**Legal and Socio-economic Issues of Automated Islamic Banking in Uganda: Lesson from Indonesia**

***Abstract***

*The global environment has seen the surge and development of digital technology and virtually all sectors of the global environment have been enhanced and improved with technology. In this regard, it suffices to state that, while Indonesia has incorporated digital technology in automating its Islamic banking system over time, though there are several prospects in automating the Uganda Islamic banking system, given its nascent stage, there seem to be several legal and socio-economic issues. The study adopts a hybrid method of study in examining the challenges and prospects concerning an automated Islamic banking system in Uganda, to learn from the Indonesian system. Concerning this, 306 questionnaires were distributed to respondents residing in Uganda, and the data obtained was analyzed, using a descriptive and analytical approach. The study found that given the fact that the Islamic banking system in Indonesia has improved through automation, the same can be replicated in Uganda's Islamic banking system. However, several legal and socio-economic challenges may limit the viability of an automated Islamic banking system. The study therefore concludes and recommends that automating the Islamic banking system in Uganda comes with several prospects such as enhancing the banking system, executing banking activities seamlessly, and inclining to international best practice. The study therefore recommended that, for an effective automated banking system in Uganda, there is a need to review the legal framework for incorporating and regulating a digitalised Islamic banking system. Therefore, appropriately remedy the socio-economic challenges that may limit its viability.*

***Keywords****: Legal; Automated; Islamic; Banking; Uganda; Indonesia*

* 1. **Introduction**

The development of digital technology is considered a blessing to mankind and the entire global environment (Tlemsani et al., 2023). This is concerning the fact that every tedious activity or task that could take a long hour to execute by humans is seamlessly executed with the use of technology (Patma et al., 2021; Rogers, 1995). Furthermore, it has also aided in resolving the barrier of distance, that negotiation, communication, campaign, and awareness have been made easy with digital technology. Virtually all sectors of the global environment including the banking system have integrated digital technology into their daily activities (Susilo et al., 2022; Blokdyk, 2020; Endress, 2024). , It suffices to state that the Islamic banking system is a unique financial system that operates on a different dimension from the conventional banking system. This is concerning the fact that it operates strictly on Islamic principles and tenets (Maharani et al., 2020; Guloba and Atwine, 2021). Although, it limits the Islamic banking system to operate within Islamic principles could limit it financial capability, awareness of its operation, and offering of limited financial services. However, the current trend of most countries automating their Islamic banking system in line with Sharia principles has aided in providing an accessible, effective Islamic banking system that offers financial services in different dimensions that are appealing and commendable (Hamadou et al., 2024). This is evident from the various countries that have automated their Islamic banking system.

For example, Indonesia is a good prototype for exploring how digital technology has aided and enhanced the automated process of the Islamic banking system (Hakimu, 2024; Guo et al., 2020). This is in view of the fact that in Indonesia Islamic banking system is fully automated. They have incorporates blockchain technology, apps for mobile banking, and online banking systems that are sharia compliance to improve and enhance effective service delivery (Mergaliyev et al., 2019). This digital technology innovation within the Indonesian Islamic banking system has aided in expanding Islamic banking activities and offering effective banking services to its customers. Furthermore, automating the Islamic banking system in Indonesia has further aided in better risk management, providing a variety of financial services seamlessly and increasing the level of trust among its customers as a result of the fact that automating its Islamic banking activities has increased the level of transparency as it concerns it financial transactions or dealings (Nyarko, 2022).

However, it must be noted that the underlying theories as it concern study involve the Paradigm of Tawhid, an Islamic Finance Theory, the theory of Islamic finance thus rests with inevitably a Tawhidic paradigm that all financial transactions must be in accordance with Islamic rules derived from the Quran and the Hadith (Choudhury, 2023). Prohibits riba and gharar and maysir and allows only ethical investments through profit-sharing arrangements. This theory is of significance concerning automated Islamic banking in Uganda since it outlines the requirement for digital systems to be Sharia-compliant (Choudhury, 2023). Automated systems should incorporate algorithms by which halal transactions can be handled, developed, and regulated to allow transparency and ethics (Ahmad, 2024). Further, the Tawhidic paradigm approaches socio-economic justice-the reason for which it is necessary to develop financial inclusion that addresses economic inequalities in Uganda as a result of its successful implementation in Indonesia.

Also, the socio-technical systems theory looks at the relation of technology to social structures and gives enough room for the two very important factors in the successful adoption of technology (Ahmad, 2024), which are technical and human measures. In the case of the automated Islamic banking system in Uganda, it aids in thinking of systems that are to be built considering the needs of users, the cultural context, and the institutional capacity (Nurul & Hassan, 2023). The success story of Indonesia, continuing to improve efforts on how socio-technical systems have been put in place for Islamic banking, should serve as a role model for Uganda (Ahmad, 2024). It's not only about deploying advanced digital platforms, but also educating users, aligning the regulatory framework, and collaborating of all stakeholders to make sure that the technology achieves socioeconomic objectives while improving financial inclusion (Nurul & Hassan, 2023).

However, it must be noted that the establishment of the Islamic banking system is still at its nascent stage (Kakembo et al., 2022). In this regard, it is faced with several challenges in striving to grapple with the conventional banking system in Uganda, the awareness of its banking activities is not widely known to the general public (Abubakar & Aduda, 2017). Furthermore, Islamic banking activities are limited, this is concerning the fact that the Islamic banking system in Uganda operates within Islamic principles that require or prohibit certain types of business such as *gharar* (excessive uncertainty) which involve the withholding of goods to resell during scarcity and *riba* (interest) which non-payment of interest on loan (Suhartanto et al., 2022; Islami et al., 2020). Furthermore, *haram* (forbidden) prohibits any forbidden activities such as gaming, gambling, and engaging in piggery business or hotel business for prostitution (Aziz et al., 2022). In this regard, it suffices to state that given the limited and prohibited Islamic banking activities, it will affect its ability to sustain and offer competitive banking services with conventional banks and also limit its financial activities. However, it is apt to reiterate that an automated Islamic banking system could aid the gap. This is concerning the fact that a digitalized Islamic banking system tends to expand the market frontier of banking activities, offering banking activities that are accessible without distance as a barrier. Furthermore, an automated Islamic banking system could increase the awareness of Islamic banking activities in Uganda still in its nascent stage, and foster economic growth and financial stability.

Furthermore, despite this prospect of an automated Islamic banking system will tend to provide to the Uganda Islamic banking system, several legal and socio-economic challenges may affect and limit its viability. It is concerning that this study tends to embark on a hybrid method of study in examining the prospect, legal, and socio-economic challenges concerning automated Islamic banking in Uganda with a view of learning from the Indonesian experience.

**2. RESEARCH METHOD**

The study focuses on legal issues and prospecting as they relate to the automated Islamic banking system in Uganda, to take a leap or learn from the Indonesia experience. To effectively execute this research, the study relies on a doctrinal method of study. In this regard, primary and secondary sources of authority such as laws, articles, and other relevant material from Indonesia, Uganda, and other relevant jurisdictions were relied on. The data obtained from the primary and secondary sources were analysed using descriptive and analytical approaches.

Concerning the above, the essence of adopting the doctrinal method in this study is to aim at effectively theorise and conceptualise the concept and development of an automated Islamic banking system in Indonesia to enhance the Islamic banking system in Uganda by incorporating digital technology in automating the Uganda Islamic banking system.

**3. RESULTS AND DISCUSSION**

**The Prospect, Legal, and Socio-economic Development of Automated Islamic Bank in Indonesia**

Indonesia is considered one of the countries with a high number of Muslim populations and is economically viable. Given Islamic religious dominance in the country, in 1992 an Islamic bank system was launched to provide and take care of the financial needs of the Islamic religious group in Indonesia (Riza & Hafizi, 2020; Kohli and Melville, 2019). In this regard, given the licensing and approval of Islamic banking activities, the Bank Muamalat of Indonesia commenced its banking activities as the first Indonesian Islamic bank (Hasan & Putri, 2021; Li et al., 2018). In view of this development, there has been an influx of Islamic banks in Indonesia. These banks are meant to operate in line with the Islamic principles, tenets, guidelines, and values as contained in the Quran, sunna, and hadith (Rafiki & Nasution, 2021).

However, the global environment has gradually turned into a digitalized village where every sector has been severely injected and enhanced with the introduction of digital technology. In this regard, the Indonesian Islamic banking system has sought to integrate digital technology in automating its banking activities to enhance and improve its banking activities to the satisfaction of its customers and in line with international best practices. Concerning this, Indonesia has successfully incorporated advanced digital financial technology such as blockchain, fintech, and artificial intelligence into its Islamic banking activities. In this regard, automating the Indonesia Islamic banking system has brought with it the following socio-economic impact such as: fruitful socio-economic advantages towards not only improving operational capabilities but also the outreach of financial services. Such improvement in operational efficiency follows automating all the procedures, account management, and application for loan service. Employees, in general, are freed from everyday banking work since it eliminates many of the human interventions due to computerization. The result is speedy operations, less dependence on people, reduced human error, and faster speed of carrying out routine banking activities. This means resources can be used wisely, and results are shown by a faster decision-making process with better service delivery. Such efficiency becomes very valuable in Islamic banking because careful tracking of transactions is a prerequisite for conformity to Sharia principles. This has enabled banks to provide services at the remotest points and promote financial inclusion. Using digital platforms such as mobile banking and agent networks, Islamic banks can penetrate non-branch locations where people live in rural areas without having to build a physical structure. This is important for Indonesia because the country is very dispersed due to its vast geography and many islands. Digital banks reduce the costs of daily operations as they do not have to invest in a physical structure like a branch. With effective money spending, Islamic banking becomes cheaper as well as sustainable. Cheaper products and services avail lower costs for customers, hence promoting affordable banking.

One another impact of socioeconomic alleviation is the accelerating financial transaction and better customer service. With automated systems for transaction processing, all business transactions assure fairly immediate sources of cash deposit and payment. Therefore, customers enjoy this momentum and are probably more inclined to its trusting reputation. Besides, automated systems create more opportunities for transactions across the entire spectrum, from microfinance to commercial to international banking.

 It suffices to state that a digitalized automated Islamic banking system in Indonesia, has aid in several socio-economic implications such as stimulating economic growth, poverty alleviation, promoting financial inclusion, and empowering small and medium businesses to take active participation in the financial-economic sector of Indonesia (Wibowo, 2021;Lokuge and Sedera, 2018).

It must be noted that the Indonesian government was able to achieve this ground breakthrough by resolving or curtailing some potential legal and socio-economic challenges that may mitigate the viability of an automated Islamic banking system (Nurjannah & Santoso, 2022). For example, Indonesia as a country is considered one of the fastest-growing digitalized countries that has an enabling environment for digital technology to thrive. Also, there is widespread awareness, sensitization, and literacy among Indonesian citizens concerning the use, relevance, and potency of digital technology (Febriani et al., 2021). Also, through the Indonesian government's economic policies, the National Committee for Islamic Economy and Finance known as KNEKS was established to ensure collaboration with various stakeholders in proffering plans to aid in the enhancement and development of the Islamic banking system. Furthermore, in 2014, the Indonesian government also initiated a strategic economic policy known as the Master Plan for Islamic Financial Architecture also known as the MPIFA. The MPIFA was designed to aid in enhancing, creating awareness, and initiating plans that will promote and project Islamic banking activities. In this regard, it suffices to state that these economic policies set the stage for a proper strategic plan incorporating digital technology in automating the Islamic banking system as part of the plan to enhance Islamic banking activities.

Furthermore, the Indonesian government through legal and policy frameworks has also ensured that automating and advancing the Islamic banking system through digital technology must be Sharia compliance. This is concerning the fact that Indonesia has well well-organised and structured legal framework that is primarily focused on the Islamic banking system. This law is known as the Islamic Banking Act (Law No. 21 of 2008). The Act stipulates that all Islamic bank transactions and products must be sharia compliance. Concerning this, article 2 of the Law, is geared towards ensuring Islamic banks comply with Islamic principles and tenants, hence it stipulates the core principles of sharia that Islamic banks must adhere to and they are: Prohibition of *Riba* (*Usury*), this principle prohibits Islamic banks from charging interest on any loan issued to a customer or any loan transactions. Also, adherence to profit and loss-sharing method. Furthermore, Islamic banks must adhere to the principles of *gharar* (ethical investment), in this regard, businesses that fall or consider *haram* (forbidden) are strictly prohibited.

 In this regard, it suffices to state that any digital technological products or services not regulated by the Act or Sharia principles regulating Islamic banking activities are not permissible or prohibited by law. To ensure that Islamic banking activities are well coordinated and supervised, Article 21 of the Indonesia Islamic Banking Act provides for establishing a Sharia Supervisory Board to ensure Islamic banking activities do not function out of their scope (Patria, 2021).

Furthermore, in 2011 the Finance Services Authority Regulation No. 31/POJK.05/2014 was established. The regulation stipulates that the Islamic banking system in Indonesia must initiate a sustainable financial practice that could reduce and mitigate financial risk management that may emanate from their economic activities. Also, Regulation No. 77/POJK.01/2016 concerns issues on Information Technology-Based Borrowing and Lending Services (Masnitaa et al., 2019). This regulation regulates issues on peer-to-peer lending platforms, requiring Islamic banks to ensure strict security measures and transparency to curtail and prevent incidents of fraud and safeguard consumers. It also stipulates requirements for digital signature, electronic contracts, and data protection, ensuring that automated processes in Islamic banking are secure and adhere to Sharia requirement standards. Regulation No. 13/POJK.02/2018, is a notable regulation that allows Islamic financial institutions to test new digital technology products and services in a controlled environment (Abudirbala & Mukhtar, 2019). This approach not only fosters innovation but also ensures that new technologies are safe and compliant with regulatory requirements and Sharia principles before full-scale implementation (Haruna et al., 2023).

 It suffices to state that Indonesia, is considered a nation that has fully incorporated digital technology in automating the Islamic banking system. This transformation has seen the growth and development of Islamic banking activities, which serves as a model for other countries including Uganda to enable the growth of their Islamic banking system that is still in the nascent stage.

**Automating Islamic Banking System in Uganda and its Relevance**

The Islamic banking system is considered a prototype of the conventional banking system that operates on Sharia principles (Kayongo et al., 2022). In this regard, the ideology behind the establishment and development of the Islamic banking system is based on the fact that it should be Sharia-compliant and not engage in certain activities that are considered haram (forbidden) in Islamic law. This is the global practice of the Islamic banking system within the global terrain. Though it suffices to state that Islamic banking activities commence in 2023 in Uganda (Kitunzi et al., 2023), however, it practices and system of operation are not different from the global practice obtainable in the global environment. This is concerning the fact that Islamic banking activities in Uganda is streamlined to operate with the following fundamental Sharia or Islamic principles. These principles include Open risk sharing and fair transparency are the two basic tenets of Islamic finance. These should be related in a transaction based on the tenets of equity and justice as defined in Sharia law. The formula must be simple and clearly defined and mutually agreed upon by both the investor as well as the entrepreneur sharing profits and losses according to their contribution and predetermined ratios. Unlike conventional finance, according to which risks primarily lie on the shoulders of a borrower, Islamic finance prefers shared responsibility and thus develops joint liability in the concept of mutual understanding. Partnership is developed to discourage exploiters and balance the economy so that wise decisions are encouraged when both sides share failure or success with the other. Transparency of this nature is very vital to determine the trust factor and also the ethical compliance around financial dealings.

Islamic banks indulge themselves in permissible financial activities such as *Musharakah*, where they co-invest with clients to share profits and losses. This partnership engenders a spirit of cooperation and entrepreneurship thus resulting in economic growth. For instance, in the same context, Ijarah allows Islamic banks to lease assets to clients while retaining ownership, as of now replacing loans. Another important pathway is financing through participation in *Sukuk* (Islamic bonds) that provide Sharia-compliant investment by linking returns to underlying assets rather than interests. All these revolve around the prohibition of riba, hence making financial transactions equitable, ethical, and Islamic. This prohibition of interest encourages risk-sharing and asset-backed financing and goes a long way toward achieving economic stability and social justice.)

Concerning the above, it suffices to state that the business or banking activities of Islamic banks in Uganda are streamlined and limited to specific banking activities. Furthermore, Islamic bank in Uganda is not permitted to engage in business or activities that are prohibited in Islam. In this regard, businesses such as hotels for prostitution, gaming or spot betting, alcohol business, and piggery farming are considered unethical (*gharar*) and prohibited (*haram*) by in Islamic religion (Ibrahim et al., 2024). In this regard, t given the limited banking activities of Islamic banking activities in Uganda and its nascent stage, it may limit its viability and service delivery (Ibrahim, 2013). In this regard, it suffices to state that given the trend of digital technology development, Islamic banking activities stand a better chance to thrive and have an effective service delivery. The conventional banking system in Uganda is being automated and it has improved the conventional banking activities in Uganda (Nambisan at al., 2019). In this regard, incorporating blockchain technology, artificial intelligence and fintech in automating Uganda's Islamic banking system in line with Islamic principles will provide a lot of prospects and advantages for Islamic banks in Uganda to thrive effectively.

Furthermore, an automated Islamic banking system in Uganda could lead to cost reduction of banking activities, fast transactions, and service delivery, Automated systems can handle complex financial transactions with accuracy. Furthermore, an automated Islamic banking system could extend financial services to underserved populations, offering accessible, convenient, and ethical banking solutions (Abbasi et al., 2012). This can lead to greater financial empowerment, encouraging more Ugandans and businesses in Uganda to participate in the formal economy. In essence, attaining this height could also result in boosting economic growth and an inclusive financial system. Furthermore, an automated Islamic banking system in Uganda could also attract more international investors and position itself as the hub of Islamic banking financing institutions within East Africa, Africa, and the global environment, given its inclination to international Islamic banking standards.

However, given the nomenclature of the Uganda Islamic banking system and its nascent stage of development, several legal and socio-economic challenges may be mitigated against its effectiveness. In this regard, it will be relevant to consider some of the legal and socioeconomic challenges that may mitigate or limit the effectiveness of an automated Islamic banking system in Uganda.

**Legal and Socioeconomic Issues concerning Automating Islamic Banking system in Uganda**

There is no doubt that the nomenclature of the Uganda Islamic banking system is at its nascent stage and development. In furtherance of this, it suffices to state that several legal and socio-economic challenges may mitigate against its effectiveness (Aidonojie et al., 2024). In this regard, it will be relevant to consider some of these legal and socioeconomic challenges as follows;

The first Islamic bank in Uganda started in the year 2023, which shows that the Islamic banking system in Uganda is still at it nascent stage. In this regard, it suffices to state the Islamic banking system in Uganda is still grappling with having a specific regulatory framework (Alqahtani et al., 2017). The laws there in regulating the Islamic banking system in Uganda are disjointed pieces of provisions drawn from conventional legislation, and conventional and Islamic banking regulations. This legislation includes the Constitutions of Uganda, Uganda Financial Institutions Act 2004 and its amendment 2016, Financial Institution (Islamic Banking) Regulation, Financial Institutions (Licensing) Regulation, Bank of Uganda (BOU) Guidelines and Circulars, and Sharia Advisory Board Regulations (Lubogo, 2022). While this law is meant to regulate physical Islamic banking activities, it does not provide for or contemplate issues as it concerns automated Islamic banking systems which include blockchain technology, digital signature, electronic negotiation of contracts, and other financial technology-related activities that could be sharia or Islamic compliance. However, it may be argued that Uganda has laws concerning the regulation of digital technology and electronic contracts. It suffices to opine that it is counterproductive to argue in that regard, this is concerning the fact that these laws are meant to regulate conventional issues as it concerns the use of digital technology in conventional contract and commercial business. Automated Islamic banking is a special banking system that requires specialized laws tailored to suit its purpose which is meant to operate.

It must also be noted that the Islamic banking system is meant to adhere to and be administered by Sharia principles and tenets. This is further confirmed by Section 1 of the Financial Institutions (Amendment) Act, 2016, which amended section 2 of the Principal Act, which defined Islamic banking activities to mean any financial business activities that are Sharia compliance (Sennanda et al., 2023). Furthermore, section 14 of the Islamic Banking Regulation, mandated the Sharia Advisory Board to review and ensure that all banking activities of Islamic banks in Uganda align with Sharia principles and beliefs. In this regard, it suffices to state that the Islamic banking system prohibits the following transaction interest on loan (which is also know as “riba” in Islam), speculative transactions to increase profit generation (which is also know as “gharar” in Islam), and investments or transactions that are considered prohibited (Also known as “haram” in Islam) by Sharia principles (Okongwu et al., 2022). In this regard, it suffices to state that incorporating legal and Sharia requirements in an automated Islamic banking system requires sophisticated software or digital technology. Furthermore, such technology must from time to be updated and reviewed to ensure it is by the current trend of legal requirements of the operation of the Islamic banking system in Uganda (Alziyadat & Ahmed, 2019).

Furthermore, it must also be noted that using digital technology though a blessing to mankind, also presents some challenges of data privacy and cybersecurity of consumers or users of digital technology. In this regard, the information and data privacy of consumers or customers of an automated Islamic banking system may be susceptible to Internet fraudsters. This is made more challenging as a result of the fact that there is no legal framework concerning an automated Islamic banking system to ensure strict compliance and prosecution of internet fraudsters. Furthermore, it can be argued that in a situation where there is non-existence of a legal framework of an automated Islamic banking system, there is the possibility that there could be internal fraudulent activities among staff, given their awareness of the absence of an effective legal framework that command takes corrective actions, including penalties and sanctions, against institutions that fail to comply with regulations. Hence the need for an organized legal framework is essential to maintaining trust and confidence in an automated Islamic banking system.

 Furthermore, other legal and socio-economic issues may also limit and affect automated Islamic banking in Uganda and they are: The ICT infrastructure of Uganda is quite commendable, however, some areas still remain underdeveloped, making it difficult for most rural people to integrate digital-related services, including Islamic banking. Also, even among the urban centers, there is inconsistent and slow network coverage, preventing digital transactions. Most financial institutions still carry the baggage of outdated systems that cannot support modern banking needs. Also, as a widespread phenomenon where Islamic banking principles and services are not known, it affects the adoption and therefore the development of Islamic banking in the country. Most citizens are yet to grapple with the idea of an interest-free bank whose operation is based on Sharia and regard it as a niche product only for Muslims. This misconception seems to tone down the available demand and makes interested non-Muslims hesitant to seek its benefits.

Furthermore, the level of illiteracy in Uganda makes it very difficult for customer bases to take up Islamic banks and other digital services. Statistics from various studies show that most people in rural areas and a few individuals in urban in Uganda cannot read and write at a level that allows them to read or appreciate banking products and services, meaning that many customers cannot operate with banks or digital platforms. Also, there is a serious dearth of technically skilled manpower in the domain of Islamic banking principles in the digital space. Most financial institutions are poorly staffed in streams that would, otherwise, have Sharia compliance and the technical fine-tuning in managing digital parts onboard. Hence, this gaps inefficiencies in service delivery and decay the avenue for developing innovative products tailored to customer needs.

**Data Presentation and Analysis**

The study utilized a questionnaire distributed to respondents residing in various regions of Uganda. The data generated through the questionnaire are therefore presented and analysed as follows.

**Sample Size and Selection Method**

 The study focuses on legal and socio-economic issues concerning an automated Islamic bank in Uganda, with the aim of learning from the Indonesian experience. In this regard, the study relied on a sample size of 306 respondents residing in Uganda's various regions (Western Region, Eastern region, Central region, and Northern region). However, in selecting the respondents to respond to the questionnaire, the study utilizes simple random sampling techniques (Harjoni & Maulina, 2022). A random sampling method is considered preferable in this study given the focus of the study identifying respondents from different regions of Uganda (Aidonojie et al., 2024). Furthermore, a simple random sampling technique is considered to possess the following relevance as follows (Aidonojie et al., 2023): The result often generated through the use of simple random sampling techniques is considered unbiased, and there is credibility of the result obtained through a sampling method. Also, it is considered simple and devoid of complication and preferable to sample respondents from diverse regions and cultural practice

**Data Analysis**

The data generated through the questionnaire as responded to by the respondents, are therefore presented and represented in tabular and graphical format for clarity and proper interpretation of the result generated. This is to enable the readers and audience to comprehend and decode the results generated through the questionnaire.

**Research Question One**



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**Figure 1:** **Regions resided by the respondents to the questionnaire**

|  |  |  |  |
| --- | --- | --- | --- |
| S/N | Regions in Uganda | Responses of Respondents | Percent |
| 1 | Northern Region | 57 | 18.6% |
| 2 | Eastern Region | 95 | 31% |
| 3 | Western Region | 82 | 26.8% |
| 4 | Central Region | 72 | 23.5% |
|  | **TOTAL** | **306** | **100%** |

**Table 1: Valid verification of regions resided by the respondents to the questionnaire**

**Figure 1 and Table 1** are valid graphical and tabular presentations of the respondents identifying the various regions in Uganda where they reside.

**Research Question Two**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Figure 2: Respondents** **identifying automated Islamic banking could result in quality service delivery**

|  |  |  |
| --- | --- | --- |
|  | Response | Percent |
| Valid Yes | 247 | 80.7% |
| Valid No | 59 | 19.3% |
| Total | **306** | **100%** |

**Table 2: Valid respondents identifying automated Islamic banking could result in quality service delivery**

**Figure 2 and Table 2** are respondents identifying and confirming the fact that an automated Islamic banking system could result in an effective service delivery.

**Research Question Three**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Figure 3: Prospect concerning automating Islamic banking in Uganda as identified by the respondents**

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| --- | --- | --- |
| Prospect concerning automating Islamic banking in Uganda | Cluster of Response | Percentage |
| Automated Islamic banking enables fast transactions and service delivery | 201 | 81.7% |
| It reduces the level of cost operation | 128 | 52% |
| It enhances financial transparency  | 154 | 62.6% |
| It facilitated better risk management  | 183 | 74.4% |
| An automated Islamic bank increases and creates an awareness of the operation of the Islamic banking system | 198 | 80.5% |
| It promotes and encourages a cashless society  | 146 | 59.3% |

 **Table 3: Valid cluster of the prospect of automating Islamic banking in Uganda as identified by the respondents**

**Figure 3 and Table 3** are clusters of identification of the prospect of automating the Islamic banking system in Uganda.

**Research Question Four**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Figure 4:** **Respondent confirming that if Islamic banks in Uganda are automated it may pose some challenges**

|  |  |  |
| --- | --- | --- |
|  | Response | Percent |
| Valid Yes | 243 | 79.7% |
| Valid No | 62 | 20.3% |
| Total  | **305** | **100%** |

**Table 4: Valid respondent confirming possible challenges if Islamic banks in Uganda are automated**

**Figure 4 and Table 4** are confirmation by the respondent that if the Islamic banking system in Uganda is automated there are socioeconomic and legal challenges that may limit its effectiveness.

**Research Question Five**



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**Figure 5: identification of the challenges concerning automating Islamic banking system in Uganda**

|  |  |  |
| --- | --- | --- |
| Legal and socio-economic challenges in automating Islamic banks in Uganda | Cluster of Responses | Percentage |
| Lack of primary legal framework tailored towards regulating automated Islamic banking system that is Sharia compliance  | 209 | 85% |
| Religious barriers that may result in non-compliance of digital technology products or transactions to Islamic principles  | 191 | 77.6% |
| Inadequate human resources possessing technical knowledge in operating digital technology  | 199 | 80.9% |
| The challenge of illiteracy  | 121 | 49.2% |
| Incidence of fraud | 105 | 42.7% |
| Inadequate digital technological infrastructure  | 177 | 72% |

**Table 5: Valid cluster of identification of the challenges concerning automating the Islamic banking system in Uganda**

**Figure 5 and Table 5** are valid clusters of respondents identifying possible legal and socio-economic challenges that could limit and affect the viability of an automated Islamic banking system in Uganda.

**Research Question Six**



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**Figure 6: Possible** **lesson from Indonesia to remedy the challenges of automating Islamic banks in Uganda**

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| --- | --- | --- |
| Possible lesson learned for Indonesia to remedy the challenges | Cluster of Responses | Percentage |
| Enactment of primary legislation as it concerns automated Islamic banking system | 182 | 74% |
| Incorporate a robust Sharia advisory body and scholars to guide on incorporating digital technology in the Islamic banking system | 201 | 81.7% |
| Strict prosecution of anyone involved in internet fraud related to automated Islamic banking system | 192 | 78% |
| Training of Islamic bank personnel concerning an automated Islamic banking system | 174 | 70.7% |
| Provision of funding concerning acquiring sufficient digital technological infrastructure  | 141 | 57.3% |
| Launching of national campaign, awareness, and education of the general public concerning automated Islamic banking system  | 169 | 68.7% |

**Table 6: Valid cluster of lessons from Indonesia to remedy the challenges of automating Islamic banks in Uganda**

**Figure 6 and Table 6** are valid clusters of identification by the respondents concerning the possible remedies that could adopted from the Indonesia experience in mitigating the challenges that could limit the effectiveness of automating the Islamic banking system.

**Discussion of Findings**

 Questionnaires were distributed to the respondents residing in the various regions in Uganda, the data obtained werepresented, and analysed in the tabular and graphical representation above, hence the discussed of the findings are as follows. Table 1 and Figure 1 above show that 306 respondents in Uganda responded to the question. , It suffices to state that the respondents being a residents of Uganda are well learned and knowledgeable concerning the issues of the Islamic banking system in Uganda . In this regard, in Figure 2 and Table 2, 80.7% of the respondents agreed that automating the Islamic banking system in Uganda provides several advantages and could result in effective service delivery. In identifying this prospect of automating the Islamic banking system, in Figure 3 and Table 3, the respondents identified these prospects as follows: 81.7% and 52% of the respondents stated that it enables fast transactions and service delivery and reduces the level of cost operation respectively. 62.6% and 74.4% were of the view that an automated Islamic banking system could enhance financial transparency and facilitate better risk management respectively. Also, 80.5% stated that an automated Islamic bank increases and creates awareness of the operation of the Islamic banking system. Furthermore, 59.3% of the respondents opined that it promotes and encourages a cashless society. These findings are similar to the findings of Harjoni Desky and Isra Maulana who stated that digital technology has several prospects that could transform the Islamic banking system. However, despite the prospect an automated Islamic banking system could provide in Uganda, some legal and socio-economic challenges could mitigate its effectiveness. Concerning this, in Figure 4 and Table 4, 79.7% of the respondents agreed that several legal and socio-economic challenges could limit an automated Islamic banking system. In this regard, in Figure 5 and Table 5, the respondents identify some of these challenges as follows:

85% of the respondents agreed that the lack of a primary legal framework tailored towards regulating automated Islamic banking systems that is Sharia compliance could result in a major challenge. In a nutshell 77.6% identify religious barriers that may result in non-compliance of digital technology products or transactions to Islamic principles. 80.9% believed that inadequate human resources possessing technical knowledge in operating digital technology is a major challenge. Also, 49.2% and 42.7% of the respondents were of the view that the challenge of illiteracy and incidence of fraud could form a major challenge in automating the Islamic banking system. Furthermore, 72% of the respondents stated that inadequate digital technological infrastructure is a major challenge

Concerning the above, to resolve and curtail the above challenges identified, the respondents in Figure 6 and Table 6 further identify possible remedies that could aid in curtailing the above challenges. In this regard, 74% suggested that there is a need for an enactment of primary legislation as it concerns an automated Islamic banking system. 81.7% stated that incorporating a robust Sharia advisory body and scholars to guide on incorporating digital technology in the Islamic banking system could serve as a remedy. 78% stipulate that strict prosecution of anyone involved in internet fraud related to automated Islamic banking systems will curtail the incidence of fraud in the Islamic banking system. 70.7% and 57.3% of the respondents identify training of Islamic bank personnel concerning an automated Islamic banking system and provision of funding concerning acquiring sufficient digital technological infrastructure, respectively as a potential remedy. Furthermore, 68.7% of the respondents stated that launching of national campaign, awareness, and education of the general public concerning automated Islamic banking systems.

**Conclusion**

 Islamic banking system in Indonesia has contributed immensely to Indonesia's economic and financial system. This is about the fact that over the years the Indonesian government has taken the trending dimension of digital technology in automating the Indonesia Islamic banking system. In this regard, it suffices to state that automating the Indonesian Islamic banking system has enabled the Islamic banking sector to overcome and curtail the hurdles or challenges associated with the Islamic banking system in general. However, incorporating digital technology in automating the Indonesian digital banking system is made possible through the adoption of an effective legal and socio-economic framework.

In Uganda, though the commencement of the Islamic banking system started in 2016 through the amendment of the Finance Act. However, the operation of Islamic banking activities is said to commence in 2023, and in this regard, it is apt to state that the Islamic banking activities in Uganda are still nascent. In this regard, it suffices to state that the Uganda Islamic banking system is saddled with the various challenges associated with the Islamic banking system. These challenges include Poor product innovation, lack of standardized products, complex structure and product of Islamic banks, the public perception that Islamic bank is meant for those in the Islamic region, and the inability to penetrate the market structure given limited financial activities. Furthermore, there are still the challenges of limited financial activities as the Islamic banking system is operated based on Sharia laws that limit its financial activities. Furthermore, , the study further identifies that given the trend of digital technology and the success rate of automating the Islamic banking system in Indonesia through digital technology. The Uganda Islamic banking system could surmount the above-identified challenges. This is concerning the fact that an automated Islamic banking system could enhance and improve operative efficiency, expand banking activities to remote areas, accelerate financial transaction services, create more opportunities for financial transactions, and Improve customer satisfaction.

However, the study therefore identifies that there are several legal and socio-economic challenges (such as the absence of primary legal, and limited technical personnel to manage the system, which will result in high unemployment, fraudulent activities, and inadequate technological infrastructure) that may limit and affect the viability of Islamic banking system in Uganda. The study, therefore, recommends that there be an effective automated Islamic banking system. There is a need for a primary legal framework tailored to provide and regulate the automated Islamic banking system, and training of staff to be digital technology compliant. There is a need for the provision of funding for digital technological infrastructure and strict prosecution of an internet fraudster.

Furthermore, this study recognizes limitations concerning the restricted access to comprehensive banking data as far as emerging financial technologies and the evolving nature of financial technology across countries are concerned. The comparison drawn between Uganda and Indonesia, however, points out areas that are worth considering for further exploration touching on the scaling of automated banking platforms and legal harmonization. Empirical validation studies on consumer perceptions and their socio-economic impacts vis-a-vis Islamic banking in Uganda could be some of the areas future researchers might delve into. Also, future studies would gain more practical relevance with the continued broadening of partnerships with financial institutions and practitioners.

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