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THE IMPORTANCE OF ENGINEERING NEW ISLAMIC FINANCIAL PRODUCTS

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ABSTRACT

Given that the world faces political and economic challenges, having a strong financial standing is crucial for any country. This research answers the question of why the Islamic banking industry should innovate with new Islamic financial products. This study discussed the challenges faced by current financial products that are being used in the Saudi market. In addition, the importance of developing new Islamic financial products that cost less and meet the needs of Muslims, especially those living in the Kingdom of Saudi Arabia, is also discussed. The research covers any research published between 1998 and 2017 on data related to Islamic finance, financial engineering, banking and investment. The main aim of this research is to emphasize the importance and urgency of the development of new Islamic financial products, as banks in the Kingdom of Saudi Arabia spend huge amounts on their operations in accordance with Sharia law, as it is a crucial factor to operate in the Kingdom of Saudi Arabia. Empirical results show that technology and the emergence of the fourth industrial revolution have the capacity to influence the innovation activities of Islamic products. Precisely, Islamic financial innovation has an impact on increasing opportunities for Muslim investment.

CCS Concepts

• Information systems→Database management system engines • Computing methodologies→Massively parallel and high-performance simulations.

INTRODUCTION

Islamic finance has emerged as one of the fastest growing segments of global finance. There has been a rapid annual growth of 10-15 % with more than $1 trillion in assets in the Islamic Financial Institutions business cycle [1].

Presently, Islamic finance is widely accepted among Muslims and is also embraced by the majority of non-Muslims. Islamic banks perform in the same way that conventional banks do, the only difference is how they operate [2]. Islamic financial firms or any bank with an Islamic finance department are therefore acting in accordance with Islamic Shariah law, which prohibits usury, ambiguity and speculation by Islamic banks [2]. Islamic finance is based on local and future sales, leasing, trade and partnership. In the Islamic economy, therefore, its agents are free to enter into any contract they desire as long as it complies with the principles of the Shariah [2].

Due to the boom in Islamic finance, there are some difficulties in the engineering of new products for this type of finance, as these products must be in accordance with the principles of Shariah law [3]. This market is suffering from a lake of depth and breadth due to its very limited and old-fashioned products. As things stand, this market needs innovation in its products, as they have been there since the beginning of Islam (1400 years ago) [4]. Some of the contemporary products are Musharakah, Ijarah and Murabaha [5]. Musharakah is the Arabic word for partnership [6]. This contract is vital in any Islamic financial institution in order to finance business opportunities and support operations, and how Islamic financial institutions provide short-and medium-term investment project opportunities [6]. Ijarah is a lease contract in conventional finance [7]. Whenever an individual rents an asset (house, car, equipment, etc.) the Islamic financial institution enters into such a contract with that individual. In this contract, the financial institution purchases this asset and then rents it to the individual [7]. For Murabaha, the contract is how Islamic financial institutions provide trade finance to their clients [8]. In order for the Murabaha contract to be valid in the first place, the goods must be already existing and not yet manufactured in the second place, the Islamic financial institution must own a traded asset [8]. In the Murabaha contract, the goods should be identified, the Islamic financial institution should clearly identify the price at which the asset was purchased and the profit that was added to it before it was sold to the client [8].

Financial engineering is the use of certain mathematical techniques to solve complex problems [9]. This type of engineering does not require any actual engineering. Financial engineering is the application of quantitative techniques to financial products on the financial markets. It is a combination of tools and knowledge in economics, applied mathematics, computer science and statistics. All previous knowledge has combined to help address and resolve the emerging financial issues, as well as to innovate new financial products. Simply put, financial engineering is the use of financial tools and techniques to improve resource efficiency. This type of engineering is used by commercial banks, investment banks, hedge funds and insurance companies [10]. Financial engineering is needed by financial firms around the world to innovate financial products that meet the needs of their investors and to encourage households to invest their money in banks [10].

This paper discusses the challenges that Islamic financial institutions face in terms of innovative products. In addition, this research also underlines the importance of engineering and innovating new Islamic financial products that cost less. As a result of this research, Muslims are also encouraged to invest. Furthermore, this study seeks to solve some of the dilemmas that Muslim investors and financial professionals face today. It also encourages financial professionals to invent new products in these institutions that meet the needs and criteria of Islamic finance. This study covers the period from 2000 to 2017 for Islamic finance, financial engineering, banking and investment data.

LITERATURE REVIEW

Overview

Given that the world faces political and economic challenges, having a strong financial standing is crucial for any country. Islamic finance is becoming more popular nowadays due to the advantages it gives to the parties involved [11]. With more need to be used, there is a higher obligation to develop new products that meet today's needs as well as to be aligned with the rapid development of today's technology sector. In addition, it has been found that the Islamic financial industry lacks this variety of products. As a result, no real investment opportunity is being exploited. Recent decades have seen a blast in financial innovation and the development of new contracts [12]. In addition, the demand for Islamic financial products has increased over the last few years. Moreover, with the Islamic financial industry, developments and innovations have helped bypass prohibited and disadvantaged transactions rather than by adding and contributing to the transparency of the system [13].

Main Reasons Why Financial Engineering Needs to Be Introduced in Islamic Finance

In order to take a broader view of the situation and to put things into perspective, some of the main reasons for innovating and introducing financial engineering into Islamic finance is discussed here [14]:

1. There has been a rapid development of the Muslim population in many nations. Politicians as well as economists are increasingly taking Muslim groups in Europe into account. In some countries, Muslims are no longer considered a minority [14].
2. There is a growing interest and demand for Halal (allowed) money related items among non-Muslims today. Investments by European banks in sukuk (Islamic securities) aroused interest among private investors who might want to consider both moral and religious perspectives in their investment choices [15].
3. To take advantage of the changes that are taking place on the market today, banks are rushing to issue licenses and permits that allow investors to start providing retail banking (mortgage, insurance and loans) in accordance with the Shariah Guidelines. European governments have changed their policies and their approach. These governments are now calling for more attention to be paid to the needs of Muslim communities in Europe, and are now calling for careful consideration to be given to the needs of Muslim groups in Europe. Experts have begun to respond to these requirements, which have not been considered in the period prior to that. The fears of distancing a remarkable

piece of European culture and the threat of annihilation of stability have played a major role in changing the official position [15].
4.Government authorities and conventional banks have seen a promising business opportunity back in Islamic governance, not a "handout" of ethnic minorities. In addition, a large number of experts, financial managers and investors want to seek this opportunity and to incorporate Islamic financial products into their portfolio in order to have a wider and more diverse portfolio [15].

Financial Innovation

Financial innovation Involve the development and popularization of new financial instruments, technologies, institutions, markets, procedures and business models, including the new application of existing ideas in a different context [16]. New technological innovations have made it possible for financial institutions to interfere with new products that integrate markets, reduce and simplify operating costs, allow companies to take risks and expand to new markets [17].

Historically, Muslims were the first to develop a system of coinage as a means of exchanging goods and services, the first issue of what is known as “money" today [18]. Although the Western-dominated system is generally trading, banking and finance. All the products that is present in Islamic finance today came from a product adjustment that already exists in the conventional banking system. Banks operating within the jurisdiction of the Kingdom of Saudi Arabia must comply with all guidelines and regulations of the Saudi central bank SAMA [19]. Moreover, because the constitution of Saudi Arabia is unique (following the Islamic Shariah), these regulations are open to interpretation and Hiyal is constantly changing [19].

Islamic Finance Principle and Contributions

The aim of this research is to propose the combination of two elements: Islamic finance and financial engineering to produce an engineered product that will solve today's borrowing and lending high costs in the Saudi banking system [20]. Moreover, starting from the fundamental Islamic norms, the question of whether a structured contract involves a clear Bay'a (sale) instead of Riba is an essential one. The Islamic economic model is fundamentally proposed to optimize the activities of each party and entity's financial processes [20]. It also aims to enhance and improve the efficiency of processes and address inequities in economic relations, which provide for the main types of constraints. First of all, Islamic finance prohibits Riba. Thus, from taking any interest in normal activities in any conventional or traditional bank is not allowed. Second, in order for these Islamic institutions to operate, the Hiyal-based financial system has been developed and, because it must be governed by the Shariah law, the risk of profits and losses is divided between the parties involved. Third, Islamic law prohibits speculation (Mayser) and therefore any operation involving speculation will be immediately excluded. Fourth, the most important condition of the transaction is the indefeasibility of the contract. Fifthly, the prohibition of uncertainty. In Islamic finance, one must be certain of everything and nothing should be ambiguous about the contract /

investment being null and void. Finally, any investment project should be of benefit to the general public. If the investment is harmful to anyone, it will not be considered. Moreover, any transaction under Shariah law must meet six basic principles [22]:

1. Interest is prohibited ("Rhiba")
2. Risks should be shared.
3. Any speculative behavior is prohibited ("Maysir")
4. Use of asymmetric information is banned ("Gharar").
5. Contracts should be respected.
6. Trade transactions allowed by the Islamic norms should be financed only

Islamic Finance and Its Economic Impact

It is important to understand that Islamic finance does not formulate or enhance any exceptional laws of economic advancement and development, but only a number of alternative business strategies. Characterized by indistinguishable monetary laws from any other financial market, members of the Islamic financial system are affected by a similar issue that has arisen in the West. Islamic finance provides the basic building blocks that can be used to develop increasingly complex instruments that will improve liquidity and provide better risk management tools [22]. Today, Islamic financial institutions are suffering from a lake of instruments and products because of the limitations of studies and the depth of research on the subject. New instruments are needed to enhance the liquidity of this market [23]. Moreover, the process of developing new products and instruments is complex and sensitive due to the lack of financial, mathematical and religious understanding of Islamic jurisprudence [23]. The Bank for International Settlement (BIS) identifies three types of financial innovations that have had the greatest impact on market innovations [23].

1. Enhance liquidity.
2. To transfer risk (price and credit).
3. Generate revenues.

For these reasons, derivatives are an essential component in enhancing and completing the market, providing value and benefits to people within the market. Islamic financial markets lack both liquidity and risk management tools.

The key building blocks of Islamic financial systems are designed to advance trade and partnership since Islam has that entrepreneurial spirit [19]. The sad thing is that Islamic finance is still foreign to risk management products on its markets.

Main Problem in The Islamic Finance Industry

Currently, each Islamic financial institution (and here we are talking only in the Kingdom of Saudi Arabia) has its own board of religious scholars to whom all new products to be issued are referred for approval. And because of this, the lack of financial knowledge of these individuals has a significant impact on this market. This system of establishing a board of religious scholars in each institution is designed solely to ensure that these products are free from Riba, Gharar, Qimar and Ikrah [24]. Furthermore, the freedom and admissibility of agreements in Islam on a non-profit-sharing basis can open the door to the construction of an all-inclusive range of products. As Islamic finance is based on spot and future sales, leasing, trade and partnership, it is not enough to meet today's needs [24]. Historically, religious scholars have not set out a set of conditions and guidelines that the Islamic financial system should be based solely on as some people advocate. In Islam, there is a critical difference between interest and return [24]. It is important to note that Islam does not in any way deny the rate of return of any legitimate activity. Islam therefore promotes investment in the real economy [24].

ANALYSIS ON ISLAMIC FINANCIAL PRODUCTS

Overview

Islamic finance is one of the fast-growing industries in the world economy by 10%-15% annually with more than $1 trillion in assets [1]. Today, due to the high demand of these Islamic institutions, it is becoming more and more difficult to ignore the need for them. In addition, the increasing number of Muslims around the world is a critical factor. Now that more than 1.9 billion Muslims worldwide are obliged to use Islamic finance, financial personnel and institutions should focus on meeting their needs. The need for innovation in these new Islamic products is therefore a must. In addition, these Islamic products attract more and more non-Muslims because of the benefits they receive in terms of interest rate, partnership opportunities, risks and returns [10].

Islamic Financial Institutions

Islamic finance is one of the fast-growing industries in the world economy. People can do and get the same operations done in Islamic banks as they do in conventional banks with lower costs. Both Muslims and non-Muslims prefer to use Islamic financial institutions because of their additional benefits. Moreover, compared to the ratio of conventional banks to Islamic banks, there are not many Islamic financial institutions outside the Islamic countries, as they are concentrated mainly in the MENA region [13]. Most of these institutions are forced to operate within the framework of the Islamic Guidelines because of their ruling systems. Indeed, Islamic financial institutions lack the tools they need to be attractive to investors. Although they do have benefits, there are many obstacles and challenges involved. Despite the rapid growth of this industry, its main concern is in the area of hedge and risk management [15]. The problem here is that this type of institution tends to implement strategies from the conventional system instead of developing new tools and products to solve their problems. In addition, their main challenge here is how they will interfere with new Shariah complained about products that enhance liquidity and diversification of portfolios [18].

Hiyal In Islamic Finance

Hiyal is an Arabic word that means artificial [25]. Hiyal is mostly used to satisfy the needs of Al-Maslah Al-Amah, an Arabic word for public interest, and it is an important principle of Islamic finance. The dominance of the framework of conventional financial institutions has raised challenges for Islamic financial institutions [26]. These types of institutions have panicked in order to address these challenges and gaps that have not existed before due to globalization and international trade. Islamic financial institutions were therefore required to adopt a hi-based financial system for the rapid growth and development of the sector. Since Muslims need to ensure that their financial operations are halal. Thus, a board of scholars has come up with three pillars to ensure that: first, haram is removed. Second, the difficulty arises from the facility [26]. In addition, the whole concept of Islamic finance revolves around the jurists who issue fatwah. The legality of hiyal is carefully examined by these jurists [26].

Example of Hiyal In the Saudi Market

Islamic financial institutions in the region tend to use the Hiyal-based financial system to solve their problems [27]. This system considers the manipulation of existing products to meet the needs of its user. For example, the national commercial bank has entered the farming industry not because they see the potential of this industry, but because the Islamic religion prohibits the purchase and sale of money (loans). Banks use this Hiyal to carry out the following operation: whenever they have a customer in the retail finance department (customer who wants to borrow from the bank) the process is the same [27]. First, they assign to that person the amount of rice in which the sale price is equal to the loan that the person wants to borrow. After that, this person receives a text message informing him of the price and amount of rice he has bought. This message is sent automatically to the other bank's business (the rice farm), and they ask him if he wants to sell it back to the bank or not (and, of course, he's selling it because he won't get the money if he doesn't) whenever the borrower wants to sell it, the bank buys the goods from him and gives him the money (principle) under the contract they have signed. The principle of the contract is higher because the bank has a profit margin. In addition, because Islam prohibits any kind of interest, this is used a lot in the case of any lender to get their compensation in comparison to the risks they take, as well as the time value of the money they lose. The borrower pays back this principle with the bank's profit margin in the agreed timeframe [27]. Figure 1 shows the overall flow of the process.

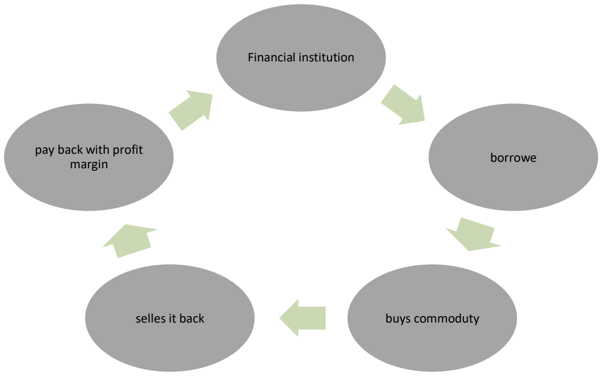

Figure 1. Hiyal Process Flow

Problem Faced

Currently, each Islamic financial institution has its own board of religious scholars to whom all new products to be issued are referred for approval [28]. In addition, the whole concept of this Hiyal-based financial system revolves around the Fatwah of the finance, accounting and economic knowledge of these jurists, which has a huge impact on the market [28]. The issue that has arisen here is that these jurists take only the religious side of these financial products from one side. In other words, if it implements all that the Shariah proposes, it will be accepted and, if not, it will be excluded immediately [29]. In addition, most, if not all, financial institutions in the Saudi market setting up new businesses in other industries for the sole purpose of producing their products are faced with a huge challenge in the near future [29]. Furthermore, government processes, constitutions and guidelines also have an impact. The acquisition of additional costs to make this product / money Halal is another matter [28,29]. Moreover, most current Islamic financial products are debt-based products, which is another long-term problem, because Islamic Shariah prohibits this kind of thing [29]. Although interest-free financial services do apply, it is highly risky to provide many that will harm the economy after several decades as a result of the global system. Finally, the difference between interest and return is critical in Islam. It will help to shed some light on this issue.

CONCLUSION

In conclusion, Islamic financial institutions lake the appropriate products and tools to be considered a good infrastructure for attracting long-term investors. Furthermore, the use of financial engineering will have a major impact on the economic growth of the MENA region. It will also help to create more sophisticated and liquid products, as well as provide a solid basis for risk management. Moreover, the Islamic Shariah does give freedom of contract. Since the survival and development of these Islamic markets is heavily dependent on and introduced to product innovations, these products should be designed by the best professionals from all over the world with an excellent background and knowledge in the fields of not only Islamic studies. In addition, new criteria should be applied to the boards of lawyers employed by these institutions. The examination of an academic institution or institution that teaches finance, accounting, economics and Islamic studies within the central bank of each Islamic country should be designed to ensure the full understanding of these chosen jurists. This will also have an impact on the economy, reflect on a faster-growing industry and attract more investors. Thus, in order to address the lack of financial innovations in the Islamic finance industry, a combination of Hiyal and financial engineering is proposed in order for Muslims to come up with an optimal solution to this major issue. Two different approaches may be taken into account for the implementation of financial engineering. The first is reverse engineering. The second thing is to innovate. As Islamic institutions also lake off a good infrastructure, a complete revival of their systems should be considered for the future. For future works, the authors recommend quantitative studies be carried out to analyze the impact of such innovation on Saudi GDP and the increase in investment in the MENA region.

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