summary for policymakers', available at: https://www.ipcc.ch/report/sixth-assessment-report-cycle/ (accessed 31 January 2024).

Kahf, M. (2015), *Islamic Finance Contracts*, CreateSpace, South Carolina.

Musari, K. & Khan, T. (2023), 'Sustainable development and circular economy in the GCC countries', paper presented at the Gulf Research Meeting 2023 11-13 July, University of Cambridge, Cambridge, available at:

https://www.researchgate.net/publication/372343961_Sustainable_Development_and_Circular_Economy_in_the_GCC_Countries (accessed 31 January 2024).

Nordhaus, W. (2018a), 'Projections and uncertainties about climate change in an era of minimal climate policies', *American Economic Journal: Economic Policy*, Vol. 10 No. 3, pp. 333–360, https://doi.org/10.1257/pol.20170046

Nordhaus, W. (2018b), 'Climate change: the ultimate challenge for economics - prize lecture', available at: https://www.nobelprize.org/uploads/2018/10/nordhaus-lecture.pdf (accessed 30 January 2024).

Simpson, N.P., Mach, K.J., Constable, A., Hess, J., Hogarth, R., Howden, M., Lawrence, J., Lempert, R.J., Muccione, V., Mackey, B., New, M.G., O'Neill, B., Otto, F., Pörtner, H.O., Reisinger, A., Roberts, D., Schmidt, D.N., Seneviratne, S., Strongin, S., … Trisos, C.H. (2021), 'A framework for complex climate change risk assessment', *One Earth*, Vol. 4, No. 4, pp. 489–501, https://doi.org/10.1016/j.oneear.2021.03.005

ABOUT THE AUTHORS

Tariqullah Khan, PhD, is currently a professor at INCEIF University, Malaysia. He is a renowned scholar in Islamic economics and finance. He has over 40 years of experience, having worked at the Islamic Development Bank (IsDB), Jeddah, Hamad Bin Khalifa University (HBKU), Qatar, and Istanbul Zaim University (IZU), Türkiye. He is currently focusing on Islamic economics and finance, circular and regenerative economy, sustainability management of businesses and national economies to heal ecology and the society.

Imene Tabet, PhD, is currently a Research Fellow at INCEIF University, Malaysia. Her current research focus is on Islamic finance, circular and regenerative economy, sustainability, climate financial risks, and SMEs. Dr Imene Tabet is the corresponding author and can be contacted at imene@inceif.edu.my

DECLARATION

Credit Authorship Contribution Statement

- Tariqullah Khan: Conceptualization, Methodology, Write up
- Imene Tabet: Analysis, Write up, Presentation of findings

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

The authors declare that they have not received any funding to undertake this research.

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability

None

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix

None

SUSTAINABLE INVESTING AND ISLAMIC FINANCE: EVIDENCE FROM THE ORGANISATION OF ISLAMIC COOPERATION (OIC) COUNTRIES

Yuwen Dai
Zhejiang University, China

Received
8 July 2023

Revised
14 November 2023
15 March 2024
24 March 2024

Accepted
24 March 2024

ABSTRACT

Purpose — In the aftermath of the Global Financial Crisis, sustainable investing and Islamic finance have become two of the most rapidly growing areas of finance. In the literature on Islamic equities, there are relatively few studies that have integrated sustainability factors into Islamic finance. To address this significant gap in knowledge and evidence, the objective of this paper is to contribute to the literature on the integration of sustainable investing into Islamic finance.

Design/Methodology/Approach — This paper first examines the comparative performance of investing in the sustainability equity indices from those Organisation of Islamic Cooperation (OIC) countries that are partners of the Sustainable Stock Exchanges (SSE) initiative. This paper then conducts a case study on Borsa Istanbul, which has the best-performing sustainability equity index from OIC countries.

Findings — The findings of this paper reveal the heterogeneity in sustainable investment performance, and suggest the potential of obtaining superior risk-adjusted returns in certain economies.

Originality/Value — This paper contributes to the literature that links sustainable investing with Islamic finance, specifically in the context of OIC countries and by focusing on the case of Borsa Istanbul.

Research Implications — This research draws policy and practical implications on how sustainable investing can bridge the gap between Islamic and conventional financial markets.

Keywords — Environmental, social and governance (ESG); Islamic finance; Sustainable investing

Article Classification — Research paper

INCEIF UNIVERSITY | ISRA RESEARCH MANAGEMENT CENTRE

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024 pp. 41–56

eISSN:
2289-4365

DOI:
doi.org/10.55188ijif.v16i1.563

INTRODUCTION

Sustainable investing and Islamic finance have become two of the fastest-growing areas of finance (Bennett & Iqbal, 2013), especially in the wake of the Global Financial Crisis (Zeti *et al.*, 2019). In theory, sustainable investing and Islamic finance are compatible (Williams & Zinkin, 2010). In practice, sustainable investing and Islamic finance are complementary capital-raising and investment approaches, with more similarities than differences (Bennett & Iqbal, 2013; Zeti *et al.*, 2019; CFA Institute, 2019; CFA Institute & UN PRI, 2019). On the one hand, sustainable investing is an investment approach that considers both financial objectives and environmental, social and governance (ESG) factors in portfolio construction and management (Renneboog *et al.*, 2008b; Munoz *et al.*, 2014; Miralles-Quiros & Miralles-Quiros, 2017; Zeti *et al.*, 2019; GSIA 2020; Meira *et al*., 2023). On the other hand, Islamic finance is a financial system in which financial institutions offer financial services that are based on the principles of shared risk and reward (Kammer *et al*., 2015).

Against the backdrop of the COVID-19 pandemic, sustainable investment is still a major force shaping global capital markets (GSIA, 2020). At the same time, the Islamic financial services industry has sustained its growth momentum and progressed on a double-digit growth trajectory, with significant improvement across different segments of the industry, particularly in Islamic capital markets (IFSB, 2021). Across Islamic capital markets, stock exchanges have joined the Sustainable Stock Exchanges (SSE) initiative (Halawi, 2021). Sitting at the heart of the global investment chain, stock exchanges have a leading role in promoting sustainability in finance. Among the 57 OIC countries, 23 countries are SSE partners, of which five stock exchanges have sustainability-related indices, as shown in **Table 1**.

Table 1: OIC Countries and the Sustainable Stock Exchanges (SSE) Initiative

OIC Country	Stock Exchange	Number of Listed Companies	Market Capitalisation (USD Million)	Has Annual Sustainability Report	Requires ESG Report as a Listing Rule	Offers ESG-related Training	Has Sustainability-related Index
Malaysia	Bursa Malaysia	947	414,285	Yes	Yes	Yes	Yes
Indonesia	Indonesia Stock Exchange (IDX)	766	578,631	Yes	Yes	Yes	Yes
United Arab Emirates (UAE)	Dubai Financial Market (DFM)	63	111,605	Yes	Yes	Yes	Yes
Turkey	Borsa Istanbul (BIST)	417	174,396	Yes	No	Yes	Yes
Egypt	The Egyptian Exchange (EGX)	244	48,731	Yes	Yes	Yes	Yes

Source: Sustainable Stock Exchanges (SSE) – Stock Exchange Database

In the literature on Islamic equities, common research themes include the comparative performance of Islamic equities versus their conventional counterparts (Hussein & Omran, 2005; Girard & Hassan, 2008; Hayat & Kraeussl, 2011; Al-Khazali *et al.*, 2014; Ashraf & Mohammad, 2014; Ho *et al*., 2014; Shamsuddin, 2014; Ashraf & Khawaja, 2016); the portfolio diversification benefit of investment in Islamic equities (Abbes & Trichilli, 2015; Balcilar *et al.*, 2015; Mensi *et al*., 2015; Paltrinieri *et al*., 2019; Gok *et al*., 2020; Ali *et al*., 2021); the comparative performance of Islamic versus sustainable investing strategies (Lyn & Zychowicz, 2010; Abdelsalam *et al*., 2014a, 2014b), among others (Masih *et al.*, 2018). However, there are relatively few research studies that have integrated sustainability factors into Islamic finance, including Erragragui and Revelli (2015, 2016); Erragragui (2017); Erragragui *et al*. (2018); Azmi *et al*. (2019); Qoyum *et al*. (2021).

To address this significant gap in knowledge and evidence, this paper studies sustainable investing and Islamic finance; in particular, the integration of sustainability factors into Islamic finance. Due to the nature of global capital markets, investors are always on the search for investment strategies that can improve risk-adjusted returns and benefit from portfolio diversification. The research objectives of this paper are to examine the performance of investing that considers both the themes of sustainability and Islamic finance, and to compare it against the global equity market benchmarks. The research questions of this paper address two key issues that are of concern to most investors:

1. Can the investment strategy that targets both sustainability and Islamic finance outperform the global sustainability benchmark?
2. Can this investment strategy outperform the Islamic benchmark?

The answers to these questions contribute to the line of research on the integration of sustainable investing into Islamic finance. They also have practical implications for portfolio managers and policy implications for regulators and policymakers.

The remainder of this paper is organised as follows. A literature review is conducted on the comparative performance of investing in both themes: sustainability and Islamic finance. An empirical study is then performed to examine the comparative performance of investing in the sustainability equity indices from those OIC countries that are SSE partners, and compare it with the global benchmarks. Building from that, a case study is conducted on the best-performing sustainability equity index from OIC countries. This paper concludes with practical and policy implications.

LITERATURE REVIEW

In the literature on the comparative performance of investing in sustainability and Islamic finance, the main arguments can be broadly classified into three strands. The first strand is the *underperformance hypothesis*. Grounded in the modern portfolio theory (Markowitz, 1952; Sharpe, 1964; Fama, 1971), it argues that the ethical screening process restricts the investment universe (Schroder, 2007), imposes an additional set of constraints on the optimisation problem that is faced by return-maximising investors, and consequently shifts the mean-variance frontier towards less favourable risk-return tradeoffs than those of conventional portfolios (Renneboog *et al.*, 2008a, 2008b).

Despite this argument from the modern portfolio theory, the second strand is the *outperformance hypothesis*. Grounded in stakeholder theory (Freeman, 1984; Donaldson & Preston, 1995; Jones 1995), it argues for the merits of increasing the number of ethical screens in portfolio selection and management (Barnett & Salomon, 2006; Kempf & Osthoff, 2007; Humphrey & Lee, 2011; Capelle-Blancard & Monjon, 2012), with empirical evidence in favour of outperformance (Azmi *et al*., 2019; Qoyum *et al*., 2021).

The third strand is the *no difference hypothesis*. While the classical efficient capital market theory (Fama, 1970) questions whether any abnormal returns can ever be generated by using public information, the adaptive efficient capital market theory (Daniel & Titman, 1999) suggests that any abnormal returns based on trading strategies via public information will dissipate over time (Bebchuk *et al.*, 2013). So, any value proposition—whether in the form of ethical and/or religious values—will not affect stock prices.

Considering all the arguments above, the set of hypotheses is formulated as follows, which will be tested in the next section on empirical study:

- H1a. Sustainability equity indices from OIC countries that are SSE partner exchanges deliver superior risk-adjusted returns than the global equity market benchmarks.
- H1b. Sustainability equity indices from OIC countries that are SSE partner exchanges yield lower risk-adjusted returns than the global equity market benchmarks.
- H1c. Sustainability equity indices from OIC countries that are SSE partner exchanges have non-significant difference in risk-adjusted returns compared with the global equity market benchmarks.

EMPIRICAL STUDY

In this study, the focus is on those OIC countries that are SSE partners with sustainability-related indices, as listed in **Table 1**. **Table 2** summarises the information on the sustainability indices from those four OIC countries with available data. These sustainability indices from OIC countries have two themes: sustainability and Islamic. The FTSE4Good Global Benchmark (FT4GDBGL) is chosen as the global sustainability benchmark, and the FTSE Shariah All World (FTSWORLDS) is chosen as the global Islamic benchmark, as indicated in **Table 3**.

Table 2: Sustainability-related Indices in OIC Countries

OIC Country	Stock Exchange	Index Name	Ticker	Release Date
Malaysia	Bursa Malaysia	FTSE4Good Bursa Malaysia	FTF4GBM	23 December 2014
Indonesia	Indonesian Stock Exchange	IDX SRI-KEHATI	JKSRI	8 June 2009
Turkey	Borsa Istanbul	BIST Sustainability	XUSRD	1 October 2021
Egypt	The Egyptian Exchange	S&P/EGX ESG	SPESEGUP	28 June 2007

Source: Sustainable Stock Exchanges (SSE) – Stock Exchange Database

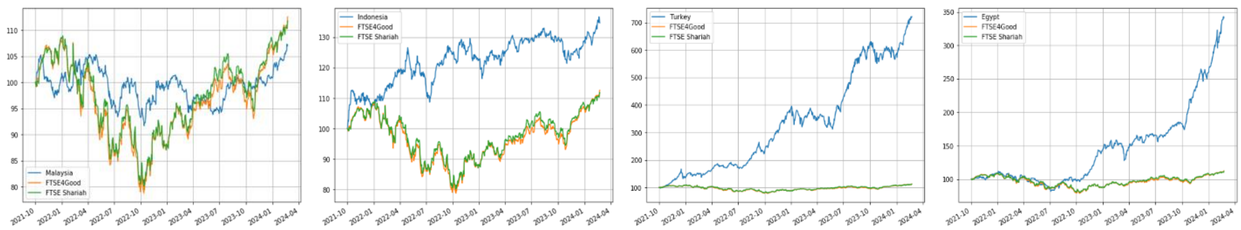
Table 3: Global Equity Market Benchmarks

Index Name	Ticker	Index Theme
FTSE4Good Global Benchmark	FT4GDBGL	Global sustainability benchmark
FTSE Shariah All World	FTSWORLDS	Global Islamic benchmark

Source: Author's own

Figure 1 presents a graphical overview of the relative performance of the four sustainability equity indices under study (from Table 2, in blue) versus the global sustainability benchmark (in orange), and the global Islamic benchmark (in green), from a common start date of 1 October 2021 to 23 February 2024. Among all the sustainability indices under study, the IDX SRI-KEHATI and the BIST Sustainability outperformed the two global benchmarks during the entire sample period; the FTSE4Good Bursa Malaysia and the EGX ESG outperformed the two global benchmarks in more recent periods. Between the two global equity market benchmarks, they tracked the performance of each other closely.

Figure 1: Relative Performance of OIC Countries' Sustainability Equity Indices vis-à-vis Global Benchmarks



Note: The price data on 1 October 2021 are indexed to 100
Source: Author's computation in Python

Table 4 provides a statistical overview of the performance metrics of the sustainability equity indices from OIC countries versus their two global market benchmarks. In the calculation, the annualised mean return is computed as the first difference of the daily time series in logarithm, multiplied by 252 trading days; and the annualised standard deviation is computed by multiplying the daily volatility by the positive square root of 252. Among all the analysed indices, the BIST Sustainability from Turkey has the highest annualised mean but also the highest annualised volatility. Hence, a higher mean return could be due to a higher risk exposure.

Table 4: Performance Metrics of OIC Countries' Sustainability Equity Indices vis-à-vis Global Benchmarks

	Malaysia	**Indonesia**	**Turkey**	**Egypt**	**FTSE4Good**	**FTSE Shariah**
Number of observations	585	585	604	586	625	688
Annualised mean return	0.0294	0.1281	0.8242	0.5228	0.0478	0.0407
Annualised volatility	0.0986	0.1372	0.3368	0.2353	0.1556	0.1446

Source: Author's computation in Python

Next, the risk-adjusted returns are examined, including those of the sustainability equity indices from OIC countries and their two global benchmarks. In **Table 5**, the first row follows Sauer (1997), Statman (2000), Schroder (2007), Collison *et al*. (2008), Consolandi *et al*. (2009), Cunha and Samanez (2013), Belghitar *et al.* (2014), Lean and Nguyen (2014), Ang (2015), Ur Rehman *et al*. (2016), Sherwood and Pollard (2018), Cunha *et al*. (2019), and Dai (2021, 2022, 2024), and assesses the risk-adjusted performance by using the Sharpe ratio (Sharpe 1966), which measures the performance of an investment compared to a risk-free asset, after adjusting for its risk. It is defined as the difference between the returns of the investment and the risk-free return, divided by the standard deviation of the investment returns.

In **Table 5**, the second row follows Cunha and Samanez (2013), Sherwood and Pollard (2018), Cunha *et al*. (2019), and Dai (2021, 2022, 2024), and assesses the risk-adjusted performance by the Sortino ratio (Sortino & Price, 1994). As a modification of the Sharpe ratio, the Sortino ratio penalises only those returns that fall below the required rate of return, while the Sharpe ratio penalises both upside and downside volatility. The third row of **Table 5** follows Cunha and Samanez (2013), Cunha *et al*. (2019), and Dai (2021, 2022, 2024) to assess the risk-adjusted performance by the Omega ratio (Keating & Shadwick, 2002). Based on the information discarded by the Sharpe ratio, the Omega ratio is calculated as the probability-weighted ratio of gains versus losses for some threshold return target.

In assessing risk-adjusted performance, this study follows Meira *et al*. (2022), and collects the daily US Treasury Bill Rates (4-week) as the global benchmark for the risk-free rate of return in calculating the Sharpe ratio, as a global proxy for the required rate of return in calculating the Sortino ratio, and as a proxy for the threshold return target in calculating the Omega ratio.

Based on these three portfolio performance measures, it is found that the sustainability equity indices from Indonesia, Turkey and Egypt outperformed the two global benchmarks, with the sustainability index from Malaysia being the exception. Among all the analysed indices, the BIST Sustainability from Borsa Istanbul delivered the highest risk-adjusted return, which is consistent with the findings in **Figure 1** and **Table 4**.

Table 5: Risk-Adjusted Returns of OIC Countries' Sustainability Equity Indices vis-à-vis Global Benchmarks

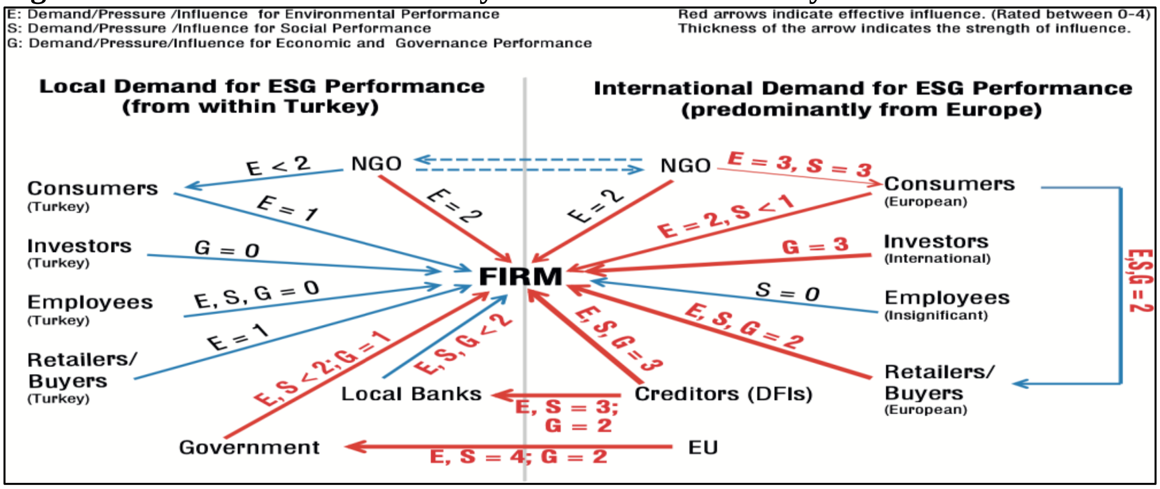
	Malaysia	Indonesia	Turkey	Egypt	FTSE4Good	FTSE Shariah
Sharpe ratio	-1.3902	-1.3043	-0.9041	-0.9899	-1.3273	-1.3523
Sortino ratio	-0.8127	-0.7971	-0.6845	-0.7390	-0.8023	-0.8069
Omega ratio	0.0190	0.0351	0.0907	0.0544	0.0329	0.0277

Source: Author's computation in Excel

CASE STUDY: BORSA ISTANBUL

In this section, a case study is conducted on Borsa Istanbul, which has the best-performing sustainability equity index. Among all the SSE partner exchanges from OIC countries (as mentioned in **Table 1**), Borsa Istanbul was one of the five founding exchanges that signed the foundation document of the SSE initiative at the RIO+20 Summit, joint with Nasdaq, Egyptian Exchange, Johannesburg Stock Exchange, and Brazil Stock Exchange. As a transcontinental country, Turkey has a strategic geopolitical location in the region, and it is referred to as a satellite market (Saygili *et al.*, 2022). With its proximity to Europe, the European Union serves as an anchor for Turkey's sustainability standards and institutional evolution, and aligns its economic and political options with those of Europe (Ararat *et al*., 2011). This leads to local and international (predominantly from Europe) demand for sustainability performance in Turkey among different stakeholders, as depicted in **Figure 2**. As a response, Borsa Istanbul (BIST) launched the BIST Sustainability in November 2014, where constituents are shares of companies with high performance on corporate sustainability.

Figure 2: Demand for Sustainability Performance in Turkey



Source: Ararat *et al.* (2011, p. 11)

With Turkey's position in the international financial markets in the field of Islamic finance (known as participation finance in the context of Turkey), Borsa Istanbul launched participation indices by evaluating the companies whose shares are traded in accordance with participation principles. In November 2021, Borsa Istanbul launched the BIST Sustainability Participation, which was formed for investors who want to invest in both the themes of sustainability and participation finance (BIST, 2021). The scope of the BIST Sustainability Participation consists of shares of companies that meet the selection criteria of the BIST Sustainability and the BIST Participation All Shares. **Table 6** summarises the information on the BIST Sustainability Participation and its themed benchmarks.

Table 6: Borsa Istanbul (BIST) Sustainability Participation and Its Themed Benchmarks

Index Name	Ticker	Index Type	Release Date
BIST Sustainability Participation	XSRDK	Sustainability & participation-themed	12 November 2021
BIST Sustainability	XUSRD	Domestic sustainability benchmark	1 October 2021
BIST Participation All Shares	XKTUM	Domestic participation benchmark	
FTSE4Good Global Benchmark	FT4GDBGL	Global sustainability benchmark	
FTSE Shariah All World	FTSWORLDS	Global Islamic benchmark	

Source: Borsa Istanbul

This case study focuses on Borsa Istanbul and examines the performance of investing in the themes of sustainability and participation finance. Due to the nature of global capital markets, investors are always on the search for investment strategies that can improve risk-adjusted returns. In this study, there are two key issues that are addressed, which are of particular concern to most international investors:

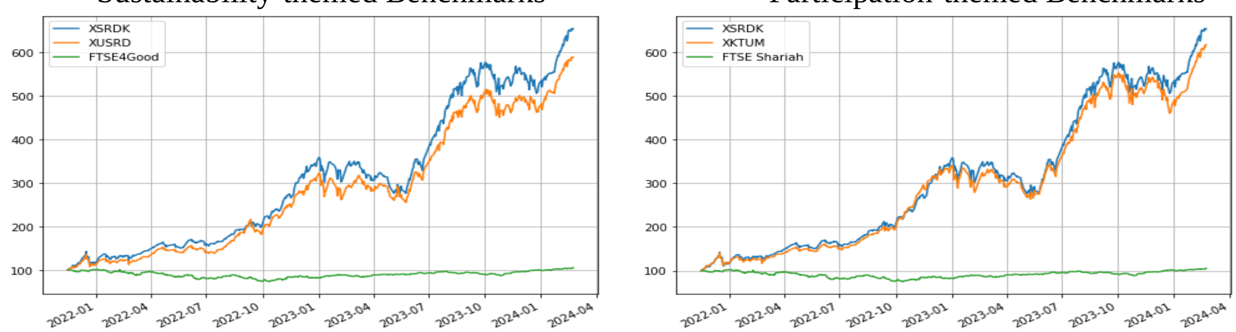
1. Can the BIST Sustainability Participation outperform its domestic and global sustainability-themed benchmark indices?
2. Can the BIST Sustainability Participation outperform its participation-themed benchmarks?

Among all the equity indices under study (as reflected in **Table 6**), the BIST Sustainability (XUSRD) had its calculation methodology revised on 1 October 2021; and the BIST Sustainability Participation (XSRDK) had its release date on 12 November 2021. Thus, the date of 16 November 2021 is used, which was the first trading day of the BIST Sustainability Participation (XSRDK), as a common start date for all the equity indices in this case study. The coverage period of the sample is from 16 November 2021 to 23 February 2024.

Figure 3 presents a graphical overview of the performance of the BIST Sustainability Participation (in blue) relative to its domestic (in orange) and global (in green) sustainability-themed benchmarks (left panel) and its participation-themed benchmarks (right panel), with the data on 16 November 2021 indexed to 100. The BIST Sustainability Participation outperformed its domestic and global themed benchmarks over the entire time period under study, and its performance was tracked closely by its two domestic themed benchmarks.

Figure 3: Relative Performance of the BIST Sustainability Participation (XSRDK) vis-à-vis the Themed Benchmarks

Sustainability-themed Benchmarks | Participation-themed Benchmarks



Source: Author's computation in Python

Table 7 provides a statistical overview of the comparison of the main risk-return characteristics of the BIST Sustainability Participation (XSRDK) and its sustainability-themed and participation-themed benchmarks. It is found that the BIST Sustainability Participation (XSRDK) has a higher annualised mean return than its domestic and global themed benchmarks. The BIST Sustainability (XUSRD) has the highest annualised volatility during the time period under study.

Table 7: Performance Metrics of the BIST Sustainability Participation (XSRDK) vis-à-vis the Themed Benchmarks

	Sustainability-themed Benchmarks			Participation-themed Benchmarks	
	XSRDK	**XUSRD**	**FTSE4Good**	**XKTUM**	**FTSE Shariah**
Number of observations	573	573	592	573	651
Annualised mean return	0.8254	0.7796	0.0220	0.8004	-0.0188
Annualised volatility	0.3431	0.3434	0.1585	0.3218	0.1474

Source: Author's computation in Python

In **Table 8**, the Sharpe ratio, the Sortino ratio, and the Omega ratio are applied to measure the risk-adjusted performance of the BIST Sustainability Participation (XSRDK) and its domestic and global sustainability-themed and participation-themed benchmarks. Same as in the previous section, the daily US Treasury Bill Rates (4-week) as the global benchmark for the risk-free rate of return is used in calculating the Sharpe ratio, as a global proxy for the required rate of return in calculating the Sortino ratio, and as a proxy for the threshold return target in calculating the Omega ratio. Based on these three portfolio performance measures, the XSRDK has relatively higher risk-adjusted returns than its themed benchmarks. This is consistent with the findings that are based on annualised mean returns in **Table 7**.

Table 8: Risk-adjusted Performance of the BIST Sustainability Participation (XSRDK) vis-à-vis the Themed Benchmarks

	Sustainability-themed Benchmarks			Participation-themed Benchmarks	
	XSRDK	**XUSRD**	**FTSE4Good**	**XKTUM**	**FTSE Shariah**
Sharpe ratio	-0.9540	-0.9735	-1.4418	-0.9918	-1.4709
Sortino ratio	-0.7049	-0.7105	-0.8258	-0.7159	-0.8296
Omega ratio	0.0849	0.0784	0.0284	0.0733	0.0237

Source: Author's calculation in Excel

Next, spanning tests (Huberman & Kandel, 1987) are applied to evaluate whether the BIST Sustainability Participation (XSRDK) can be spanned by its domestic and global themed benchmarks, in order to further examine the performance of investing in the themes of sustainability and participation. In the regression-based test, the dependent variable is the difference between the BIST Sustainability Participation (XSRDK) and the global risk-free rate of return as in the calculation of the risk-adjusted returns, and the independent variable is the difference between the relevant benchmark (BM) and the risk-free rate of return.

$$r_{i,t}^{XSRDK} = \alpha_i + \beta_i r_{i,t}^{BM} + \varepsilon_{i,t} \tag{1}$$

where the (intercept) parameter α_i is Jensen's (1968) alpha, and the (slope) parameter β_i is the estimated correlation coefficient between the dependent variable $r_{i,t}^{XSRDK}$ and the independent variable $r_{i,t}^{BM}$.

Following Sauer (1997), Collison *et al*. (2008), Ur Rehman *et al*. (2016), Cunha *et al*. (2019), and Dai (2021, 2022, 2024), Jensen's alpha is estimated, which measures the extra return of the BIST Sustainability Participation (XSRDK) that is not explained by its risk exposure with respect to its reference benchmark index. In **Table 9**, the 'const' rows are the estimated values of Jensen's alpha. It is positive for the case of the BIST Sustainability Participation (XSRDK) versus its domestic participation-themed benchmark (XKTUM, Case III) at the 5 per cent significance level.

As in the Capital Asset Pricing Model (CAPM), the correlation coefficient β_i measures the relative risk of the BIST Sustainability Participation (XSRDK) with respect to its reference benchmark index. If β_i > = < 1, it indicates that the risk of the analysed index is higher than / at par with / lower than that of the benchmark. From the regression results in **Table 9**, it is found that the BIST Sustainability Participation has a lower risk than its two sustainability-themed benchmarks (Cases I, II) and its global participation-themed benchmark (Case IV); and it has a higher risk than its domestic participation-themed benchmark (Case III).

In the spanning test, the joint null hypothesis is $H_0: (\alpha_i = 0, \beta_i = 1)$. If the null hypothesis H_0 is not rejected, the BIST Sustainability Participation (XSRDK) can be replicated by the relevant benchmark, in which case investing in the benchmark is equivalent to investing in the BIST Sustainability Participation on average, without differences in return or risk. The regression results show that spanning can be rejected for Cases III. In this case, an investor who is primarily interested in sustainable investment from OIC countries can expect a slightly higher return (as proxied by Jensen's alpha), but a relatively higher risk (as proxied by the beta coefficient) than its domestic participation-themed benchmark. In other cases, an investor, who is only interested in the financial outcome of the investment, could equally invest in the BIST Sustainability Participation and its domestic sustainability-themed benchmark and its two global themed benchmarks.

Table 9: Spanning Tests of the BIST Sustainability Participation (XSRDK) vis-à-vis the Themed Benchmarks

Dependent Variable: BIST Sustainability Participation (XSRDK)								
	Case I		**Case II**		**Case III**		**Case IV**	
const	-0.0270		0.0123		0.0677	**	-0.1138	
p-value	0.5150		0.9400		0.0250		0.5050	
BIST Sustainability	0.9649	***						
p-value	0.0000							
FTSE4Good Global Benchmark			0.8812	***				
p-value			0.0000					
BIST Participation All Shares					1.0194	***		
p-value					0.0000			
FTSE Shariah All World							0.8452	***
p-value							0.0000	
Spanning Tests	not rejected		not rejected		rejected		not rejected	
Number of observations	574		574		574		574	
*,**,*** indicate statistical significance at the 10, 5, and 1 per cent levels, respectively.								

Source: Author's computation in Python

CONCLUSION AND IMPLICATIONS

This paper first examines the performance of investing in the sustainability indices from those OIC countries that are SSE partners, and compared against the global equity market benchmarks. Overall, the findings of this paper reveal the heterogeneity in sustainable investment performance, and suggest the potential of obtaining superior risk-adjusted returns in certain economies from OIC countries.

This paper next conducts a case study of Borsa Istanbul, which has the best-performing sustainability index from OIC countries. It examines the comparative performance of investing together in the themes of sustainability and participation finance in the case of Borsa Istanbul. In terms of annualised mean returns (**Table 7**) and risk-adjusted returns (**Table 8**), it is found that the BIST Sustainability Participation (XSRDK) can outperform its domestic and global themed benchmarks. From the spanning tests, the results indicate that the BIST Sustainability Participation (XSRDK) can outperform its domestic participation-themed benchmark, by integrating the sustainability factor into Islamic investing. In theory, sustainable investing and Islamic finance are compatible (Williams & Zinkin, 2010). For OIC countries, it is found that the Islamic factor can decrease portfolio risk (Cases I, II) and the sustainability factor may increase portfolio risk (Case III). **Table 10** summarises the results.

Table 10: Summary of the Results

	Sustainability-themed Benchmarks			Participation-themed Benchmarks	
	XSRDK	**XUSRD**	**FTSE4Good**	**XKTUM**	**FTSE Shariah**
Annualised mean return		√	√	√	√
Risk-adjusted return		√	√	√	√
Spanning test				√	

Note: '√' indicates an outperformance of the BIST Sustainability Participation over its respective themed benchmark
Source: Author's own

Sustainability issues and Islamic finance are of interest to practitioners, regulators, and policymakers (WFE, 2021). For practitioners, this study serves as a basis to develop investment products that have both Islamic and sustainability mandates. For regulators, this research proves the merits of sustainability-themed and Islamic-themed products, which may provide arguments for the promotion of sustainability guidelines by Islamic finance regulatory institutions. Companies in the Middle East that share the values of Islamic finance, demonstrate their commitment to sustainability as well as compliance with reporting requirements will gain facilitated access to capital as well as greater attention from international investors. For policymakers, the findings of this paper have implications for stock exchanges regarding their role in creating sustainability-themed and Islamic-themed products. Sitting at the heart of the global investment chain, stock exchanges should offer advanced sustainability equity indices on a range of ESG metrics, and they should strengthen listing requirements for companies. With sustainability factors embedded through the global investment chain, policymakers in OIC countries will be more inclined to support regulatory initiatives to reinforce responsible investment practices. The sustainability factor may be incorporated into the existing centralised governance framework for Islamic finance, which in turn could bridge the gap between Islamic and conventional financial markets.

REFERENCES

Abbes, M.B. & Trichilli, Y. (2015), 'Islamic stock markets and potential diversification benefits', *Borsa Istanbul Review*, Vol. 15 No. 2, pp. 93–105.

Abdelsalam, O., Duygen, M., Matallin-Saez, J.C. & Tortosa-Ausina, E. (2014a), 'Do ethics imply persistence? The case of Islamic and socially responsible funds', *Journal of Banking & Finance*, Vol. 40, pp. 182–194.

Abdelsalam, O., Fethi, M.D., Matallin, J.C. & Tortosa-Ausina, E. (2014b), 'On the comparative performance of socially responsible and Islamic mutual funds', *Journal of Economic*

Behavior & Organization, Vol. 103, Supplement, Special Issue: Islamic Finance, pp. S108–S128.

Al-Khazali, O., Lean, H.H. & Samet, A. (2014), ‘Do Islamic stock indexes outperform conventional stock indexes? A stochastic dominance approach’, *Pacific-Basin Finance Journal*, Vol. 28, Special Issue: Islamic Banking and Finance, pp. 29–26.

Ali, M.H., Uddin, M.A., Khan, M.A.R. & Goud, B. (2021), ‘Faith-based versus value-based finance: Is there any portfolio diversification benefit between responsible and Islamic finance?’, *International Journal of Finance and Economics*, Vol. 26 No. 4, pp. 5570–5583.

Ang, W.R. (2015), ‘Sustainable investment in Korea does not catch a cold when the United States sneezes’, *Journal of Sustainable Finance & Investment*, Vol. 5 No. 1–2, pp. 16–26.

Ararat, M., Yurtoglu, B.B., Suel, E. & Tura, D. (2011), ‘Sustainable investment in Turkey 2010’, *IFC Sustainable Investment Country Reports*, International Finance Corporation (IFC), World Bank Group.

Ashraf, D. & Mohammad, N. (2014), ‘Matching perception with the reality: performance of Islamic equity investments’, *Pacific-Basin Finance Journal*, Special Issue: Islamic Banking and Finance, Vol. 28, pp. 175–189.

Ashraf, D. & Khawaja, M. (2016), ‘Does the Shariah screening process matter? Evidence from Shariah compliant portfolios’, *Journal of Economic Behavior & Organization*, Vol. 132, Supplement, Special issue: Islamic Finance, pp. 77–92.

Azmi, W., Ng, A., Dewandaru, G. & Nagayev, R. (2019), ‘Doing well while doing good: the case of Islamic and sustainability equity investing’, *Borsa Istanbul Review*, Vol. 19 No. 3, pp. 207–218.

Balcilar, M., Demirer, R. & Hammoudeh, S. (2015), ‘Global risk exposures and industry diversification with Shariah-compliant equity sectors’, *Pacific-Basin Finance Journal*, Vol. 35, Part B, pp. 499–520.

Barnett, M.L. & Salomon, R.M. (2006), ‘Beyond dichotomy: the curvilinear relationship between social responsibility and financial performance’, *Strategic Management Journal*, Vol. 27 No. 11, pp. 1101–1122.

Bebchuk, L., Cohen, A. & Wang, C.C.Y. (2013), ‘Learning and the disappearing association between governance and returns’, *Journal of Financial Economics*, Vol. 108 No. 2, pp. 323–348.

Belghitar, Y., Clark, E. & Deshmukh, N. (2014), ‘Does it pay to be ethical? Evidence from the FTSE4Good’, *Journal of Banking & Finance*, Vol. 47, pp. 54–62.

Bennett, M.S. & Iqbal, Z. (2013), ‘How socially responsible investing can bridge the gap between Islamic and conventional financial markets’, *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 6 No. 3, pp. 211–225.

BIST (2021), ‘Borsa Istanbul starts to calculate participation indices’, Borsa Istanbul (BIST), November 12, 2021, available at: https://www.borsaistanbul.com/en/duyuru/3876/borsa-istanbul-starts-to-calculate-participation-indices (accessed 8 March 2023).

Capelle-Blancard, G. & Monjon, S. (2012), ‘Trends in the literature on socially responsible investment: looking for the keys under the lamppost’, *Business Ethics: A European Review*, Vol. 21 No. 3, pp. 239–250.

CFA Institute (2019), *Sustainable, Responsible, and Impact Investing and Islamic Finance: Similarities and Differences*, CFA Institute.

CFA Institute & UN PRI (2019), *ESG Integration and Islamic Finance: Complementary Investment Approaches*, CFA Institute & United Nations (UN) Principles for Responsible Investment (PRI).

Collison, D.J., Cobb, G., Power, D.M. & Stevenson, L.A. (2008), 'The financial performance of the FTSE4Good indices', *Corporate Social Responsibility and Environmental Management*, Vol. 15 No. 1, pp. 14–28.

Consolandi, C., Jaiswal-Dale, A., Poggiani, E. & Vercelli, A. (2009), 'Global standards and ethical stock indexes: the case of the Dow Jones Sustainability Stoxx Index', *Journal of Business Ethics*, Vol. 87, pp. 185–197.

Cunha, F.A.F.d.S. & Samanez, C.P. (2013), 'Performance analysis of sustainable investments in the Brazilian market: a study about the corporate sustainability index (ISE)', *Journal of Business Ethics*, Vol. 117, pp. 19–36.

Cunha, F.A.F.d.S., Oliveira, E.M., Orsato, R.J., Klotzle, M.C., Oliveira, F.L.C. & Caiado, R.G.G. (2019), 'Can sustainable investments outperform traditional benchmarks? Evidence from global stock markets', *Business Strategy and the Environment*, Vol. 29 No. 2, pp. 682–697.

Dai, Y. (2021), 'Can ESG investing beat the market and improve portfolio diversification? Evidence from China', *The Chinese Economy*, Vol. 54 No. 4, pp. 272–285.

Dai, Y. (2022), 'Is ESG investing an 'equity vaccine' in times of crisis? Evidence from the 2020 Wuhan Lockdown and the 2022 Shanghai Lockdown', *Borsa Istanbul Review*, Vol. 22 No. 5, pp. 992–1004.

Dai, Y. (2024), 'Sustainable investing in emerging markets: evidence from SSE partner exchanges', Working paper, Zhejiang University, China.

Daniel, K. & Titman, S. (1999), 'Market efficiency in an irrational world', *Financial Analysts Journal*, Vol. 55 No. 6, pp. 28–40.

Donaldson, T. & Preston, L.E. (1995), 'The stakeholder theory of the corporations: concepts, evidence, and implications', *Academy of Management Review*, Vol. 20 No. 1, pp. 65–91.

Erragragui, E. & Revelli, C. (2015), 'Should Islamic investors consider SRI criteria in their investment strategies?', *Finance Research Letters*, Vol. 14, pp. 11–19.

Erragragui, E. & Revelli, C. (2016), 'Is it costly to be both Shariah compliant and socially responsible?', *Review of Financial Economics*, Vol. 31 No. 1, Special Issue: Empirical Islamic Financing, pp. 64–74.

Erragragui, E. (2017), 'Is it costly to introduce SRI into Islamic portfolios?', *Islamic Economic Studies*, Vol. 25, Special Issue, pp. 23–54.

Erragragui, E., Hassan, M.K., Peillex, J. & Khan, A.N.F. (2018), 'Does ethics improve stock market resilience in times of instability?', *Economic Systems*, Vol. 42 No. 3, pp. 450–469.

Fama, E.F. (1970), 'Efficient capital markets: a review of theory and empirical work', *The Journal of Finance*, Vol. 25 No. 2, pp. 383–417.

Fama, E.F. (1971), 'Risk, return, and equilibrium', *Journal of Political Economy*, Vol. 79 No. 1, pp. 30–55.

Freeman, R.E. (1984), *Strategic Management: A Stakeholder Approach*, Pitman, Boston MA.

Girard, E.C. & Hassan, M.K. (2008), 'Is there a cost to faith-based investing: evidence from FTSE Islamic indices', *Journal of Investing*, Vol. 17 No. 4, pp. 112–121.

Gok, I.Y., Duranay, S. & Unlu, H.U. (2020), 'Co-movement dynamics of sustainability indices: investigating the diversification opportunities through FTSE4Good index family and Borsa Istanbul Sustainability index', *Social Responsibility Journal*, Vol. 16 No. 8, pp. 1475–1487.

GSIA (2020), *Global Sustainable Investment Review 2020*, Global Sustainable Investment Alliance (GSIA).

Hayat, R. & Kraeussl, R. (2011), 'Risk and return characteristics of Islamic equity funds', *Emerging Markets Review*, Vol. 12 No. 2, pp. 189–203.

Ho, C.S.F, Rahman, N.A.A., Yusuf, N.H.M. & Zamzamin, Z. (2014), 'Performance of global Islamic versus conventional share indices: international evidence', *Pacific-Basin Finance Journal*, Vol. 28, Special issue: Islamic Banking and Finance, pp. 110–121.

Huberman, G. & Kandel, S. (1987), 'Mean-variance spanning', *The Journal of Finance*, Vol. 42 No. 4, pp. 873–888.

Humphrey, J.E. & Lee, D.D. (2011), 'Australian socially responsible funds: performance, risk and screening intensity', *Journal of Business Ethics*, Vol. 102, pp. 519–535.

Hussein, K. & Omran, M. (2005), 'Ethical investment revisited: evidence from Dow Jones Islamic Indexes', *The Journal of Investing*, Vol. 14 No. 3, pp. 105–126.

IFSB (2021), *Islamic Financial Services Industry (IFSI) Stability Report 2021*, Islamic Financial Services Board (IFSB), Kuala Lumpur.

Jensen, M.C. (1968), 'The performance of mutual funds in the period 1945–1964', *The Journal of Finance*, Vol. 23 No. 2, pp. 389–416.

Jones, T. (1995), 'Instrumental stakeholder theory: a synthesis of ethics and economics', *Academy of Management Review*, Vol. No. 2, pp. 404–437.

Kammer, A., Norat, M., Pinon, M., Prasad, A., Towe, C. & Zeidane, Z. (2015), 'Islamic finance: opportunities, challenges, and policy options', *IMF Staff Discussion Note*, SDN/15/05, International Monetary Fund (IMF), Washington DC.

Keating, C. & Shadwick, W.F. (2002), *A Universal Performance Measure*, The Finance Development Centre.

Kempf, A. & Osthoff, P. (2007), 'The effect of socially responsible investing on portfolio performance', *European Financial Management*, Vol. 13 No. 5, pp. 908–922.

Lean, H.H. & Nguyen, D.K. (2014), 'Policy uncertainty and performance characteristics of sustainable investments across regions around the global financial crisis', *Applied Financial Economics*, Vol. 24 No. 21, pp. 1367–1373.

Lyn, E.O. & Zychowicz, E.J. (2010), 'The impact of faith-based screens on investment performance', *The Journal of Investing*, Vol. 19 No. 3, pp. 136–142.

Markowitz, H.M. (1952), 'Portfolio selection', *Journal of Finance*, Vol. 7 No. 1, pp. 77–91.

Masih, M., Kamil, N.K.M. & Bacha, O.I. (2018), 'Issues in Islamic equities: a literature survey', *Emerging Markets Finance and Trade*, Vol. 54 No. 1, pp. 1–26.

Meira, E., Cunha, F.A.F.d.S., Orsato, R.J., Miralles-Quiros, M.M. & Miralles-Quiros, J.L. (2023), 'The added value and differentiation among ESG investment strategies in stock markets', *Business Strategy and Environment*, Vol. 32 No. 4, pp. 1816–1834.

Mensi, W., Hammoudeh, S., Reboredo, J.C. & Nguyen, D.K. (2015), 'Are Sharia stocks, gold and U.S. Treasury hedges and/or safe havens for the oil-based GCC markets?', *Emerging Markets Review*, Vol. 24, pp. 101–121.

Miralles-Quiros, M.d.M. & Miralles-Quiros, J.L. (2017), 'Improving diversification opportunities for socially responsible investors', *Journal of Business Ethics*, Vol. 140 No. 2, pp. 339–351.

Munoz, F., Vargas, M. & Marco, I. (2014), 'Environmental mutual funds: financial performance and managerial abilities', *Journal of Business Ethics*, Vol. 124, pp. 551–569.

Qoyum, A., Hashfi, R.U.A., Zusryn, A.S., Kusuma, H. & Qizam, I. (2021), 'Does an Islamic-SRI portfolio *really* matter? Empirical application of valuation models in Indonesia', *Borsa Istanbul Review*, Vol. 21 No. 2, pp. 105–124.

Paltrinieri, A., Floreani, J., Kappen, J.A., Mitchell, M.C. & Chawla, K. (2019), 'Islamic, socially responsible, and conventional market comovements: evidence from stock indices', *Thunderbird International Business Review*, Vol. 61 No. 5, Special Issue: The Impact of Research Findings on Islamic Finance, pp. 719–733.

Renneboog, L., Ter Host, J. & Zhang, C. (2008a), 'The price of ethics and stakeholder governance: the performance of socially responsible mutual funds', *Journal of Corporate Finance*, Vol. 14 No. 3, pp. 302–322.

Renneboog, L., Ter Horst, J. & Zhang, C. (2008b), 'Socially responsible investments: Institutional aspects, performance, and investor behavior', *Journal of Banking & Finance*, Vol. 32 No. 9, pp. 1723–1742.

Sauer, D.A. (1997), 'The impact of social-responsibility screens on investment performance: Evidence from the Domini 400 social index and Domini equity mutual fund', *Review of Financial Economics*, Vol. 6 No. 2, pp. 137–149.

Saygili, E., Arslan, S. & Birkan, A.O. (2022), 'ESG practices and corporate financial performance: evidence from Borsa Istanbul', *Borsa Istanbul Review*, Vol. 22 No. 3, pp. 525–533.

Schroder, M. (2007), 'Is there a difference? The performance characteristics of SRI equity indices', *Journal of Business Finance & Accounting*, Vol. 34 No. 1-2, pp. 331–348.

Shamsuddin, A. (2014), 'Are Dow Jones Islamic equity indices exposed to interest rate risk?', *Economic Modelling*, Vol. 39, pp. 273–281.

Sharpe, W.F. (1964), 'Capital asset prices: a theory of market equilibrium under conditions of risk', *The Journal of Finance*, Vol. 19 No. 3, pp. 425–442.

Sharpe, W.F. (1966), 'Mutual fund performance', *The Journal of Business*, Vol. 39 No. 1, Part 2: Supplement on Security Prices, pp. 119–138.

Sherwood, M.W. & Pollard, J.L. (2018), 'The risk-adjusted return potential of integrating ESG strategies into emerging market equities', *Journal of Sustainable Finance & Investment*, Vol. 8 No. 1, pp. 26–44.

Sortino, F.A. & Price, L.N. (1994), 'Performance measurement in a downside risk framework', *The Journal of Investing*, Vol. 3 No. 3, pp. 59–64.

Statman, M. (2000), 'Socially responsible mutual funds', *Financial Analysts Journal*, Vol. 56 No. 3, pp. 30–39.

Ur Rehman, R., Zhang, J., Uppal, J., Cullinan, C. & Naseem, M.A. (2016), 'Are environmental social governance equity indices a better choice for investors? An Asian perspective', *Business Ethics, the Environment & Responsibility*, Vol. 25 No. 4, pp. 440–459.

WFE (2021), 'The WFE's 7th sustainability survey: exchanges step up efforts to support a sustainable recovery', World Federation of Exchanges (WFE).

Williams, G. & Zinkin, J. (2010), 'Islam and CSR: A study of the compatibility between the tenets of Islam and the UN Global Compact', *Journal of Business Ethics*, Vol. 91, pp. 519–533.

Zeti, A.A., Idris, A. & Sultan, Y. (2019), *Responsible Finance – Ethical and Islamic Finance: Meeting the Global Agenda*, RFI Foundation & Islamic Financial Services Board (IFSB).

ABOUT THE AUTHOR

Yuwen Dai, PhD CFA, is Associate Professor of Economics at the International Campus of Zhejiang University in China. She can be contacted at: daiyuwen@gmail.com

DECLARATION

Credit Authorship Contribution Statement

- Yuwen Dai is the sole author of this paper.

Declaration of Competing Interest

The author declares that she has no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

None

Ethical Statement

The author declares that she understands the Ethical Guidelines and has adhered to all the statements regarding ethics in publishing. She also confirms that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability

The data in this paper is available upon request from the author.

Disclaimer

The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of any affiliated agency of the author.

Appendix

None

ASSESSING LIBYA'S FIRST *ṢUKŪK*: SHARĪʿAH COMPLIANCE AND FINANCIAL VIABILITY

Mohamed Faraj Lemhishi
Accounting Department, Misurata University & Islamic Economics and Finance Department, Istanbul Sabahattin Zaim University, Türkiye
Mohammad Ghaith Mahaini
Faculty of Business and Management Sciences, Istanbul Sabahattin Zaim University, Türkiye

Received
1 November 2023

Revised
14 January 2024
13 March 2024
22 March 2024

Accepted
24 March 2024

ABSTRACT

Purpose — This study aims to assess the first *ṣukūk* issuance in Libya from two main perspectives: the compliance of the *ṣukūk* with the Sharīʿah and its compliance with the Libyan legal system. Further, the study evaluates the adequacy of the provided financial disclosures to assess the feasibility of the *ṣukūk* issuance.

Design/Methodology/Approach — A qualitative case study methodology was used to assess the *ṣukūk* issuance in question. For the assessment of disclosure adequacy, a tailored model was devised featuring main and subsidiary points of interest.

Findings — The Sharīʿah assessment findings suggest potential non-compliance issues within the *ṣukūk* issuance. Additionally, there are significant gaps in the disclosure of key financial aspects related to both the *ṣukūk* originator and the project, potentially hindering stakeholders from gaining a comprehensive understanding of the issuance's feasibility.

Originality/Value — One unique advantage of this paper is that it is the first to gain access to the actual documentation of *ṣukūk* issuances in Libya.

Research Limitations/Implications — The study's scope was constrained by a scarcity of data and documents from Libyan parties.

Practical Implications — After analysing the *ṣukūk* issuance, a framework of Sharīʿah and financial disclosures was developed. The application of the proposed framework can be extended to effectively assess other comparable *ṣukūk* offerings within the Libyan legal system.

Social Implications — Libyan policymakers are recommended to strengthen the regulations governing forthcoming *ṣukūk* issuances. The proposed improvements should include mandating comprehensive disclosures regarding the financial viability of the *ṣukūk* issuance and ensuring ample disclosures to guarantee full adherence to Sharīʿah principles.

Keywords — Financial viability, Libya, Sharīʿah compliance, *Ṣukūk*
Article Classification — Research paper

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024 pp. 57–78

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.634

INTRODUCTION

Ṣukūk are certificates of equal value that represent equal ownership of an income-generating asset or investment project. *Ṣukūk* usually have an agreed upon maturity date, although they may be issued perpetually (Kahf, 2013). *Ṣukūk* may be considered a financing tool for the capital market and it has been applied on a large scale across different jurisdictions. The rise in the number of Sharīʿah-compliant corporations and Islamic investment or financing instruments reflects the expansion of the Islamic capital market (Haron & Adeyemi, 2016). The development of Sharīʿah-compliant alternatives for surplus and shortage units interested in adhering to Islamic criteria in the capital market promotes sustainable growth for both parties. From a broader perspective, the quest for low-cost financing leads decision-makers to opt for borrowing rather than issuing more equities. *Ṣukūk* can offer competitive advantages, as their returns are highly acceptable to investors from both the practical and Sharīʿah perspectives. Many global investors are seeking sustainable and responsible investments (SRI) that generate a positive impact, a trend that was initiated by several investment institutions and banks in the United States during the 1970s (Noordin *et al.*, 2018). This global movement is gaining momentum due to the adverse effects of corporations on the environment and societies. The year 2021 witnessed a notable achievement in the global *ṣukūk* market as it set a new record for issuances, with the growth rate of long-term issuances slightly surpassing that of short-term issuances. By the end of the year, there was a significant upswing, marking an approximate 7.72 per cent increase (equivalent to USD188.12 billion) (IIFM, 2022)

The emerging Islamic capital market has witnessed significant developments, particularly in the issuance of *ṣukūk*. Local-currency *ṣukūk* accounted for 80 per cent of total issuances, while hard-currency issuances constituted 20 per cent. According to Sahin (2022), 41.2 per cent of all *ṣukūk* issued last year were in Indonesian rupiah, followed by the US dollar (19.4%), Malaysian ringgit (16.4%), Saudi riyal (13.5%), and Turkish lira (5%). All the mentioned countries are relatively stable, while their economic policies differ. The question arises regarding the situation of *ṣukūk* issuances in countries grappling with instability, such as Libya.

This study aims to assess the first *ṣukūk* issuance in Libya. The discussion will be from two main aspects: first, the compliance of the *ṣukūk* with both the Sharīʿah and the Libyan legal system. Second, the study will undertake an evaluation of the financial disclosures about the feasibility of the *ṣukūk* issuance.

This paper is organised as follows: following the introduction, the second section is the literature review, providing a brief background of Islamic finance in the context of Libya, an overview of the Libyan Investment and Development Holding Company (LIDCO), which issued the inaugural *ṣukūk* in Libya, and a review of relevant empirical papers on *ṣukūk* issuances. The third section then examines the theoretical framework pertaining to *ṣukūk* from two aspects: the legality perspective (Sharīʿah compliance challenges) and the main information that should be disclosed according to the standards set out by the Islamic Financial Services Board (IFSB) and the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) relating to *ṣukūk*. The next sections then set out the research methodology and undertake a practical assessment of the Libyan *ṣukūk*, respectively. The last section concludes the paper.

LITERATURE REVIEW

Historical Background of Islamic Finance in Libya

Libyan policymakers and market players have shown a notable interest in Sharīʿah-compliant financing, with a demand that seems to surpass that observed in other Arab nations. Surveys consistently place the Libyan population at the upper range of this demand spectrum, notably higher than its more secular neighbour, Tunisia, for instance (World Bank, 2020). Nevertheless, the genuine push for embracing the Islamic finance framework in Libya gained momentum following the 2011 revolution. Various decision-making bodies diligently endeavoured to actualise Sharīʿah principles across Libyan laws, spanning from civil legislation to financial transactions. As a result, in January 2013, the Libyan General National Congress enacted Law No. 1 of 2013, effectively prohibiting the charging of interest on all civil and commercial transactions. The legislation prohibiting interest (Law No. 1 of 2013) is concise, comprising less than two pages with eight clauses. It specifically addresses interest-bearing transactions related to loans and deposits but does not extend to details concerning non-bank financial activities such as insurance and leasing.

The law imposes penalties, including financial fines and potential imprisonment for up to two years, for deliberately continuing to charge interest. Remarkably broad and prescriptive, Libya's prohibition of conventional interest surpasses that of most Muslim-majority economies, even exceeding many Arab nations practicing Sharīʿah-compliant financial methods. Notably, there is no grandfathering provision for previously structured conventional credits. Retail loans were promptly expected to transition to Sharīʿah-compliant arrangements, while commercial credits were granted until 2015. Article 2 of the law explicitly states that interest enforcement is prohibited, even if a Libyan court issues a final judgement in favour of interest payment. This effectively nullifies all interest payments, including accrued and suspended interest on overdue loans recorded as assets on banks' books (World Bank, 2020). The law's enactment in January 2013 has led to varying interpretations by judges in local courts and even the Libyan Supreme Court, creating a framework for addressing ongoing financial conflicts related to pre-existing agreements.

In 2016, the Libyan General National Congress passed Law No. 4, which delineates the regulations governing the issuance of *ṣukūk*. This legislation identifies entities, both private and public, eligible to issue and invest in *ṣukūk*, as well as the process for their issuance through specially created Special Purpose Vehicles (SPVs). The law outlines five main Sharīʿah-compliant modes for structuring *ṣukūk*: (i) financing, (ii) *ijārah* (leasing), (iii) investment, (iv) partnership, and (v) investment portfolio. Approval from the Capital Market Authority (CMA) and the CMA's Sharīʿah Supervisory Board is mandatory for *ṣukūk* issuance to ensure Sharīʿah compliance.

Law No. 4 of 2016 not only establishes the legal framework for *ṣukūk* issuances but also defines the rules governing SPVs, securitisation and trading. It empowers the Libyan CMA with the responsibility of monitoring, inspecting and supervising the SPV. The law also outlines the role of the CMA's Sharīʿah Supervisory Board in confirming the Sharīʿah compliance of issued *ṣukūk*. Despite the existence of several potential *ṣukūk* projects, such as private financing for malls and a clinic, as well as public financing for an electrical power plant, no *ṣukūk* issuance ever materialised until the issuance of Al Waha *ṣukūk* in 2021. Various challenges hindered *ṣukūk* issuances in Libya, including the overall high risk associated with financing in the current Libyan environment. Additionally, challenges such as the risks associated with being the first mover, lack of transparency among issuers, and the absence of mechanisms and buyer volume to support a secondary market contribute to the impediments to *ṣukūk* issuance (World Bank, 2020).

Efforts by the Central Bank of Libya to organise operations related to Islamic banking predated the enactment of Law No. 1 of 2013, which prohibited dealing in interest with banks. In 2012, Resolution No. 3 was issued, establishing an advisory committee for Islamic banking affairs. Its initial practical measure involved incorporating a comprehensive chapter to regulate Islamic banking operations in Libya, based on the provisions of Law No. 1 of 2005, officially integrated into Law No. 46 of 2012. The committee's objective is to facilitate the conducive working environment for the seamless integration of Islamic banking, including the regulation of procedures for establishing new Islamic banks (Sassi, 2019). Libyan decision-makers are actively striving to maximise the advantages derived from adopting the standards set by international Islamic financial bodies, including the IFSB, of which Libya is a full member, and AAOIFI. The Central Bank of Libya took a significant step in incorporating international standards into the operations of Islamic banks in the country. The issuance of Guideline A.R.N.M. No. 9 in 2010 mandated the adoption of the standards set by AAOIFI for Libyan Islamic banks. This directive underscores the commitment to aligning the practices of Islamic financial institutions in Libya with internationally recognised standards (Ahmad & Daw, 2015).

The abrupt introduction of the Islamic banking system in Libya in 2013, following a prolonged absence, inevitably brought about numerous challenges that required attention. Traditional banks encountered significant hurdles in transitioning to full-fledged Islamic banking in Libya. In a study conducted by El-Brassi *et al.* (2018), the authors highlighted the inadequacy of Law No. 1 of 2013 in addressing the conversion process. They highlighted the potential consequences of banks failing to convert to Islamic banking, including missed opportunities, liquidity crises, and even the risk of freezing the entire financial system in early 2015. The study revealed a lack of clarity regarding the expected type of conversion in Libya, as the law did not provide provisions for such details. Additionally, it identified a deficiency in the Central Bank of Libya's role in supporting and elucidating the conversion process to stakeholders.

After the new law, there was one prior unsuccessful attempt towards issuing *ṣukūk* in Libya using the *murābaḥah* contract. The attempt of the Libyan Internal Investment and Development Fund (LIIDF) to issue a non-tradable *murābaḥah ṣukūk* on behalf of GECOL, the state electrical company, in 2018 faced a setback. The *ṣukūk*, intended as a private placement to support the purchase of power stations, had a planned total issuance of Libyan Dinar (LYD) 1.6 billion at a 3 per cent rate. However, the Libyan National Audit Bureau intervened, blocking the issuance on the grounds that it was perceived as an illegal circumvention of the budgetary process. The key point of contention was the unresolved question of which ministry should guarantee the *ṣukūk* issuance: Should it be the Ministry of Planning, in accordance with Section 3 on national development, or the Ministry of Finance, as part of the budgetary process? This lack of clarity added a layer of complexity to the situation and contributed to the GECOL *ṣukūk* issuance not reaching fruition (World Bank, 2020).

As of the third quarter of 2023, the Libyan Central Bank reported that the aggregate assets within the banking sector of Libya stand at LYD145.2 billion (equivalent to approximately USD30.3 billion), yielding a profit of approximately LYD763.9 million (roughly USD159.4 million). Presently, there are 20 operational banks in the nation. Remarkably, the three preeminent entities, namely the Republic Bank, the National Commercial Bank, and the Unity and Sahara Bank, collectively have a 77.1 per cent share of the total assets in the banking system. The financial landscape within the banking sector extends its reach by offering financing services amounting to approximately LYD5.12 billion (USD1.068 billion). The Libyan financial ecosystem is dispersed across the nation through a network of 612 branches, culminating in the creation of approximately 19,815 employment opportunities for the economy (Central Bank of Libya, 2023).

Overview of the Libyan Development and Investment Holding Company

LIDCO is a subsidiary of the Economic Development Fund. It was established with a capital of LYD100 million as a joint-stock company, following the Council of Ministers' Resolution No. 110 of 2006 and in compliance with Libyan Commercial Law, particularly Law No. 65 of 1970, and Law No. 9 of 1992 on economic activities, which has been amended by Law No. 21 of 2001 and Law No. 1 of 2004.

In 2007, the company underwent a transformation from a joint-stock company to a holding company through the General People's Committee Resolution (previously) No. 309 of 2006, with its capital increased to LYD300 million. Additionally, in 2009, the capital was further raised to LYD1 billion in the second meeting of the Economic Development Fund's General Assembly. As the company expanded its operations and experienced growth, the capital was then further increased to LYD1.5 billion in an extraordinary general assembly meeting in 2010. The company primarily engages in real estate investment known as Al Waha project. In addition to that, the company is involved in general contracting, and the manufacturing of building materials, contributing to the establishment of joint ventures with foreign companies specialising in these sectors.

Al Waha project, situated on a land area of seven hectares near the iron bridge in the Abu Salim area Tripoli, stands out as a unique residential and commercial endeavour. The project is bifurcated into two distinct sections:

i. the residential part: a residential complex marked by a global vision and whose design encompasses 11 residential buildings;
ii. the commercial part: this segment features two service towers, forming a collaborative investment venture with a 50 per cent participation rate shared between LIDCO and Al-Maab International Investment Company.

In 2021, LIDCO issued *ṣukūk* amounting to LYD519 million to finance the Al Waha project. Participation *ṣukūk* that can be traded, consumed and converted into shares were issued. The company established an SPV named Al Waha Real Estate Investment Company. The *ṣukūk* was offered through Al-Tadamon Securities Brokerage Company and was fully underwritten by the Libyan Fund for Internal Investment and Development. The *ṣukūk* was to mature in 2023 with an estimated profit rate of 10 per cent.

Review of Relevant Empirical Papers on *Ṣukūk*

From an empirical standpoint, *ṣukūk* have often been assessed in a general manner without specifying the type issued by a particular issuer. For instance, Sze Lin *et al.* (2013) highlighted the challenge of ensuring consistent returns for *ṣukūk*, particularly in the Gulf, where certain types of *ṣukūk*, such as *mushārakah* and *muḍārabah*, have been structured and sold with purchase guarantees, resembling the fixed returns of traditional bonds. Generally, this kind of *ṣukūk* should be issued with the potential for investors to incur losses. In a similar vein, Badri and Mohamad (2014) contended that the concept of waiver (*tanāzul*) presents specific challenges, particularly in the context of loss associated with *mushārakah ṣukūk*. They highlighted that *tanāzul* cannot be invoked in cases of loss or liquidation. According to their argument, it is not acceptable for one party, acting as the waiver issuer, to favour their partner's claim to the entire capital, resulting in the waiver issuer bearing the loss while the other partner remains unaffected.

According to Zakaria *et al.* (2012), a critical aspect of rating *ṣukūk* involves assessing the creditworthiness of the issuers, which is essential for determining potential default risks in the future. Ahmed *et al.* (2014) emphasised the importance of collaboration between Sharīʿah scholars and financial professionals in the *ṣukūk* issuance process, identifying this cooperation as a key factor in the development of the *ṣukūk* market. The growth of Islamic stock markets fundamentally hinges on investors' readiness to consider the ethical aspect when the risk and return are comparable to conventional markets (Saiful, 2015).

While both Sharīʿah and financial aspects are important in assessing *ṣukūk*, it is suggested that the Sharīʿah aspect holds more significance and provides greater credibility, especially in the eyes of stakeholders such as investors. Ahmed *et al.* (2019) found a high level of legitimacy in the identity of *ṣukūk* in Malaysian Islamic financial institutions. They examined the legitimacy of *ṣukūk* structures through Sharīʿah pronouncements in 54 *ṣukūk* issued in Malaysia. The spiritual dimension, particularly in the context of Muslim investors, significantly influences their investment choices, according to Khan *et al.*'s recent study (2020). The research findings indicate that various factors, including compatibility, internal and external influences, intrinsic motivation, and religiosity, have a positive and substantial effect on investors' behavioural intentions regarding *ṣukūk* investments. Additionally, the study highlights the role of the religious aspect as a moderator in the relationship between internal influence and investors' behavioural intention, as well as between external influence and behavioural intention.

Noordin *et al.* (2018) assessed the level of compliance with the requirements for the issuance of Sustainable and Responsible Investment (SRI) *ṣukūk*, as set by the Securities Commission Malaysia, specifically focusing on Khazanah's Ihsan Sukuk. They highlighted the importance of these requirements for various stakeholders in the Islamic capital market.

Ṣukūk issuance is a unique phenomenon in Libya, especially within the broader North African region. The introduction of *ṣukūk* issuances in Libya is a notable development, particularly if there exists a legal framework to guide the issuance process. However, the lack of practical experience can pose significant challenges. Successful implementation of *ṣukūk* requires a robust infrastructure and a comprehensive understanding of the specific requirements of Islamic finance.

From an empirical standpoint, *ṣukūk* have often been assessed in a general manner. The first issuance in 2021 could serve as a case study for researchers and financial institutions interested in understanding the dynamics of introducing Islamic financial instruments in a new market. It is essential to conduct comprehensive studies to assess the impact, challenges and opportunities associated with the introduction of *ṣukūk* in Libya. This empirical data can provide valuable insights for policymakers, investors and market participants.

THEORETICAL FRAMEWORK

Discussion of *ṣukūk* as an Islamic capital market instrument was done from different angles in the literature such as the various types, the legitimacy aspects and Sharīʿah challenges regarding issuing *ṣukūk*, risk exposures by the investors, pricing methodology, and how issuing *ṣukūk* helps the government and supports economic growth. All aforementioned areas are crucial, but only two of them will be covered deeply in this section to formulate the most appropriate assessment criteria for newly issued *ṣukūk*.

Legitimacy Aspects and Sharīʿah Challenges of *Ṣukūk*

Claiming that a certain certificate in the capital market is a *ṣukūk* does not necessarily mean it is completely Sharīʿah compliant. Previous experiences with issued *ṣukūk* have highlighted numerous legitimacy issues, prompting detailed discussions aimed at standardising them within a globally acceptable framework. The legitimacy of *ṣukūk* hinges on various factors, starting with the originality of their structure and the formulation of their pricing, as well as the domestic laws regulating them. Additionally, it involves examining the mechanisms for generating and distributing profits, ensuring the documentation aligns with Sharīʿah principles to verify asset ownership, and establishing a Sharīʿah supervisory board (SSB) that approves all the aforementioned aspects (Ahmed *et al.*, 2015).

Those are fundamental legitimacy factors for *ṣukūk* and directly impact their rating and reputation in the market. For instance, the *ṣukūk* market witnessed a considerable drop after the criticism of Sheikh Taqi Usmani in 2007, directed at most of the *ṣukūk* issued that were not fully Sharīʿah compliant. Following this incident, several professional bodies took action to guide the direction of *ṣukūk*. For example, the IFSB issued the Guiding Principles on Conduct of Business for Institutions Offering Islamic Financial Services (IFSB-9) in 2009. Subsequently, in 2010, the Shariah Governance Framework was published by Bank Negara Malaysia. Additionally, the Islamic Finance Council presented the Islamic Finance Transparency Standard in order to improve the application of Islamic products, provide a comparative portrayal for investors, and protect consumers (Ahmed *et al.*, 2019).

Ṣukūk, as mentioned before, are tradable certificates representing an asset that provides stable returns. This implies that all the elements associated with the *ṣukūk* should be Sharīʿah compliant, starting with the asset in question, which should be halal and ethical (which would exclude tobacco and alcohol factories or casino buildings). Also, there should be no doubt regarding the ownership documentation that should be presented by the *ṣukūk* issuer. The aim of legal documentation is to offer assurance and safeguard to the parties involved in a contract, ensuring that their rights, duties and obligations are explicitly outlined in the terms of the agreement. This assurance empowers them to seek legal remedies if the contractual outcomes deviate from the agreed-upon terms (Rosly, 2010). However, ownership rights generate liability (*ḍamān*) on the owner, who then becomes the guarantor. 'The majority of jurists use the term (*ḍamān*) to mean bearing the burden, liability, or responsibility in the event of the destruction of goods sold, and they deem this to be a condition for the validity of a sale after purchase' (Abdul Razak & Saupi, 2017, pp. 150–151). Ownership should be full, proven and legal, whereby these main elements give the right of disposal to the owner to sell the asset to one buyer or many.

The aspect of ownership should be linked to specific Sharīʿah screening or assessment criteria, enhancing stability and fairness in the process of issuing *ṣukūk*. 'The independence of Fiqh institutions enables Islamic jurists to interpret relevant Shari'ah rules freely and engage in *ijtihad*. *Shura* institutions, on the other hand, play a vital role in legislating regulations and ensuring compliance and accountability' (Bashir, 2002, p. 83). While the majority of advisory and regulatory bodies in the concerned government have issued laws for *ṣukūk* issuance, emphasising the role of the Sharīʿah board in confirming the permissibility and Sharīʿah compliance, the inclusion of a specific article or rule in the law pertaining to the ownership of the asset in question, along with any related documentation requirements, can streamline the *ṣukūk*-issuing process and enhance investor confidence. Consequently, the *ṣukūk* issuer has a responsibility to provide truthful and complete information about the ownership aspect. According to IFSB-9, issuing any kind of misleading information, whether intentionally or due to negligence, is not acceptable for institutions offering Islamic products such as *ṣukūk*.

Moreover, the pricing of *ṣukūk* is another challenge that needs to be examined while considering the Sharīʿah point of view. According to Securities Commission Malaysia, *ṣukūk* represent the value of an asset, but that value is often changeable due to fluctuations in the overall level of prices. Moreover, as Islamic quasi-bonds, *ṣukūk* should provide annual returns to the holders and be tradable in the secondary market. The Islamic capital market faces the issue of the absence of a benchmark rate for pricing *ṣukūk* or other products, resulting in the use of conventional rates such as LIBOR. Ahmed *et al.* (2014) discussed several obstacles regarding pricing *ṣukūk*, including when there are a small number of investors or market players, leading to low liquidity.

The price mechanism relies, in the first stage, on the type of *ṣukūk* (*ijārah*, *murābaḥah*, *muḍārabah*, and *mushārakah*). Generally, the pricing process of *ṣukūk* is built on the time value of the asset in question. The price of *ṣukūk* is currently the present value of the asset at the maturity or redemption date, with the annual returns from that asset, whether those returns are fixed or variable (Razak *et al.*, 2019). The authors criticise several practical ways for pricing certain types of *ṣukūk*, for instance, *muḍārabah ṣukūk* that include fixed yields. The authors mention another related issue for this type of *ṣukūk*, when the issuer uses *bayʿ al-ʿīnah* in the linked contract.

In *ijārah ṣukūk*, a set yearly percentage can be employed, or it can be tied to established factors like inflation or interest rates. This approach promotes fairness for all involved. As a result, *ṣukūk* pricing encompasses various components that serve as benchmarks for investors, thereby bolstering the reliability of *ṣukūk*.The balance and fairness between the two parties (seller and buyer) in determining the price of *ṣukūk* should also be taken into consideration. One possible way to achieve that is through benchmarking against an independent measure for the cost of fund such as the LIBOR. Finally, all the aforementioned issues, as well as others, should be thoroughly examined by the SSB, which is responsible for providing the final approval before issuing the *ṣukūk*. The SSB, consisting of experts in Sharīʿah, should evaluate the *ṣukūk* from the Sharīʿah perspective before giving their approval. The role of the SSB in legitimising the *ṣukūk* process is an essential factor that promotes the transparency and sustainability of this significant Islamic financing instrument.

The impact of the SSB not carefully studying all Sharīʿah issues related to a *ṣukūk* will be significantly negative in the long run. There are several administrative procedures that should not be overlooked by the SSB, such as the transfer of ownership from *ṣukūk* assets to holders; otherwise, holders will face complicated problems in the event of issuer default (van Wijnbergen & Zaheer, 2013). According to AAOIFI, the SSB needs to review all related documents and actual transactions, rather than solely focusing on the *ṣukūk* structure. The relationship between *ṣukūk* documentation and its legitimacy is evident and has been proven by several studies. However, Ahmed *et al.* (2018) demonstrated, through quantitative methodology, that SSBs have only marginally impacted the relationship between *ṣukūk* legitimacy and their documentation.

Full Disclosure to Support *Ṣukūk* Stakeholders' Needs

The Islamic ethical principles call for honesty and transparency in *ṣukūk* offerings. This means that the issuers have to provide full disclosure about all related transactions. They should disclose the structure of *ṣukūk*, the ownership, and annual returns that will be distributed. The financial performance of the originator and its financial position are also two important factors for investors to consider when buying those *ṣukūk*, especially in *muḍārabah* or *mushārakah ṣukūk*.

In reality, the volatility of represented assets is considered the main risk for *ṣukūk* investors. In addition, asymmetric information is also a significant risk in *ṣukūk* from the investor's perspective, where the issuer often possesses the necessary information about the fair value of the represented asset. Moreover, the expected changes in that value are often known by the original owner. This information may be manipulated to increase the issuer's benefits by inflating the initial price of *ṣukūk* or attracting more investors. According to Abdul Halim *et al.* (2020a), corporate *ṣukūk* are subject to asymmetric information risk, similar to other conventional debts in the capital market.

Although the values and principles of Islam have fostered a comprehensive set of responsible and ethical business practices, their implementation by *ṣukūk* issuers is not guaranteed. In practice, the Generally Accepted Accounting Principles (GAAP) can be exploited by management to serve internal interests, leading to misleading accounting reports for stakeholders, particularly in terms of contractual agreements (Abdul Halim *et al.*, 2020b). Management practices and discipline play an essential role in fostering corporate growth and instilling investor confidence (Persakis & Iatridis, 2015). Moreover, unethical intentions often drive bad earnings management practices. Abdul Halim *et al.* (2020b, p. 195.) found that '*ṣukūk* issuers overstate their earnings in the year preceding *ṣukūk* offerings and in the year subsequent to the offering'. Consequently, labeling a corporation as Islamic or Sharīʿah compliant does not guarantee an entirely ethical company free from manipulation practices. These Islamic products can be exploited by others to attract Islamic capital. However, Abdul Halim *et al.* (2020b, p. 196) pointed out that 'a Muslim-dominated board is associated with less earnings management, supporting the idea of Islamic business ethics'.

Several other factors impact management practices, not only internal beliefs and values but also effective corporate governance, which is considered an important factor in improving these practices and developing a firm's ability to fulfil its obligations. The credit rating of the *ṣukūk* issuer is logically linked to the *ṣukūk* rating, where any unaffordable credit assessment may lead to a predicted default risk in *ṣukūk* as well (Zakaria *et al.*, 2012). The set of internal rules and procedures that guide the work cycle often optimise the use of available resources, especially borrowing. On the other hand, good corporate governance practices, such as an appropriate board of directors' size and the independence of that board, positively influence *ṣukūk* ratings (Elhaj *et al.*, 2015). Consequently, disclosing the internal corporate governance rules of the *ṣukūk* issuer supports the reliability of these *ṣukūk*.

Moreover, discussing the financial disclosure of any firm is a very complicated and comprehensive aspect because it involves different perspectives that cater to the needs of various stakeholders. For instance, creditors focus on liquidity ratios, while potential investors prioritise return on equity (ROE) ratios. Moreover, the emergence of a new era of technology has brought forth several intangible assets such as brands and intellectual properties, necessitating special disclosure criteria. However, the main principles guiding management in providing the most accurate financial disclosure are relevance and reliability.

Regarding *ṣukūk*, the value of the asset in question is pivotal for investors, who should be aware of the factors determining that value. Additionally, the annual recognition of the represented asset in the balance sheet, whether in fair value or historical cost, affects the investors' decision-making process. IFSB-9 considers this information as an integral part of the fair and truthful treatment of the clients of Islamic financial institutions. However, some Sharīʿah obstacles were discussed regarding fair value level 2, where the value of the asset is determined by factors other than the price in the active market, and level 3, where the discounted cash flow of the asset in question should reflect the current value. These two levels involve a kind of uncertainty (*gharar*) that is not permissible from a Sharīʿah perspective (Shafii & Rahim, 2016). This implies that fair value level 1, which relies on the active market to evaluate the value of the asset, is considered an acceptable fair value from a Sharīʿah perspective. Reliability in measuring the fair value of assets that do not have an active market is a debatable issue in the business environment (Landsman, 2007).

Roles of IFSB and AAOIFI in *Ṣukūk* Disclosure

Ṣukūk issuers should have a profound understanding of the intricate relationship between legitimacy and financial disclosure in the context of this Islamic financing instrument. The two most significant professional bodies in the Islamic finance industry have issued standards for *ṣukūk*, aiming to promote transparency and fairness for all stakeholders, particularly the *ṣukūk* holders. IFSB-19, FAS 33, and FAS 34 provide guidance to Islamic financial institutions for seamless *ṣukūk* issuance, treatment, reporting, and to foster greater stability in the Islamic capital market by emphasising the key issues that require comprehensive disclosure. These standards underwent an extensive process, with all industry feedback and regulatory input meticulously considered before the final versions were published.

General principles should cover acceptable practices for both the Islamic capital market and the conventional market. However, special criteria and the concerns of investors in the Islamic capital market were taken into consideration. The first principle involves clear and accurate information, ensuring that all provided documents are clear and do not mislead users, especially investors. The second principle emphasises sufficient information, advocating for full disclosure of information that is necessary for investors to make informed decisions, both during the initial issuance and the ongoing status of the work. The third principle underscores the importance of timely information, which requires the provision of material information promptly during the operation of the venture, not just during the issuance of *ṣukūk*.

The specific principles of *ṣukūk* disclosure in IFSB-19 are concentrated on the public offering, while regulatory bodies may opt for private offerings for special purposes. Firstly, *ṣukūk* disclosure should reflect all particular characteristics, as well as any special Sharīʿah considerations associated with these characteristics. Moreover, there should be Sharīʿah-related disclosures that cover all Sharīʿah aspects of the issued *ṣukūk*. Furthermore, a well-described structure of *ṣukūk* is a crucial factor for investors, enabling them to evaluate any related risks, particularly legal risks, especially if there are several parties connected to *ṣukūk* agreements. Finally, adequate disclosure should be provided about any related entities that may influence the investment decision in the *ṣukūk* in question.

The role of AAOIFI is more practical and linked to the complex accounting and auditing issues. FAS 33 aims to guide the process of classification, recognition, measurement, presentation, and disclosure of *ṣukūk*, shares, and other similar Islamic financial products. An SPV, often financed through issuing *ṣukūk*, is a fully independent venture with its own accounting system, providing annual financial statements that include several items, with *ṣukūk* being one of them. This implies that providing reliable and transparent annual reports about the SPV is a sustainable success factor. The stakeholders need to ensure that all applied accounting treatments in the SPV are Sharīʿah compliant, especially in the main accounting recognition.

According to AAOIFI, improvement in *ṣukūk* accounting practices is demanded by the industry. Various comments and recommendations were collected during workshops, public hearings, and public interactions, all of which called for improvements to FAS 25. The updated standard, FAS 33, added some important aspects to this subject, such as focusing the classification on the business model rather than the old approach that focused on the best global practices. However, FAS 34 concentrated more on *ṣukūk* holders. This standard aims to establish the rules or principles of accounting treatments and financial statements for businesses and assets related to *ṣukūk*, ensuring the fairness and transparency of relevant reports that serve all stakeholders, especially *ṣukūk* holders. This standard will cover both types of *ṣukūk* issuance, whether directly through the originator or by using an SPV.

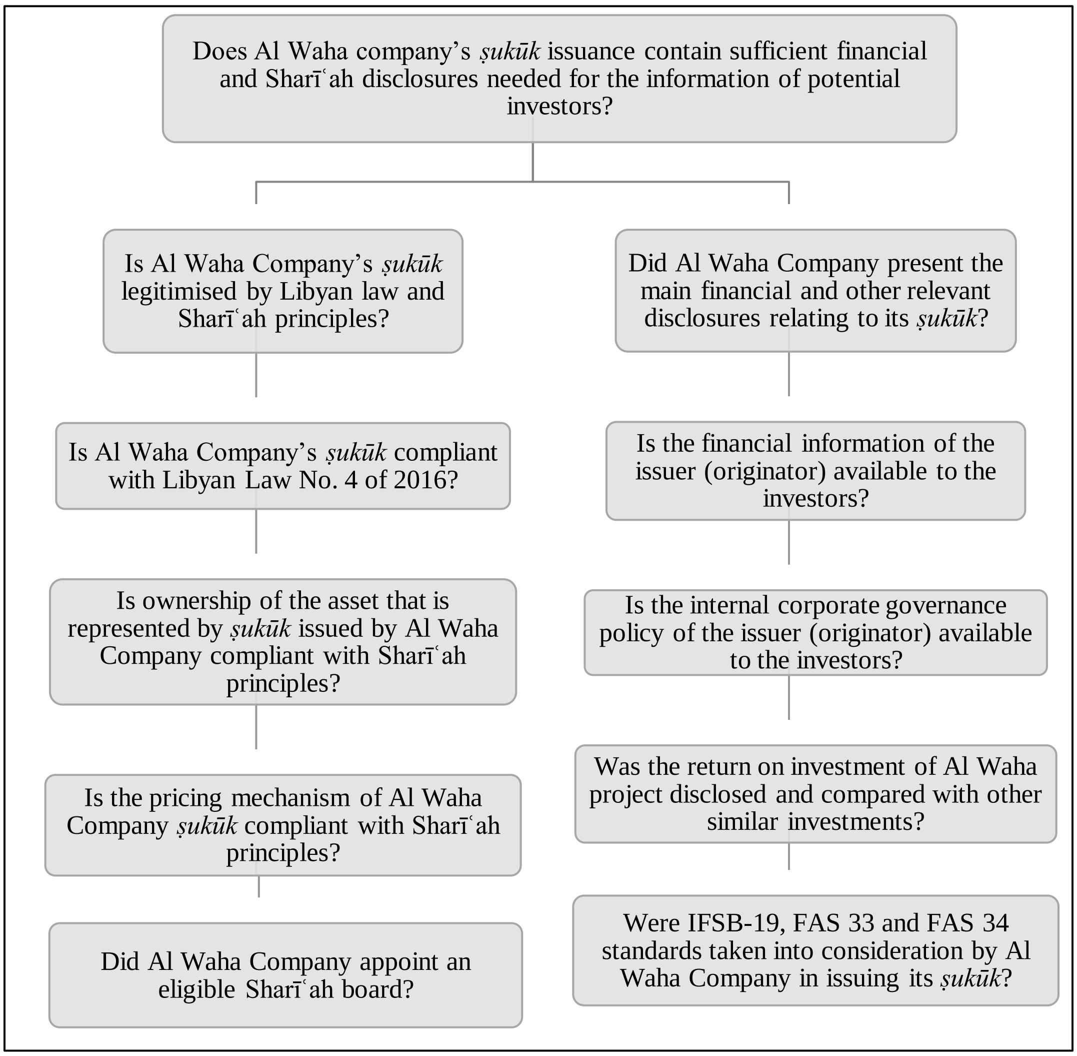
RESEARCH METHODOLOGY

The empirical part of this study will use the qualitative case study methodology to assess the first Libyan *ṣukūk* (Al Waha Company *Ṣukūk*). Building upon the literature discussed above, an assessment template will be constructed to investigate whether the general criteria of the *ṣukūk* in question overcome the main Sharīʿah challenges and if the provided disclosures cover the most important aspects from the perspective of investors. The research will employ the Libyan Law

No. 4 of 2016 as a foundational framework for assessment, encompassing a comprehensive spectrum of Sharīʿah and financial facets relevant to *ṣukūk*. In instances where specific provisions are absent, references defer to the principles of Sharīʿah, as affirmed by the aforementioned law. Common Sharīʿah concerns, extracted from *ṣukūk* literature, such as pricing and ownership, are also incorporated in the model. Moreover, given Libya's active membership in influential international Islamic bodies, notably the IFSB and AAOIFI, their standards are adopted in the evaluation wherever relevant.

In light of the absence of a clearly defined official Sharīʿah governance structure for a direct assessment, the researchers have devised an assessment model. This model aims to streamline the evaluation into focused queries that yield unequivocal responses. Each question entails a comparative analysis against relevant AAOIFI and IFSB standards, along with alignment to Libyan Law No. 4 of 2016. The proposed model is depicted in **Figure 1**.

Figure 1: Proposed Model



Source: Authors' own

ASSESSMENT OF AL WAHA COMPANY'S *ṢUKŪK*

The following addresses the various questions raised in **Figure 1**.

Is Al Waha Company's *Ṣukūk* Legitimised by Libyan Law and Sharīʿah Principles?

The transformation towards Islamic finance, including the process of making bank transactions compliant with Sharīʿah principles, started in Libya after the change in the political system in 2011. The first elected body in Libya, notably the General National Congress, after decades of a dictatorial system, issued the first law to prohibit usury (interest) in all debit and credit transactions, whether between legal entities (corporations) or individuals, with retroactive effect to all contracts conducted before this law was enacted in 2013.

Is Al Waha Company's *Ṣukūk* Compliant with Libyan Law No. 4 of 2016?

In January 2016, the first specific law for *ṣukūk* was issued in Libya by the highest legislative body, the General National Congress, under Law No. 4. The law spanned 23 pages and outlined the primary criteria and features for the issuance of *ṣukūk* by public and private corporations. Al Waha Company is an SPV established to complete a specific construction project in Tripoli, the capital of Libya. The financing for the Al Waha project will be facilitated through the issuance of *ṣukūk*. The originator (issuer) is LIDCO, which is considered a public company.

According to Law No. 4 of 2016, the capital of the originator (LIDCO) must be paid in full before the *ṣukūk* issuance, a condition that was not disclosed by LIDCO. Furthermore, the general assembly of the originator should pass a formal resolution for the issuance of *ṣukūk*. The general assembly of LIDCO released a resolution on 4 July 2021, seeking financing through *ṣukūk* for the Al Waha project. Additionally, LIDCO obtained approval from the Libyan stock market and the Sharīʿah board of the stock market based on the conditions of Law No. 4 of 2016. A Sharīʿah board within LIDCO also approved the process of issuing *ṣukūk*.

The originator (LIDCO) utilised private offerings to collect the necessary funds for the Al Waha project. An offering letter was issued to the investor, the Libyan Fund for Internal Investment and Development, which was expected to hold all the *ṣukūk* certificates. The subscription letter, prepared by LIDCO and sent to the Libyan Fund, was intended to provide a comprehensive understanding of Al Waha *ṣukūk*, ensuring compliance with Law No. 4 of 2016. However, the requirement to publish this letter in a formal newspaper and two other local newspapers (as per Law No. 4 of 2016) was overlooked by LIDCO. The subscription period should have been clearly stated, indicating the start and end dates. However, in the case of Al Waha *ṣukūk*, the subscription will close when the total amount is covered. Furthermore, there is no specification regarding the period for refunding the investor's money if the issuance is not completed due to any reason.

Al Waha *ṣukūk* are participation and convertible *ṣukūk*, meaning they can be converted into shares. However, the period for this conversion has not been specified, although it should have been clearly stipulated in the initial offering as per the law. Moreover, these *ṣukūk* are eligible for 'consumption', a term coined by the issuer to denote the situation wherein an investor elects to convert their undivided ownership of the project into ownership of a specific property within it, maintaining equivalent value to their initial investment. Nevertheless, the rights of LIDCO in this allocation process of *ṣukūk* have not been detailed.

Overall, although there are some minor discrepancies between the Al Waha *ṣukūk* issuance process and Law No. 4 of 2016, it can be stated that Al Waha company's *ṣukūk* is compliant with Libyan Law No. 4 of 2016.

Is Ownership of the Asset That Is Represented by *Ṣukūk* of Al Waha Company Compliant with Sharīʿah Principles?

The originator utilised a private offering for Al Waha *ṣukūk*. They sent a subscription letter to the target investor, the Libyan Fund for International Investment and Development, providing a comprehensive description of the project and all necessary information. The project is a large and complex development designed for both residential and commercial purposes. It is strategically located in the southern region of the capital, Tripoli, in close proximity to similar projects. The development plan includes a total of 11 residential buildings and two towers serving as facilities for offices and a mall. The originator provided a detailed account of the project's progress and the remaining funds needed to complete the entire development.

However, despite the project being built on a substantial piece of land measuring approximately 111,579 square meters, the issue of land ownership remains a concern. The Libyan people have faced problems related to unjust confiscations during the previous socialist regime. Numerous lands were seized without fair compensation or valid reasons, enabling certain public or semi-public entities to obtain these lands through allocation resolutions without due consideration for rightful ownership.

LIDCO can be considered a semi-public company that originated from an investment scheme under the previous government before 2011. Initially, an investment fund was established with participation from ordinary citizens, and the returns were supposed to be distributed among the subscribers. LIDCO emerged as part of this fund and currently operates as an independent firm, with a significant portion of its shares still owned by the government.

Therefore, it is imperative that the issue of land ownership for the Al Waha project be thoroughly elucidated. LIDCO should provide a complete set of ownership documents to ascertain whether the original owners were adequately compensated or whether the land in question was common property with no specific individual ownership. This clarification is crucial to ensure that the allocation resolution for the project aligns with Sharīʿah principles, particularly if the land is intended for public benefit. Consequently, there is a significant gap in information pertaining to the ownership of the Al Waha project land.

Is the Pricing Mechanism of Al Waha Company's *Ṣukūk* Compliant with Sharīʿah Principles?

The price of each *ṣakk* (certificate) for the Al Waha project was determined based on the project's cost, which includes the constructed and completed part (first part) and the under-construction part (second part). According to LIDCO, the cost of the first part is approximately LYD205 million (USD45,353,985), covering the land cost of LYD133 million (USD29,424,779) and the building cost of LYD72 million (USD15,929,203). This information was stated in the feasibility study of the project. However, the originator mentioned that the market value of the first part is estimated at around LYD205 million (USD45,353,985). This has caused confusion for the investor regarding the value of the first part of the project and how it was calculated. It remains unclear whether it was based on the historical cost or the market value.

Moreover, the concept of market value or fair value level 1 under IFRS 13 requires an active market that accurately reflects the price of the asset. However, this feature cannot be guaranteed in the Libyan context, especially in relation to this significant investment in Tripoli.

Additionally, the feasibility study estimates the cost of the under-construction part (second part) to be LYD325 million (USD71,902,655) for the finalisation of the buildings and the entire project. Unfortunately, there is no indication of the percentage of completion in the project or the remaining percentage needed to finalise it. Furthermore, the details of the external professional office responsible for the feasibility study, possibly conducted by the originator, are missing.

The total estimated cost for the project is calculated as LYD205 million plus LYD325 million, amounting to LYD530 million (USD117,256,637). Consequently, the originator will request a certain percentage from this total, as the Al Waha *ṣukūk* was defined as a participation *ṣukūk* (*mushārakah*) between *ṣukūk* holders and the originator. Regrettably, these clarifications are absent from the LIDCO letter, which states the total number of certificates to be 519 and the nominal face value of each certificate to be LYD1 million (USD221,239), resulting in a total payment of LYD519 million (USD114,823,008). This raises questions about the remaining amount of money (LYD530 million – LYD519 million = LYD11 million) (USD2,433,628), which is typically covered by the originator as a partner, yet this information is also missing.

Furthermore, there is a commission that needs to be paid to the Libyan stock market for approving the issuing process, which amounts to approximately 2.2 per cent of the total issuing value. However, there is no explanation regarding this expense, whether it will be added to the operating cost or how it will be amortised.

Consequently, the pricing mechanism of Al Waha company's *ṣukūk* involves uncertainties in several aspects that must be thoroughly explained to eliminate any ambiguity that may contravene Sharīʿah guidelines. While the use of market value or price is fully supported by Sharīʿah, it necessitates several conditions, such as an active market that provides fair value to both contracting parties. Furthermore, using two different concepts in the same announcement regarding the price of an asset increases uncertainty for investors, such as the cost and market value of buildings.

Did Al Waha Company Appoint an Eligible Sharīʿah Board?

LIDCO has appointed a Sharīʿah board comprised of three members, two of whom hold a Bachelor of Sharīʿah, while the third member possesses a Bachelor of Law. According to Law No. 4 of 2016 in Libya, Sharīʿah board members involved in overseeing matters related to Islamic finance, as outlined in *ṣukūk* issuance, are required to possess experience in Islamic financial law, specifically in *muʿāmalāt* (transactions and contracts). This implies that these board members should have both practical work experience and relevant qualifications in Islamic financial law to effectively carry out their responsibilities in ensuring Sharīʿah compliance within the context of *ṣukūk* activities. Notably, specific details regarding the practical experience of these members were either not provided or are currently unavailable. Considering the intricate nature of Islamic financial transactions and contracts, particularly in the issuance of *ṣukūk*, specialised skills and knowledge are imperative to effectively address any Sharīʿah-related challenges or concerns presented to investors and other stakeholders. An eligible Sharīʿah board not only enhances the credibility of *ṣukūk* but also fosters increased transparency in the approval of various agreements and contracts overseen by this board. However, merely mentioning the names of the Sharīʿah board members by the originator (LIDCO) may not sufficiently bolster the position of this board in the *ṣukūk*-issuing process.

Did Al Waha Company Present the Main Financial and Other Relevant Disclosures Relating to Its *Ṣukūk*?

Is the financial information of the issuer (originator) available to the investors?

The previous financial performance of a *ṣukūk* originator often serves as a foundation for trust in its new *ṣukūk*, particularly in the case of *mushārakah ṣukūk*. The originator of Al Waha *ṣukūk* (LIDCO) is not listed on the Libyan stock market, and there is no published financial information available regarding its business capabilities. For instance, the statement of financial position of LIDCO for the previous year, as well as the statement of profit or loss, are not accessible to investors. These two essential statements could offer indicators of LIDCO's performance and whether it possesses the capability to complete the current project within the target time and at the target rate of return. Therefore, the absence of this financial information concerning LIDCO will have a detrimental impact on the assessment of Al Waha *ṣukūk*.

Is the internal corporate governance policy of the issuer (originator) available to the investors?

The corporate governance policy corrects any deviation in management attitude and supports work within a specific target framework. Providing the general corporate governance vision of the *ṣukūk* originator to the investors or publishing some of the internal corporate governance procedures of the originator can support transparency and trust in those *ṣukūk*. These procedures demonstrate the seriousness and abilities of the *ṣukūk* issuer in executing the work in the most appropriate manner. However, the letter to its target *ṣukūk* investors does not mention any corporate governance policy by LIDCO.

Was the return on investment of Al Waha project disclosed and compared with other similar investments?

Based on the *ṣukūk* subscription prospectus, the rate of return on Al Waha *ṣukūk* is 10 per cent. This return will be distributed among the partners based on their capital participation. The total cost of the project is known to be LYD530 million (equivalent to USD117,256,637), which can be considered the project capital. While the share capital of the *ṣukūk* holders is known, the share capital of the originator (LIDCO) remains unclear. As this project is financed through *mushārakah ṣukūk*, it is essential to clarify the role of the originator to determine whether it is a capital provider or a worker partner (*muḍārib*), while the *ṣukūk* holders are only capital providing partners.

Furthermore, it is important to compare the provided rate of return with other similar projects or investment opportunities, or to provide the general rate of return for the region. This comparison will aid investors in assessing whether Al Waha *ṣukūk* represents an attractive investment opportunity. Although Al Waha *ṣukūk* has been rated A2 by the Libyan Company for Credit Services, an independent third party, this rating should be supported by real financial performance ratios.

One of the main challenges that must be addressed by the *ṣukūk* originator is the default risk. The current unstable situation in Libya has a negative impact on most business expectations, especially regarding a guarantee of the rate of return. Additionally, the considerable increase in property market and real estate prices, particularly in major Libyan cities such as Tripoli, raises questions about the stability and authenticity of these prices in determining returns. The purchasing power of the Libyan people is also a critical factor that needs to be taken into consideration, as this project requires a specific class of people who can afford to purchase the residential units. Hence, it is essential to assess whether the originator has studied the capabilities of the target audience.

On the other hand, *ṣukūk* holders have the right to convert them to shares, and the project period is one year. Consequently, the units will be sold to achieve the target profits. It is crucial to specify when the option of converting to shares will be applicable. Additionally, the relatively short expected period of the project and the unclear conditions of the participation contract, such as the return of capital on 30 January 2023, raise questions about who will buy these *ṣukūk*. Given the current issues faced by the Libyan stock market, it appears that there is no active market for purchasing these *ṣukūk* or even determining their fair value. Therefore, it is imperative for the originator to introduce and explain this issue thoroughly.

Overall, the financial disclosures of Al Waha *ṣukūk* lack several crucial elements, particularly regarding the distribution of profits and the assurance of the capital rights of the *ṣukūk* holders.

Are IFSB-19, FAS 33 and FAS 34 standards taken into consideration by Al Waha Company in issuing its ṣukūk?

IFSB-19, FAS 33 and FAS 34 standards cover many vital aspects about issuing *ṣukūk* to make them transparent and credible financing instruments. Thus, the originator of Al Waha *ṣukūk* should study them alongside compliance with Libyan Law No. 4 of 2016, which was issued after all the aforementioned standards. According to IFSB-19, the variation in Sharīʿah views (fatwa) needs more explanation by the originator, where relevant documentation for the detailed review adopted by its Sharīʿah board has to be provided, as some investors may only accept fatwas from a specific group of Sharīʿah scholars. This extra Sharīʿah explanation is missing in Al Waha *ṣukūk*. Also, based on IFSB-19, 'disclosure should describe the Sharīʿah review process followed and what documents (e.g., term sheets, summary papers, drafts contracts, and/or final contracts) were reviewed by the scholars. It should also indicate whether there were related external arrangements that were not considered (e.g., external hedging arrangements)', all of which are missing in the offering document of Al Waha *ṣukūk*.

Moreover, there are several important disclosures that should be presented by the institutions that provide Islamic products, as mentioned in FAS 33, such as accounting policies adopted for the classification, recognition, and measurement of investments. The variation in general accounting principles leads to different final results, so the *ṣukūk* holders need to be aware of the particular accounting policies adopted by Al Waha *ṣukūk* issuer. As mentioned before, the financial and accounting information of the originator (LIDCO) is missing. Also, the expected accounting policies and treatments that will be used in the Al Waha project are absent in the offering document of its *ṣukūk*.

Finally, FAS 34 covers many disclosures that support transparency toward *ṣukūk* holders, and some of them are adopted by LIDCO. For instance, disclosure about the business nature and its main activities, as well as its assets, was mentioned in the offering document. However, according to FAS 34, the originator should present 'disclosure in respect of the value of the underlying assets and information necessary to ascertain its reliability in line with Sharīʿah principles, depending on the nature of the instrument'. Also, there should be 'disclosure about the ownership and control of the SPV, particularly if it is controlled by the originator'. In addition, the originator should determine techniques that were used to specify the fair value of the business and the assets in question. All these aforementioned and other necessary disclosures are missing in Al Waha *ṣukūk*, although they are considered the minimum disclosure requirements according to AAOIFI.

CONCLUSION

Sharīʿah-compliant corporations face challenges in financing their activities as most available financing instruments are not Sharīʿah compliant. However, *ṣukūk* as an Islamic financing alternative creates several benefits to the issuers, which are deficit economic units, and investors, which are surplus units. Most Islamic regulatory, advisory and professional bodies, whether at the international or national level, work to establish an applicable framework that guides institutions providing Islamic products such as *ṣukūk* toward best practices in accordance with Sharīʿah principles. For instance, AAOIFI has issued two standards related to *ṣukūk*, FAS 33 and 34. Similarly, the IFSB has issued Standard 19, providing guidance to regulatory and supervisory authorities to establish appropriate regulations for issuing *ṣukūk*. These efforts stem from the practical problems encountered during the initial issuance of *ṣukūk* in various locations worldwide (Oakley, 2008). Ahmed *et al.* (2019) discuss the reputation of *ṣukūk*, emphasising its Sharīʿah compliance as a crucial transparency index and fundamental aspect influencing investors' decisions. Legitimacy and Sharīʿah concepts pose significant and intricate challenges in the issuance of *ṣukūk*. For instance, Ahmed *et al.* (2014), Ahmed *et al.* (2017), and Razak *et al.* (2019) delve into issues regarding the pricing of various types of *ṣukūk* from a Sharīʿah perspective.

To the authors' knowledge, there is currently no practical model for assessing the attractiveness of *ṣukūk* as a financial instrument based on the aforementioned standards issued by the IFSB and AAOIFI. Therefore, this study evaluated the first Libyan *ṣukūk* (Al Waha *ṣukūk*) using a specific framework that includes some fundamental questions. The findings indicate that Al Waha *ṣukūk* cannot be considered an attractive financing instrument due to several Sharīʿah issues, such as inadequate ownership documents and the qualifications of the SPV's Sharīʿah board. Additionally, crucial financial information is missing about the originator and its capabilities for finalising the project. This finding highlights the need of having a clear Sharīʿah and regulatory framework in Libya. Such frameworks would guide the *ṣukūk* issuers on following the Sharīʿah and transparency requirements, which in turn, may help boost public confidence.

Consequently, while the introduction of new Islamic financing instruments to the Libyan market is commendable, the unstable situation of the country demands patience to prevent the misuse of Libyan public funds. Policymakers in Libya are advised to strengthen the regulatory requirements governing future *ṣukūk* issuances. The suggested enhancements should include the requirement for sufficient disclosures regarding the financial feasibility of the *ṣukūk* issuance, as well as the publication of adequate disclosures to ensure full Sharīʿah compliance.

REFERENCES

Abdul Halim, Z., How, J., Verhoeven, P. & Hassan, M.K. (2020a), 'Asymmetric information and securitization design in Islamic capital markets', *Pacific Basin Finance Journal*, Vol. 62, https://doi.org/10.1016/j.pacfin.2019.101189

Abdul Halim, Z., Xu, S. & Abdul Majid, N. (2020b), 'Earnings management around Islamic bonds issuance', *Quarterly Review of Economics and Finance*, Vol. 77, pp. 195–205, https://doi.org/10.1016/j.qref.2020.03.003

Abdul Razak, L. & Saupi, M.N. (2017), 'The concept and application of *ḍamān al-milkiyyah* (ownership risk): Islamic law of contract perspective', *ISRA International Journal of Islamic Finance*, Vol. 9 No. 2, pp. 148–163, https://doi.org/10.1108/IJIF-06-2017-0002

Ahmad, N.S.M. & Daw, A.S.D.B. (2015), 'Compliance with AAOIFI guidelines in general presentation and disclosure by Libyan Islamic banks', *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol. 11 No. 2, pp. 90–99, https://doi.org/10.1108/wjemsd-06-2014-0015

Ahmed, E.R., Islam, M.I. & Alabdullah, T.T.Y. (2014), 'Islamic sukuk: pricing mechanism and rating', *Journal of Asian Scientific Research*, Vol. 4 No. 11, pp. 640–648.

Ahmed, E.R., Islam, M.I. & Alabdullah, T.T.Y. (2017), 'The moderating role of Shariah supervisory board on sukuk pricing benchmark', *International Journal of Excellence in Islamic Banking & Finance*, Vol. 6 No. 2, pp. 1–32.

Ahmed, E.R., Amran, A. & Islam, M.A. (2018), '*Ṣukūk* documentation and legitimacy: the role of Sharīʿah supervisory board as a moderator', *International Academic Journal of Accounting and Financial Management*, Vol. 5 No. 2, pp. 22–40, https://doi.org/10.9756/iajafm/v5i2/1810015

Ahmed, E.R., Islam, A. & Amran, A.B. (2019), 'Examining the legitimacy of *ṣukūk* structure via Sharīʿah pronouncements', *Journal of Islamic Marketing*, Vol. 10 No. 4, pp. 1151–1166, https://doi.org/10.1108/JIMA-03-2018-0050

Ahmed, E.R., Islam, A. & Ku Ariffin, K.H. (2015), 'An empirical analysis on legitimacy of *ṣukūk*: an insight of Malaysian *ṣukūk*', *Asian Social Science*, Vol. 11 No. 13, pp. 84–97, https://doi.org/10.5539/ass.v11n13p84

Badri, M.B. & Mohamad, S. (2014), 'Application of *tanāzul* in *ṣukūk* and preference shares: a critical analysis from the Sharīʿah perspective', *ISRA International Journal of Islamic Finance*, Vol. 6 No. 2, pp. 141–148.

Bashir, A.H.M. (2002), 'Property rights, institutions and economic development: an Islamic perspective', *Humanomics*, Vol. 18 No. 3, pp. 75–91, https://doi.org/10.1108/eb018877

Central Bank of Libya (2023), 'Report: important financial metrics and data on banks as of the third quarter of 2023', available at: https://cbl.gov.ly/micifaf/2023/12/-تقرير-المصارف-عن-الربع-الثالث-2023-للموقع.pdf

El-Brassi, A.M.A.M., Bello, N. & Alhabshi, S.M. (2018), 'Conversion of conventional banks to Islamic banks in Libya: issues and challenges', *International Journal of Accounting, Finance, Business,* Vol. 3 No. 15, pp. 25–39.

Elhaj, M., Abulgasem. A., Muhamed, N.A. & Ramli, N.M. (2015), 'The influence of corporate governance, financial ratios, and *ṣukūk* structure on *ṣukūk* rating', *Procedia Economics and Finance*, Vol. 31, pp. 62–74, https://doi.org/10.1016/s2212-5671(15)01132-6

Haron, R. & Adeyemi, A.A. (2016), 'Islamic capital market and debt financing of Sharīʿah-compliant firms in Indonesia', *Al-Shajarah,* Vol. 21 Special Issue, pp. 67–86.

IIFM (2022), 'IIFM Sukuk Report', available at: https://www.iifm.net/sukuk-reports (accessed 3 June 2023).

Kahf, M. (2013), *Islamic Finance Contracts,* CreateSpace Independent Publishing Platform..

Khan, S.U., Khan, I.U., Khan, I., Din, S.U. & Khan, A.U., (2020), 'Evaluating *ṣukūk* investment intentions in Pakistan from a social cognitive perspective', *ISRA International Journal of Islamic Finance,* Vol. 12 No. 3, pp. 347–365.

Landsman, W.R. (2007), 'Is fair value accounting information relevant and reliable? Evidence from capital market research', *Accounting and Business Research,* Vol. 37, pp. 19–30, https://doi.org/10.1080/00014788.2007.9730081

Noordin, N.H., Haron, S.N., Hasan, A. & Hassan, R (2018), 'Complying with the requirements for issuance of SRI sukuk: the case of Khazanah's Sukuk Ihsan', *Journal of Islamic Accounting and Business Research,* Vol. 9 No. 3, pp. 415–433, https://doi.org/10.1108/JIABR-02-2016-0024

Oakley, D. (2008), 'Sukuk market: clarification of rules does market a favour', *Financial Times,* pp. 1–5.

Persakis, A. & Iatridis, G.E. (2015), 'Cost of capital, audit and earnings quality under financial crisis: a global empirical investigation', *Journal of International Financial Markets, Institutions and Money,* Vol. 38, pp. 3–24, https://doi.org/10.1016/j.intfin.2015.05.011

Razak, S.S., Saiti, B. & Dinç, Y. (2019), 'The contracts, structures and pricing mechanisms of sukuk: a critical assessment', *Borsa Istanbul Review,* Vol. 19, pp. S21–S33, https://doi.org/10.1016/j.bir.2018.10.001

Rosly, S.A. (2010), 'Shari'ah parameters reconsidered', International Journal of Islamic and Middle Eastern Finance and Management, Vol. 3 No. 2, pp. 132–146, https://doi.org/10.1108/17538391011054372

El Alaoui, A.O., Dewandaru, G., Rosly, S.A. & Masih, M. (2015), 'Linkages and co-movement between international stock market returns: case of Dow Jones Islamic Dubai Financial Market index', *Journal of International Financial Markets, Institutions and Money,* Vol. 36, pp. 53–70.

Sahin, T. (2022), 'Sukuk issuance jumps by 36% in 2021: Fitch', available at: https://www.aa.com.tr/en/economy/sukuk-issuance-jumps-by-36-in-2021-fitch/2471428#! (accessed 3 June 2023).

Sassi, H. (2019), 'The economic environment in Libya and its readiness to issue sukuks', *International Conference on Religion, Governance and Sustainable Development (ICRGD2019)*, pp. 16–17.

Shafii, Z. & Rahim, A. (2016), 'Issues on the application of IFRS 9 and fair value measurement for Islamic financial instruments', *Journal of Islamic Accounting and Business Research*, 35, pp. 317–360.

Sze Lin, L., Lahsasna, A. & Ahmed, R. (2013), 'Sharī'ah issues in Islamic capital markets: *ṣukūk*', *ISRA International Journal of Islamic Finance*, Vol. 5 No. 2, pp. 99–123.

van Wijnbergen, S. & Zaheer, S. (2013), '*Ṣukūk* defaults: on distress resolution in Islamic finance', *SSRN Electronic Journal*, Vol. 13, https://doi.org/10.2139/ssrn.2293938

World Bank (2020), 'Libya financial sector review', available at: https://thedocs.worldbank.org/en/doc/288521600444837289-0280022020/original/LibyaFinancialSectorReviewEnglishFinal.pdf (accessed 1 January 2024).

Zakaria, N.B., Md Isa, M.A. & Abidin, R.A.Z. (2012), 'The construct of *ṣukūk*, rating and default risk', *Procedia - Social and Behavioral Sciences*, pp. 662–667, https://doi.org/10.1016/j.sbspro.2012.11.181

ABOUT THE AUTHORS

Mohamed Faraj Mohamed Lemhishi is currently an assistant lecturer at the Accounting Department, Misrata University, Türkiye. He is also a PhD candidate at the department of Islamic economics and finance, Istanbul Sabahattin Zaim University, Türkiye. His research interests include Islamic finance, Islamic accounting and *ṣukūk*. He is the corresponding author and can be contacted at mohamed.lemhishi@std.izu.edu.tr

Mohammad Ghaith Mahaini, PhD, is an assistant professor at the Faculty of Business and Management Sciences, Istanbul Sabahattin Zaim University, Türkiye. His research interests include fintech, Islamic economics, zakat, waqf and *ṣukūk*.

DECLARATION

Credit Authorship Contribution Statement

The authors of this paper collaborated closely, with each making significant contributions to the development and completion of this manuscript. Without the collective effort of both authors, the paper would not have materialised. Both authors have contributed in the following tasks: conceptualization, methodology, data collection, data analysis, literature review, writing and drafting, review and editing, project overview, and presentation of findings. Both authors have reviewed and approved the final version of the manuscript.

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

None

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability

None

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix

None

ANALYTICAL STUDY OF THE IMPLEMENTATION OF AAOIFI'S ETHICAL STANDARDS IN THE ALGERIAN ISLAMIC BANKING SYSTEM: ASSESSMENT AND RECOMMENDATIONS

Boudjelida Abdelhak

Department of Accounting, LEZINRU Laboratory, University Mohamed El Bachir El Ibrahimi, Bordj Bou Arreridj, Algeria

Bouaita Abderrezzak

Department of Economics, University Mohamed El Bachir El Ibrahimi, Bordj Bou Arreridj, Algeria

Received
24 September 2023

Revised
8 November 2023
22 March 2024
26 March 2024

Accepted
27 March 2024

ABSTRACT

Purpose — The application of ethical requirements is an important means for all stakeholders in the Islamic finance industry to build trust and promote integrity. This study aims to assess the extent to which the Algerian banking system has adopted the ethical standards for Islamic financial transactions issued by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI).

Design/Methodology/Approach — This study utilises the descriptive approach to present the study's variables and employs the analytical approach to discuss the various concepts and legal regulations that govern the banking sector so that it can provide recommendations that would help to build a solid foundation for the Algerian banking system.

Findings — The findings revealed that the Algerian monetary authority is committed to gradually promoting Islamic banking regulations in a thoughtful manner. However, the study also found that there is a lack of clarity regarding the adoption of regulatory laws in Algeria for the ethical standards issued by AAOIFI, even within the 2023 Monetary and Banking Act.

Originality/Value — To the best of the authors' knowledge, this paper is the first study to assess the extent to which the Algerian banking system has adopted the ethical standards for Islamic financial transactions issued by AAOIFI.

Research Limitations/Implications — The primary limitation of this research is its exclusive focus on the Algerian banking system and its reliance on secondary data. As such, the study's focus is on the adoption of ethical standards within the Algerian Islamic banking system and not at the level of individual Islamic banks.

INCEIF UNIVERSITY | ISRA RESEARCH MANAGEMENT CENTRE

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024 pp. 79–92

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.601

Practical Implications — This research offers valuable insights for those in decision-making roles. It recommends the establishment of a committee of experts to develop standards tailored to the Algerian Islamic banking environment. The committee should be financially independent and under the supervision of the monetary authority. Additionally, the study suggests the issuance of a code of ethics to govern the professional conduct of Islamic banks (IBs) and Islamic financial institutions (IFIs) in accordance with Sharīʿah.
Keywords — AAOIFI, Ethical standards, Islamic banking, Monetary authority
Article Classification — Conceptual paper

INTRODUCTION

Islamic banking has achieved rapid growth and significant developments in recent years (IFSB, 2022). However, this evolution, in the face of increasing competition, necessitates that Islamic financial institutions (IFIs) adhere to the principles and regulations of Sharīʿah (Islamic law) to ensure their stability and sustainability. To this end, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), a leading international body, was established to support the Islamic finance industry. It aims to enhance the quality of auditing practices, governance and ethics in these institutions by issuing various Islamic standards derived from ethical values and Sharīʿah. Algeria has a long history of engagement with AAOIFI, as the signing of AAOIFI's establishment agreement in 1990 took place in Algeria (AAOIFI, 2015). Furthermore, a cooperation agreement was signed in 2021 between AAOIFI and the Bank of Algeria, the country's central bank, to recognise and adopt its standards (AAOIFI, 2022a).

Algeria explicitly adopted Islamic banking through the issuance of Regulation No. 20–02, and it began to implement it in line with local legislation. Many conventional banks have also opened Islamic banking windows for marketing Islamic banking products. However, Algeria's experience of Islamic windows is still relatively new (Laounia, 2020). A quantitative study by Asma and Khemissi (2021) found a complete lack of ethical financial culture in active commercial banks in Algeria, supporting the conclusions of Mansour *et al.* (2015) in a study on the extent of the ethics of Islamic banking. They point out that Islamic banking practices do not align with the *maqāṣid al-Sharīʿah* (objectives of Islamic law) and require more attention to achieve their intended effect. In this regard, it is essential to ensure that these financial transactions comply with Sharīʿah provisions to avoid manipulations and enhance banks' credibility with customers and investors. In response to the latest challenges, the Bank of Algeria has recently updated the legislative framework regulating Islamic banking by issuing the Monetary and Banking Act in 2023, which includes several amendments that affect this industry.

This study specifically aims to achieve a set of objectives:

1. To investigate the extent to which the Algerian banking system adopts the ethical standards for Islamic financial transactions issued by AAOIFI, which is an aspect that has been neglected in previous studies.
2. To highlight the amendments to the Algerian Monetary and Banking Act of 2023 regarding Islamic banking in order to fill the gap in the literature on it, as it is recent legislation.
3. To provide proposals for the adoption and framing of Islamic ethics in the Algerian banking environment.

More precisely, this research attempts to answer the following research question: To what extent has the Algerian banking system adopted the ethical standards for Islamic financial transactions issued by AAOIFI?

To the best of the authors' knowledge, no previous study has been conducted on this topic. This study attempts to fill a gap in the limited existing research that addresses ethical standards in Islamic financial transactions in the Algerian banking environment. The specific contributions of this study include:

1. Drawing the attention of relevant authorities, including the central bank and policymakers, in order that they take into consideration the study's findings for the development of ethical standards for Islamic financial transactions in the upcoming laws and regulations governing Islamic banking.
2. The results are expected to motivate Islamic banks (IBs) and IFIs to adopt and implement Islamic ethics in their workplaces.
3. The study provides valuable insights into the Algerian Monetary and Banking Act of 2023 and compares it with AAOIFI's ethical standards.
4. As a pioneering research, it is expected to serve as a foundation and a catalyst for future studies in this area.

Accordingly, this paper is organised as follows: after the introduction, the second section discusses the literature related to the topic. The third section describes the research methodology used to achieve the study's objectives. The results and discussion are presented in the fourth section. The last section concludes the research, discusses its implications, makes recommendations based on the findings, and provides suggestions for future research.

LITERATURE REVIEW

Regulatory Framework for Islamic Banking in Algeria

Algeria, like many other Islamic countries, has sought to adopt Islamic banking to offer interest-free financial services that are aligned with Sharīʿah principles. However, despite the establishment and operation of IBs in Algeria, such as Al Baraka Bank in 1991 and Al Salam Bank in 2008 (Yassamine, 2022), the legal framework for Islamic banking in the period from 1990 to 2018 was characterised by a legal gap. These banks were subject to Money and Credit Act No. 90–10, which regulated conventional banks (Tawfiq & Assia, 2022). This was considered one of the main reasons for the delayed adoption of Islamic banking in Algeria, as it failed to take into account the unique features of Islamic banking transactions.

From Participatory Banking to Islamic Banking

In late 2018, the Bank of Algeria issued Regulation No. 18–02, the first legal and regulatory framework for interest-free transactions in Algeria. This regulation established rules for banks and financial institutions to practise participatory banking operations (Laounia, 2020). The regulation also defined the banking operations and products related to participatory banking, which can be marketed through participatory windows within conventional banks provided that they are financially and administratively independent from the rest of the bank's activities (Regulation No. 18–02).

Tawfiq and Assia (2022) claim that Regulation No. 18–02 was hastily implemented and had some shortcomings. This is demonstrated by the fact that, in just two years, Regulation No. 20–02 took its place. The Bank of Algeria took the first concrete step towards implementing Islamic banking with Regulation No. 20–02. The usage of the term 'Islamic' rather than 'participatory' is one of the main distinctions between the two regulations. This change may help boost customer confidence in Islamic banking transactions. However, Miloud (2020) argues that there is no objection to using the term 'participatory', as it accurately reflects the essence of

Islamic banking, which is based on profit-and-loss sharing with customers. Another key difference is the establishment of the National Sharia Fatwa Board for the Islamic Financial Industry. The Board is responsible for certifying that the Islamic products being marketed by IBs and IFIs adhere to Sharīʿah principles. However, even though IBs hold Sharīʿah compliance certificates, there is insufficient regulatory supervision to guarantee that the operations are carried out correctly.

One could consider that the two regulations are two sides of the same coin. Regulation No. 20-02 is a more explicit commitment to Islamic banking, whereas Regulation No. 18–02 was only a tentative step in that direction. The publication of Regulation No. 20–02 was an encouraging first step towards the growth of Algeria's Islamic banking industry. Islamic banking transactions have become more popular, recording 16 per cent of the financing market share in 2021 (Tawfiq & Assia, 2022). Additionally, the new regulation is expected to improve the Sharīʿah compliance of IBs in Algeria and reduce violations and deviations (Adem & Hichem, 2022). Nevertheless, there is still a need for improvement, particularly when it comes to regulatory oversight.

Monetary and Banking Act 2023

The Algerian Monetary and Banking Act took effect on 21 June 2023. The Act is a comprehensive reform of Algeria's banking and financial sectors. The Act contains 167 articles divided into nine sections aimed at addressing major economic and financial transformations as well as technological challenges. The following paragraphs highlight some of the key amendments and new provisions related to Islamic banking in the 2023 Act.

Emergency Liquidity Provision

Borrowing from the Bank of Algeria usually involves interest, which is against the spirit of Islamic banking operations, which eschew *ribā* (interest/usury). On the other hand, IBs could encounter financial challenges that are hard to overcome within the framework of the previous Banking Act while still maintaining Sharīʿah principles. Article 47 of this Act gives the central bank the authority to provide emergency liquidity to solvent banks that are experiencing temporary liquidity problems in order to ensure the bank's financial stability. To be eligible for emergency liquidity, the bank must be solvent, and the transaction must be fully secured by appropriate securities. If the bank's solvency cannot be verified or if the bank is unable to provide sufficient guarantees, the operation must have full government support. Along with this, the bank is required to provide a business plan outlining its strategy for liquidity recovery and repayment of the emergency liquidity. This provision provides a lifeline for IBs that are facing temporary liquidity problems. Nevertheless, it is crucial to remember that the bank still needs to adhere to Sharīʿah requirements, such as providing appropriate security for the transaction. This provision can be seen as a bridge between the two worlds of Islamic and conventional banking, as it enables IBs to access liquidity when needed while still adhering to their core principles.

Expanding the Scope of Islamic Banking Operations

The Monetary and Banking Act's Article 68 outlines the definition of banking operations as 'receiving public funds (...) and banking operations related to Islamic finance' (Monetary and

Banking Act 2023, p. 13). This article does not expressly define the banking operations that IBs and IFIs can engage in. In addition, Article 71 of the same Act provides extra confirmation by defining Islamic banking activities as 'any operation conducted by banks or Islamic windows in compliance with Sharīʿah rules' (Monetary and Banking Act 2023, p. 13). This broad definition allows IBs and IFIs to be flexible in creating and introducing new products and services, as well as conduct any type of banking activity that complies with the principles of Sharīʿah. This is a major shift from Regulation No. 20–02, which restricted Islamic banking to eight products and required them to be usury-free. In the near future, there is a chance of generating new Islamic banking products such as *ṣukūk* (Islamic investment certificates).

Creation of Exclusive IBs and IFIs

The Algerian Monetary and Banking Act of 2023 permits the establishment of exclusive (i.e., full-fledged) IBs and IFIs dedicated to conducting banking operations related to Islamic banking. Furthermore, Islamic windows must be financially and administratively independent of the rest of the bank or financial institution, and also in terms of their accounting systems. To market Islamic banking products, banks and financial institutions must obtain a certificate of compliance with Sharīʿah from the National Sharīʿah Board for Fatwās for the Islamic Financial Industry, as well as approval from the Bank of Algeria. These requirements are identical to those in the previous Regulation No. 20–02, articles 13 and 14.

Adapting Monetary Policy Tools to the Specificities of Islamic Banking

The Bank of Algeria can monitor, manage and regulate bank liquidity by intervening in the money market through the use of its monetary policy tools. However, these tools are *ribā*-based (interest-based) and do not consider the needs of IBs. Article 44 of the Algerian Monetary and Banking Act of 2023 authorises the Bank of Algeria to adapt its intervention tools in the money market to the specificities of Islamic banking operations. The Act did not provide details about these new tools, but it opens up the possibility of investing excess liquidity in IBs without involving interest. One possible way to adapt the Bank of Algeria's monetary policy tools to Islamic banking is to develop Sharīʿah-compliant liquidity management instruments such as *ṣukūk*. *Ṣukūk* is far more effective as a tool of monetary policy than *ribā*-based conventional monetary policy. Selim (2015) and Selim & Hassan (2019) argue that *ṣukūk* has several advantages in this regard, such as promoting economic growth, boosting employment and maintaining low inflation rates.

AAOIFI's Code of Ethics

Ethics are defined as a set of moral standards that encompass the qualities and characteristics an individual possesses, which are reflected in their behaviour and interactions with society. These ethical standards govern how individuals conduct their actions and differentiate between what is right or wrong, good or bad. Without ethical foundations and rules that govern society, individuals and companies cannot function (Kouzo & Falikhatun, 2023). Islam places a strong emphasis on ethics in all aspects of life since every action undertaken by a Muslim must adhere to the requirements of Sharīʿah. Islam derives its ethical values from the Qurʾān and Sunnah

(Prophetic teachings), and these Islamic ethics represent the principles of one's right and wrong (As Sahara & Setiawan, 2022).

In order to ensure the application of the spirit of Sharīʿah in terms of values and behaviour, in addition to legal rules, AAOIFI issued, through its Technical Board for Governance and Ethics, the Code of Ethics for Islamic Finance Professionals, which replaced the two previous ethics standards: The Code of Ethics for Accountants and External Auditors for Islamic Financial Institutions in 1999 and the Code of Ethics for Employees of Islamic Financial Institutions in 2001 (AAOIFI, 2019a). Furthermore, AAOIFI recently discussed in a public hearing a draft governance standard for the institutional framework for the application of ethics in order to institutionalise ethics (AAOIFI, 2023). This standard will provide guidance on how to create and implement an ethics programme within IFIs.

ʿAdl and Iḥsān Equation

The AAOIFI ethical model is like a compass that guides Islamic finance professionals (IFPs) towards a more just and equitable world. It is based on an equation that includes both *ʿadl* (justice) and *iḥsān* (benevolence). IFPs must achieve *ʿadl* in all work activities at all times, and failure is regarded as an injustice. To achieve and maintain *ʿadl* on a continuous basis, the professional must aim for and prioritise *iḥsān* in all matters as a first step. By following the *ʿadl* and *iḥsān* equation, depicted in **Figure 1**, IFPs can play a vital role in the global economy and contribute to the well-being of society (AAOIFI, 2019b).

Figure 1: The *ʿAdl* and *Iḥsān* Equation: A Framework for Ethical Islamic Finance

Having the right intention and the right mindset **+** Doing the right thing **+** Doing it in the right manner **+** Engaging with others positively **=** *ʿAdl* and *Iḥsān*

Source: AAOIFI (2019b, p. 13)

Ethical Virtues

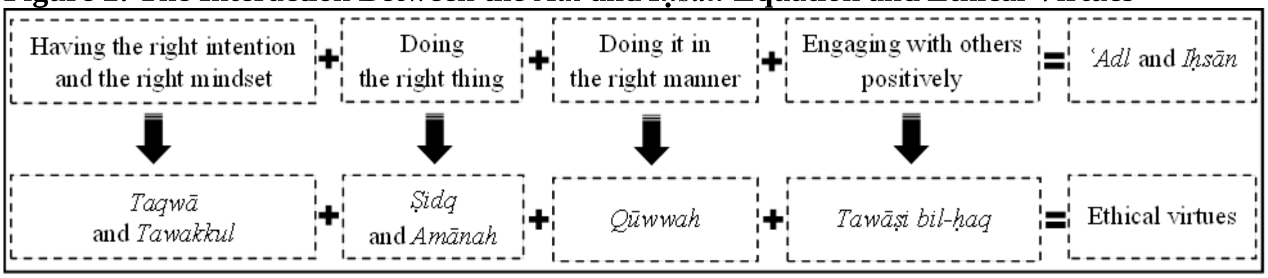
Ensuring that all four elements of the equation of justice and benevolence shown in **Figure 1** are upheld, IFPs are required to uphold the following six ethical virtues (AAOIFI, 2019b):

- *Taqwā*: (consciousness of God and His constant observation of human behaviour), a state of mind that leads to obedience. In case of deviation and disobedience, one must immediately repent.
- *Tawakkul* (trust in Allah (SWT)): to have faith in God's plan and be content with the outcome of one's efforts after taking all possible measures.
- *Ṣidq* (integrity): truthfulness and consistency in all aspects of our lives, including our beliefs, intentions, words and actions.
- *Amānah* (trust): respecting and fulfilling the duties, authorities and responsibilities associated with one's role, rank, position and status. This includes being trustworthy and taking good care of the resources entrusted to us.
- *Qūwwah* (strengths): to possess the skills and knowledge necessary to perform one's job to the best of one's ability.

- *Tawāṣi bil-ḥaq* (exhorting truth): encouraging others to do *maʿrūf* (righteous) and avoid *munkar* (evil) in a kind and compassionate manner.

These virtues are essential for IFPs, as they help them maintain high ethical standards in their work. They also help to promote justice and fairness in the Islamic finance industry. **Figure 2** shows the interaction between the *ʿadl* and *iḥsān* equation and ethical virtues. In order to be ethical, IFIs must not only comply with the principles of Sharīʿah, but must also strive to embody the ethical virtues in their dealings with customers and society as a whole.

Figure 2: The Interaction Between the *ʿAdl* and *Iḥsān* Equation and Ethical Virtues



Source: AAOIFI (2019b, p. 14)

The Reality of the Application of AAOIFI's Code of Ethics

Many countries and regulatory authorities worldwide adopt AAOIFI standards. AAOIFI receives support from over 55 regulatory authorities in 48 countries, and the levels of adoption vary from one country to another (AAOIFI, 2022b). However, the adoption of AAOIFI's Code of Ethics remains optional. There is a noticeable scarcity of studies that have examined the application of AAOIFI's ethical standards in IBs and IFIs. The AAOIFI Code of Ethics is completely missing in the instance of Algeria. There are various causes for this. Firstly, Islamic banking in Algeria is relatively new, having only been operating for three years. Additionally, there is a lack of infrastructure for implementing these standards, as well as no legal requirements obligating IBs and IFIs to adhere to them.

On an international level, there are a limited number of studies about this topic. Among the reasons for this absence is that AAOIFI does not require the adoption of its Code of Ethics. IBs and IFIs have the option to either adopt an internal code of ethics or adopt a government code of ethics issued by the regulatory authority or another external body. Ali and Majid (2022) in their study of the extent to which accountants and auditors of Cihan Bank in Iraq comply with the professional ethics charters issued by AAOIFI, stressed that the lack of obligation of the AAOIFI Ethics Charter might weaken the binding power of AAOIFI's Code of Ethics and could lead to neglect from relevant authorities. In the same regard, Sarea and Mohd Hanefah (2013) proposed that adoption of the standards issued by AAOIFI should be mandatory.

Among the positive effects of the application of AAOIFI's ethical standards is their role in evaluating the effectiveness of accountants and auditors' work and identifying negative aspects. This is achieved through a comparison of actual performance with what is required according to Sharīʿah principles (Ali & Majid, 2022). Furthermore, the adoption of AAOIFI's ethical standards provides guidelines for the elaboration of an ethical charter that suits the banking environment while providing solutions to contemporary problems (Ibnu Haitam *et al.*, 2021). Additionally, the findings of Elhalaby *et al.* (2023) indicate that IBs which adopt AAOIFI standards are less involved in earnings management.

The Importance of Ethical Standards in Islamic Finance

The spirit of Islamic banking is based on the Islamic ethical system; if neglected, IBs will become just like conventional banks. In their study on the ethical principles of financial institutions, Adebayo and Hassan (2013) emphasised the need for strict adherence to Islamic ethics by IFIs to maintain consumers' trust in them. Non-compliance with these ethics will lead to the bank's falling into a quagmire of unethical practices and, ultimately, to its collapse. This is evident in the collapse of the Islamic Bank of South Africa in 1997 and the Ihlas Finance House in Turkey in 2002, both of which were caused by unethical practices (Ali, 2007). It is a reminder that Islamic banking is not just about following a set of regulations; it is also about upholding a set of ethical values.

Ethical standards play a significant role in enhancing and activating the governance of banks and financial institutions, as confirmed by previous studies (Hakim & Mahmoud, 2015; Rabah, 2017; Kouzo & Falikhatun, 2023). These studies found a strong correlation between the commitment of IBs and financial institutions to ethical values and their positive financial performance, as ethical values build trust with stakeholders, which leads to more confident economic decision-making. Islamic ethics also help IBs achieve competitiveness and gain customer trust. This is because Islamic ethics impact overall customer satisfaction (Ibrahim & Kamri, 2017). In addition, Islamic ethics play a vital role in reducing creative accounting practices in IBs (Rabah, 2017) by instilling in accountants professional ethics derived from Sharīʿah rules and principles.

METHODOLOGY

This study is based on both descriptive and analytical methods. The descriptive method was used to present the study's variables, such as the ethical standards for Islamic financial transactions issued by AAOIFI as well as the regulatory framework for Islamic banking in Algeria. This was achieved through a review of previous literature that addressed AAOIFI's ethical charters and the current state of Islamic banking in Algeria. Subsequently, the analytical method was employed for in-depth analysis and discussion of fundamental concepts and legislative texts governing banking operations in Algeria and to provide recommendations as building blocks for a strong foundation based on the adoption of AAOIFI's standards.

It is worth mentioning that prior to conducting the study the authors confirmed that Algerian banks do not formally adhere to AAOIFI's ethical standards. They did so by contacting a sample of local banks as well as through the observed gap in the literature on this topic. Accordingly, the study focuses on examining the adoption of ethical standards within the Algerian Islamic banking system and not at the level of individual Islamic banks.

RESULTS AND DISCUSSION

The Algerian banking system includes a set of articles related to the ethical conduct of banks and financial institutions. The Act aims to ensure that banks and financial institutions operate with integrity and comply with codes of conduct. Banks and financial institutions are required to adhere to ethical principles, and managers must ensure that their institution's activities align with professional ethics. Specific penalties are imposed in case of violations of ethical rules. However, the Act has a shortcoming in that the regulatory framework for banking activities does not clearly define the set of ethical rules that must be complied with. The Act has also granted the Banking and Credit Committee powers to intervene in matters related to good conduct rules and professional ethics applied to banks and financial institutions, given its role as a regulatory authority. Similarly, the Banking Committee, as a supervisory body of Algeria's banking system, works to verify and penalise violations assigned to it, including ensuring compliance with the rules of professional conduct. However, it is important to note that the specificity of IBs has not been taken into account. There is no exclusive Sharīʿah-compliant regulatory authority for IBs and IFIs to assess the extent to which banking operations comply with the ethics and provisions of Sharīʿah. This raises the question of whether the supervisory authority of the Algerian banking system has the necessary expertise to supervise Islamic banking activities. The absence of a dedicated Islamic banking supervisory authority does not necessarily mean that Islamic banking activities are not being supervised effectively. On the other hand, it is crucial to guarantee that supervisors possess the knowledge and experience required to oversee Islamic banking operations in a manner compliant with Sharīʿah and industry standards.

The Algerian Monetary and Banking Act for the year 2023 does not take into consideration the specificities of IBs and IFIs, even though the Act makes reference to ethical considerations in banking operations. It does not address Islamic ethical standards and instead adheres to conventional ethics, which are applicable to all banks and financial institutions, regardless of their nature. Similarly, the banking system lacks a clear code of ethics that defines professional conduct rules and procedures. To date, no code of ethics has been issued to highlight the rights and obligations of IFPs.

Furthermore, the Algerian banking system has not addressed how to adopt the standards issued by AAOIFI. To date, there is no legal article or text that outlines how to adopt and implement these standards in IBs and financial institutions. Upon reviewing the Monetary and Banking Act and comparing it to AAOIFI standards, it is evident that these standards have not been fully or partially adopted by the Act. Rather, they have been allowed to be used and relied on as a set of guidelines or as reference material without any legal restrictions. It is worth noting that the Bank of Algeria has agreed with AAOIFI to develop a plan for the issuance of *ṣukūk*, which opens up opportunities for the adoption of AAOIFI standards, particularly concerning ethical aspects.

CONCLUSION

All stakeholders in the Islamic finance industry share the goal of enhancing its integrity through adherence to ethical requirements. However, despite the signing of a cooperation agreement between the Bank of Algeria and AAOIFI to adopt its issued standards, along with the issuance of the Algerian Monetary and Banking Act of 2023, which included several provisions promoting Islamic banking in Algeria, the said Act does not address or adopt the ethical standards for Islamic financial transactions issued by AAOIFI. The study has thus reached several key findings, among them:

- The absence of ethical standards for Islamic financial transactions in the Algerian banking system.
- The lack of clarity regarding the adoption of AAOIFI's ethical standards into Algerian banking laws, even in the Monetary and Banking Act of 2023.
- The Algerian banking system lacks a code of ethics for the profession.
- The absence of an exclusive Sharīʿah supervisory board for IBs and IFIs to ensure compliance with Islamic ethics and Sharīʿah rules.
- The Algerian regulatory authority is actively working on gradually updating laws that support Islamic banking.

The Algerian government could take a number of steps to address this gap, given that the laws governing Islamic banking are in their early stages. In parallel with Algeria's gradual efforts to develop them both legislatively and regulatively, there is a possibility of enacting new laws for banks and financial institutions. Overall, this study supports the idea that there is no objection to adopting the ethical standards of AAOIFI as an initial experiment and to implementing the following recommendations and proposals:

- The necessity of forming a committee of experts in the Islamic finance industry tasked with creating standards that suit the Algerian Islamic banking environment. This committee should operate independently and be under the supervision of the regulatory authority. This approach would open the door for qualified individuals to participate in developing the necessary plans and standards rather than relying solely on the judgements of the High Islamic Council.
- There is a need for the Bank of Algeria to issue a code of ethics that frames professional conduct rules in IBs and IFIs in accordance with Sharīʿah principles. The study suggests that this code should be issued by the central bank in a mandatory format.
- The agreement between the Bank of Algeria and AAOIFI should be activated by applying the standards issued by AAOIFI in IBs and IFIs. This can be achieved by issuing a supplementary regulation that obligates banks to consider the ethical aspects in their operations.
- A Sharīʿah supervisory board should be established to oversee IBs' and IFIs' compliance with Sharīʿah guidelines. This authority should be independent and have both pre- and post-regulatory authority under the central bank's supervision.

Overall, this study is a valuable contribution to the field of Islamic banking, but it is not without some limitations that can be addressed in future studies. Among the study's limitations is its focus on examining the Algerian banking system exclusively, without studying Islamic banking systems in other countries. Another limitation is that the study relies only on secondary data, without gathering primary data through interviews or surveys. Future studies could focus on the extent to which IBs adhere to Islamic ethical standards. They could also include qualitative methods, such as interviewing Islamic bankers about the institutional framework for the application of ethics. Overall, conducting a cross-country comparison and a qualitative study would be a valuable way for researchers to gain a deeper understanding of the adoption and application of Islamic ethics in IBs and IFIs.

REFERENCES

AAOIFI (2015), *Shari'ah Standards*, Accounting and Auditing Organization for Islamic Financial Institutions, Manama.

AAOIFI (2019a), 'AAOIFI issues the final standard on "code of ethics for Islamic finance professionals" for industry adoption', available at: https://aaoifi.com/announcement/aaoifi-issues-the-final-standard-on-code-of-ethics-for-islamic-finance-professionals-for-industry-adoption/?lang=en (accessed 17 September 2023).

AAOIFI (2019b), 'Code of ethics for Islamic finance professionals', available at: https://aaoifi.com/issued-standards-3/?lang=en (accessed 17 September 2023).

AAOIFI (2022a), 'AAOIFI and Bank of Algeria sign an MOU for joint collaboration as part of efforts to enhance Islamic finance industry in Algeria', available at: https://aaoifi.com/announcement/aaoifi-and-bank-of-algeria-sign-an-mou-for-joint-collaboration-as-part-of-efforts-to-enhance-islamic-finance-industry-in-algeria/?lang=en (accessed 17 September 2023).

AAOIFI (2022b), 'AAOIFI footprint report 2022', available at: https://aaoifi.com/aaoifi-footprint-2022/?lang=en (accessed 6 November 2023).

AAOIFI (2023), 'Public hearing on the exposure draft of the "IFSB-AAOIFI revised Shari'ah governance framework for institutions offering Islamic financial services"', available at: https://aaoifi.com/announcement/public-hearing-on-the-exposure-draft-of-the-ifsb-aaoifi-revised-shariah-governance-framework-for-institutions-offering-islamic-financial-services/?lang=en (accessed 17 September 2023).

Adebayo, R.I. & Hassan, M.K. (2013), 'Ethical principles of Islamic financial institutions', *Journal of Economic Cooperation and Development*, Vol. 34 No. 1, pp. 63–90.

Adem, B. & Hichem G.M. (2022), 'The effect of the 20-02 regulation on the Algerian Islamic banking sector: study on the role of the new regulation in achieving financial inclusion', *Dirassat Journal Economic Issue*, Vol. 13 No. 1, pp. 207–223.

Ali, M.A.A. & Majid, Y.M.A. (2022), 'The extent to which accountants and auditors in Islamic banks adhere to the codes of ethics issued by (AAOIFI) an analytical study', *Journal of Business Economics for Applied Research*, Vol. 3 No. 6, pp. 141–155

Ali, S. (2007), 'Financial distress and bank failure: relevance for Islamic banks', *Islamic Banking and Finance: Fundamentals and Contemporary Issues*, Islamic Development Bank, pp. 99–120.

Asma, R. & Khemissi, G. (2021), 'The reality of ethical finance in the active commercial banks in Algeria a case study of a sample of banking agencies in Bordj Bou Arreridj and Setif', *Finance and Business Economies Review*, Vol. 5 No. 4, pp. 103–122.

As Sahara, M. & Setiawan, D. (2022), 'The effect of ethical values on Islamic banking performance', *Corporate and Business Strategy Review*, Vol. 3 No. 2, pp. 34–42, https://doi.org/10.22495/cbsrv3i2art3

Elhalaby, S., Sarea, A., Alnesafi, A. & Al-Absy, M.S.M. (2023), 'The adoption of AAOIFI standards by Islamic banks: understanding the microeconomic consequences', *Economies*, Vol. 11 No. 2, pp. 1–22, https://doi.org/10.3390/economies11020039

Hakim, B. & Mahmoud, S.S. (2015), 'The role of accounting ethics standards issued by AAOIFI in supporting governance applications in Islamic financial institutions', *Journal of Economic and Financial Studies*, Vol. 8 No. 3, pp. 75–90.

Ibnu Haitam, R., Misnen, A. & Mohammad, S. (2021), 'Adoption of the AAOIFI international code of ethics for Indonesian Islamic accountants', *Jurnal Ekonomi dan Bisnis Islam*, Vol. 6 No. 2, pp. 259–274.

Ibrahim, A. & Kamri, N.A. (2017), 'The ethical practices of Islamic banking: an analysis from customer satisfaction perspective', *MIQOT: Jurnal Ilmu-ilmu Keislaman*, Vol. 41 No. 1, pp. 55–77, https://doi.org/10.30821/miqot.v41i1.331

IFSB (2022), 'Islamic financial services industry stability report', available at: https://www.ifsb.org/download.php?id=6571&lang=English (accessed 17 September 2023).

Kouzo, I. & Falikhatun (2023), 'The importance of compliance with accounting ethics standards issued by AAOIFI in activating the governance of Islamic banks: an analytical study', *Berkala Akuntansi dan Keuangan Indonesia*, Vol. 8 No. 1, pp. 1–21, https://doi.org/10.20473/baki.v8i1.41766

Laounia, B. (2020), 'Islamic windows experience in Algerian legislation', *Journal of Economics and Management*, Vol. 4 No. 2, pp. 1–19.

Mansour, W., Ben Jedidia, K. & Majdoub, J. (2015), 'How ethical is Islamic banking in the light of the objectives of Islamic law?', *Journal of Religious Ethics*, Vol. 43 No. 1, pp. 51–77, https://doi.org/10.1111/jore.12086

Miloud, B. (2020), 'Read in the provisions of regulation 20-02 of 15 March 2020, specifies the banking operations related to Islamic banking and its practice rules by banks and financial institutions and instruction 20-03 dated 20 april 2020 defines products related to Islamic banking, and defines the procedures and technical characteristics for their implementation by banks and financial institutions', *Algerian Business Law Journal*, Vol. 1 No. 1, pp. 84–93.

Monetary and Banking Act 2023, Laws of Algeria, Algiers, available at: https://www.joradp.dz/FTP/jo-francais/2023/F2023043.pdf (accessed 17 September 2023).

Rabah, B. (2017), 'The importance of applying the standards of accounting ethics issued by the accounting and auditing authority Islamic financial institutions in the application of Islamic bank governance', *Journal of Economic and Financial Studies*, Vol. 10 No. 1, pp. 132–145.

Regulation No. 18-02, Laws of Algeria, Algiers, available at: https://www.joradp.dz/FTP/jo-francais/2018/F2018073.pdf (accessed 17 September 2023).

Regulation No. 20-02, Laws of Algeria, Algiers, available at: https://www.joradp.dz/FTP/jo-francais/2020/F2020016.pdf (accessed 17 September 2023).

Sarea, A. & Mohd Hanefah, M. (2013), 'Adoption of AAOIFI accounting standards by Islamic banks of Bahrain', *Journal of Financial Reporting and Accounting*, Vol. 11 No. 2, pp. 131–142, https://doi.org/10.1108/JFRA-07-2012-0031

Selim, M. (2015), 'Effectiveness of sukuk as a tool of monetary policy', *Journal of Islamic Economics Banking and Finance*, Vol. 11 No. 3, pp. 47–60, https://doi.org/10.12816/0024440

Selim, M. & Hassan, M.K. (2019), 'Interest-free monetary policy and its impact on inflation and unemployment rates', *ISRA International Journal of Islamic Finance*, Vol. 11 No. 1, pp. 46–61, https://doi.org/10.1108/ijif-06-2018-0065

Tawfiq, K. & Assia, B. (2022), 'The reality of the settlement of Islamic banking in Algeria in the light of the 20-02 system and instruction 20-03', *Journal of Studies in Economics and Management*, Vol. 5 No. 1, pp. 68–90.

Yassamine, B. (2022), 'The reality of the Islamic banking industry in Algeria: Al Salam Bank case study 2017-2020', *Journal of Economic Integration*, Vol. 10 No. 1, pp. 229–240.

ABOUT THE AUTHORS

Boudjelida Abdelhak is a PhD candidate at University Mohamed El Bachir El Ibrahimi, Bordj Bou Arreridj, Algeria. His areas of interest are accounting, finance, Islamic banking and taxation. He is the corresponding author and can be contacted at: abdelhak.boudjelida_2@univ-bba.dz

Bouaita Abderrezzak, PhD, is a professor at the Department of Economics at University Mohamed El Bachir El Ibrahimi, Bordj Bou Arreridj, Algeria. He has up to 10 years of teaching and research experience. His areas of expertise are Islamic banking and finance, financial and monetary economics, and international financial markets.

DECLARATION

Credit Authorship Contribution Statement

- Boudjelida Abdelhak: Conceptualisation, Writing-original draft, Presentation of findings, Review and editing.
- Bouaita Abderrezzak: Supervision, Methodology, Review and editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

The authors would like to express their appreciation to AAOIFI for its continued commitment to establishing and enhancing Islamic finance industry standards.

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability

None

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix

None

BLOCKCHAIN USE CASE IN ISLAMIC SOCIAL FINANCE

Sherin Kunhibava
Law Faculty, Universiti Malaya, Kuala Lumpur, Malaysia
Aishath Muneeza
INCEIF University, Kuala Lumpur, Malaysia
Zakariya Mustapha
Law Faculty, Universiti Malaya, Kuala Lumpur, Malaysia
Maryam Khalid
Law Faculty, Universiti Malaya, Kuala Lumpur, Malaysia
Gopal Kiran
FinTech and Innovation Advisor, Qatar Central Bank, Qatar

Received
6 July 2023

Revised
14 November 2023
23 March 2024
25 March 2024
26 March 2024

Accepted
27 March 2024

ABSTRACT

Purpose — This research explains and reviews two innovative solutions based on blockchain that were used for Islamic social finance (ISF) projects by two separate companies, namely Finterra and Blossom Finance. Policy implications are suggested for the future use of blockchain in innovative financial products for the Islamic finance industry.

Design/Methodology/Approach — This is a qualitative research conducted through library research and semi-structured interviews with experts and founders of Finterra and Blossom Finance. Data obtained from published literature and the interviews were accordingly examined and interpreted through content analysis to present the results in this research.

Findings — There is rising interest in ISF for economic revival in the aftermath of the COVID-19 pandemic. Innovation through blockchain technology seems to be the future of ISF, hence the need for relevant stakeholders to understand the technology. However, there is a regulatory gap in terms of a proper legal framework to support blockchain-related innovations in ISF and a policy gap in the management of Sharīʿah and legal risks involved in ISF transactions.

Originality/Value — This research is original because it explains unique case studies from the source of innovation itself, analyses the hurdles that were present, and offers recommendations for future use of innovative technology in the Islamic financial sector.

Keywords — Blockchain technology, Blossom Finance, Finterra, Islamic social finance (ISF), Regulatory and policy issues

Article Classification — Research paper

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024 pp. 93–110

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.659

INTRODUCTION

Technological innovation has changed the way financial services and products are offered to customers in the financial sector. Such financial innovations, whether for profit or impact, as in the case of Islamic social finance (ISF), are largely powered by information or data that underlie the automation and security of transactions. Automation is to facilitate the transaction while security is to safeguard the recording and storage of transactional data, both of which are crucial to the production and delivery of financial services. Different innovations facilitated by financial technology (fintech) are emerging today and used as means for offering or conducting simplified, yet secure financial transactions, including Islamic social financing. The simplification and security transcend not only the transactions but their recording and the storage of relevant data. The advent of digital business models, increasing internet and mobile penetration, and a technologically literate generation accelerate the emergence of new technologies and such innovations in financial dealings. One of the emerging technologies that has been used in fintech and is considered a key technology breakthrough in recent history is blockchain technology (Chang *et al*., 2020). Blockchain technology offers a system for recording and keeping information in such a way that it is impossible or extremely difficult for the system to be hacked, changed or manipulated (Chang *et al*., 2020).

The unique features of blockchain include decentralisation and immutability of records, faster settlement and reduced counterparty risks, encryption and decryption for security purposes, and near impossibility of changing historical records. These features provide benefits for financial transactions (Techracers, 2018). Immutability renders records insusceptible to alteration while decentralisation allows the same record to be distributed in an unalterable state, which enables building and maintaining consumers' trust in the system. Decentralisation also means eliminating certain intermediaries in offering services, transforming the role of stakeholders in financial markets and speeding up the settlement process, to allow for greater trade accuracy and security and less personnel/transaction costs in business (Techracers, 2018). The use of blockchain is a novel undertaking that has enabled greater efficiency and transparency for investors in Islamic social and commercial finance alike.

ISF is an aspect of Islamic finance that is considered an alternative source of financing to boost economies by helping to develop social welfare (Haneef, 2020). During and after the COVID-19 crisis, when the focus has turned towards social finance to revive the economy, ISF has become more popular.

Literature on the use of blockchain technology in ISF discussing the practical case studies is limited; the literature on blockchain technology and ISF is mainly on the potential use of blockchain in Islamic banking and finance. For example, Dahdal *et al.* (2022) describe the role and potential of blockchain technology in Islamic finance; Mohamed & Faisal (2024) explore blockchain among other technologies to enable innovative banking; and Mbaidin *et al.* (2024) review the critical success factors of blockchain technology in UAE Islamic banks. Literature on ISF and blockchain is also limited. A literature search found several studies on the potential use of blockchain in the deliverance of zakat, and how better transparency and more efficient distribution could take place with blockchain (Ashurov, 2020; Mohd Nor *et al.*, 2021; Ajmal *et al.*, 2023). Muneeza *et al.* (2023) explored the need to pay zakat on digital assets. Mohaiyadin *et* *al.* (2022) explained the positive potential use of blockchain in the management of waqf. However, there is a gap in the literature in relation to real use cases of blockchain in the deliverance of ISF financial instruments, which is what this research aims to fill.

The objective of this research is to firstly examine the use of blockchain technology in providing ISF products. Secondly, this research seeks to identify possible issues in the use of blockchain and suggest recommendations on how to overcome these issues. This study focuses on two case studies where blockchain technology has been used to create and provide ISF investment products. The first case study is Finterra's Islamic redeemable preferential shares (Finterra, 2020) and the second is Blossom's smart *ṣukūk* (Blossom, 2020). As such, the research problem for this research revolves around the integration of blockchain technology in ISF products and the identification of associated challenges and solutions.

This paper is divided into six sections. Following the introduction, the second section reviews the literature on ISF, its different instruments/mechanisms, and blockchain technology based on relevant existing works. The third section discusses the methodology employed in conducting the research. The next sections then examine two use cases of blockchain technology in providing ISF, analyse the implications of issues identified from the use cases, and draw lessons for policymakers. The last section concludes the paper.

LITERATURE REVIEW

Islamic Social Finance

ISF is the offering of the benevolent contracts of zakat (almsgiving), waqf (Islamic endowment), *ṣadaqah* (charity), *qarḍ* (benevolent loans) and others for the social upliftment of a community (Haneef, 2020). Its main goal is to improve social justice through fair dealings and wealth redistribution (Shepard, 2021). ISF is based on the primary sources of Sharīʿah, notably the Qurʾān and Sunnah.

The overall objectives of the Sharīʿah (*maqāṣid al-Sharīʿah*) are to provide ease and relieve hardship (Shepard, 2021). The Sharīʿah emphasises the social responsibilities of humans, who are considered the *khalīfah* (steward) of Allah (SWT) in this world (A'la Mawdudi, 2013). ISF seeks to improve wealth distribution and ensure social justice, fairness and prevention of exploitative practices and harm to the society and the environment (Farooq, 2012).

The Islamic social contracts of zakat, waqf, *ṣadaqah* and *qarḍ* are briefly explained hereunder:

- Zakat is a philanthropic obligation of every Muslim that possesses a threshold of certain categories of wealth. Zakat is compulsory and is referred to in numerous places in the Qurʾān and Sunnah. It is fixed at 2.5 per cent of an eligible Muslim's net wealth that reaches the *niṣāb* (threshold), and it is paid annually. The categories of wealth that are subject to zakat include cash, livestock, farm produce, gold, silver and income generated from assets, among others.
- *Ṣadaqah* is voluntary charity and philanthropy beyond the payment of zakat (Khan, 2019). Prophet Muhammad (SAW) was reported to have stated that the donation of *ṣadaqah* is essential for every Muslim (Muslim, n.d., no. 1009).
- Waqf is a philanthropic endowment in perpetuity that is encouraged in the Quran (3:92, 2:177), urging Muslims to do good deeds and spend in the way of Allah (SWT). Further,

in *Sunan Abi Dawud* Book 18 Hadith 17, it is mentioned that the Prophet (SAW) encouraged Muslims to dedicate their wealth or property inalienably or in perpetuity and offer proceeds therefrom to charity (Qadhi, 2007). Waqf is a form of Islamic charitable instrument for social finance to support and promote the welfare of the society. It has been very effective in the development of public utilities (e.g., health and educational institutions) as charitable endeavours in many jurisdictions.

- *Qarḍ ḥasan* is a benevolent, voluntary and interest-free loan whose source can be found in the Quran (2:245). The creditor of benevolent loans do not seek any increase and in the event the debtor encounters any difficulty, the lender is required to extend the repayment time and can voluntarily waive the loan, or part of it, as charity (Quran, 2:280). The benevolent nature of *qarḍ ḥasan*, for example, facilitates financial help to deserving individuals and entities by not encumbering them with the burden of collateral or interest (Abdullah, 2015).

From the above contracts, further ISF instruments can be developed such as for the purpose of Islamic microfinance which caters for the provision of small finances to segments of the population who are usually unserved or underserved due to their economic standing (Obaidullah, 2008). ISF instruments will be used by not-for-profit Islamic microfinance which is aimed at poverty alleviation by giving out *qarḍ ḥasan*, collecting/allocating zakat, channeling *ṣadaqah* and returns from waqf (Obaidullah, 2008; Haneef *et al*., 2015; Haneef, 2020). An empirical research by Widiastuti *et al.* (2022) concluded that integrating ISF tools such as waqf and zakat in joint projects was 12 per cent more effective in enriching the poor.

Another example is Islamic social *takāful*. *Takāful* is an Islamic version of insurance where members pool money into a common fund to guarantee one another based on the Sharīʿah to cover life, health and general insurance needs. Generally, there are a number of models to establish *takāful* and pursue ISF ideals (Islamic Relief, 2019). A waqf model, for instance, compensates members for their loss using irredeemable donations that constitute an endowment fund (Cattelan, 2019; Rodríguez-Moreno, 2019). Meanwhile, in a commercial model, the common fund is established using members' voluntary contributions which an agency can manage for a fee charged from the fund. Alternatively, members can decide to invest/manage the fund by themselves, share profit therefrom or reinvest the same in the *takāful* fund (Masud, 2010; Umut & Akkurt, 2022). *Takāful* operates as a cooperative system of repayment or reimbursement in the event a calamity befalls any of the contributors, to whom compensation will be paid from the common fund. The members' contributions are regarded as *ṣadaqah* to the fund to help those in need of assistance. Where the fund records loss or incurs liability, these are spread among the members in accordance with their pre-agreed share of contribution (Archer *et al*., 2009; Bakar, 2011).

Blockchain Technology

Fundamentally a blockchain is a digital ledger. However, it is unique because the transactions it records are cryptographically signed, time-stamped and distributed in a decentralised fashion without a central repository and often without a central regulatory authority. Information in the blockchain is grouped into blocks, with each block representing a distinct transaction and each block recording a new transaction and being cryptographically linked to the previous one, after validation and after undergoing a consensus decision (Tapscott & Tapscott, 2017; Habashneh *et al*., 2024). The transactions are verified by peers, also known as nodes. The blockchain is distributed to each node and forms a shared ledger within a community of users, such that under the normal operation of the blockchain network, no transaction can be changed once completed and published since each node would have a complete copy of the transactions and thus any changes made by individual nodes would be rejected as they are not agreed upon (Yaga *et al*., 2019). As new transactions are performed, more blocks are added, and older blocks become more difficult to modify, thus ensuring immutability, and since each block is still in the ledger this aids auditability and transparency (Chishti & Puschmann, 2018; Zetzsche *et al*., 2020). Blockchain can be private (permissioned) or public (permissionless)—the basic distinction being who is allowed to participate in the network, execute the consensus protocol, maintain the shared ledger, and have access to read and write data on the ledger. In other words, public blockchain is decentralised while private blockchain works based on access controls which restrict participants in the network (Praveen, 2017; Helliar *et al*., 2020).

The Use of Blockchain Technology in Islamic Social Finance

Numerous studies have explored the application of blockchain technology in various domains, including entrepreneurship facilitation (Ahluwalia *et al.*, 2020; Bogusz *et al.*, 2020) and broader perspectives on its usage within Islamic finance (Elasrag, 2019; Rabbani *et al*., 2020). However, there is limited research specifically focused on the utilisation of blockchain technology in ISF, particularly through case studies. Nonetheless, some studies have examined the potential application of blockchain technology to specific types of ISF instruments or products.

For instance, Mohd Nor *et al.* (2021) explored the potential of blockchain technology in zakat management, addressing multifaceted challenges such as trust, transparency, and governance. These challenges hinder the effective collection and distribution of zakat funds, impacting their socioeconomic objectives. However, blockchain technology presents a promising solution by revolutionising zakat operations, enabling a more professional, systematic, and transparent approach to collection and distribution. Through blockchain's inherent features such as transparency, immutability and decentralisation, zakat transactions can be executed with heightened integrity and accountability, mitigating the risk of fraud and corruption.

Furthermore, Mohd Nor *et al.* (2021) highlighted the importance of fostering trust in zakat institutions to encourage greater community participation. Blockchain's potential to enhance trust through its transparent and tamper-proof ledger system is particularly significant. By providing an auditable record of zakat transactions, blockchain instils trust among stakeholders and regulatory authorities, fostering a culture of transparency and accountability within the zakat ecosystem.

Additionally, Mohd Nor *et al.* (2021) introduced the Technology Acceptance Model (TAM) as a theoretical framework for understanding users' behaviour and intention towards adopting new technology. TAM offers valuable insights into the factors influencing stakeholders' acceptance and utilisation of blockchain-based solutions in zakat management, focusing on perceived usefulness, ease of use, and user behaviour.

Another study by Salleh *et al.* (2022) discusses the stages of technology adoption and the basics of blockchain technology in the context of zakat transactions. They emphasise the significance of technology adoption models, such as the Unified Theory of Acceptance and Use of Technology (UTAUT), in understanding users' attitudes towards new technologies. The review underscores the transformative potential of blockchain technology in revolutionising zakat management practices, particularly through the implementation of digital wallets.

Moving beyond zakat, Zulaikha and Rusmita (2018) propose a model for waqf management using blockchain technology, termed Waqf Blockchain. Their framework facilitates the raising and management of cash waqf, emphasising the connectivity and transparency enabled by blockchain technology in waqf transactions.

Similarly, Mutmainah *et al.* (2021) explore the integration of blockchain technology in waqf management in Indonesia. They discuss initiatives such as the Waqf Blockchain Initiative by the United Nations Development Program (UNDP) Indonesia and platforms such as Finterra's Waqf Chain, which aims to enhance transparency and credibility in waqf distribution through blockchain technology.

Finally, Kunhibava *et al.* (2021) examine the use of blockchain technology in *ṣukūk* issued for social purposes, focusing on the SmartSukuk introduced by Blossom Finance. They highlight the challenges facing blockchain *ṣukūk* across legal, regulatory, Sharīʿah and blockchain-related dimensions, emphasising the potential of blockchain technology to streamline fund mobilisation and distribution while reducing the need for intermediaries.

In summary, these studies collectively demonstrate the potential of blockchain technology to revolutionise ISF by enhancing transparency, accountability, and efficiency in the management of zakat, waqf and *ṣukūk* instruments. They underscore the importance of further research and collaboration among stakeholders to address challenges and maximise the benefits of blockchain technology in ISF.

METHODOLOGY

The qualitative methodology adopted in this study is aimed at comprehensively exploring the integration of blockchain technology within the domain of ISF. By employing qualitative methods, the research seeks to delve into the intricate aspects of blockchain's application in this context, allowing for a nuanced understanding of its implications (Stone, 2020). Qualitative methods offer the flexibility to explore underlying motives, perspectives and experiences of stakeholders, which is essential in understanding the complexities of blockchain technology in Islamic finance (Stone, 2020).

In this study, two primary data collection methods are employed: content analysis and expert interviews. Content analysis allows for the systematic examination of textual data sourced from academic literature, reports and online resources, facilitating the identification of pertinent themes and trends (Stone, 2020). Additionally, semi-structured interviews are conducted with key representatives from Finterra and Blossom Finance to gather insights into the practical implementation of blockchain solutions and the challenges encountered (Cownie & Bradney, 2013; Mayer, 2015; Kleinheksel *et al.*, 2020).

The selection of interview respondents from Finterra and Blossom Finance is grounded in their expertise and relevance to the research objectives. Finterra, a company specialising in both conventional and Islamic financial technologies, offers valuable insights into blockchain application in fintech, with interviews conducted with the Founder and Chief Technical Architect (Cownie & Bradney, 2013; Mayer, 2015; Kleinheksel *et al.*, 2020). Similarly, interviews with Blossom Finance's Founder and CEO provide firsthand perspectives on the issuance of blockchain *ṣukūk* and associated challenges.

Data obtained from the content analysis and expert interviews are subjected to rigorous interpretation and analysis. Thematic analysis is employed to identify recurring themes, concepts, and insights emerging from the data. This iterative process of coding, categorisation, and synthesis facilitates the derivation of meaningful interpretations and actionable insights (Burnard, 1995; Kyngas, 2020).

Conducting semi-structured interviews with selected respondents enables researchers to gain real-world insights into the practical implementation of blockchain technology in ISF. These insights, coupled with findings from the content analysis, contribute to the development of practical recommendations and policy implications for stakeholders in the field.

The adoption of a qualitative methodology, comprising content analysis and expert interviews, provides a robust framework for investigating the utilisation of blockchain technology in ISF. Through this approach, the study aims to contribute to the advancement of knowledge in this emerging field, offering valuable insights and practical recommendations for stakeholders.

BLOCKCHAIN USE IN ISLAMIC FINANCE

Based on the interview data and literature, two ISF projects that used blockchain in their project structure are explained below.

Case Study 1: Finterra

Finterra developed a technology that could help raise capital as well as provide waqf management. Finterra built a blockchain called Galactic Network (galactic.io), the first version of which was launched in February 2019 at Bank Negara Malaysia.

Within this blockchain, Finterra developed two branches. One branch was the charitable waqf where there is no return on investment (ROI). The other branch was for the investment part of the system that had ROI, where waqf-linked instruments could also be launched.

One of the products that Finterra structured in this blockchain is the waqf-linked *mushārakah* Islamic Redeemable Preferential Shares structure, known as the Finterra Global Plantations project. According to Finterra, waqf-linked investments ensure sustainability and address socioeconomic gaps in the society. The project is a joint venture between Finterra, a plantation listed company, AmBank Islamic, and Gain Green (a local plantation management company) and was launched in October 2020. It is a timber afforestation project where approximately 1,000 acres of land in Anak Kulim, Kedah, have been cleared and afforested with timber plantation. In this project, Finterra contributes capital and technology; the plantation company contributes land through lease; Gain Green contributes its skills in the maintenance and harvesting of the plantation; and AmBank Islamic, being licensed for funds collection and deployment, contributes in the provision of financial services. The Sharīʿah agency which approved the Sharīʿah structure was Salihin Shariah Advisory Shd Bhd.

Investors who invest with the intention of investment and return also get the added benefit of indirectly contributing to waqf, since upon harvest of the timber, 5 per cent of the profit is deployed for waqf. This is structured as a smart contract on the blockchain. The smart contract is one layer of technology that runs on top of a blockchain, which entails a computer code with a set of rules under which parties thereto agree to interact with each other. The agreement is automatically enforced once the predefined rules are met. The code running the smart contract can facilitate, verify and enforce negotiation as well as the performance of a transaction (Khan *et al.*, 2021). Investors can register themselves via a mobile application or online, where they are subject to electronic know-your-customer and anti-money laundering (KYC/AML) processes. The investor gets an account, where they select what investment package they want. The investment itself is not for retail investors but for accredited investors, where investment starts from MYR100,000 onwards. Investors have to telegraphic transfer (TT) the investment amount from their account into the trustee account (AmBank Islamic).

Once the funds are transferred, the system issues their *mushārakah* certificate through smart contracts, which will indicate the number of shares that the investors are holding and the schedule of dividend payment on a quarterly basis for 40 months (maturity is on the 41st month). At the relevant time, the system automatically pays out investors' quarterly dividends directly into their respective bank accounts.

The product is offered to investors at an average 12 per cent return per annum, with a tenure of 40 months. On the 41st month, investors' capital is returned to them, through AmBank Islamic, the trustee. The total contract is for 2,500 acres per year for four years, totalling to 10,000 acres. Total project size is approximately USD25 million. Contribution to the waqf fund itself is for social causes (Ghaouri, 2021). Investors can follow the development of the project from their phones through the mobile app. Finterra uses blockchain to solve three problems:

1. Trust is moved from an entity run by humans to an entity run by computer codes, thus transactions can be entered into without fear of deception.
2. The smart contract on which the terms of the contract are coded is written on the blockchain whereby the occurrence of some triggering event will cause the system to settle things automatically.
3. At any given point of time, one can verify the status of the transaction by viewing the blockchain, thus making it auditable and transparent. Once the transaction is written onto the blockchain there is no way that it can be hacked or changed by human intervention, as the blockchain is immutable.

When asked about the challenges faced in introducing this product, Mr. Hamid Rashid of Finterra mentioned that the legal environment was challenging. The regulators, notably Bank Negara Malaysia and Securities Commission Malaysia, at the time of introducing the product in 2017 and 2018, were still new to blockchain technology and had trouble understanding the product especially when combined with ISF. Thus, to avoid lengthy approval processes, Finterra structured its product according to the legal framework available at that time in Malaysia. Finterra structured its product as a redeemable share under regulations of the Companies Commission Malaysia (Rashid & Charan, personal communication, 21 July 2021). Hamid Rashid further added that regulators globally are generally behind industry innovation, and often regulators need to catch up with industry innovative structures.

Finterra also had challenges when it came to the religious councils. As Islamic social products involve waqf, *ṣadaqah* and zakat, the religious councils had to be involved, and at that time they had very little knowledge of blockchain and smart contracts. Overall, the religious councils then did not see the value of blockchain and were reluctant to adopt blockchain for their projects on waqf, *ṣadaqah* and zakat (Rashid & Charan, personal communication, 21 July 2021).

Case Study 2: Blossom Finance

Blockchain-based *ṣukūk*, or smart *ṣukūk*, is the digitisation of *ṣukūk* issuance with the use of blockchain. In other words, *ṣukūk* is deployed using blockchain technology. This smart *ṣukūk* based on blockchain was developed by Matthew Joseph Martin, founder and CEO of Blossom Finance. Smart *ṣukūk* are Sharīʿah compliant and must be asset-backed (Kunhibava *et al.*, 2020, p. 123). The blockchain records the transaction between the issuer and investors, and smart contracts will be coded on the blockchain with the rules of the *ṣukūk*, where subsequently tokens are issued to investors in digital form as *ṣukūk* certificates (Kunhibava *et al.*, 2020). Settlement, trading, and post-issuance payments of profit to the investors will be completed by the smart contracts. Besides offsetting issuance costs and speeding up the processes, this automation offers accuracy and auditability (Kunhibava *et al.*, 2021).

Blossom Finance launched a smart *ṣukūk* deployed on blockchain using the *muḍārabah* contract which supported microfinance institutions in central Java, Indonesia. By partnering with a local venture capital firm, PBMT Ventura, proceeds from the first tranche of the profit-sharing *ṣukūk* were channelled into 80 microfinance institutions from PBMT Ventura's network. This enabled these microfinance institutions to fund micro-businesses or social enterprises with the goal of poverty reduction in the region. With an annual net return of about 6 per cent, the first tranche was a six-month facility of up to USD5 million (Mathew J. Martin, personal communication, 16 July 2020).

As for legal compliance, Blossom Finance took a route similar to Finterra. Instead of developing an innovative product and then presenting it to the regulators, they reviewed the existing regulations and laws in Indonesia and developed the smart *ṣukūk* around those laws to make it compliant and thus acceptable. At the time, Indonesia had laws on digital signature, and this was crucial for the establishment and running of the smart *ṣukūk*. Blossom Finance had several dialogues with the regulatory authorities in Indonesia, including the Financial Services Authority (e.g., *Otoritas Jasa Keuangan* (OJK), Shariah Capital Markets Group, the Central Bank, and the Ministry of Finance among others). This is how Mathew Martin explained their approach:

> …let's create a new model and go to the regulator and get their approval. No. What we did instead is we said, let's look at the existing regulations. How can we create a product or an instrument that works within the existing framework of law, that will be enforceable in a court of law, etc. And we work to build an operational model and a framework that worked without anything special needing to happen. And so that was our focus. So that took some time (Blossom Finance, 2020; Mathew J. Martin, personal communication, 16 July 2020).

This approach by Blossom Finance (and Finterra) indicates that the existence of an appropriate legal framework is necessary to enable innovation in the financial markets. This will be further explored below.

Implications of Identified Issues and Lessons for Policymakers

The foregoing discussion underscores the undeniable interconnection between the future of ISF and technological advancements, with blockchain technology emerging as a pivotal component. Consequently, policymakers are urged to take proactive measures to enact regulations that facilitate the integration of blockchain technology within ISF frameworks while concurrently addressing associated risks. Specifically, attention must be directed towards establishing governance standards tailored to mitigate Sharīʿah risks inherent in technological applications. Paramount among these considerations is the formulation of robust rules pertaining to data privacy, reflecting the evolving landscape of digital finance.

Moreover, recognising that the convergence of blockchain technology and ISF represents a nascent field, fostering collaboration between regulatory bodies and industry innovators is imperative. By incentivising innovation through mechanisms such as regulatory sandboxes, policymakers can cultivate an environment conducive to the development of novel products and services. Such collaborative efforts are essential for navigating the complexities of this evolving landscape and ensuring that regulatory frameworks remain agile and responsive to emerging technological paradigms.

Furthermore, policymakers are encouraged to collaborate with stakeholders to develop a comprehensive legal framework that aligns with the principles of Islamic finance. In this endeavour, standard-setting bodies such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) play a crucial role in delineating Sharīʿah-compliant parameters for the utilisation of blockchain technology. By establishing guidelines endorsed by the global Islamic finance community, policymakers can provide clarity and confidence to market participants, fostering innovation while safeguarding adherence to Islamic principles.

Moving on to the specific implications derived from the case studies, a deeper examination reveals actionable insights for policymakers navigating the integration of blockchain technology within ISF. In the case of Finterra's waqf-linked *mushārakah* Islamic Redeemable Preferential Shares structure, policymakers must acknowledge ISF concepts and establish legal parameters for their utilisation. Enacting regulatory rules and continuous disclosure requirements for perpetually developed products is essential, as is defining duty of care standards and appointing independent oversight for project management. Emphasis on customer KYC, data security, and protection against cyber threats is crucial, alongside the implementation of robust business continuity processes to mitigate operational and technological failures.

Similarly, in the context of Blossom Finance's blockchain-based *ṣukūk*, policymakers must enact guidelines for creating blockchain-based *ṣukūk* platforms. Facilitating laws for electronic KYC requirements and data privacy and protection is paramount, as is establishing legal acceptance of non-fiat currencies for blockchain platforms. Developing mechanisms for resolving and reporting technology, legal, and Sharīʿah-compliance risks is essential, along with regulating *ṣukūk* issuance, distribution, and trading to protect investors. Finally, ensuring smart contracts are capable and thoroughly tested for compliance is imperative for the sustainable development of blockchain platforms within ISF. **Table 1** summarises the main lessons that could be learnt by policymakers from the two case studies discussed in this paper.

The regulatory implications for these specific innovations can be derived across multiple dimensions like data protection, product category, information security, technology risk management, legal implications, etc.

Table 1: Lessons for Policymakers from the Case Studies on Blockchain Use in ISF

Case	**Product**	**Policy implications**
Finterra	Waqf-linked *mushārakah* Islamic Redeemable Preferential Shares structure	• It is imperative for policymakers to acknowledge ISF concepts such as *waqf* and set the legal parameters that should be adopted when using them. • Since the products may be developed for perpetuity, policymakers need to enact the regulatory rules and the continuous disclosure requirements that should be adopted by the product issuer. • The duty of care and the standard of care that need to be adopted in managing the projects need to be set and an independent party needs to be appointed to oversee the operations and manage the default risk. In this regard, it would be prudent to develop a governance code that should be followed in managing the project. • Since the solution is derived by leveraging emerging technologies, strong emphasis should be given on how customer KYC is to be completed and how data security, customer information protection, and protection from cyber threats, etc., are to be considered. • Applications built on blockchain may be vulnerable to operational and technological failures, so it is encouraged to have a strong business continuity process with fallback options.

Table 1: Lessons for Policymakers from the Case Studies on Blockchain Use in ISF (Cont.)

Case	**Product**	**Policy implications**
Blossom Finance	Blockchain-based *ṣukūk*	● It is imperative for policymakers to enact guidelines to create blockchain-based *ṣukūk* platforms. ● Facilitating laws such as electronic KYC requirements, data privacy and data protection are also required to be set up to facilitate the issuance of such *ṣukūk*. ● If the blockchain platform intends to use currencies other than fiat money (e.g., cryptocurrencies), then legal acceptance of such currencies and currency exchanges are required to be set up to facilitate the beneficiaries. Ideally, all the activities involved in the value-chain of this transaction need to strongly adhere to the regulatory guidelines; for example, in regard to *ṣukūk* issuance, distribution, trading of digital *ṣukūk*, etc. ● To sustainably develop the blockchain platforms, policymakers need to set up ways to resolve and report risks detected in using the platform, including the technology, legal and Sharīʿah compliance risks. ● Whether a *ṣukūk* is issued for social or commercial purposes, with or without technology, it has to be regulated by the securities market regulator to ensure that investors are protected. ● Applications built on blockchain may be vulnerable to operational and technological failures, so it is encouraged to have a strong business continuity plan with fallback options. ● Smart contracts created should have the capability to handle multiple scenarios and be tested thoroughly to adhere to the business, compliance and legal arrangements.

Source: Authors' own

CONCLUSION

In summary, ISF tools of zakat, waqf, *qarḍ hasan* and *ṣadaqah* provide assistance to those segments of society who are underprivileged. These ISF tools can be used in combination with Islamic finance contracts to create more instruments for ISF, such as social *takāful* and Islamic microfinance. Lately, fintech companies such as Finterra and Blossom Finance have used technology, such as blockchain, to deliver ISF solutions to those in need. Blockchain is a digital ledger that is decentralised, distributed and creates a trusted historical account of the previous transactions which are time-stamped, tamper proof, auditable and transparent.

Two case studies, notably waqf-linked *mushārakah* Islamic Redeemable Preferential Shares by Finterra and blockchain-based *ṣukūk* (smart *ṣukūk*), were reviewed in this research. Both investment products use blockchain in the deliverance of the two ISF finance products.

From the two case studies reviewed in this study, it is evident that it is practical to merge ISF with blockchain technology. While innovation in this field is inevitable, the challenge is whether all stakeholders are ready for the pace of innovation. Both regulators and religious authorities have to be open to the use of technology such as blockchain for delivering ISF transactions.

Based on the findings, there has to be a proper legal framework to support blockchain-related innovations in ISF. Managing Sharīʿah and legal risks involved in such transactions needs to be addressed at a policy level. If not, it might be impossible to enjoy the full potential of linking blockchain technology with ISF. When regulatory uncertainty and acceptance, interoperability with various blockchains, legal and compliance aspects, and ability to scale, among other issues, are sorted out, the adoption of blockchain for more Islamic social use cases can see exponential growth while reducing the potential associated risks.

Further research is recommended on the details of the legal framework, Sharīʿah governance, and policy documents to facilitate adoption of technology for ISF.

It is anticipated that the findings of this research will assist policymakers and stakeholders of ISF to realise the pace at which blockchain technology is adopted in ISF and the importance of being prepared to welcome such innovations without jeopardising its future growth and creating a favourable environment to sustainably develop it.

REFERENCES

Abdullah, M. (2015), ‘Analysing the moral aspect of qard: a Shariah perspective’, *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 9 No. 2, pp. 171–184.

Ahluwalia, S., Mahto, R.V. & Guerrero, M. (2020), ‘Blockchain technology and startup financing: a transaction cost economics perspective’, *Technological Forecasting and Social Change*, Vol. 151, https://doi.org/10.1016/j.techfore.2019.119854

Ajmal, S., Muzammil, M.B., Shoaib, M. & Mehmood, M.H. (2023), ‘Empowering donors: how blockchain technology can help ensure their contributions reach the right recipients’, paper presented at the 2nd International Conference on Business Analytics for Technology and Security, 8 March, ICBATS Dubai.

A’la Mawdudi, S.A. (2013), *First Principles of Islamic Economics*, Kube Publishing Ltd., Markfield, England.

Archer, S., Abdel Karim, R.A. & Nienhaus, V. (2009), *Takaful Islamic Insurance: Concepts and Regulatory Issues*, John Wiley & Sons, New Jersey, NJ.

Ashurov, S., Alhabshi, S.M.b.S.J., Abdullah Othman, A.H., Habibullah, M., Muhamad Yusof M.S. (2020), ‘Developing a conceptual framework for zakat collection and distribution impact on social welfare through implications of SDGs’, in Sarea, A. (Ed.), *Impact of Zakat*

on Sustainable Economic Development, IGI Global, pp. 120–138.
Bakar, M.D. (2011), 'Shariah principles governing takaful models', in Archer, S., Karim, R.A. A. & Nienhaus, V. (Eds), *Takaful Islamic Insurance: Concepts and Regulatory Issues*, John Wiley & Sons, pp. 31–42.
Blossom (2020), 'Blockchain microfinance sukuk wins 2 awards, yields 15.5% despite Covid-19 stress', available at: https://blossomfinance.com/posts/blockchain-microfinance-sukuk-wins-2-awards-yields-15-5-despite-covid-19-stress (accessed 13 May 2022).
Bogusz, C.I., Laurell, C., Sandström, C. & Sandström, C. (2020), 'Tracking the digital evolution of entrepreneurial finance: the interplay between crowdfunding, blockchain technologies, cryptocurrencies, and initial coin offerings', *IEEE Transactions on Engineering Management*, Vol. 67 No. 4, pp. 1099–1108.
Burnard, P. (1995), 'Interpreting text: an alternative to some current forms of textual analysis in qualitative research', *Social Sciences in Health*, Vol. 1, pp. 236–245.
Cattelan, V. (2019), *Islamic Social Finance: Entrepreneurship, Cooperation and the Sharing Economy*, Routledge, United Kingdom.
Chang, V., Baudier, P., Hui, Z., Qian, W.X., Jingqi, Z. & Arami, M. (2020), 'How blockchain can impact financial services: the overview, challenges and recommendations from expert interviewees', *Technological Forecasting and Social Change*, Vol. 158, pp. 1–12, https://doi.org/10.1016/j.techfore.2020.120166
Chishti, S. & Puschmann, T. (2018), *The Wealthtech Book: The FinTech Handbook for Investors, Entrepreneurs and Finance Visionaries*, John Wiley & Sons Ltd., New Jersey, NJ.
Cownie, F. & Bradney, A. (2013), 'Socio-legal studies: a challenge to the doctrinal approach', in Watkins, D. & Burton, M. (Eds.), *Research Methods in Law*, Routledge, New Jersey, pp. 34–54.
Dahdal, A., Truby, J. & Ismailov, O. (2022), 'The role and potential of blockchain technology in Islamic finance', *European Business Law Review*, Vol. 33 No. 2, pp. 175–192.
Elasrag, H. (2019), 'Blockchains for Islamic finance: obstacles & challenges', Munich Personal RePEc Archive.
Farooq, M.O. (2012), 'Exploitation, profit and the riba interest reductionism', *International Journal of Islamic and Middle Eastern Finance and Management,* Vol. 5 No. 44, pp. 292–320.
Finterra (2020), 'Finterra global plantation', available at: https://finterraventures.com/ (accessed 13 May 2022).
Ghaouri, M.H., (2021), 'Finterra global plantation: a leading model in waqf investment', available at: https://finconnect.news/2021/03/29/finterra-global-plantation-a-leading-model-in-waqf-investment/ (accessed 18 March 2022).
Habashneh, A., Assayed, A. & AlMajali, A. (2024), 'Using blockchain for agro-food traceability: a case study from olive oil industry', *Environmental Footprints and Eco-Design of Products and Processes*, Part F1487, pp. 35–45, available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85175179377&doi=10.1007%2f978-981-99-4819-2_3&partnerID=40&md5=13bce3fa7642e3869349c694803f8a9a (accessed 12 November 2023).

Haneef, M.A. (2020), 'Bringing Islamic finance home through the circular economy-social finance (CESF) discourse', in Sarac & Hassan (Eds.), *Islamic Perspective for Sustainable Financial System*, Istanbul, Istanbul University Press, pp. 137–156.

Haneef, M.A., Pramanik, A.H., Mohammed, M.O., Bin Amin, M.F. & Muhammad, A.D. (2015), 'Integration of waqf-Islamic microfinance model for poverty reduction: the case of Bangladesh', *International Journal of Islamic and Middle Eastern Finance and Management,* Vol. 8 No. 2, pp. 246–270.

Helliar, C.V., Crawford L., Rocca L., Teodori C. & Veneziani M. (2020), 'Permissionless and permissioned blockchain diffusion,' *International Journal of Information Management,* Vol. 54 No. 102, pp. 136–137.

Islamic Relief (2019), 'Takaful (co-operative insurance)', available at: https://www.islamic-relief.org/category/strategic-business-units/islamic-social-finance-strategic-business-units/takaful-cooperative-insurance/ (accessed 14 March 2022).

Khan, M.F. (2019), 'Monetary economics and macroeconomic model for an Islamic economy', in Zulkhibri, M., Manap, T., Abdul, A. & Muneeza, A. (Eds.), *Islamic Monetary Economics and Institutions Theory and Practice,* Springer, Cham, pp. 11–37.

Khan, S.N., Loukil, F., Ghedira-Guegan, C., Benkhelifa, E. & Bani-Hani, A. (2021), 'Blockchain smart contracts: applications, challenges, and future trends', *Peer-to-Peer Networking and Application*, Vol. 14 No. 5, pp. 2901–2925.

Kleinheksel, A.J., Rockich-Winston, N., Tawfik, H. & Wyatt, T.R. (2020), 'Demystifying content analysis', *American Journal of Pharmaceutical Education*, Vol. 84 No. 1, pp. 127–137.

Kunhibava, S., Muneeza, A., Sa'ad, A., Karim, M.E., Mustapha, Z. (2021), 'Blockchain sukuk report 2021', available at: https://www.academia.edu/53577324/Blockchain_Sukuk_Report_2021 (accessed 15 March 2022).

Kunhibava, S., Mustapha, Z., Muneeza, A., Sa'ad, A.A. & Karim, M.E. (2020), '*Ṣukūk* on blockchain: a legal, regulatory and Sharīʿah review', *ISRA International Journal of Islamic Finance,* Vol. 13 No. 1, pp. 118–135.

Kyngas, H. (2020), 'Qualitative research and content analysis', in Kyngas, H., Mikkonen, K. & Kaariainen, M. (Eds.), *The Application of Content Analysis in Nursing Science Research*, Springer, Cham, pp. 3–11.

Masud, H. (2010), 'Takaful: an innovative approach to insurance and Islamic finance', *University of Pennsylvania Journal of International Law*, Vol. 32 No. 4, pp. 1133–1164.

Mayer, I. (2015), 'Qualitative research with a focus on qualitative data analysis', *International Journal of Sales, Retailing and Marketing,* Vol. 4 No. 9, pp. 53–67.

Mbaidin, H.O., Alomari, K.M., Almubydeen, I.O., Sbaee, N.Q. (2024), 'The critical success factors (CSF) of blockchain technology effecting excel performance of banking sector: case of UAE Islamic banks', *International Journal of Data and Network Science*, Vol. 8 No. 1, pp. 289–306.

Mohaiyadin, N.M.H., Aman, A., Palil, M.R., Said, S.M. (2022), 'Addressing accountability and transparency challenges in waqf management using blockchain technology', *Journal of Islamic Monetary Economics and Finance*, Vol. 8, pp. 53–80.

Mohamed, A. & Faisal, R. (2024), 'Exploring metaverse-enabled innovation in banking: leveraging NFTS, blockchain, and smart contracts for transformative business opportunities', *International Journal of Data and Network Science*, Vol. 8 No. 1, pp. 35–44.

Mohd Nor, S., Abdul-Majid, M. & Esrati, S.N. (2021), 'The role of blockchain technology in enhancing Islamic social finance: the case of zakah management in Malaysia', *Foresight*, Vol. 23 No. 5, pp. 509–527.

Muneeza, A., Bin-Nashwan, S.A., Abdel Moshin, M.I., Mohamed, I. & Al-Saadi, A. (2023), 'Zakat payment from cryptocurrencies and crypto assets', *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 16 No. 3, pp. 482–497.

Muslim, Ḥ. (n.d.), *Ṣaḥīh Muslim*, ʿAbd al-Bāqī, M.F. (Ed.), Dār Iḥyāʾ al-Turāth al-ʿArabī, Beirut.

Mutmainah, L., Nurwahidin & Huda, N. (2021), 'Waqf blockchain in Indonesia: at a glance', *Jurnal Wakaf dan Ekonomi Islam*, Vol. 14 No. 1, pp. 31–49.

Obaidullah, M. (2008), 'Introduction to Islamic microfinance', *IBF Net Limited*, available at: https://ssrn.com/abstract=1506072 (accessed 15 March 2022).

Praveen, J. (2017), 'Blockchain explained: the difference between public and private blockchain', available at: https://www.ibm.com/blogs/blockchain/2017/05/the-difference-between-public-and-private-blockchain/ (accessed 17 March 2022).

Rabbani, M.R., Khan, S. & Thalassinos, E.I. (2020), 'Fintech, blockchain and Islamic finance: an extensive literature review', *International Journal of Economics and Business Administration*, No. 2, pp. 65–86.

Rodríguez-Moreno, R. (2019), 'Waqf based takaful model: a challenge for entrepreneurship', in Cattelan, V. (Ed.), *Islamic Social Finance: Entrepreneurship, Cooperation and the Sharing Economy*, Routledge, United Kingdom, pp. 183–196.

Salleh, W.N.A.W.M., Rasid, S.Z.A. & Basiruddin, R. (2022), 'Blockchain knowledge awareness and intention to adopt a technology for zakat transactions', *International Journal of Academic Research in Business and Social Sciences*, Vol. 12 No. 8, pp. 1420–1432.

Shepard, W. (2021), *Sayyid Qutb and Islamic Activism: A Translation and Critical Analysis of Social Justice in Islam*, Brill, New York.

Stone, P.J. (2020), 'Thematic text analysis: new agenda for analysing text content,' in Roberts, C.W. (Ed.), *Text Analysis for the Social Sciences: Methods for Drawing Statistical Inferences from Texts and Transcripts*, Routledge, New York, pp. 35–54.

Tapscott, A. & Tapscott, D. (2017), 'How Blockchain is changing finance', *Harvard Business Review*, Vol. 17, available at: https://hbr.org/2017/03/how-Blockchain-is-changing-finance (accessed 5 March 2022).

Techracers (2018), 'How is blockchain disrupting the fintech industry?', available at: https://medium.com/@Techracer/how-is-blockchain-disruptingthe-fintech-industry-3640eaae9e89 (accessed 13 November 2022).

Umut, M. & Akkurt, E. (2022), 'Insurance business models under Islamic law and participation insurance', *International Journal of Insurance and Finance*, Vol. 2 No. 1, pp. 13–27.

Widiastuti, T., Ningsih, S., Prasetyo, A., Mawardi, I., Herianingrum, S., Robani, A., Ubaidillah

Al Mustofa, M. & Hady, A.F. (2022), 'Developing an integrated model of Islamic social finance: toward an effective governance framework', *Heliyon*, Vol. 8 No. 9, pp. 1–10.
Yaga, D., Mell, P., Roby, N. & Scarfone, K. (2019), 'Blockchain technology overview: report 8202', *US National Institute of Standards and Technology*, https://doi.org/10.6028/NIST.IR.8202
Qadhi, A.A.Y. (2007), *English Translation of Sunan Abu Dawud*, Compiled by Ashath, A.B.D.S, Maktaba Darussalam, Saudi Arabia.
Zetzsche, D.A., Arner D.W. & Buckley, R.P. (2020), 'Decentralized finance', *Journal of Financial Regulation*, Vol. 6 No. 2, pp. 172–203.
Zulaikha, S. & Rusmita, S.A.R. (2018), 'Blockchain for waqf management', available at: https://knepublishing.com/index.php/Kne-Social/article/view/3457/7332#info (accessed 13 November 2022).

Interviews Conducted

1. Mathew J. Martin, Founder and CEO, Blossom Inc., 16 July 2020 @ 3pm (online, interview lasted 45 minutes).
2. Hamid Rashid, CEO, and Sree Charan, Chief Product Architect, Finterra, 21 July 2021 @ 11am (online, interview lasted 2 hours).

ABOUT THE AUTHORS

Sherin Kunhibava, PhD, is a senior lecturer at the Universiti Malaya Law Faculty. Her area of expertise is in commercial law, fintech regulation and Islamic finance law. Currently, she is researching on Islamic social finance. Dr Sherin Kunhibava is the corresponding author, and she can be contacted at: sherin@um.edu.my

Aishath Muneeza, PhD, is currently Professor and Associate Dean for Students and Internationalization at INCEIF University, Malaysia. She is also actively involved with the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) as a member of the Public Interest Monitoring Consultative Committee (PIMCC) and is the Senior Islamic Finance Advisor to UNFPA, Malaysia.

Zakariya Mustapha, PhD, serves as a graduate research assistant at the Universiti Malaya Law Faculty. He has been an advocate and solicitor of Nigeria's Supreme Court since 2008. Zakariya Mustapha holds LL.M, LL.B (with Shariah specialisation) and membership of professional bodies including the Nigerian Bar Association.

Maryam Khalid, PhD, is currently a senior lecturer at the Universiti Malaya Law Faculty. Her area of interest is mostly in financial and fintech regulatory developments.

Gopal Kiran is a digital and FinTech Consulting professional with 14+ years of experience in leading client conversations and delivering BFSI solutions for multiple fortune companies across the globe. He is currently pursuing his postgraduate studies and is also the Fintech Advisor for the Central Bank of Qatar.

DECLARATION

Credit Authorship Contribution Statement

- Sherin Kunhibava: Conceptualisation, conducted interviews, analysed the interviews
- Aishath Muneeza: Implications, conducted interviews, conclusion
- Zakariya Mustapha: Introduction, literature review, arranged and conducted interviews
- Maryam Khalid: Reviewed paper
- Gopal Kiran: Reviewed paper

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

Funding is provided by the Faculty of Law, Universiti Malaya under Breaking the Silo Fund, grant number UMG001M-2022. The authors would like to thank the Universiti Malaya Law Faculty for providing the funding.

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability

Interview transcripts are stored digitally and are available in digital format from the authors.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix

None

AI APPLICATIONS FOR *FIQH* RULINGS IN ISLAMIC BANKS: SHARĪʿAH COMMITTEE ACCEPTANCE

Othman Abdullah
Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia
Amir Shaharuddin
Center for Graduate Studies, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia
Muhamad Azhari Wahid
Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia
Mohd Shukor Harun
Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia

Received
21 December 2023

Revised
21 March 2024
27 March 2024
29 March 2024

Accepted
29 March 2024

ABSTRACT

Purpose — The objective of this paper is to study acceptance of the use of artificial intelligence (AI) in the *fiqh* ruling process by Shariah committee (SC) members of Islamic banks in Malaysia.

Design/Methodology/Approach — This is a qualitative study using focus group interviews with ten SC members from different Islamic banks in Malaysia. Following the interviews, a thematic analysis of the transcribed data was conducted using computer-assisted qualitative data analysis software (CAQDAS).

Findings — The participants were generally receptive towards the utilisation of AI tools in the *fiqh* ruling process at Islamic banks. The participants recognise the potential of AI smart assistants for improving the efficiency and effectiveness of the *fiqh* ruling process. However, they raised some concerns and expectations that need to be addressed.

Originality/Value — The novelty of this research comes from sourcing first-hand perspectives of SC members of Islamic banks in Malaysia. Being the end users of AI systems for the *fiqh* rulings in Islamic banking, it is important to understand their perceptions, concerns and expectations.

Research Limitations/Implications — The size of the focus group was limited to ten participants to optimise group size and composition in order to allow adequate participation by each group member. Further sampling from more SC members may elicit additional findings.

Practical Implications — The first-hand views from the target users provide valuable input for initiatives related to the development of AI systems for the *fiqh* ruling process in Islamic banking.

Keywords — AI smart assistants, AI *fiqh* ruling, Artificial intelligence, Sharīʿah robo advisor

Article Classification — Research paper

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024 pp. 111–126

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.685

INTRODUCTION

Since its launch in November 2022, ChatGPT has become a global phenomenon with millions of users and has since gained considerable traction—including from those in the Sharīʿah field. ChatGPT was developed using generative artificial intelligence (AI) technology. Various use case demonstrations with ChatGPT dealing with complicated subject matters have helped more people to realise the capacity of AI technology for solving complex problems.

Although ChatGPT has no doubt intensified such interest, the vision of leveraging AI for the advancement of Islamic finance has been present for several years. Stakeholders in Islamic finance have openly expressed their optimism about the potential of AI for improving productivity and efficiency within the industry. The General Council for Islamic Banks and Financial Institutions, in the ninth meeting of its Financial Cooperation Working Group on 26 October 2017 in Ankara, Türkiye, identified AI as being 'on top of the list to be watched for in the next coming three years' (Al-Homsi, 2017, p. 10). A study examining AI and smart contract applications in Islamic finance recognised their role and impact on the future development of the Islamic finance industry (Mat Rahim *et al.*, 2018).

Optimism about AI applications in Islamic financial services extends to the Sharīʿah compliance aspects of Islamic financial products and services. This goes as far as attempting to develop AI-based digital tools (often referred to as Sharīʿah robo-advisor) for Sharīʿah advisory services in the field of Islamic finance. Sa'ad *et al.* (2020, p. 3) state that 'the Islamic financial services atmosphere wasn't left behind in accepting Robo-advisor in simplifying the Islamic financial services and to ease the Sharīʿah supervision activities in Islamic banking and finance'. However, Salim *et al.* (2020, p. 85) raise the question of how to 'assess the acceptance of Sharīʿah scholars and bankers to the idea of Sharīʿah robo-advisory?'. The objective of this paper is to consider this question and study the acceptance by Shariah committee (SC) members of Islamic banks in Malaysia regarding the introduction of AI applications in the *fiqh* ruling process of Islamic banking products and services.

Following the introduction, this paper includes a literature review on AI in Islamic finance, followed by a discussion of the research methodology, which adopted the focus group interview approach. Thereafter, the findings are presented and a discussion of the results ensues. The paper concludes by considering the implications for the industry and future research.

LITERATURE REVIEW

The Artificial Intelligence Index Report 2021 produced by Stanford University indicates that AI continued to attract intense academic and commercial attention in the preceding year. Based on an AI Index survey conducted in 2020, the previous four years saw the world's top universities significantly increase their investment in AI education. 'The number of courses that teach students the skills necessary to build or deploy a practical AI model on the undergraduate and graduate levels has increased by 102.9% and 41.7%, respectively' (Zhang *et al.*, 2021, p. 12). Moreover, the number of journal publications that discuss AI-related topics grew by 34.5 per cent from 2019 to 2020, compared to a 19.6 per cent increase from 2018 to 2019.

One of the key reasons for the increased focus on AI in recent years is the fact that AI plays a significant role in overarching digitisation and automation trends across numerous industries (Chan *et al.*, 2019). For example, in Malaysia, Bank Negara Malaysia's (BNM) Policy Outlook reported that their budget for automation and digitisation (available to Malaysian SMEs from March 2020 until December 2021) was raised from MYR700 million to MYR1 billion (Illias, 2021). Digitisation and automation technologies also contribute to the production of vast data sources (also known as big data). The growth in AI has been escalated by harnessing this big data in order to augment human decision making.

The financial services industry (FSI) is identified as one industry that has benefited greatly from AI innovations. According to Chan *et al.* (2019, p. 3), 'Artificial Intelligence is a powerful tool that is already widely deployed in financial services.' Traditional FSI players have no choice but to remodel their processes and offerings to adapt to continuous changes in consumer behaviour and needs (Deloitte, 2019). AI has helped to accelerate the speed at which this responsiveness is possible and has consequently built a new degree of trust in the finance industry. AI plays an important role in the FSI as 'it is revolutionising a centuries-old industry innovation flow from the ground' (Corea, 2019, p. 14). Omar (2021), in his presentation at the 6th Doha Islamic Finance Conference on *Artificial Intelligence in Islamic Banks: A Looking Forward Vision*, stated that 'Islamic banks must innovate by adopting AI' and that 'the future will look brighter with AI'.

Khan (2019) summarises the applications of AI in Islamic finance into functional groupings, which cut across front, middle, and back-office operations, as well as compliance. Unique to Islamic financial services are AI applications for Sharīʿah compliance. Sa'ad *et al.* (2020) opine that AI digital assistants (Robo Sharīʿah advisors) could help to reduce the effort involved in the iterative Sharīʿah review process and, therefore, facilitate more timely and robust Sharīʿah rulings for Islamic banking products and services.

Fazmi (2019, p. 1) advocates for the concept of Sharīʿah robo-advisory and suggests that to ease the operations of Islamic banks and financial institutions, Sharīʿah robo advisors can act as *Smart Muftis* to evaluate the sources of Sharīʿah and provide recommendations based on past fatwas. Sultan (2017) shares some specific examples of how Sharīʿah robo advisors can help validate basic Sharīʿah requirements in Islamic financial products and services, namely:

1. To ensure a proper offer (*ījāb*) and acceptance (*qabūl*) in sale contracts so that the subject matter and price are well defined and not uncertain.
2. To ensure that no partner in partnership contracts (*muḍārabah* and *mushārakah*) gets eliminated from receiving profits, if there are any, based on the applicable profit-sharing ratio.
3. To ensure that losses in partnership contracts, if there are any, are properly apportioned as capital contributions are also well defined.
4. To validate if the product meets specific objectives of Sharīʿah (*maqāṣid al-Sharīʿah*).

Obaidullah (2021, p. 1) outlines various reasons why there is a 'need to create an artificially intelligent Sharīʿah expert'. These reasons include:

1. 24/7 continuous availability, with higher reliability compared to humans, which will only be available at certain stipulated time periods.
2. Not vulnerable to any forms of bias or attitude.
3. Ability to make more consistent judgements.

4. Ability to 'produce more timely results, [make] faster decisions and better prevent fraud and/or errors. Most importantly, it will use cutting-edge knowledge and the combined wisdom of multiple human Sharīʿah experts'.

The ChatGPT phenomenon has also raised curiosity about its ability to process Sharīʿah-related queries. According to Abdul Rahman (2023), ChatGPT's responses regarding intricate Islamic jurisprudence topics and complex micro level Islamic financial issues are still unreliable. Datuk Dr Zulkifli Mohamad al-Bakri (a Malaysian Sharīʿah scholar and a former Minister in the Prime Minister's Department in charge of Religious Affairs) advises that ChatGPT's responses in matters of *ʿaqīdah* (creed), *fiqh* (jurisprudence), hadith (Prophetic teachings), *sīrah* (life of the Prophet (SAW)), and *muʿāmalāt* (transactions) are still not well founded (Ahmad, 2023).

METHODOLOGY

This study adopts a focus group interview approach. Focus group interviews are 'a particular type of group interview, where the topic is clearly defined and there is a focus on facilitating discussion between participants' (Sekaran & Bougie, 2016, p. 121). The focus group interview method was deemed suitable for this study because it is recommended when 'looking for the range of opinions, perceptions, ideas, or feelings that people have about something like an issue, behaviour, practice, policy, program, or idea' (Krueger, 2015, p. 61). 'Focus groups work particularly well to explore perceptions, feelings, and thinking about issues, ideas, products, services, or opportunities' (Krueger, 2015, p. 37).

To keep the focus group discussion within the relevant context of this study, the focus group interview was guided by the Unified Theory of Acceptance and Use of Technology (UTAUT), which is well established for studying human intentions to accept and use software applications. According to Venkatesh *et al.* (2003), intentions to use can be gauged based on three constructs:

1. Performance expectancy: the degree to which an individual believes that using the system will help him or her to attain gains in job performance.
2. Effort expectancy: the degree of ease associated with the use of the system.
3. Social influence: the degree to which an individual perceives that it is important that others believe he or she should use the new system.

Besides these constructs, UTAUT also includes an element of moderating factors. For the purpose of this study, AI technology literacy is utilised as the moderating factor. The purpose of asking these questions prior to conducting the interview is to evaluate the participants' familiarity with AI technology in general. The responses also give insight into the participants' knowledge gaps and areas that may need additional improvement, as well as provide useful information about the present status of AI technology literacy among SC members at Islamic banks.

Focus Group Participants

The focus group comprised ten (10) Shariah committee members from different Islamic banks in Malaysia. A summary of the profiles of the participants is given in **Table 1**.

Table 1: Focus Group Participants' Profiles

Participants	Shariah Committee Roles
Respondent 1	A prominent member of two national level Shariah Advisory Councils in Malaysia, SC chairman of two government-owned Islamic financial institutions, SC member of an Islamic financial institution, and SC chairman of a *takāful* (Islamic insurance) institution
Respondent 2	SC member of an Islamic development financial institution, SC member of a foreign-owned bank, and SC member of two *takāful* institutions, being engaged in both general and family *takāful*
Respondent 3	SC member of a digital Islamic bank in Malaysia, and SC member of a government-owned Islamic financial institution
Respondent 4	A member of two national level Shariah Advisory Councils in Malaysia, SC chairman of an Islamic commercial bank, SC chairman of a development financial institution, and SC chairman of a *takāful* institution
Respondent 5	A member of two national-level Shariah Advisory Councils in Malaysia, SC member of an offshore financial services authority, and SC member of a national retirement fund management institution
Respondent 6	SC chairman of an Islamic commercial bank
Respondent 7	SC member of an Islamic commercial bank, and SC member of a development financial institution
Respondent 8	SC deputy chairman of a development financial institution
Respondent 9	SC chairman of an Islamic commercial bank, SC member of a re*takāful* institution, and SC member of a cooperative Islamic financial institution
Respondent 10	SC member of an Islamic commercial bank, and SC member of a *takāful* institution

Source: Authors' own

Interview Questions

The open-ended questions for this focus group were developed based on the three constructs from the UTAUT. The questions are as given in **Table 2**. Some additional questions were asked as follow-up questions based on the answers given to the ten pre-prepared questions.

Table 2: List of Questions for Focus Group Interview

Construct	Questions
Performance Expectancy	1. Do you believe that AI technologies can assist in the *fiqh* rulings of Islamic banking products and services, in order to make the process more efficient (easier and faster)? 2. In what ways do you think that AI smart assistants can help in improving the quality of the *fiqh* ruling process of Islamic banking products and services? 3. What are your concerns about utilising AI smart assistants to improve your performance in the *fiqh* ruling process of Islamic banking products and services? 4. What are your expectations for utilising AI smart assistants to improve your performance in the *fiqh* ruling process of Islamic banking products and services?
Effort Expectancy	5. Are you willing to put in some effort to learn and familiarise yourself with using AI smart assistants for your *fiqh* ruling work? Why or why not? 6. What are your concerns in terms of having to learn to use AI smart assistants for the *fiqh* ruling process of products and services? 7. What are your expectations in terms of the efforts that you need to put in to use AI smart assistants for your *fiqh* ruling work?

Table 2: List of Questions for Focus Group Interview (Cont.)

Construct	Questions
Social Influence	8. Are you willing to use AI smart assistants to help you with the *fiqh* ruling process of Islamic banking products and services, regardless of whether other SC members use it or not? 9. Is it important to you that other SC members also use AI smart assistants? 10. In your opinion, what is required to convince SC members of Islamic banks to use AI smart assistants to help with their *fiqh* ruling work?

Source: Authors' own

Prior to the focus group interview, the participants were asked to answer (Yes/No/Not Sure) to a list of simple questions, in order to gauge their level of literacy in AI technology (see **Table 3**). It was expected that the more exposure that the SC members of Islamic banks had to AI, the more positive their attitudes would be towards the use of AI smart assistants in the *fiqh* ruling process.

Table 3: Questions to Gauge AI Literacy Level of Focus Group Interview Participants

No.	Questions
1.	Have you heard of the term artificial intelligence (AI)?
2.	Have you heard of the following technologies? a. Machine Learning b. Natural Language Processing c. Computer Vision d. Robotic e. Expert System
3.	Do you think that you have used AI-based systems or tools?
4.	Have you engaged in a conversation with a chatbot?
5.	Have you used any app where you use facial recognition as identity verification?
6.	Please identify whether the following are included in the scope of AI technologies: a. Algorithms that use statistical tools and mathematical models that enable machines to improve performance b. Algorithms that understand text and speech in various languages' context c. Image recognition and motion analysis d. Robots that can interact with the physical world e. Algorithms that can help to infer decisions based on a set of predefined rules
7.	Do you agree that AI will play a major role in our lives?
8.	Do you agree that we have to embrace AI technological innovations to make us more efficient and productive in our work?
9.	Do you believe that AI technologies can help in the Sharīʿah field?
10.	Have you had any exposure to any AI technology innovations in the Sharīʿah field?

Source: Authors' own

Data Analysis Method

Following the focus group interviews, a thematic analysis of the transcribed data was conducted. Thematic analysis is one of the most common approaches to qualitative data analysis (Bryman, 2011). The process involves systematically coding data in order to identify patterns (themes) from the dataset, often with the help of computer-assisted qualitative data analysis software (CAQDAS) such as QSR NVivo. Themes are determined, based on the identification of congruous patterns which relate to the research focus—which in this study is SC members' acceptance of the use of AI assistants in the *fiqh* ruling process at Islamic banks.

FINDINGS

AI Literacy Level

The responses reveal a broad understanding and acceptance of AI technologies among the SC members (participants). The unanimous recognition of the term 'Artificial Intelligence' (100% responded 'yes') affirms a basic level of AI literacy among the participants. Moreover, the majority of participants' familiarity with various AI terminologies, such as Machine Learning, Natural Language Processing, Robotics, and Expert Systems, indicates their greater level of comprehension of the AI landscape. However, the observed relative lack of awareness about Computer Vision points to certain gaps in the participants' understanding about specific AI technologies.

The acknowledgement by all the participants concerning their experience in using AI-based systems or tools and engaging with chatbots underscores the pervasive influence and penetration of AI technologies into daily life. This also reflects the active participation of the individuals in an increasingly digitised environment. Participants' understanding of the scope of AI technologies also appears to be significant. Most importantly, the participants' unanimous belief that AI technologies can assist in the Sharīʿah field implies their openness to the integration of AI in their *fiqh* ruling work.

Overall, the analysis reveals a high level of AI technology literacy among participants, characterised by a broad understanding, acceptance, and enthusiasm for AI technologies, along with acknowledgement of their significant role in various fields, including Sharīʿah. This understanding, however, is marked by gaps in specific areas, indicating the need for continued education and exposure—especially in terms of practical applications in specialised fields.

Performance Expectancy

A dominant theme running throughout the discussion was the expectation of increased efficiency and the potential for improved quality in the *fiqh* ruling process. The SC members were optimistic about the prospect of AI tools for significantly reducing the time and effort required to retrieve and analyse relevant references—thus allowing them to focus more on critical thinking and decision-making aspects. They acknowledged AI smart assistants as valuable tools that could support decision-making and expedite the overall process. This is particularly evident in Respondent 2's statement that *fiqh* is a rule-based discipline making it suitable for integration with AI technologies.

The participants identified several ways in which AI could improve the *fiqh* ruling process, such as: providing reliable and consistent responses; offering relevant and accurate information; and assisting in impact analysis and data simulation. They suggested that through a comprehensive body of knowledge, AI tools could assist in providing justifications for specific rulings, thus enhancing transparency and clear explanations for *fiqh* ruling decisions. Respondent 3 highlighted the capability of AI smart assistants to retrieve, sort and organise information from BNM, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), and other relevant knowledge bases, and thus provide a convenient alternative to manual searches through books and other sources. This general positivity regarding the potential for performance improvement is consistent with findings by Fazmi (2019) and Sa'ad *et al.* (2020), who suggest that the use of AI smart assistants (Robo-advisory or Smart Mufti) will help speed up the *fiqh* ruling process, and therefore enable decision makers to propose solutions more rapidly than with current manual methods.

Despite the above-mentioned advantages of using AI, the participants also raised a few concerns which can be summarised as follows:

1. The ability of AI to effectively understand and navigate Arabic literature.
2. The reliability and consistency of responses.
3. The presence of system bugs that could hinder the process.
4. The possibility of receiving irrelevant information.
5. The need to verify the accuracy of answers without proper sources or references.
6. The richness of the body of knowledge.
7. The quality of data that is inputted into AI systems.

All the participants emphasised the importance of ensuring that AI system output is trustworthy and in alignment with the standards of the *fiqh* ruling process.

In terms of their expectations for future high-powered AI capabilities for the *fiqh* ruling process, participants shared their desire for AI smart assistants to provide impact analysis—allowing them to assess the consequences of decisions and evaluate their alignment with the *maqāṣid al-Sharīʿah*. They expected the systems to perform data simulations, enabling them to explore different scenarios and to help them understand the potential impact on specific groups. Some participants also highlighted the integration of macro analysis. On this note, Respondent 2 shared a criticism of current *fiqh* rulings, in that they tend to focus on micro decisions without considering the broader macro perspective of the *maqāṣid al-Sharīʿah*. He expressed that if the parameters of *maqāṣid al-Sharīʿah* could be quantified and integrated into AI systems, it would allow for the verification of rulings' alignment with the objectives of Sharīʿah.

Effort Expectancy

The findings with regard to effort expectancy revealed three overarching themes in relation to the utilisation of AI digital assistants in the *fiqh* ruling process for Islamic banking products and services:

1. Participants' positive will.
2. Concerns about ease of use and complexity.
3. Expectations on ease of use, tool capability, and fast responses.

In general, the participants appeared to be highly motivated to engage with new technologies such as AI smart assistants. This was driven by the recognition of the benefits they could derive from these tools, specifically the potential to speed up the *fiqh* ruling process and to make their work more efficient. Respondent 4 mentioned that AI systems could yield more refined answers and reduce the time required for research, and therefore, 'like it or not, scholars need to put time to understand and know how to use it'. Respondent 9 added that 'time is of essence. We can no longer rely on manual methods to check from books'. The necessity for continuous learning was a sentiment echoed by all respondents. They perceived the effort required to learn to use AI systems not as a barrier but rather as an essential aspect of their work. Furthermore, the participants also highlighted the pressing needs and challenges to deliver rulings promptly. Therefore, they were open to adopting innovative AI solutions that could assist in meeting these demands effectively.

However, their enthusiasm was tempered by concerns that may affect their willingness to learn and utilise AI smart assistants. These revolved around how user friendly the systems (e.g., the interface) would be, how easy they would be to use from a functional point of view (e.g., minimal user input), and how well the systems would perform. Respondent 2 highlighted the importance of user friendliness. He mentioned that it would be advantageous if the AI assistants could engage in conversational interactions, similar to ChatGPT. Participants generally expressed that intuitive and straightforward interfaces could drive adoption and consistent use. In particular, the participants expressed a desire for uncomplicated experiences, highlighting specific barriers such as the need to remember multiple passwords as potential hindrances to adoption. Respondents 5 and 8 further stressed the need for user friendly and easy-to-use systems, particularly for the older generation, who were deemed to be generally less tech-savvy.

Overall, the participants expressed willingness to utilise AI assistants in their *fiqh* ruling work because they recognise the benefits and predominantly view adoption as part of their ongoing education. User friendly interfaces are considered essential to successful adoption so that the tools can excel at improving efficiency. Concise and easily comprehensible outputs are also preferred. Potential challenges may occur for less IT-literate users, and therefore, training is also important.

Social Influence

The analysis of the social influence construct revealed more varied points of view. While some acknowledged the potential influence of their colleagues' usage on their own adoption decisions, others indicated a more independent stance, suggesting that they would use the technology if they found it beneficial, regardless of other SC members' usage.

Respondent 8 indicated that social influence could indeed be a contributing factor to the adoption of AI smart assistants. He mentioned that observing other members utilising AI tools to expedite their decision-making processes could sway his decision to adopt the same technology. In contrast, Respondent 3 was clear about his decision to make use of AI technology. He stated, 'as long as it can help me, I'm using it regardless. I don't care whether they use it or not'. However, he added, that he would also ask the other scholars that refused to use AI tools and advise them to use the tools as it could help them. Respondent 2 thought it was very important for him to use it as it would help him make better decisions.

Concerning their views over whether it is important for other SC members to use AI assistants, most participants agreed on the significance of recommending the use of AI assistants to other SC members. They emphasised the importance of having a consistent level of knowledge among the members, which could be achieved through the adoption of AI technology. Participants believed that recommending the use of AI smart assistants was crucial for improving decision-making processes within the group, which ultimately would lead to better discussions and deliberations, because the collective use of these tools could improve the efficiency and quality of the decision-making process. This was seen by most as bringing a collective benefit to the meetings, that goes beyond that of the enhanced performance of each individual SC member.

To convince SC members of Islamic banks to use AI smart assistants for *fiqh* ruling work, several factors were identified. These include the need to:

1. demonstrate a track record and provide proof of the benefits.
2. demonstrate the quality of the outputs.
3. convince traditional scholars about the value of AI.
4. leverage the influence of respected scholars.
5. tap into the viral aspect of technology adoption.
6. effectively present the features and usability of AI smart assistants.
7. allow for gradual implementation over time.
8. provide necessary training (particularly for older SC members).
9. strike a balance between traditional methods and AI technology.
10. develop appropriate regulations.
11. ensure the qualifications of users, i.e., possessing a strong foundation of knowledge in *fiqh* principles.

Additional Question 1

Whether the delivery of AI smart assistants for the fiqh ruling process should be through commercial initiatives, or if there is a need for a national effort to standardise such tools?

The idea of having a national initiative for the knowledge base for AI smart assistants was well received. The participants recognised the benefits of a centralised approach to improve the Sharīʿah resolution process. However, they also acknowledged the potential challenges which include issues related to proprietary knowledge and the need for stakeholder engagement. Participants highlighted the importance of regulation, transparency, collaboration, diverse stakeholder participation, consent, and the involvement of multiple stakeholders for any initiative. A strategic and graduated approach that initially uses available and uncomplicated resources is advised for demonstrating feasibility and value.

Additional Question 2

To what extent AI smart assistants could help in fiqh rulings, specifically in the understanding of reality (wāqiʿ), sources (nuṣūṣ), objectives (maqāṣid) and consequences (maʾālāt)?

In general, the participants expressed a belief that AI can augment and enhance the decision-making process; however, they advised that it is crucial to maintain the human touch in these critical decisions. AI is a tool that can provide data and predictive analysis and assist in the formulation of decisions; however, it should not replace human judgement, which is indispensable in the complex and nuanced *fiqh* ruling process.

On the overall capabilities of AI in understanding the above-mentioned four concepts, Respondent 9 shared his views as follows:

> Among the four, based on the ranking, I believe that the use of AI in the case of *fahm al-nuṣūṣ* (understanding of sources) is the most doable. This is because *nuṣūṣ* is about data, resolutions, fatwa, etc. Past scholars have already established the discipline of *uṣūl al-*

fiqh. So, it is possible to train AI to follow the rules in the discipline. That's why I see this is really doable. It is objective and a very structured discipline. The use of AI in the case of *fahm al-maqāṣid* (understanding of objectives) is slightly less. It is possible but the more subjective the issue is, the less AI will be reliable. It can still help. Next, in the case of *wāqiʿ* and *maʾālāt*, the same situation prevails. It may be possible for AI to provide clues only. Actually, only humans can fully understand the current reality.

Additional Question 3

To what extent could AI systems perform ijtihād (independent reasoning to decide on fiqh rulings)?

The unanimous sentiment expressed by all participants was that AI is not expected to do *ijtihād*, primarily due to the inherent complexities involved in the process and the unique human capabilities required for it. The overall consensus was of cautious optimism about the potential for AI to assist in the *ijtihād* process—but with a strong emphasis on the irreplaceable role of human scholars. The ability of AI to make value judgements, comprehend context, and understand the nuances of the current reality (*wāqiʿ*) were identified as the significant challenges and limitations. Participants did, however, also acknowledge the capabilities of AI for quickly accessing and presenting relevant sources.

Additional Question 4

What could be the impacts of the utilisation of AI smart assistants on the Islamic banking industry?

The participants unanimously agreed that these digital tools have the potential to make a significant difference in the *fiqh* ruling process. They believed that the efficiency, accuracy and effectiveness of Sharīʿah rulings could be enhanced and that this would lead to a positive, industry-wide impact. They also highlighted the importance of collaborative and collective contributions to the body of knowledge for Sharīʿah rulings. Respondent 3 stated, 'I will emphasise on the collaborative and collective process to contribute to the body of knowledge. The more knowledge you have, the more precise the ruling.' Efforts to put together a comprehensive body of knowledge from which AI could derive responses to user queries would greatly benefit the industry. They acknowledged the significant impact of developing a knowledge system or knowledge ontology.

DISCUSSION

Based on the SC members' responses to the AI technology literacy-related questions, the participants generally appear to have a broad understanding, acceptance of and enthusiasm for AI technologies. They also acknowledge the significant role of AI in various fields including Sharīʿah. There are some gaps in specific AI areas which require continued education and exposure, particularly in terms of practical applications in specialised fields.

The SC members who participated in this study recognised the potential benefits of AI technologies in the *fiqh* ruling process of Islamic banking products and services, and they were optimistic about the capability of AI to contribute significantly to the efficiency and speed of the ruling process. They expressed the belief that AI tools could provide comprehensive responses, complete with relevant sources, and thus contribute to a more thorough, holistic perspective during the decision-making process. They also hoped that AI tools could help with the simulation of outcomes that would result from their decisions. They did, however, express concerns regarding the reliability and accuracy of AI responses, considering the current perceived limitations of AI capabilities.

On the level of effort required, the participants were willing to learn and adopt AI smart assistants to assist with their work, provided that it does not take too much of their time. Therefore, it is important for the AI systems to be intuitive, user friendly, and easy-to-use. The participants expressed a preference for AI smart assistants to provide responses that are adjustable to their needs. They would also appreciate value-added features, such as contextual recommendations, concise and graphical outputs, as well as the ability to summarise complex information into simple language.

Almost all the participants indicated their willingness to adopt AI smart assistants, regardless of their peers' adoption or attitude toward adoption. They deemed the utility and potential benefits of the technology as important. At the same time, participants believed that collective adoption among the SC members could help to bring everyone to the same level in their discussions. They believed that other SC members would willingly use AI smart assistants if the evidence of the benefits of using AI smart assistants could be demonstrated to them. Despite this, they did acknowledge that some SC members, particularly some older ones, may have some difficulty in adopting new technologies and would thus require additional assistance and guidance.

Other pertinent points gathered from the responses to the additional questions during the interviews included:

1. The participants recognised the benefits of a centralised national approach but acknowledged the potential challenges related to proprietary knowledge. They proposed a strategic, gradual approach, with consent from the knowledge owners, starting with readily available and uncomplicated resources to demonstrate the feasibility and value.
2. The participants believed AI could help gather, sort, and analyse data to generate insights supporting more informed decision-making. They also recognised the potential for AI systems to understand patterns and behaviours on both local and global scales. The participants envisioned that AI smart assistants could facilitate more proactive, data-driven Sharīʿah decision making.
3. The participants highlighted the need to strike a balance between sharing Sharīʿah rulings with a broader audience and maintaining certain aspects as private or proprietary knowledge, considering the efforts and investments made by individual institutions.
4. The participants unanimously agreed that efforts to come up with digital tools have the potential to make a significant impact on the *fiqh* ruling process. They believed that the efficiency, accuracy and effectiveness of Sharīʿah rulings could be enhanced, leading to positive industry-wide benefits. However, they expressed the need for collaborative and collective contributions to the body of knowledge in Sharīʿah rulings.

5. There was consensus that AI could only *assist* in the *ijtihād* process. AI could help a human *mujtahid* to be more efficient in the process, but *actual ijtihād* can only be performed by a human Sharīʿah scholar.

The SC members who participated in this study have provided valuable input for any initiative to develop AI smart assistants for the *fiqh* ruling process of Islamic banking. However, it is important to have a national level strategy in developing AI smart assistants for *fiqh* rulings that can benefit the overall Islamic finance industry. This approach addresses the preferences highlighted by the SC members for a combination of commercial and national initiatives, with intervention from regulatory authorities to facilitate the process as well as provide oversight of the quality of the AI smart assistant.

Several Islamic banks (ideally all Islamic banks in the country) could collaborate to develop a centralised knowledge base and implement AI smart assistants as a collective effort to harness AI technology for improving the *fiqh* ruling process throughout the industry. This could be facilitated by either BNM or the Association of Islamic Banking and Financial Institutions Malaysia. A special purpose vehicle (SPV) company could be formed, with the participating Islamic banks as the shareholders, in order to undertake the implementation and later to operate the AI smart assistant. The SPV company could appoint a technology vendor to help with the technical aspects of the AI smart assistant.

To make this model economically viable, the SPV company needs to be run as a proper commercial institution. The participating Islamic banks would be the shareholders who inject capital and who oversee the effective running of the SPV company. Once the AI smart assistant has been implemented and is operational, the SPV company would need to charge for the usage of the AI smart assistant on a subscription basis, even if the users are from the shareholder institutions. To increase revenue sources, the subscription could be opened up to other parties who are interested in leveraging the capabilities of the AI smart assistant.

This business model is quite similar to Payment Network Malaysia (PayNet), where the shareholders are financial institutions in Malaysia; however, the platform is widely used as a payment network infrastructure (PayNet, 2023). PayNet collects fees from transactions such as money transfers and payments that make use of its network. This collective implementation approach would elevate the *fiqh* ruling process to the next level. The country's entire Islamic banking industry would be able to benefit from the innovation.

CONCLUSION

This study indicates that the SC members who participated in the focus group interview are receptive towards the utilisation of AI in the *fiqh* ruling process for Islamic banking products and services. They believe that collective adoption among SC members will not only help make the process more efficient but may also result in better quality decisions. There are still numerous concerns and expectations which need to be addressed before the full potential can be harnessed. Nevertheless, there is a highly important message endorsed by the SC members, notably that AI technology is not a Muslim and it lacks human subjective qualities (judgement, intuition and emotional understanding) which are all essential in the *ijtihād* process. Therefore, no matter how sophisticated AI algorithms are, AI assistants would remain a tool to assist human *mujtahids* in their *fiqh* ruling processes.

Collaborative efforts between the public and private sectors may help contribute to the successful promotion and utilisation of AI smart assistants in the *fiqh* ruling process. The creation of a national initiative, with intervention from regulatory authorities, is generally supported, in order to regulate and facilitate the development of a comprehensive body of knowledge, for the effective functioning of AI smart assistants.

For the Islamic banking industry in Malaysia to benefit from a more systematic and centralised knowledge base that could enhance AI smart assistants' output, a national level industry-owned knowledge base is recommended. Several Islamic banks could collaborate as a consortium to form an SPV company to develop and continuously update the knowledge base. With a centralised knowledge base in place, this SPV company could develop an industry-owned AI smart assistant for the *fiqh* ruling process of Islamic banking. Once the AI system development is completed, the SPV company can operate the system and provide software as a service (SAAS) to Islamic banks. The fees collected could be used to maintain and continuously improve the system.

To extend this research, it is suggested that a study be conducted that targets key influential stakeholders who have the potential to be involved in the creation of a shared knowledge base and industry-owned AI smart assistant for *fiqh* rulings in Islamic banking. A detailed study exploring the willingness of commercial partners, academics and other parties, as well as harnessing the insights of the end users (i.e., SC members), would provide vital insight that could transform the suggestions made in this research into something practicable.

REFERENCES

Abdul Rahman, Z. (2023), 'Dr. Zaharuddin A. Rahman's Post', *LinkedIn*, available at: https://mm.linkedin.com/posts/dr-zaharuddin-a-rahman-05a0195_i-have-used-chatgpt-for-about-a-month-for-activity-7028207195519410176-wAuX (accessed 5 May 2023).

Ahmad, A. (2023), 'ChatGPT tidak sesuai dijadikan rujukan isu hukum agama', *Utusan Malaysia*, available at: https://www.utusan.com.my/terkini/2023/02/chatgpt-tidak-sesuai-dijadikan-rujukan-isu-hukum-agama/ (accessed 5 May 2023).

Al-Homsi, M. (2017), 'Technology, innovation and artificial intelligence for the growth of Islamic finance', available at: https://www.comcec.org/finance/9th-meeting-of-the-comcec-financial-cooperation-working-group-presentations/ (accessed 5 May 2023).

Bryman, A. (2011), *Social Research Methods*, Oxford University Press, New York, NY.

Chan, C., Chow, C., Wong, J., Dimakis, N., Nayler, D., Bermudes, J., Raman, J., Lam, R. & Baker, M. (2019), 'Artificial intelligence applications in financial services: asset management, banking and insurance', Technical Paper, Marsh & McLennan Companies. New York, USA.

Corea, F. (2019), *Applied Artificial Intelligence: Where AI Can Be Used in Business*, Springer International, New York, NY.

Deloitte (2019), *Global Artificial Intelligence Industry Whitepaper*, Deloitte Research, China.

Fazmi, F. (2019), 'Role of robo-advisors in Islamic financial institutions', available at: https://journal.wahedinvest.com/role-of-robo-advisors-in-islamic-financial-institutions (accessed 5 May 2023).

Illias, S. (2021), 'Economic outlook & lookout: silver linings amid pandemic clouds…?', (Slide), Maybank Kim Eng, Kuala Lumpur, Malaysia,

Khan, N. (2019), 'Artificial intelligence application in Islamic finance industry', *Global Islamic Finance Report 2019*, pp. 122–133.

Krueger, R.A. (2015), *Focus Groups: A Practical Guide for Applied Research*, Sage Publications, California, CA.

Mat Rahim, S.R., Mohamad, Z.Z., Abu Bakar, J., Mohsin, F.H. & Md, N. (2018), 'Artificial intelligence, smart contract and Islamic finance', *Asian Social Science*, Vol. 14 No. 2, pp. 145–154.

Obaidullah, M. (2021), 'Promise of IRSHAD: the intelligent Robo Sharīʿah Advisor', available at: https://conference.ibfnet.group/2021/03/03/promise-of-irshad-the-intelligent-robo-shariah-advisor/ (accessed 5 May 2023).

Omar, A. (2021), 'Artificial intelligence in Islamic banks: a looking forward vision', available at: https://www.youtube.com/watch?v=4Hj8lE6715s (accessed 5 May 2023).

PayNet (2023), 'Who We Are', available at: https://paynet.my/about-paynet.html (accessed 5 May 2023).

Sa'ad, A.A., Alhabshi, S.M., Mohd Noor, A. & Hasan, R. (2020), 'Robo-advisory for Islamic financial institutions: Sharīʿah and regulatory issues', *European Journal of Islamic Finance*, First Special Issue.

Salim, K., Abojeib, M. & Abdul Hamid, B. (2020), *Islamic Fintech in Malaysia: Reality & Outlook*, The International Centre for Education in Islamic Finance (INCEIF), Kuala Lumpur, Malaysia.

Sekaran, U. & Bougie, R. (2016), *Research Methods for Business: A Skill-Building Approach*, John Wiley & Sons, Chichester.

Sultan, Y. (2017), 'Will Sharīʿah robot-advisors replace the human Sharīʿah advisors?', *LinkedIn*, available at: https://www.linkedin.com/pulse/shariah-robo-advisors-replace-human-advisors-yousuf-sultan (accessed 5 May 2023).

Venkatesh, V., Morris, M.G., Davis, G.B. & Davis, F.D. (2003), 'User acceptance of information technology: toward a unified view', *MIS Quarterly*, Vol. 27 No. 3, pp. 425–478.

Zhang, D., Mishra, S., Brynjolfsson, E., Etchemendy, J., Ganguli, D., Grosz, B., Lyons, T., Manyika, J., Niebles, J.C., Sellitto, M., Shoham, Y., Clark, J. & Perrault, R. (2021), 'The AI Index 2021 Annual Report', AI Index Steering Committee, Human-Centered AI Institute, Stanford University, Stanford, CA.

ABOUT THE AUTHORS

Othman Abdullah is a PhD student at the Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia. He is the corresponding author and can be contacted at: othman_249@yahoo.com

Amir Shaharudin, PhD, is a professor and the director of the Center for Graduate Studies, Universiti Sains Islam Malaysia.

Muhamad Azhari Wahid, PhD, is the Head of Programme, Bachelor of Islamic Banking and Finance at the Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia.

Mohd Shukor Harun, PhD, is a senior lecturer at the Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia.

DECLARATION

Credit Authorship Contribution Statement

- Othman Abdullah: Conceptualisation, Methodology, Interviews, Analysis, Write-up, Review and editing
- Amir Shaharuddin: Supervision, Review and editing, Approval of final draft
- Muhamad Azhari Wahid: Supervision, Review and editing, Approval of final draft
- Mohd Shukor Harun: Supervision, Review and editing, Approval of final draft

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

Sincere appreciation goes to colleagues in the Islamic finance industry who have contributed valuable insights to this research. Special mention to the ten Sharīʿah committee participants of the focus group interview who spared their valuable time for the discussion despite their busy schedules.

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication. The authors point out that this paper draws from an unpublished PhD thesis.

Data Availability

None

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix

None

ESG AND ESG CONTROVERSIES ON FIRM RISKS IN EMERGING MARKETS: THE MODERATING ROLES OF SHARĪʿAH SCREENING AND LEGAL ORIGIN

Siew-Peng Lee
Department of Finance, Universiti Tunku Abdul Rahman, Malaysia
Mansor Isa
Department of Finance, Universiti Malaya, Malaysia

Received
25 October 2023

Revised
8 November 2023
22 March 2024
27 March 2024
29 March 2024

Accepted
29 March 2024

ABSTRACT

Purpose — This study examines the impact of environmental, social and governance (ESG) and ESG controversies (ESGC) on firm risks, and it proposes the moderating roles of Sharīʿah screening and legal origins over the relationship.

Design/Methodology/Approach — The research data included 522 firms from 16 emerging markets over the period 2013–2021 (4,689 observations). The data (i.e., ESG, financial data, etc.) were obtained from the Refinitiv database. The panel regression model was used to examine the relationships of the variables studied.

Findings — The study finds that ESG is negatively related to risks while ESGC are positively related to risks. Further, this study finds that both Sharīʿah screening and the legal origins play significant moderating roles in reducing risks via their influence on ESG and ESGC. The evidence is consistent with the observation that Sharīʿah-compliant firms are more inclined to engage in ESG activities.

Originality/Value — This study is unique as it is an attempt to examine the moderating role of Sharīʿah screening and the legal environment in influencing the impact of ESG and ESGC on firm risks in an emerging market situation.

Practical Implications — The findings may be used as a basis for all governments in emerging markets to introduce and strengthen their ESG strategies in all aspects of firms' operations. Additionally, in relation to developing global Islamic finance, policymakers need to be mindful of the importance of the Sharīʿah-ESG linkage and imbed this relationship in their strategic development blueprints.

Research Limitations/Implications — The findings suggest that more aggressive engagement in ESG activities can benefit firms through their risk-mitigating effects. Furthermore, the evidence indicates the positive impact of Sharīʿah screening in mitigating risks via ESG and corporate controversies, lending credibility for firms to be considered Sharīʿah compliant.

Keywords — Corporate controversy, ESG, Idiosyncratic risk, Legal origins, Sharīʿah screening, Systematic risk, Total risk

Article Classification — Research paper

ISRA International Journal of Islamic Finance (IJIF)
Vol. 16 • No. 1 • 2024
pp. 127–149

eISSN:
2289-4365

DOI:
doi.org/10.55188/ijif.v16i1.627

INTRODUCTION

In recent years, environmental, social and governance (ESG) practices have been widely adopted around the world, particularly in developed countries. ESG refers to practices adopted by firms that manage their operational impact on the environment and society and endorse good governance principles in their pursuit of corporate sustainability (Jung & Yoo, 2023). Corporate sustainability refers to the extent to which a firm simultaneously considers social responsibilities and environmental protection to create competitive advantages and long-term value for stakeholders (Hawn *et al.*, 2018; Lin *et al.*, 2022). This means corporate sustainability will have a direct impact on the quality of stakeholders' lives by reducing the negative impacts of a firm's operations on the society and the environment (Manning *et al.*, 2019). Hence, ESG practices are likely to align with social needs and better management of relationships with corporate stakeholders. Despite firms' increased involvement in ESG, the corporate world also suffers from what is known as ESG controversies (ESGC).

ESGC comprises the negative issues related to ESG, such as environmental pollution, abusive labour practices, unhealthy foods or products, and bad management practices (Deegan, 2017). This indicates the corporation's failure to fulfil their obligations, suggesting firms might have ESG and ESGC simultaneously.

A review of the literature indicates that scholars have primarily focused on how ESG affects financial performance (e.g., Li *et al.*, 2018; Lee & Isa, 2024), firm risk (e.g., Hassan *et al.*, 2021), and cost of debt (e.g., Eliwa *et al.*, 2021), whereas the impact of ESGC has received scant attention from scholars (Treepongkaruna *et al.*, 2022). Moreover, these studies mainly focus on the effect of ESG in developed markets (Boubakri *et al.*, 2021), while studies focusing on emerging markets are still lacking (Anita *et al.*, 2023).

Previous studies highlight that responsible business practices result in reducing firm risks through better stakeholder relations (e.g., Nguyen & Nguyen, 2015; Chollet & Sandwidi, 2018). While these studies focus on the effects of corporate social responsibility (CSR), the influence of ESGC is little investigated. In this context, Galletta and Mazzu (2023) find that banks with fewer controversies have less risk-taking. ESGC may be conceptualised as a conflicting force to ESG, giving rise to negative stakeholder relationships and consequently increasing firm risks. ESGC are undesirable events such as environmental and business ethics controversies reflected in the media which affect firms' systematic and idiosyncratic risks. Becchetti *et al.* (2015) argue that corporate social activities only impact idiosyncratic risk, due to this activity being firm-specific. Meanwhile, Farah *et al.* (2021) find that corporate social activities reduce the firm's systematic risk. Given these contradictions, more studies need to be conducted, especially those relating ESG and ESGC to the three types of risk: idiosyncratic risk, systematic risk, and total risk.

From the institutional theory perspective, Harjoto *et al.* (2021) suggest that corporate acts of social irresponsibility increase risk due to violations of both formal (regulations, laws, etc.) and informal constraints (customs, codes of conduct, etc.). Khanna and Palepu (2011) view the lack of formal rules in emerging countries as forcing the stakeholders to depend on informal constraints. La Porta *et al.* (2008) state that a country's legal system affects country-level institutions and firm-level contracting environments. Drawing from the institutional theory, it can be argued that the effect of ESG and ESGC on firm risks varies across countries' legal systems. This study extends the corporate social irresponsibility literature by focusing on the link between ESGC and firm risks. The study argues that ESGC can cause severe reputational damage to firms, diminishing stakeholders' relationships and increasing volatility of the stock price, thus increasing firm risks. On the other hand, ESG practices have the potential to reduce the risks of the firm (Benlemlih & Girerd-Potin, 2017; Shakil, 2021).

At the same time, the Islamic finance literature, particularly on Sharīʿah screening and Sharīʿah compliance, is expanding. Williams and Zinkin (2010) and Elghuweel *et al.* (2017) opine that Sharīʿah laws have considerable resemblance with traditional thinking and moral values. However, studies on ESG rarely extend the analysis to Sharīʿah-compliant firms (Lee & Isa, 2024; Hassan *et al.*, 2021), let alone studies on ESGC and Sharīʿah screening. Sharīʿah-compliant firms are those companies that comply with Sharīʿah principles; and because of this, according to Durand *et al.* (2013), these firms exhibit lower risk. Furthermore, Sharīʿah-compliant firms also have a lower level of leverage compared to Sharīʿah non-compliant firms (Hassan *et al.*, 2021). In this study, it is argued that Sharīʿah screening has an influential role in firm risks, and it may also moderate the relationship between ESGC and firm risks.

Evidence from previous studies related to environmental and sustainability issues carried out in developed markets may be less relevant for emerging markets (Anita *et al.*, 2023). Unlike developed markets, emerging markets face obstacles such as weak standards, institutions and legal infrastructure (Chapple & Moon, 2005; Anita *et al.*, 2023). Martins (2022) states that companies from emerging countries are expected to have different reasons to invest in ESG. First, prior studies (e.g., La Porta *et al.*, 1998) suggest that the level of investor protection is lower in emerging countries. Second, institutions and rules about social and environmental investments are weaker and less developed, markets are less efficient, corporate practices are more opaque, and relationships are perceived as more corrupt (Kaufmann *et al.*, 2011; Witt *et al.*, 2018).

The objectives of this study are first, to examine the impact of ESG and ESGC on firm risks (total, idiosyncratic, and systematic) in emerging markets; and second, to examine the moderating roles of Sharīʿah screening and legal origins over these relationships. This study contributes as follows. First, this study focuses exclusively on emerging markets; hence, it brings new evidence on the issue of ESG, corporate controversies and risks faced by firms in emerging countries. Second, this study brings in Islamic finance into corporate sustainability and risk issues and presents evidence of the positive impact of Sharīʿah screening on mitigating risk via ESG and corporate controversies. Third, this study presents evidence on the moderating role of the legal system in influencing the ESG-risk and ESGC-risk relationships. Specifically, it is shown that the civil law system plays a significant moderating role in reducing risks through ESG and ESGC.

This paper is organised as follows. The next section discusses the theoretical background and hypotheses development, followed by discussions on data and methodology. Then the results of the study are presented and discussed. The last section concludes the study and presents implications and suggestions for further studies.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

ESG, ESGC and Firm Risks

Currently, corporate involvement in ESG initiatives has played a central role in corporate decision-making and strategies. An ESG strategy is an organised approach that incorporates a company's ESG practices to achieve a long-term business sustainability objectives. Corporations are increasingly aware that their long-term survival depends on their ability to gain support from their various stakeholders. One way to do this is to operate businesses with long-term strategies that do not have any negative impact on the society or the environment. In this way, ESG practices may be used as an instrument to earn customer loyalty while at the same time minimising costs and maximising financial performance. According to Huang (2021), ESG factors are a major element of firm strategies concerning maintaining and developing the firm's social licence, mitigating and managing risks, and building relationships with related stakeholders. The literature shows that the nexus between ESG, ESGC and firm risks is not limited to a single theory; rather, various theories offer insight into understanding these relationships. For this purpose, this study draws from three theories, which are the legitimacy theory, the stakeholder theory, and the institutional theory, to underlie the study's hypotheses.

Stakeholder Theory

Freeman's (1984) stakeholder theory views that firms need to consider all stakeholder interests when pursuing their goals because each individual can affect or be affected by firms' operations. According to the stakeholder theory, demands from stakeholders can influence firms' decisions on their ESG engagements in a way that solves conflicts between stakeholders and firms, which will eventually result in reduced risks (Farah *et al.*, 2021). There have been many studies relating ESG with firm performance, but the association between ESG and risks has remained largely unexplored (Farah *et al.*, 2021). Investors may perceive firms with higher ESG as being less prone to social crises and having a better future positioning to comply with more stringent regulations. In this sense, higher ESG activities will reduce firm risks through reduced financial and operating risks and environmental risks (Sharfman & Fernando, 2008). Further, based on the stakeholder theory, ESG activities may mitigate risks due to firms' response to the expectations of stakeholders, which leads to increased stakeholder loyalty (Nirino *et al.*, 2022). The ability to create loyalty among stakeholders decreases firm risks. Similar conclusions are also made by Sassen *et al.* (2016), Benlemlih and Girerd-Potin (2017), and Shakil (2021).

On the contrary, the link between corporate controversies and risks remained mostly unknown (Shakil, 2021). Aouadi and Marsat (2018) state that ESGC raises stakeholders' doubt on the firm's reputation, resulting in lower credibility. According to the stakeholder theory, stakeholders can establish good relationships with firms due to firms' ESG initiatives; on the other hand, stakeholders can also become effective forces that discipline firms that are involved in controversies. Mishra and Modi (2013) use the stakeholder theory to explain that corporate social responsibility (CSR) would reduce risks while corporate social irresponsibility would increase risks. The stakeholder theory conceptualises ESGC as a conflicting force to ESG that leads to negative stakeholder relationships and produces negative effects in the form of negative publicity, financial losses, financial risk, and so on (Lange & Washburn, 2012; Lee & Isa, 2024).

Legitimacy Theory

Based on the legitimacy theory, Deegan (2009) states that companies must continuously ensure that the society perceives them as functioning within its norms. Legitimacy is a generalised assumption that firms' actions are desirable within some social norms, beliefs and values (Elsbach & Sutton, 1992; Schiemann & Tietmeyer, 2022). The legitimacy theory suggests that firms' goals need to be in line with the expectations of the society in which they operate. Engagement in ESG practices conveys information about the level of firms' legitimacy and helps firms improve their public image. Suchman (1995) mentions that as ESG awareness in the society continues to grow, companies continue to engage in ESG initiatives in order to strengthen the appropriateness of their actions within a given set of norms, regulations, beliefs and values that are established by all stakeholders. Cho *et al.* (2015) indicate that companies with greater ESG practices are not only devoted to improving relationships with stakeholders but to assuring their legitimacy as well. This can translate into corporate sustainability and lower risk.

On the other hand, firms with ESGC would experience a damaging effect on reputation and destruction of accumulated trust, which can seriously threaten a firm's legitimacy. ESGC events such as oil spills and other environmental events can endanger the wellbeing of communities and the environment and thus result in the undermining of the support of stakeholders, including investors. Kolbel *et al.* (2017) indicate that ESGC would have the effect of increasing financial risks.

Institutional Theory

Another theoretical approach explaining the nexus between ESG, ESGC and firm risks is the institutional theory (North, 1990, 1991). This theory suggests that the firms' success depends on the institutional framework in which they operate (Harjoto *et al.*, 2021). North (1990) states that institutions consist of both formal rules (regulations, legal law, etc.) and informal constraints (codes of conduct, trust, etc.). These formal rules and informal constraints are required by businesses for their operations and can help to reduce costs and spread risks for investors (North, 1991). Hence, this will affect firm risks. Baldini *et al.* (2018) and Ahmed and Uddin (2018) state that differences in market rules and regulations may lead to differences in firms' ESG practices. For instance, in the United States, firms are conducting ESG activities based on their discretion and good intentions rather than being compelled by regulations (Matten & Moon, 2008), whereas in countries with heavily regulated institutional environments, firms' ESG activities have to comply with these regulations. Galbreath (2013), Kaufmann and Lafarre (2021), and Rahi *et al.* (2023) provide support that institutional setting, to some extent, influences firms' ESG performance. Hence, the impact of ESG engagements on firms' performance and risk is dependent on the institutional setting of the firms.

Regarding corporate controversies, Harjoto *et al.* (2021) state that corporate social irresponsibility or ESGC, represents firm actions that disregard formal rules and informal constraints. Following Harjoto *et al.* (2021), this study suggests that the investors' responses to ESGC may depend on the institutional environment in which the firm operates. Since there is a great possibility that ESGC will lead to undesirable effects, it will increase firms' risks.

Based on the above discussions, this study formulates the following hypotheses:

H1a: ESG practices decrease firm risks.

H1b: ESGC increase firm risks.

The Moderating Effects of ESGC

Based on the theoretical arguments mentioned previously, firms with controversial corporate issues undermine their good relationships with stakeholders. Negative market news not only damages the firm's reputation and stakeholder relationships but also has the potential to increase firm risks. As a result, firms may engage in ESG due to the pressure exerted by stakeholders. Based on the legitimacy theory, firms may engage in 'symbolic' ESG to positively influence stakeholders' perception of corporate social expectations rather than to reduce environmental and social damage (Li *et al.*, 2019; Brammer & Pavellin, 2006). Li *et al.* (2019) state that corporate controversy may induce firms to engage in corporate sustainable activities. They also state that controversies often put firms' reputation at risk; thus, managers may engage in increased CSR activities to show that they are doing something good and regain their legitimacy among stakeholders. That being the case, it can be hypothesised that when firms are facing

controversies, they tend to be more aggressive in their ESG activities. This tends to indicate that ESG activities become a positive function of ESGC. This idea is consistent with those of Aouadi and Marsat (2018), Nirino *et al.* (2021), and Lee and Isa (2024). Because of this relationship, this study proposes that ESGC plays a moderating role on the ESG-risk relationship. Thus, the following hypothesis is proposed:
H2: ESGC positively moderates the negative ESG-risk relationship.

The Moderating Effect of Sharīʿah Screening

Despite the growing literature in Islamic finance, research on Sharīʿah screening and ESG is scarce (Hassan *et al.*, 2023). Sharīʿah screening is a process to identify Sharīʿah-compliant firms. This study uses Sharīʿah screening of the MSCI World Islamic Index, which applies across all countries. The MSCI Sharīʿah screening involves two criteria: business activity screening and financial screening. Within business activity screening, companies are not allowed to directly derive more than 5 per cent of their revenue from industries prohibited by Islamic law, which include alcohol, tobacco, cannabis, pork, interest-based financial services, weaponry, gambling, music, hotel, cinema and adult entertainment. Under financial screening, firms are not allowed to carry conventional debt, or cash plus interest-bearing securities, or cash plus account receivables in excess of 33 per cent of total assets. A firm is deemed to be Sharīʿah compliant when both criteria are fulfilled. According to Williams and Zinkin (2010), there are no conflicts between Sharīʿah principles and ESG practices. Qoyum *et al.* (2022) find that Sharīʿah-compliant firms have better ESG compared to Sharīʿah non-compliant firms. Sharīʿah-compliant firms also need to avoid investing in excessively risky projects. Durand *et al.* (2013) and Cheong (2021) find that firms that are Sharīʿah compliant have lower risk.

Ali and Al-Owaihan (2008) state that Sharīʿah principles also strongly emphasise transparency towards stakeholders. Through transparent operations, Sharīʿah-compliant firms are able to show lower fraudulent accounting and better earnings management and forecasting of errors (Alsaadi *et al.*, 2017). Further, Sharīʿah-compliant firms are strongly connected with business ethics. Charfeddine *et al.* (2016) stress that both Sharīʿah screening and ESG focus on ethical business practices. Further, Erragragui and Revelli (2016) state that Sharīʿah screening is associated with social and environmental sustainability aspects. The discussions seem to point out that Sharīʿah-compliant firms are more inclined to have a greater involvement in ESG compared to Sharīʿah non-compliant firms. Therefore, it can be hypothesised that Sharīʿah screening would have a negative moderating (risk-reducing) effect on the negative ESG-risk relationship. In a similar vein, this study argues that Sharīʿah screening would also have a negative moderating effect on the positive ESGC-risk relationship. Therefore, the following hypotheses are proposed:
H3a: Sharīʿah screening negatively moderates the negative ESG-risk relationship.
H3b: Sharīʿah screening negatively moderates the positive ESGC-risk relationship.

The Moderating Effect of Legal Origins

The institutional theory emphasises the importance of legal laws, rules and regulations, constitutions, etc., in shaping firms' operations and their inclination towards involvement in ESG activities (North, 1991). A country's legal system falls under one of two categories: if it originates from the civil law system it is referred to as practising a civil law legal system, whereas if it originates from the common law system it is referred to as practising the common law legal system (La Porta *et al.*, 1998). Countries with civil law legal origins are known to be more inclined towards fulfilling their various stakeholders' interests, not just those of shareholders. This orientation naturally paves the way for engagement in ESG activities. Kim *et al.* (2015), Jo *et al.* (2016) and Becchetti *et al.* (2020) find that, on average, CSR scores of companies operating in civil law countries are significantly greater than those in common law countries. On the other hand, La Porta *et al.* (2008) state that countries with common law legal origins tend to be shareholder-oriented. Liang and Renneboog (2017) and Harjoto *et al.* (2021) indicate that firms in common law countries are more shareholder-oriented and favour shareholder protection. This tends to suggest that firms in common law countries are less open to ESG practices.

The above discussions tend to indicate that a country's legal system has an impact on the extent of firm engagement in ESG activities (DasGupta & Roy, 2023). Correspondingly, it can be argued that the legal system also has an impact on ESGC events. Benlemlih and Girerd-Potin (2017) state that the negative relationship between CSR and firm risks is stronger in civil law countries (stakeholder-oriented countries) than in common law countries. Since it is expected that firms in the civil law system are more inclined to engage in ESG practices and reduce risk, they are also more prone to ESGC events. Thus, the legal origins can moderate the negative ESG-risk relationship as well as the positive ESGC-risk relationship. Consequently, this study formulates the following hypotheses:

H4a: Civil law legal system negatively moderates the negative ESG-risk relationship.

H4b: Civil law legal system negatively moderates the positive ESGC-risk relationship.

DATA AND METHODOLOGY

Data

For this study, the list of emerging markets is taken from the MSCI website. ESG and ESGC data are obtained from the Refinitiv Eikon database. The firm-level financial data are obtained from Refinitiv Datastream. All emerging markets based on the MSCI classification that have the required data, i.e. ESG, ESGC and financial data, in the database are included. The final sample excluded financial firms and firms with missing values. Markets that have less than five firms are also excluded. The final sample consists of 522 firms from 16 countries. This selection procedure allows us to obtain a balanced panel sample. The final sample consists of 4,698 firm-year observations over the period 2013–2021. The firms are then cross-checked with the list of the MSCI World Islamic Index to determine the Sharīʿah-compliance status of the company.

Table 1 presents the distribution of the final sample by country, legal origin, and industry type. Panel A shows that most emerging markets have a civil law system. Sharīʿah-compliant firms seem to be outnumbered by Sharīʿah non-compliant firms in most countries. The largest representations are from China (16.67%), South Africa (13.22%), and India (10.15%). Panel B shows that the industry with the greatest sample is metal and mining (11.88%), food and beverage (9.77%), and oil and gas (7.66%). Industries with the highest average total assets values are industrial, and oil and gas.

Regression Variables

Dependent Variables

Following Chollet and Sandwidi (2018), and Hassan *et al.* (2021), this study uses three measures of firm risk. These are:

1. Total risk: This refers to stock price volatility. It is measured by the standard deviation of monthly returns for the previous twelve months.

2. Systematic risk: The firm's beta of a fiscal year is estimated using the market model. Specifically, monthly stock returns are regressed against the local market index for the preceding twelve-month period.
3. Idiosyncratic risk: This risk reflects variation in stock returns due to firm-specific forces, unexplained by the systematic risk. Idiosyncratic risk is the standard deviation of the residuals from the market model.

Table 1: Sample Description by Country, Legal Origin, Sharīʿah Compliance and Industry

	Panel A: Firm Status				**Panel B: Average Total Assets (in USD million)**			
	No. of Obs.	**%**	**Sharīʿah-Compliant**	**Sharīʿah Non-Compliant**	**Industry**	**No. of Obs.**	**%**	**Average Total Assets**
Civil Law					Metals and Mining	62	11.88	14,010
China	87	16.67	13	74	Food and beverage	51	9.77	6,885
South Korea	51	9.77	19	32	Oil and gas	40	7.66	57,064
Taiwan	51	9.77	12	39	Electricity	38	7.28	22,769
Brazil	49	9.39	3	46	Telecommunications	34	6.51	11,508
Colombia	32	6.13	5	27	Tech. hardware and software	34	6.51	22,120
Russia	24	4.60	0	24	Transportation	28	5.36	14,466
Thailand	17	3.26	3	14	Automobiles and parts	26	4.98	30,825
Chile	16	3.06	4	12	Industrials	23	4.41	59,304
Turkey	16	3.06	4	12	Consumer goods	23	4.41	3,878
Poland	15	2.87	3	12	Travel and leisure	22	4.21	9,605
Indonesia	10	1.92	5	5	Chemicals	21	4.02	9,797
Philippines	7	1.34	1	6	Pharmaceuticals	19	3.64	5,666
Greece	6	1.15	0	6	Constructions and materials	31	5.94	10,935
Subtotal	**381**	**72.99**	**72**	**309**	Electronic equipment	18	3.45	13,980
					General retailer	15	2.87	5,710
Common Law					Consumer services	10	1.92	4,327
South Africa	69	13.22	9	60	Manufacturing	8	1.53	16,546
India	53	10.15	27	26	Healthcare	7	1.34	3,123
Malaysia	19	3.64	14	5	Shipping	6	1.15	17,476
Subtotal	**141**	**27.01**	**50**	**91**	Forestry and paper	6	1.15	9,651
Total	**522**	**100**	**122**	**400**	**Total**	**522**	**100**	

Source: Authors' own

Independent Variables

The main independent variables are ESG, ESGC, Sharīʿah dummy and civil law dummy variables, and their interaction terms.

The ESG and ESGC scores are obtained from the Refinitiv Eikon database. The ESG score is calculated by averaging the individual scores of ESG in the database. The scores range from 0 to 100, where 0 indicates no commitment to ESG and 100 indicates the highest level of ESG performance.

The ESGC score is based on 23 ESG controversial topics in the database. These include violations of human rights, the environment, working conditions, consumers, and so on

(Refinitiv, 2022). Refinitiv takes into account negative media stories; for example, legislation disputes, fines and lawsuits. If a scandal occurs, the firm involved is penalised, and this affects the ESG controversy score. ESG controversy scores range from 0 to 100; firms with no controversy will get a score of 100. Following Aouadi and Marsat (2018), this study multiplies the ESGC score by (-1). In this way, the interpretation becomes easier where a higher score means more controversies.

Control Variables

Following Hassan *et al.* (2021) and Farah *et al.* (2021), this study controls for firm-level variables that may influence firm risk. The variables are as follows:

1. Firm size, represented by total assets.
2. Profitability, represented by return on asset (ROA)
3. Leverage, represented by the ratio of total debt to total asset
4. Firm value, represented by the ratio of market to book value (MTB)
5. Liquidity, represented by the current ratio, which is the ratio of current assets to current liability.

Table 2 defines all variables and their expected signs.

Table 2: Definition of Variables

Variable	Definition/Measurement	Expected Sign
Total risk	Annualised standard deviation of monthly return for the previous 12 months.	
Systematic risk	This is the beta coefficient of the market model regression. The regression runs monthly returns against their respective market index for the previous 12 months.	
Idiosyncratic risk	Annualised residual standard deviation of the above market model.	
ESG	Average of ESG scores from the Refinitiv database.	-
ESGC	ESGC score extracted from Refinitiv database. The score ranges from 0 to 100. A score of 100 means no controversy.	+
Sharīʿah	Dummy variable, equals 1 if the firm is Sharīʿah-compliant and 0 otherwise	-
ESG*Sharīʿah	The interaction term between ESG and Sharīʿah.	
ESGC*Sharīʿah	The interaction term between ESGC and Sharīʿah.	
Civil	A dummy variable equal to 1 for firms operating in a civil law country and 0 otherwise.	+/-
ESG*civil	Interaction of ESG with the civil dummy variable.	-
ESGC*civil	Interaction of ESGC with the civil dummy variable.	-
LnTA (Total assets)	Natural logarithm of total assets	+/-
ROA (Return on assets)	Net income divides total assets	+/-
Leverage	Leverage ratio calculated as total debt of a firm scaled by total assets.	+
MTB (Market-to-book)	Market value of assets divided book value of assets.	+/-
Liquidity	Total current assets divided total current liabilities.	+

Source: Authors' own

Model Specification

Following the methods used by previous studies such as Galletta and Mazzu (2023) and Wu *et al.* (2023), we test the above hypothesis using pooled ordinary least squares (OLS) regression on a basic equation followed by extended equations. To test hypotheses 1a and 1b, the following basic model is estimated:

$$Risk_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 ESGC_{i,t} + \sum_{k=1}^{m} \delta_k control_{ikt} + \varphi_i + \gamma_t + \omega_i + \varepsilon_{i,t} \quad (1)$$

where *Risk* is the dependent variable (idiosyncratic risk, total risk, and systematic risk); ESG is the calculated *ESG* score, *ESGC* is the transformed score, *Control* is the set of firm-specific control variables, β_0 is a constant term and φ_i, γ_t, ω_i, are industry, time and country fixed effects, and $\varepsilon_{i,t}$ is the error term. Non-binary variables are lagged by one fiscal year to reduce possible endogeneity concerns. Equation (1) is estimated using pooled OLS with standard errors adjusted for heteroskedasticity and clustering by firm.

To test hypothesis 2, the following regression Equation (2) is run, which includes ESGC dummy variable and the interaction term in the explanatory variables. ESGC firms are divided into five categories based on the intensity of their respective ESGC scores. The five categories are labelled as ESGC_dum1 to ESGC_dum5, where category 1 has the lowest controversy score while category 5 has the greatest controversy score. The interaction term (ESGC_dum*ESG) is used to test the moderating role of ESGC in influencing the ESG-risk relationship.

$$Risk_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 ESGC\_dum_{i,t} + \beta_3 ESGC\_dum * ESG_{i,t} + \sum_{k=1}^{m} \delta_k control_{ikt} + \varphi_i + \gamma_t + \omega_i + \varepsilon_{i,t} \quad (2)$$

Hypotheses 3 and 4 focus on the moderating effects of Sharīʿah screening and legal origins on the relationship of ESG-risk, and ESGC-risk respectively. Equation (3) is used to test these relationships.

$$Risk_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 ESGC_{i,t} + \beta_3 MV_{kt} + \beta_4 ESG_{i,t} * MV_{kt} + \beta_5 ESGC_{i,t} * MV_{kt} + \sum_{k=1}^{m} \delta_k control_{ikt} + \varphi_i + \gamma_t + \omega_i + \varepsilon_{i,t} \quad (3)$$

Here, MV represents the moderating variables, which are Sharīʿah screening (Sharīʿah) and legal origins (civil).

RESULTS AND DISCUSSION

Descriptive Statistics and Correlations

Table 3 presents the summary statistics of variables used in this study for the full sample and sub-samples. Column 1 shows the whole sample mean of total risk is 0.089, systematic risk is 0.943, and idiosyncratic risk is 0.085, respectively. The values of these variables fall within the bounds of estimates reported in previous studies (Hassan *et al.*, 2021; Chollet & Sandwidi, 2018). The mean of ESG and ESGC are 52.389 and 90.346, respectively.

Columns 2 and 3 in **Table 3** show that Sharīʿah-compliant firms have lower firm risk compared to Sharīʿah non-compliant firms. This preliminary result supports the argument that Sharīʿah screening reduces firm risks. The table also indicates that Sharīʿah-compliant firms have a higher ESG score and a lower ESGC score compared to Sharīʿah non-compliant firms. This means Sharīʿah-compliant firms, in general, are more active in ESG activities while at the same time having fewer incidents of controversies compared to Sharīʿah non-compliant firms. As for legal origins, Columns 4 and 5 in **Table 3** show that companies operating in civil law countries, on average, exhibit slightly greater risk compared to those operating in the common law system. Looking at ESG and ESGC, on average, firms in civil law countries are more active in ESG activities and have fewer controversies compared to those in common law countries.

To check for possible multicollinearity in the regression, we run pairwise Pearson correlation coefficients for all variables. The results are reported in **Table 4**. Overall, the correlation coefficients among explanatory variables in **Table 4** may be considered weak and all variance inflation factor (VIF) scores are less than 5; this suggests that our models are unlikely to suffer from multicollinearity problems. It should be noted that **Table 4** also shows that ESG is negatively related to all risks, while ESGC is positively related to risks. These are preliminary evidence that ESG serves to mitigate risks while the opposite goes for ESGC. Interestingly, ESG and ESGC are positively correlated, which means that as firms engage in more ESG activities they also face higher incidents of controversies.

Regression Results

ESG, ESGC and Firm Risk

Table 5 presents the results of the pooled OLS regression Equation (1). The table shows that ESG is negatively related to all types of risk. This is consistent with the expectation that ESG activities act as a mitigating factor in reducing the level of firm risks. This finding is consistent with Hassan *et al.* (2021). Thus, H1a is supported.

With regard to ESGC, as predicted, the coefficient is positive across all three measures of firm risk. The ESGC effect is strongest for the idiosyncratic risk. This is consistent with the argument that firm controversies are usually confined to a particular firm or industry, and hence, it is captured by the idiosyncratic risk. The result supports H1b. This evidence is consistent with the findings of Kölbel *et al.* (2017), who report that ESGCs translate into financial risk.

With reference to control variables, the coefficients offer some important insights. For instance, firm size (LnTA) is negative with both idiosyncratic risk and total risk but positive with systematic risk. This shows that large firms are more vulnerable to undiversified volatility. This is in line with Sila *et al.* (2016) and Hassan *et al.* (2021). ROA appears to be negatively associated with all risk measures. This is consistent with evidence from Farah *et al.* (2021), where firms with higher returns experience less risk. For leverage, there is a positive association across all risk measures. This implies that more debt increases companies' fragility (Sila *et al.*, 2016; Farah *et al.*, 2021; Schiemann & Tietmeyer, 2022). Looking at the MTB, the results show it is positively related to total risk and systematic risk, which is consistent with the findings of Benlemlih & Girerd-Potin (2017).

Table 3: Descriptive Statistics

	N=522 Full Sample (1)		**N=122 Sharīʿah-Compliant Firms (2)**		**N=400 Sharīʿah Non-Compliant Firms (3)**		**N=381 Civil Law (4)**		**N=141 Common Law (5)**		**Differences in Mean (2) - (3)**	**Differences in Mean (4) - (5)**
Variables	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Total risk	0.089	0.053	0.078	0.039	0.093	0.056	0.090	0.051	0.086	0.056	-0.015***	0.004**
Systematic risk	0.943	0.456	0.897	0.377	0.956	0.474	0.986	0.448	0.844	0.455	-0.059***	0.142***
Idiosyncratic risk	0.085	0.116	0.081	0.079	0.087	0.124	0.086	0.127	0.084	0.083	-0.006	0.002
ESG	52.389	18.041	55.428	17.912	52.185	17.650	55.603	16.36	53.064	18.692	3.243***	2.539***
ESGC	-90.346	22.850	-91.421	21.752	-86.663	25.928	-92.066	20.973	-86.482	26.178	4.758***	5.584***
Total assets (USD million)	18,784	6,194	20,320	49,883	18,340	65,018	23,512	73,317	21,755	30,050	1,980	1.757***
ROA	6.919	6.971	9.004	7.061	6.371	6.929	6.417	6.434	8.194	8.130	2.633***	-1.777***
Leverage	27.210	16.792	17.628	9.646	29.973	17.37	28.452	16.515	24.386	17.023	-12.345***	4.066**
Market-to-book	2.926	4.311	3.832	5.339	2.665	3.929	2.568	3.907	3.738	5.018	1.167***	-1.170***
Liquidity	1.625	1.190	1.761	1.012	1.582	1.233	1.595	1.192	1.686	1.181	0.179***	-0.091**

Source: Authors' own

Table 4: Correlation Matrix

Variables	**VIF**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. Total risk		1									
2. Systematic risk		**0.320**	1								
3. Idiosyncratic risk		**0.338**	**0.141**	1							
4. ESGC	1.060	**0.091**	**0.037**	**0.038**	1						
5. ESG	1.050	**-0.041**	**-0.052**	**-0.048**	**0.159**	1					
6. Total assets	1.040	**-0.117**	**0.142**	-0.024	**0.132**	**0.241**	1				
7. ROA	1.400	**-0.190**	**-0.228**	**-0.094**	**-0.058**	0.017	**-0.069**	1			
8. Leverage	1.150	**0.109**	**0.120**	0.025	**0.050**	0.027	0.020	**-0.327**	1		
9. MTB	1.260	**-0.076**	**-0.149**	**-0.029**	-0.020	0.019	**-0.089**	**0.442**	**-0.070**	1	
10. Liquidity	1.040	-0.011	**-0.032**	-0.007	**-0.047**	**-0.072**	**-0.107**	**0.230**	**-0.324**	**-0.039**	1
Mean VIF	1.140										

Note: Coefficients in bold indicate significance at the 5% level
Source: Authors' own

Table 5: Baseline Regression Results of ESG and ESGC on Firm Risks (Regression Equation 1)

	Total Risk	Systematic Risk	Idiosyncratic Risk
ESG	-0.005*** (-2.794)	-0.009** (-2.383)	-0.016** (-2.247)
ESGC	0.016*** (5.995)	0.008* (1.725)	0.021*** (3.402)
LnTA	-0.003*** (-6.785)	0.025*** (6.123)	-0.004*** (-2.640)
ROA	-0.001*** (-10.866)	-0.011*** (-10.744)	-0.001*** (-5.067)
Leverage	0.023*** (3.437)	0.182*** (4.480)	0.028** (2.056)
MTB	0.005** (2.090)	0.004*** (2.680)	0.001 (1.115)
Liquidity	0.001 (0.979)	-0.002 (-0.310)	0.002 (0.612)
Constant	0.199*** (15.014)	0.881*** (7.656)	0.217*** (6.815)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Country fixed effect	Yes	Yes	Yes
No. of pooled observations	4,689	4,689	4,689
R-squared	0.217	0.211	0.112
F-statistic	47.927	46.055	22.193

Note: ***, ** and * indicate significance at the 1%, 5%, and 10% levels.
Source: Authors' own

Moderating Effects of ESGC

Table 6 presents the results for regression Equation (2) that divides the ESGC sample into five categories, ranging from very low controversies (category 1) to very high controversies (category 5). The results in **Table 6** indicate that only high categories (categories 4 and 5) of ESGC are related to risks, and so are the interaction terms. Further, **Table 6** provides more detailed information on the nature of ESG-risk and ESGC-risk relationships. It tells us the relationships are significant only for firms with high levels of controversies, while there is no effect on risk for firms with low levels of controversies. The interaction terms between ESGC and ESG indicate a similar behaviour, that is, only for firms in high categories of controversies that ESGC significantly act as a moderating element in the ESG-risk relationship. Hypothesis 2 which says ESGC positively moderates the ESG-risk relationship is therefore partially supported.

Moderating Effects of Sharīʿah Screening

Panel A of **Table 7** presents the regression results with Sharīʿah screening and its interaction term in the independent variables. The results indicate that Sharīʿah screening is negatively associated with risk. This means that Sharīʿah-compliant firms would have a lower risk compared to Sharīʿah non-compliant firms. This is true for all types of risks. Concerning the interaction term of ESG*Sharīʿah, the coefficient is negative for total risk and idiosyncratic risk. The negative coefficient of the interaction term with total risk suggests that the risk mitigating effect of ESG is enhanced for Sharīʿah-compliant firms. Therefore, hypothesis 3a is supported. The coefficient of ESGC*Sharīʿah is negative but only significant for total risk; the relationship is insignificant with systematic and idiosyncratic risks. So, hypothesis 3b is weakly supported. It can, therefore, be concluded that Sharīʿah screening has a weak moderating role in the relationship between ESGC and risk.

Table 6: Pooled OLS Regression Categories of ESGC on Risk (Regression Equation 2)

	Panel A: Total Risk					Panel B: Systematic Risk					Panel C: Idiosyncratic Risk				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
ESG	-0.004** (2.256)	-0.005** (-2.285)	-0.009** (-2.332)	-0.006** (-2.146)	-0.010** (2.188)	-0.010*** (-4.257)	-0.012*** (-4.327)	-0.009*** (-4.353)	-0.007*** (-4.357)	-0.011*** (-4.438)	-0.009** (-1.988)	-0.017** (2.085)	-0.013** (-2.055)	-0.010** (-2.199)	-0.013** (-2.030)
ESGC_dum1	-0.008 (-0.876)					-0.317 (-0.714)					0.190 (1.632)				
ESGC_dum2		0.011 (0.643)					0.045 (0.283)					0.084 (1.471)			
ESGC_dum3			0.009 (0.646)					0.031 (0.798)					-0.029 (-0.848)		
ESGC_dum4				0.037* (1.681)					0.286 (0.889)					0.010** (2.168)	
ESGC_dum5					0.099** (2.445)					0.092 (0.653)					0.028* (1.850)
ESGC_dum1*ESG	-0.002 (-0.990)					0.052 (0.475)					-0.045 (-1.538)				
ESGC_dum2*ESG		0.005 (0.749)					0.001 (0.023)					0.019 (1.321)			
ESGC_dum3*ESG			0.010 (0.698)					0.003 (0.948)					0.006 (0.663)		
ESGC_dum4*ESG				0.007* (1.801)					0.036 (0.434)					0.020* (1.717)	
ESGC_dum5*ESG					0.022** (2.066)					0.042 (0.653)					0.036** (1.993)
Constant	0.149*** (14.044)	0.152*** (13.919)	0.150*** (14.035)	0.156*** (14.118)	0.154*** (14.393)	0.743*** (8.078)	0.781*** (8.829)	0.758*** (8.200)	0.764*** (8.339)	0.786*** (8.567)	0.151*** (5.937)	0.149*** (5.689)	0.154*** (6.021)	0.160*** (6.205)	0.151*** (5.944)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry, year and country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.212	0.211	0.212	0.214	0.216	0.210	0.211	0.209	0.215	0.212	0.164	0.165	0.163	0.170	0.164
F-statistic	44.695	44.681	44.690	45.280	45.745	44.593	44.625	44.320	45.470	44.798	21.450	21.477	21.377	22.811	21.345
No. of pooled obs.	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689

Note: The main independent variables are interaction terms that capture the differences between firms with no controversy and firms with various levels of controversy.
***, ** and * indicate significance at the 1%, 5%, and 10% levels.
Source: Authors' own

Moderating Effects of Legal Origin

Panel B of **Table 7** presents the regression results with the legal origin and its interaction term in the independent variables. The results show that the civil law system has a negative coefficient for all types of risk. This means that firms operating in the civil law environment would have lower risks compared to companies in the common law system. This implies that companies operating under civil law tend to engage in more ESG activities due to expectations for such behaviour from stakeholders. Additionally, the interaction term of ESG*civil is negatively associated with both systematic risk and total risk. This means the legal system has the effect of reducing the ESG-risk relationship. Thus, H4a is supported.

Interestingly, these results indicate that the coefficients for the interaction terms ESGC*Civil are all negative. This means the country's legal system has an effective role in moderating the ESGC-risk relationship. It can be argued that this is due to the civil law framework, which is stakeholder-oriented; hence, investors would have expectations that firms facing controversies would engage in increased ESG initiatives to overcome the negative impact; hence, the negative moderating impact of the civil law system on the ESGC-risk relationship. Therefore, H4b is supported.

Table 7: Regression Results: Moderating Effects of Sharīʿah-screening and Legal Origins (Regression Equation 3)

	Panel A: Sharīʿah compliance			Pane B: Civil Law		
	Total Risk	**Systematic Risk**	**Idiosyncratic Risk**	**Total Risk**	**Systematic Risk**	**Idiosyncratic Risk**
ESG	-0.021*** (-4.336)	-0.023*** (-4.378)	-0.038** (-3.448)	-0.008*** (-2.743)	-0.011** (-2.108)	-0.022** (-2.335)
ESGC	0.010*** (6.146)	0.014* (1.936)	0.031*** (3.585)	0.013*** (6.144)	0.019* (1.864)	0.036** (2.217)
Sharīʿah	-0.086*** (-3.815)	-0.109* (-1.827)	-0.176*** (-3.260)			
ESG*Sharīʿah	-0.034*** (-3.422)	-0.051 (-1.441)	-0.075*** (-3.534)			
ESGC*Sharīʿah	-0.005* (-1.676)	-0.038 (-1.437)	-0.010 (-1.451)			
Civil				-0.028** (-1.979)	-0.042* (-1.740)	-0.031* (-1.682)
ESG*Civil				-0.014** (-3.510)	-0.046** (-2.288)	-0.014 (-1.416)
ESGC*Civil				-0.009*** (-3.339)	-0.010** (-2.414)	-0.005** (-2.326)
Constant	0.220*** (14.884)	0.987*** (7.699)	0.277*** (7.814)	0.148*** (7.652)	0.805*** (4.807)	0.160*** (3.436)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry, year and country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.222	0.217	0.172	0.224	0.220	0.166
F-statistic	39.061	37.999	20.520	44.241	43.837	20.994
No. of pooled obs.	4,689	4,689	4,689	4,689	4,689	4,689

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels.
Source: Authors' own

Endogeneity Test

In running the above regression, this study has taken some precautions, such as including firm-level control variables and using lagged explanatory variables to reduce the possibility of endogeneity issues. However, endogeneity and omitted variables bias might still exist and could weaken the results. To address this problem, this study further refines the treatment of endogeneity by rerunning the analysis using a two-step system generalised model of moment (SYS-GMM). This technique has been employed by many previous studies, such as Emma and Jennifer (2021), Wu *et al.* (2023), and Galletta and Mazzu (2023). Emma and Jennifer (2021) state that GMM not only solves the possible endogeneity problem but by employing lagged values as suitable instruments, also controls for heteroskedasticity and autocorrelation issues.

The endogeneity test analysis is based on Equation (1) as given in the model specification section. To check the consistency of the SYS-GMM estimator, this study uses two diagnostic tests. Firstly, it uses the second-order autocorrelation (AR2) test for the error term, which tests the null (H0) of the non-existence of AR2. Secondly, it uses the Sargan/Hansen test of over-identifying restrictions, which checks the null (H0) of overall instruments validity. **Table 8** reports the results of the SYS-GMM estimation of Equation (1). The validity of the instruments has been confirmed by the Sargan and Hansen test, showing that the instruments are valid for the model. The p-value of AR(2) is greater than 0.05 indicating that there is no second order correlation. The AR2 tests and Sargan/Hansen test indicate that the model is validated. The results in **Table 8** show that the coefficient of ESG and ESGC is qualitatively similar to those in **Table 5**, indicating that ESG is negatively associated with risk and that ESGC is positively associated with risk. This is consistent with the pooled OLS results. Thus, the endogeneity problems are not likely to affect the findings in the regression results.

Table 8: Regression Results of ESG and ESGC on Firm Risks: SYS-GMM Model

	Total Risk	**Systematic Risk**	**Idiosyncratic Risk**
ESG	-0.049** (-4.765)	-0.031* (-1.802)	-0.058** (-2.219)
ESGC	0.066*** (3.747)	0.042* (1.833)	0.080** (2.131)
LnTA	-0.006*** (-4.507)	0.009* (1.859)	-0.003** (-2.018)
ROA	-0.001** (-2.758)	-0.005** (-2.274)	-0.002* (-1.933)
Leverage	0.002** (2.250)	0.001** (0.286)	0.001* (1.929)
MTB	0.003 (1.248)	0.011** (1.973)	0.001 (0.606)
Liquidity	0.002 (1.077)	-0.004 (-0.458)	0.005 (1.356)
Total risk$_{t-1}$	0.260*** (5.263)		
Systematic risk$_{t-1}$		0.516*** (29.015)	
Idiosyncratic risk$_{t-1}$			0.736*** (4.532)
Constant	0.136** (1.983)	0.628* (1.696)	0.078* (1.818)

Table 8: Regression Results of ESG and ESGC on Firm Risks: SYS-GMM Model (Cont.)

	Total Risk	Systematic Risk	Idiosyncratic Risk
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Country fixed effect	Yes	Yes	Yes
No. of pooled obs.	4,689	4,689	4,689
Model fits:			
F-statistic	15.010	53.270	21.950
AR(1): *P*-value	0.000	0.000	0.000
AR(2): *P*-value	0.195	0.206	0.117
Sargan's test of over Restrictions Prob > chi^2	0.000	0.000	0.008
Hansen *J*-statistics: *P*-value	0.562	0.744	0.250
No. of instruments	80	80	80

Note: ***, ** and * indicate significance at the 1%, 5%, and 10% levels.
Source: Authors' own

CONCLUSION

The objective of this study is to examine the impact of ESG and ESGC (corporate controversies) on firm risk. The study also examines the moderating role of Sharīʿah screening and legal origins over these relationships. Using a balanced sample of 522 firms from 16 emerging countries covering the period 2013–2021, the findings show that ESG is negatively related to risk while ESGC is positively related. This means ESG reduces risks while ESGC increases risks. The study also finds that Sharīʿah-compliant firms have lower risk than Sharīʿah non-compliant firms and companies operating in a civil law system have lower risk than those in common law systems. Both Sharīʿah screening and the legal system play effective roles in negatively moderating the ESG-risk and ESGC-risk relationships. The results of this study thus lead to important implications:

1. The study's findings underscore the importance of having an ESG blueprint by all governments in emerging markets; they need to beef up their ESG strategies in various aspects of firms' operations in order for firms to succeed in the global competitive environment. In countries like Malaysia, it has been made mandatory for listed firms to disclose a Sustainability Statement in their annual reports detailing their management of material economic, environmental and social risks and opportunities.
2. In relation to developing global Islamic finance, policymakers need to be mindful of the importance of the Sharīʿah-ESG linkage and imbed this relationship in their strategic development blueprints. Efforts to incorporate ESG in Islamic finance are currently undergoing. For example, there is great demand for ESG *ṣukūk*, where issuers are leveraging on the rising global investor demand for green, sustainable and social bonds in markets such as the Gulf Cooperation Council (GCC), Malaysia, Indonesia, Türkiye and Pakistan (Al-Natoor, 2022). The rest of the Islamic finance markets should follow suit.
3. Our evidence indicates that ESG reduces firm risks and the risk reduction is stronger when integrating with Sharīʿah screening. This suggests the importance of integrating ESG and Sharīʿah principles into business operations, as this can align firms towards sustainability goals while reducing risks. Regulators and policymakers in emerging economies can leverage on these findings to promote and create more awareness, adopt responsible practices by incorporating ESG considerations, and foster sustainable

practices. Adopting Sharīʿah screening can support the development of Islamic finance and contribute to more resilient and sustainable financial markets.

One possible limitation of the current study is its focus on emerging markets, hence limiting the generalisation of the findings. Future studies may address this issue by incorporating both developed and emerging markets for comparative analysis. In this way, it will be known if there are any meaningful differences in ESG, ESGC and risk behaviour between these markets.

REFERENCES

Ahmed, S. & Uddin, S. (2018), 'Toward a political economy of corporate governance change and stability in family business groups: a morphogenetic approach', *Accounting, Auditing & Accountability Journal*, Vol. 31 No. 8, pp. 2192–2217.

Ali, A.J. & Al-Owaihan, A. (2008), 'Islamic work ethic: a critical review', *Cross Cultural Management: An International Journal*, Vol. 15 No. 1, pp. 5–19.

Al-Natoor, B. (2022), 'Islamic finance update: rating agency perspective', available at: https://www.fitchratings.com/islamic-finance

Alsaadi, A., Ebrahim, M.S. & Jaafar, A. (2017), 'Corporate social responsibility, Shariah-compliance, and earnings quality', *Journal of Financial Services Research*, Vol. 51, pp. 169–194.

Anita, M., Shevta, S., Surendra, S.Y. & Arvind, M. (2023), 'When do ESG controversies reduce firm value in India?', *Global Finance Journal*, Vol. 55, https://doi.org/10.1016/j.gfj.2023.100809

Aouadi, A. & Marsat, S. (2018), 'Do ESG controversies matter for firm value? Evidence from international data', *Journal of Business Ethics*, Vol. 151, pp. 1027–1047.

Baldini, M., Dal Maso, L., Liberatore, G., Mazzi, F. & Terzani, S. (2018), 'Role of country-and firm-level determinants in environmental, social, and governance disclosure', *Journal of Business Ethics*, Vol. 150 No. 1, pp. 79–98.

Becchetti, L., Ciciretti, R. & Conzo, P. (2020), 'The legal origins of corporate social responsibility', *Sustainability*, Vol. 12 No. 7, pp. 1–34, https://doi.org/10.3390/su12072717

Becchetti, L., Ciciretti, R. & Hasan, I. (2015), 'Corporate social responsibility, stakeholder risk, and idiosyncratic volatility', *Journal of Corporate Finance*, Vol. 35, pp. 297–309.

Benlemlih, M. & Girerd-Potin, I. (2017), 'Corporate social responsibility and firm financial risk reduction: on the moderating role of the legal environment', *Journal of Business Finance & Accounting*, Vol. 44 No. 7–8, pp. 1137–1166.

Boubakri, N., El Ghoul, S., Guedhami, O. & Wang, H. (2021), 'Corporate social responsibility in emerging market economies: determinants, consequences, and future research directions', *Emerging Markets Review*, Vol. 46, https://doi.org/10.1016/j.ememar.2020.100758

Brammer, S.J. & Pavelin, S. (2006), 'Corporate reputation and social performance: the importance of fit', *Journal of Management Studies*, Vol. 43 No. 3, pp. 435–455.

Chapple, W. & Moon, J. (2005), 'Corporate social responsibility (CSR) in Asia: a seven-country study of CSR web site reporting', *Business and Society*, Vol. 44 No. 4, pp. 415–441.

Charfeddine, L., Najah, A. & Teulon, F. (2016), 'Socially responsible investing and Islamic funds: new perspective for portfolio allocation', *Research in International Business and Finance*, Vol. 36, pp. 351–361.

Cheong, C.W.H. (2021), 'Risk, resilience, and Shariah-compliance', *Research in International Business and Finance*, Vol 55, https://doi.org/10.1016/j.ribaf.2020.101313

Cho, C.H., Laine, M., Roberts, R.W. & Rodrigue, M. (2015), 'Organized hypocrisy, organizational façades, and sustainability reporting', *Accounting, Organizations and Society*, Vol. 40, pp. 78–94.

Chollet, P. & Sandwidi, B.W. (2018), 'CSR engagement and financial risk: a virtuous circle? International evidence', *Global Finance Journal*, Vol. 38(C), pp. 65–81.

DasGupta, R. & Roy, A. (2023), 'Firm environmental, social, governance and financial performance relationship contradictions: insights from institutional environment mediation', *Technological Forecasting & Social Change*, Vol. 189, https://doi.org/10.1016/j.techfore.2023.122341

Deegan, C. (2009), *Financial Accounting Theory*, McGraw Hill.

Deegan, C. (2017), 'Twenty five years of social and environmental accounting research within critical perspectives of accounting: hits, misses and ways forward', *Critical Perspectives on Accounting*, Vol. 43(C), pp. 65–87.

Durand, R.B., Koh, S.K. & Limkriangkrai, M. (2013), 'Saints versus sinners: does morality matter?', *Journal of International Financial Markets, Institutions and Money*, Vol. 24, pp. 166–183.

Elghuweel, M.I., Ntim, C.G., Opong, K.K. & Avison, I. (2017), 'Corporate governance, Islamic governance and earnings management in Oman: a new empirical insights from a behavioural theoretical framework', *Journal of Accounting in Emerging Economies*, Vol. 7 No. 2, pp. 190–224.

Eliwa, Y., Aboud, A. & Saleh, A. (2021), 'ESG practices and the cost of debt: evidence from EU countries', *Critical Perspectives on Accounting*, Vol. 79(C), https://doi.org/10.1016/j.cpa.2019.102097

Emma, G.M. & Jennifer, M.F. (2021), 'Is SDG reporting substantial or symbolic? An examination of controversial and environmentally sensitive industries', *Journal of Cleaner Production*, Vol. 298, https://doi.org/10.1016/j.jclepro.2021.126781

Elsbach, K.D. & Sutton, R.I. (1992), 'Acquiring organizational legitimacy through illegitimate actions: a marriage of institutional and impression management theories', *Academy of Management Journal*, Vol. 33 No. 4, pp. 699–738.

Erragragui, E. & Revelli, C. (2016), 'Is it costly to be both Shariah compliant and socially responsible?', *Review of Financial Economics*, Vol. 31, pp. 64–74.

Farah, T., Li, J., Li, Z. & Shamsuddin, A. (2021), 'The non-linear effect of CSR on firms' systematic risk: international evidence', *Journal of International Financial Markets, Institutions & Money*, Vol. 71, https://doi.org/10.1016/j.intfin.2021.101288

Freeman, R.E. (1984), *Strategic Management: A Stakeholder Perspective*, Pitman Publishing Inc., Marshfield, MA.

Galbreath, J. (2013), 'ESG in focus: the Australian evidence', *Journal of Business Ethics*, Vol. 118, pp. 529–541.

Galletta, S. & Mazzu, S. (2023), 'ESG controversies and bank risk taking', *Business Strategy and the Environment*, Vol. 32 No. 1, pp. 274–288.

Harjoto, M.A. & Hoepner, A.G.F. & Li, Q. (2021), 'Corporate social irresponsibility and portfolio performance: a cross-national study', *Journal of International Financial Markets, Institutions and Money*, Vol. 70, https://doi.org/10.1016/j.intfin.2020.101274

Hassan, K.M., Chiaramonte, L., Dreassi, A., Paltrinieri, A. & Piserà, S. (2021), 'The crossroads of ESG and religious screening on firm risk', *Research in International Business and Finance*, Vol. 58, https://doi.org/10.1016/j.ribaf.2021.101500

Hassan, M.K., Chiaramonte, L., Dreassi, A., Paltrinieri, A. & Piserà, S. (2023), 'Equity costs and risks in emerging markets: are ESG and Sharia principles complementary?', *Pacific-Basin Finance Journal*, Vol. 77(C), https://doi.org/10.1016/j.pacfin.2022.101904

Hawn, O., Chatterji, A.K. & Mitchell, W. (2018), 'Do investors actually value sustainability? New evidence from investor reactions to the Dow Jones Sustainability Index (DJSI)', *Strategic Management Journal*, Vol. 39 No. 4, pp. 949–976**.**

Huang, D.Z.X. (2021), 'Environmental, social and governance (ESG) activity and firm performance: a review and consolidation', *Accounting & Finance,* Vol. 61 No. 1, pp. 335–360.

Jo, H., Song, M.H. & Tsang, A. (2016), 'Corporate social responsibility and stakeholder governance around the world', *Global Finance Journal*, Vol. 29, pp. 42–69.

Jung, Y.L. & Yoo, H.S. (2023), 'Environmental, social, and governance activities and firm performance: global evidence and the moderating effect of market competition', *Corporate Social Responsibility and Environmental Management*, pp. 1–10. https://doi.org/10.1002/csr.2518

Kaufmann, D., Kraay, A. & Mastruzzi, M. (2011), 'The worldwide governance indicators: methodology and analytical issues', *Hague Journal on the Rule of Law,* Vol. 3 No. 2, pp. 220–246.

Kaufmann, W. & Lafarre, A. (2021), 'Does good governance mean better corporate social performance? A comparative study of OECD countries', *International Public Management Journal*, Vol. 24 No. 6, pp.762–791.

Khanna, T. & Palepu, K.G. (2011), 'Winning in emerging markets: spotting and responding to institutional voids', *World Financial Review,* May-June, pp. 18–20.

Kim, H., Park, K. & Ryu, D. (2015), 'Corporate environmental responsibility: a legal origins perspective', *Journal of Business Ethics,* Vol. 140 No. 3, pp. 381–402.

Kölbel, J.F., Busch, T. & Jancso, L.M. (2017), 'How media coverage of corporate social irresponsibility increases financial risk', *Strategic Management Journal*, Vol. 38 No. 11, pp. 2266–2284.

Lange, D. & Washburn, N.T. (2012), 'Understanding attributions of corporate social irresponsibility', *Academy of Management Review,* Vol. 37, pp. 300–326.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R.W. (1998), 'Law and finance', *Journal of Political Economy*, Vol. 106 No. 6, pp. 1113–1155.

La Porta, R., Lopez-de-Silanes, F. & Shleifer, A., (2008), 'The economic consequence of legal origins', *Journal of Economic Literature*, Vol. 46, pp. 285–332.

Lee, S.P. & Isa, M. (2024), ‘Corporate sustainability practices and financial performance: the moderating role of corporate controversies and Shariah screening’, *Corporate Social Responsibility and Environmental Management*, https://doi.org/10.1002/csr.2763

Li, Y.W., Gong, M.F., Zhang, X.Y. & Koh, L. (2018), ‘The impact of environmental, social, and governance disclosure on firm value: the role of CEO power’, *The British Accounting Review*, Vol. 50 No. 1, pp. 60–75.

Li, J., Haider, Z.A., Jin, X. & Yuan, W. (2019), ‘Corporate controversy, social responsibility and market performance: international evidence’, *Journal of International Financial Markets Institutions and Money*, Vol. 60, pp. 1–18.

Liang, H. & Renneboog, L. (2017), ‘On the foundations of corporate social responsibility’, Journal Finance, Vol. 72 No. 2, pp. 853–910.

Lin, F.Y., Lin, S.W. & Fang, W.C. (2022), ‘Impact of CEO narcissism and hubris on corporate sustainability and firm performance’, *North American Journal of Economics and Finance*, Vol. 59, https://doi.org/10.1016/j.najef.2021.101586

Lee, S.P. & Isa, M. (2020), ‘Environmental, social and governance (ESG) practices and performance in Shariah firms: agency or stakeholder theory?’, *Asian Academy of Management Journal of Accounting and Finance*, Vol. 16 No. 1, pp. 1–34.

Manning, B., Braam, G. & Reimsbach, D. (2019), ‘Corporate governance and sustainable business conduct: effects of board monitoring effectiveness and stakeholder engagement on corporate sustainability performance and disclosure choices’, *Corporate Social Responsibility and Environmental Management*, Vol. 26 No. 2, pp. 351–366.

Martins, H.C. (2022), ‘Competition and ESG practices in emerging markets: evidence from a difference-in-differences model’, *Finance Research Letters*, Vol. 46(PA), https://doi.org/10.1016/j.frl.2021.10237

Matten, D. & Moon, J. (2008), ‘Implicit and explicit CSR: a conceptual framework for a comparative understanding of corporate social responsibility’, *Academy of Management Review*, Vol. 33 No. 2, pp. 404–424.

Mishra, S. & Modi, S.B. (2013), ‘Positive and negative corporate social responsibility, financial leverage, and idiosyncratic risk’, *Journal of Business Ethics*, Vol. 117 No. 2, pp. 431–448.

Nguyen, P. & Nguyen, A. (2015), ‘The effect of corporate social responsibility on firm risk’, *Social Responsibility Journal*, Vol. 11 No. 2, pp. 324–339.

Nirino, N., Santoro, G., Miglietta, N. & Quaglia, R. (2021), ‘Corporate controversies and company’s financial performance: exploring the moderating role of ESG practices’, *Technological Forecasting and Social Change*, Vol. 162, 120341. https://doi.org/10.1016/j.techfore.2020.120341

North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge, MA.

North, D.C. (1991), ‘Institutions’, *The Journal of Economic Perspectives*, Vol. 5, No. 1, pp. 97–112.

Qoyum, A., Sakti, M.R.P., Thaker, H.M.T. & Alhashfi, R.U. (2022), ‘Does the Islamic label indicate good environmental, social, and governance (ESG) performance? Evidence from sharia-compliant in Indonesia and Malaysia’, *Borsa Istanbul Review*, Vol. 22 No. 2, pp. 306–320.

Rahi, A.F., Chowdhury, M.A.F., Johansson, J. & Blomkvist, M. (2023), 'Nexus between institutional quality and corporate sustainable performance: European evidence', *Journal of Cleaner Production*, Vol. 382, https://doi.org/10.1016/j.jclepro.2022.135188

Refinitiv (2022), 'Environmental, social and governance scores from Refinitiv', available at: https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Sassen, R., Hinze, A.K. & Hardeck, I. (2016), 'Impact of ESG factors on firm risk in Europe', *Journal of Business Economics*, Vol. 86 No. 8, pp. 867–904.

Schiemann, F. & Tietmeyer, R. (2022), 'ESG controversies, ESG disclosure and analyst forecast accuracy', *International Review of Financial Analysis*, Vol. 84, https://doi.org/10.1016/j.irfa.2022.102373

Sharfman, M.P. & Fernando, C.S. (2008), 'Environmental risk management and the cost of capital', *Strategic Management Journal*, Vol. 29 No. 6, pp. 569–592.

Shakil, M.H. (2021), 'Environmental, social and governance performance and financial risk: moderating role of ESG controversies and board gender diversity', *Resources Policy*, Vol. 72, https://doi.org/10.1016/j.resourpol.2021.102144

Sila, V., Angelica Gonzalez, A. & Hagendorff, J. (2016), 'Women on board: does boardroom gender diversity affect firm risk?', *Journal of Corporate Finance*, Vol. 36, pp. 26–53.

Suchman, M.C. (1995), 'Managing legitimacy: strategic and institutional approaches', *Academy of Management Review*, Vol. 20 No. 3, pp. 571–610.

Treepongkaruna, S., Kyaw, K. & Jiraporn, P. (2022), 'Shareholder litigation rights and ESG controversies: a quasi-natural experiment', *International Review of Financial Analysis*, Vol. 84, https://doi.org/10.1016/j.ribaf.2021.101500

Williams, G. & Zinkin, J. (2010), 'Islam and CSR: a study of the compatibility between the tenets of Islam and the UN global compact', *Journal of Business Ethics*, Vol. 91, pp. 519–533.

Witt, M.A., de Castro, L.R.K., Amaeshi, L., Mahroum, S., Bohle, D. & Saez, L. (2018), 'Mapping the business systems of 61 major economies: a taxonomy and implications for varieties of capitalism and business systems research', *Socio-Economic Review*, Vol. 16 No. 1, pp. 5–38.

Wu, Z., Lin, S., Chen, T., Luo, C. & Xu, H. (2023), 'Does effective corporate governance mitigate the negative effect of ESG controversies on firm value?', *Economic Analysis and Policy*, Vol. 80, pp. 1772–1793.

ABOUT THE AUTHORS

Siew-Peng Lee, PhD, is an Assistant Professor of Finance at the Faculty of Accountancy and Management, Universiti Tunku Abdul Rahman, Malaysia. She holds a PhD in Finance from Universiti Malaya, Malaysia. Siew-Peng Lee is the corresponding author and can be contacted at: leesp@utar.edu.my

Mansor Isa, PhD, is an Honorary Professor at the Faculty of Business and Economics, Universiti Malaya, Malaysia. He holds a PhD in Finance from the University of Pittsburgh, USA.

DECLARATION

Credit Authorship Contribution Statement

- Siew-Peng Lee: Conceptualisation, Methodology, Data curation, Software, Formal analysis, Writing – review and editing.
- Mansor Isa: Writing – review and editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interest or personal relationships that could have influenced the research work.

Acknowledgement

The authors would like to acknowledge the financial support from Universiti Tunku Abdul Rahman for the Research Grant No. 2023-C2/L06.

Ethical Statement

The authors declare that they understand the Ethical Guidelines and have adhered to all the statements regarding ethics in publishing. They also confirm that this paper is original and has not been published in any other journal nor is under consideration by another publication.

Data Availability

The authors do not have permission to share data.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

Appendix

None

INCEIF UNIVERSITY
University Registration No. DU018 (W)
International Centre for Education
in Islamic Finance (INCEIF)
(Company No. 200501036588 (718736-K))
Jalan Tun Ismail, 50480, Kuala Lumpur,
Malaysia

T: +603 7651 4200
F: +603 7651 4242
W: www.inceif.org