ISLAMIC FINANCIAL SERVICES BOARD

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ISLAMIC FINANCE AND DIGITAL TRANSFORMATION

Balancing Innovation and Resilience

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15th IFSB Summit Proceedings 2021

Islamic Finance and Digital Transformation: Balancing Innovation and Resilience

The IFSB Summit is a landmark event for the Islamic financial services industry. It constitutes a major high-level platform for key regulators, global market players, and leaders thought leaders to discuss the regulatory direction of the industry to strengthen its resilience and stability further.

The theme of the IFSB 2021 Summit is "**Islamic Finance and Digital Transformation: Balancing Innovation and Resilience**". The Summit focuses on fostering innovation, technological adoption, accessibility, and sustainability in the Islamic financial system to boost its growth and development and the policy implications of rapid digital transformation. In addition, the summit highlights the work that remains to be done moving forward to strengthen Islamic Finance Services' resilience and stability. The rise of technology shapes financial services across banking, capital markets, and *takāful*, giving rise to new modes of financial intermediation such as crowdfunding and blockchain solutions. These exciting changes and developments require authorities and jurisdictions to balance resilience and innovation, which the IFSB 2021 Summit explores throughout the sessions.

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Opening Remarks

In his opening remarks, the Secretary-General of the *Islamic Financial Services Board*, **Dr. Bello Lawal Danbatta**, recalled that, notwithstanding the COVID-19 pandemic, the global Islamic financial services industry (IFSI) sustained double-digit growth of 10.7% (y-o-y) in 2020. The industry's aggregated assets reached USD 2.70 trillion, and the Islamic banking industry is now systemically significant in 15 jurisdictions, accounting also for 82.7% of total ***ṣukūk*** outstanding in 2020.

IFSB research has documented the industry's commendable financial stability and resilience to the shock of the COVID-19 pandemic. The abruptness and pervasiveness of the COVID-19 pandemic have added speed to the need for digital transformation in the industry. Therefore, the theme of the 15th IFSB Summit, *Islamic Finance, and Digital Transformation: Balancing Innovation and Resilience,* could not be more apt.

Digitalising Islamic financial services will bring enormous benefits in today's value-driven, customer-centric, and digitalised financial landscape. These include but are not limited to enhancing operational efficiency, contestability, and competitiveness of the institutions offering Islamic financial services (IIFS), deepening financial access, especially to the micro, small and medium enterprises (MSMEs), promoting financial inclusion, and supporting effective regulatory compliance and supervisory oversight.

Nonetheless, digitalisation may also heighten IIFS' exposure to potential general risks like cyber-security risks, data integrity risk, cloud concentration risk, third-party/outsourcing risk, money laundering and financing of terrorism risk, reputational risk, and others. Specific risks due to digitalisation could also result from Shariah non-compliance, given the intricacies of Islamic financial products and services. All these risks may threaten the financial stability and integrity of individual IIFS and the overall IFSI.

The enhancement of financial inclusion that promotes affordable and convenient access to and use of the entire gamut of financial services has long been on the agenda of development finance institutions, regulators, standard setters and other institutional stakeholders in the financial services industry.

Unmet financing needs of the MSMEs have persisted at least since the Global Financial Crisis (GFC) of 2007-8, partly due to the consequential risk-mitigating regulations in Basel III. According to data from the International Finance Corporation (IFC), 65 million or 40 per cent of formal MSMEs in developing countries have unmet financing needs and a finance gap estimated to be USD 5.2 trillion - 1.4 times the level of MSME lending. Women-owned businesses comprise 28% of MSMEs and account for 32% of the MSME finance gap. This points to opportunities for disruption by Islamic Fintech through invoice financing and supply-chain financing for receivables on the asset side and via e-commerce finance, trade finance, peer-to-peer lending, and equity crowd-funding on the liabilities side.

The work-from-home policy following the COVID-19 pandemic has shifted interaction and collaboration within and between IIFS. IIFS have had to adjust to the new normal of staff working from home by enhancing their teleworking and remote access capabilities without compromising the integrity of their technology network. Although no major cyber-security issue has been reported in the IFSI, it is incontrovertible that the frequency of cyber-attacks will increase with digital transformation. Cyber security units in the IIFS have to be strengthened with the requisite human talents, especially domain specialists, to ensure proper response, recovery, and adaptation.

COVID-19 has also quickened the adoption of technology for financial regulation and supervision. Due to movement restrictions, RSAs have had to step up to cope with the consequential electronic reporting, monitoring, and compliance processes and requirements. It is pertinent to focus on the benefits of this new normal for RSAs carrying out their oversight functions and leverage Regulatory Technology (RegTech) to enhance transparency, consistency, and standardisation of regulatory compliance processes. Similarly, the potential of Supervisory Technology (SupTech) for collecting and sharing data cannot be overemphasised.

RSAs have generally been cautious to ensure that a favourable disposition towards financial innovation does not infringe on financial market integrity and stability, financial inclusion, and consumer protection. In line with its mandate to promote stability and ensure the soundness of the IFSI, the IFSB, like other international standard setters, is reviewing the implications of developments in the digital transformation process in the IFSI. The IFSB has a dedicated segment to digital finance in its Technical Notes on Financial Inclusion, where it provides a guide on the priorities and considerations pertinent for regulatory and supervisory oversight vis-à-vis the implications of technological innovation for financial inclusion through the Islamic financial services industry of member jurisdictions. This is in addition to issuing a dedicated working paper on digital transformation in Islamic banking.

Welcoming Remarks

In his welcoming remarks, **H.E. Dr. Fahad Abdallah Al-Mubarak**, the Governor of the *Saudi Central Bank*, emphasised the focus of the Summit: balancing the development of the Islamic finance industry and its digital transformation between innovation and stability of the financial sector. This industry has maintained continuous growth besides geographical proliferation until it exists in all continents and most countries. Modern technologies have offered great opportunities for Islamic financial institutions to offer products and solutions and adopt digital transformation. While these features are significant and useful, they pose challenges like cybersecurity, money laundering, terror financing, and data privacy.

The Islamic financial industry has witnessed a remarkable global growth of 10%, and the industry's size reached USD 2.70 trillion in 2020. The industry has dealt successfully with the COVID-19 pandemic thanks to the monetary and fiscal policies and the prudential regulations after 2018 which enhanced the protection of consumers and financial stability and created a robust financial system.

Among the prominent challenges faced by the industry in the mid-term is the contrast among countries concerning the recovery from the pandemic. This underpins the importance of regulators' collaboration and coordination between fiscal and monetary policies.

The Islamic finance industry in Saudi Arabia has witnessed developments that put the country at the top ranking globally, where the size of the Islamic finance industry's Shari'ah compliant assets is over USD 500 billion, which is 28.5% of the total global Islamic finance assets, according to the IFSB *Islamic Financial Services Stability Report 2021*.

Main Islamic finance indicators in Saudi Arabic also witnessed fast growth. For example, the total Shari'ah compliant financing reached USD 430 billion at the end of Q2 - 2021. This comes to achieving the 2030 Vision with guidance from the Saudi leaders. The Islamic finance industry can help achieve some goals of this Vision like good and healthy life through financing a sustainable and green economy, enabling social responsibility through waqf, diversifying the economy through issuing equity and debt instruments, increasing employment rates through financial solutions that are based on participation, and supporting SMEs.

The Islamic finance industry has become part of the global financial system due to its wide geographical proliferation and quantitative and qualitative growth. There should be full utilisation of the solutions provided by financial technology from which Islamic finance can benefit in its agenda related to enhancing financial inclusion and providing innovative financial products cheaper and faster.

Keynote Address

In his keynote address by **H.E. Khaled Mohamed Balama Al Tameemi**, Governor of the *Central Bank of the United Arab Emirates* and Chairman of the *IFSB Council*, noted that the recent COVID-19 pandemic has proved the importance of digital transformation at all levels and aspects. The challenges have provided a test for the effectiveness of digital solutions, which are the main drivers of the economic recovery from the pandemic.

The summit's theme reflects developments and transformations in the financial sector around the world. It also reflects the challenges central banks face to maintain the balance between market demands and global developments on the one side and achieving financial stability and consumer protection on the other.

The rapid development of modern technologies in economics and finance and the massive growth in financial innovation and technology, in particular, create huge opportunities for an unprecedented transformation in the banking industry, including the Islamic banking industry. Digital transformation stimulates economic and financial progress by providing the best digital financial solutions for individuals and businesses and better fulfilling clients' needs. Innovative technologies such as big data, distributed ledger, cloud computing, artificial intelligence, and advanced cybersecurity need to be adopted.

Regulatory and supervisory authorities need to create an inducing environment for innovation that encourages digital transformation, digital financial inclusion, and opportunities to enhance competitive abilities while ensuring a more effective proper risk management of these technologies.

On the other hand, because of the challenges of digital transformation and associated risks, supervisory institutions gain importance for central risk management. This importance should be reflected in a strategy to achieve financial and monetary stability in their jurisdictions through adopting RegTech and SupTech. The authorities should also offer sandboxes to test financial technology solutions and relevant supervisory policies to encourage strategies that balance the basic risks and benefits of financial technologies. In addition, efforts should be made to enhance financial institutions' abilities to manage cybersecurity risks, protect clients' data, and combat money laundering and terrorism financing, besides regulators' continuous collaboration and regional and international exchange of experiences.

The collaboration, exchange of experiences, and sharing of strategies and initiatives enhance the institutions' and financial sectors' effectiveness and efficiency. The UAE is ready to share initiatives, projects, and plans where it aims to utilise the best expertise and best practices from around the world. The country is ranked among the best 10 countries worldwide in the *Digital Competitiveness Ranking* for 2021 issued by the *IMD World Competitiveness Centre*.

The constructive partnership with local, regional, and international partners has proved its effectiveness in implementing strategies and achieving visions and ambitions to enhance innovation and digital transformation. A good example is a fruitful collaboration and mutual work between the Central Bank of UAE and the Saudi Central Bank in *Project Aber*, which explored the viability of a single dual-issued digital currency as an instrument of domestic and cross-border settlement between the two countries. Several other central banks globally have conducted similar projects. Those experiences have proved that decentralised ledger technology will help in providing central banks with the necessary abilities to develop payment systems locally and internationally.

Islamic finance, which has achieved a strategic position in many jurisdictions, is not isolated from digital transformation and its challenges. This industry might face additional challenges due to its specificities. While Islamic finance institutions have shown some flexibility in adopting digital transformation, the collaboration of stakeholders, especially supervisory authorities, helps minimise difficulties and overcome challenges besides promoting standardisation, especially of Shari'ah standards.

Digital transformation will help the industry to show its added value and provide financial solutions that highlight its potentials and strength aspects. Islamic finance can pioneer in adopting projects and initiatives related to sustainable development goals (SDGs) and ethical finance, which converge with the ultimate objectives of Islamic finance. The UAE has focused on unifying the Shari'ah standards and enhancing legal and supervisory certainty for Islamic financial institutions. However, if these endeavours are limited to an individual jurisdiction, desired goals will not be achieved. Constructive collaboration and a unified vision have become a top priority for the Islamic financial industry.

Adopting financial technology will be difficult without a common background and clear legislation for Islamic financial contracts and transactions because financial solutions require a reasonable level of legislative stability and certainty to develop and be innovative. The Islamic Financial Services Board offers an important platform for communication and collaboration. The UAE adopts the prudential standards issued by IFSB, besides supporting IFSB's projects and directing them to serve mutual strategic goals and enhance the stability of the Islamic financial industry and financial sectors. There should also be support for a strategic transformation of the IFSB to obtain more flexibility and a high level of readiness to meet the regulatory and supervisory requirements of the member jurisdictions and aspirations of the Islamic financial institutions.

There are many potential investment opportunities in developing digital financial services, and it should be emphasised that the future of the Islamic financial industry is linked to the readiness to imagine and foresee this future, along with the ability to overcome any obstacle that hinders the utilization of its real added value.

This summit will contribute to drafting new and clear strategies and providing innovative solutions for the challenges of digital transformation in the financial system, particularly in Islamic finance, while also focusing on how integration between Islamic finance and SDGs can be enhanced.

DIGITAL TRANSFORMATION OF ISLAMIC FINANCIAL SERVICES: OPPORTUNITIES, CHALLENGES, AND POLICY IMPLICATIONS

Digital transformation will likely change the landscape of Islamic financial services. This transformation brings significant benefits and opportunities for Islamic finance in the form of greater accessibility, convenience, transactions speed and greater operational efficiency of Islamic financial services. However, it challenges the traditional models, market structures, and potentially present new risks and implications related to systemic financial stability. The session discusses the benefits, opportunities and policy implications of digital transformation on Islamic financial services

Session Summary

The chairman of the session, **H.E. Dr. Reza Baqir**, Governor of the *State Bank of Pakistan* (SBP), underlined the urgency of financial inclusion. People living in Muslim countries are particularly unbanked. Nearly half of the estimated 1.7 billion unbanked adults globally are Muslims. 72% of the unbanked people reside in the Organisation of Islamic Conference (OIC) countries. Muslim countries will benefit from technologies that promote financial inclusion. Muslim countries are well-positioned for digital financial services: The average age of Muslims worldwide is 24 years, with younger people being more receptive to digital financial services. Cell phone penetration is high in many member countries, but broadband access is still challenging. About 87% of the population of developed countries have internet access, but only 19% of developing countries. A survey conducted by CIBAFI indicated that the slow adoption of information technology is one of the major concerns for Islamic banks worldwide.

Shari'ah finance, compared to conventional finance, has more documentary requirements. FinTech, artificial intelligence, and technology filters can be particularly useful to automate much of this work.

More has to be done in the area of standard setting where the IFSB can play an important role. In the world of FinTech and digital banks, ideas and companies often transcend borders. A good concept that works in one emerging market can also work in other emerging markets. However, transcending borders in Islamic finance encounters a lack of common standards: FinTech solutions that are Shari'ah-compliant in one jurisdiction may not be so in another. For Islamic digital finance to have a growth trajectory and benefit from the same economies of scale as conventional digital financial services, it is crucial to redouble the efforts towards global standards for Shari'ah-compliant finance. The IFSB may consider setting up a technical working group on adopting common standards to promote the growth of FinTech in Islamic finance. This also brings up the issue of moving the IFSB standards from being purely voluntary to becoming adopted in member countries.

Pakistan can illustrate the growth rate of Islamic finance if a digital opportunity is provided. About 20% of Pakistan's total banking assets and deposits are Shari'ah compliant. The SBP recently launched an innovative initiative to digitally onboard the diaspora of 7 to 9 million Pakistanis living outside the country. The initiative, named *Roshan Digital Account*, is purely digital banking: Accounts can be opened remotely, and complete customer due diligence is done based on a centralised ID database. The *Roshan* initiative offered both Shari'ah-compliant financial products and conventional savings products. While in the overall banking system, one-fifth of the assets are Shari'ah-compliant, under *Roshan Digital Account*, half of the total savings instruments are Shari'ah-compliant. Pakistan's case illustrates that growth and demand can be explosive for products at the intersection of digital finance and Shari'ah-compliant finance when backed by proper regulation.

The Governor of *Bank Indonesia*, **H.E. Dr. Perry Warjiyo**, associate to the experiences of Indonesia to demonstrate how people can benefit from digital transformation not only through financial inclusion but through economic inclusion, which is the integration into the formal economy beyond finance.

Indonesia is growing very fast in digital transformation. Electronic marketplaces have shot up, e-commerce transactions have grown by 52.6%, and digital banking transactions increased by 38.8% in 2021. About 15 banks have transformed into digital and the use of electronic money has grown by 43%. This is the fastest growth over the last years.

All this was triggered by the launching of the *Blueprint of Indonesia Payment System 2025* (Blueprint Sistem Pembayaran Indonesia, BSPI) in May 2019. The five main objectives are (1) integrating the national digital economy and finance for financial stability and inclusion, (2) digital transformation within the banking industry, (3) interlinking FinTechs and banks to contain the escalation of shadow banking risks, (4) balancing of innovation, consumer protection, integrity, stability and fair competition, and (5) safeguarding national interests on cross-border use of digital economy and finance.

The digitalisation of the payment system creates a digital ecosystem for the financial and economic system. Four milestones of the BSPI 2025 were achieved in 2019-2021.

First, a national QR code (Quick Response Indonesia Standard, QRIS) was introduced as the basis for the digital payment system in retail and cash transfer. Twelve million SMEs already use it. Second, an open payment standard (SNAP) for interconnection, interoperability, and compatibility of banks and FinTechs through APIs was established. Third, the first stage of the 24/7 retail fast payments system for credit transfers went live. Fourth, several regulatory reforms have been implemented to consolidate regulations and balance innovation, stability, and national interests.

As a result, the integrated national digital economic and financial services landscape is flourishing in a country of 279 million Muslims, 350 million cell phones, and 150 million internet connections. Digitalised Islamic activities based on QRIS include the payment and distribution of *sadaqat* and *zakāt*, business activities of Islamic boarding schools on e-commerce platforms, and various social events. An example of the digitalisation of Islamic social finance through FinTech is the implementation of a productive P2P cash *waqf* to mobilise small amounts for *waqf* projects.

The Indonesian central bank promotes FinTech because it is agile, flexible, and able to serve the underbanked. Digital transformation has shown that it can bring financial, economic, and environmental inclusion. It can uplift the Muslim world.

The Governor of the *Central Bank of Bahrain* (CBB), **H.E. Rasheed M. Al-Maraj**, reasoned that digital transformation is a great opportunity for Islamic financial institutions to circumvent the disadvantage of their smaller size and compete with their conventional peers. However, the condition for any transformation is a change of mindset. The digital age requires that regulators and the industry think outside of the box. The experience of the CBB suggests that facing a new technology with an old, fixated, and bureaucratic mindset is a recipe for failure. This is not to say that the basics of banking have changed. Service orientation, cost efficiency, and risk management will always be required. But technology must be added to achieve customer-centricity and customer engagement in any way.

The digital transformation of Islamic financial services in most parts will be no different from the digital transformation of conventional financial services. But it opens up a new channel for connecting with clients through mobile phones and the internet. It also provides new tools to reach wider segments of the population, satisfying one of CBB's regulatory duties, financial inclusion.

In addition, the unbundling of financial services through open banking challenges long-established banks to find new ways to compete with more agile FinTechs cost-effectively without unnecessarily increasing risks. Project structures and processes can be digitalised, but managing the Shari'ah non-compliance risk is key – for example, by ensuring that the sequence of transactions is kept under Shari'ah guidelines. *Murābaḥah* is a case where it is easy to digitalise the multiple buy and sell transactions between the customer and the bank, but a slight change in sequence can result in Shari'ah non-compliance.

The CBB has taken a liberal but cautious approach to FinTech. It has been proactive in embracing technology in the financial sector. The CBB started a regulatory sandbox in 2017 and has received 150 applications from interested companies since then. Some have already graduated and become fully licensed companies operating in the main market.

The regulatory framework covers crowdfunding, cloud computing, crypto assets, robo advisory, insurance aggregation, payment tokenisation, and open banking. The e-KYC project went live in 2019. The *CBB Digital Lab* was opened in October 2020 to connect, screen, and qualify global FinTechs on one centralised marketplace for collaboration and cooperation with the Bahraini financial sector. Currently, three Shari'ah-compliant FinTech companies are in the CBB regulatory sandbox for robo advisory, tokenisation of real assets, and digital banking solutions.

Finally, the regulator has a fundamental duty concerning unsophisticated investors, depositors, and customers. The regulator has to tread a very fine line between attracting market players to the financial services sector through business-friendly regulations and safeguarding the interests of the general public.

The Governor of the *Central Bank of Libya* (CBL), **H.E. Saddek El Kaber**, outlined the difficult conditions faced by Libya and the central bank's role in achieving financial and economic stability and financial sustainability, in addition to minimising the results of the political and institutional split. The Libyan financial and banking sector has to face the digital transformation and repercussions of the COVID-19 pandemic.

To digitalise the Islamic banking sector, the CBL took three major initiatives which are still ongoing. First, the regulatory and supervisory environment is prepared for Shari'ah compliant finance and the application of financial technologies. Second, the relevant legislation is prepared to ensure consumers' rights and smooth and integral banking operations. The CBL has drafted a special legal framework for electronic transactions and digitalising banking products. Third, electronic platforms are established as a technological ecosystem that can host Islamic financial solutions. The major obstacles are the lack of guiding principles and standards, inadequate knowledge and skills related to FinTech, and a shortage of independent Shari'ah boards. Nevertheless, Islamic financial services are going digital because customers are looking for alternative Shari'ah-compliant solutions. However, this trend is hampered by a digital gap between cities and rural areas.

The CBL continues its efforts to develop the digital payment system. The issuance of electronic payment cards, the number of POS that accept electronic cards, and the number and volume of transactions have increased by at least 24%. Shari'ah rulings have allowed all these digital payment products.

The Executive President of the *Central Bank of Oman* (CBO), **H.E. Tahir Salim Abdullah Al Amri**, noted that regulators are always concerned about risk and its mitigation. They have to provide the space for innovation but simultaneously ensure that that space is safe for everyone: customers, players, users, and the economy as a whole. However, thinking too much about risks might stop regulators from giving people the opportunity to realise innovative ideas or handle things differently.

People often talk alarmingly about what will come: there will be no more banks, and digital institutions will take over. However, institutions will not disappear in the financial sector just like that. Instead, it is a process of transformation whereby some parts of financial institutions are going to be digital; some other parts will be taken over by other institutions that are more agile and efficient and can better manage costs.

Credit is an integral part of banks and financial institutions. Credit is at the core of financial and economic development. There will always be people who want to take credit for their businesses and talk to someone to evaluate their ideas. They will use banks. Innovations such as crowdfunding serve people with different attitudes who want to go straight online, request financing on a platform, and get it without personal interaction. People's habits and demands drive how they want to do things.

Crowdfunding attracts people who decide what risks they are willing to take and how much to contribute to the financing of businesses through a platform. A platform is only a digital tool that various operators could provide. What is of crucial importance for digital transformation is the attitude of the people who decide by their actions that they want to do credit differently. It is this human element that is required for a successful digital transformation.

A McKinsey study identified five major banking business segments at risk: consumer finance, mortgages, SME financing, payments, and wealth management. They predicted up to 40% of bank revenues to be at risk by 2025. How trustworthy is this prediction? Looking back at past grand predictions (such as the end of oil reserves), it is probably not as simple as that.

Indonesia is an example where digitalisation is happening very fast because the regulator has not only been allowing it but is actively supporting this process. It would be much more difficult without that, and it might not have happened. The CBO is looking at e-KYC, open banking, onboarding FinTechs in sandboxes, and everything else to support the digital transformation and be an enabler, not a stopper. However, things must be made efficient and safe. Therefore, the CBO will create a regulatory environment for the operation of FinTechs and other financial service providers. But challenges remain. Regulators may have to deal with BigTech companies that want to enter the market from abroad or extremely fast-growing FinTechs. The *Kakao Bank* in South Korea is a good example. This digital-only neo-bank onboarded nearly 17 million customers and became the country's second-largest bank within four years. Regulators will have to find ways and means to regulate different types of entities driven by different strategies and technological systems.

Key Takeaways

- Financial inclusion and integrating poor people into the formal economy are pressing needs of many Muslim countries.
- Digital banking initiatives properly designed by regulatory authorities can trigger a disproportionately large demand for Islamic financial services.
- Implementing an integrated master plan for a country's digital payment system can achieve the financial, economic, and environmental inclusion of huge numbers of SMEs.
- Central banks have created sandboxes with a conducive regulatory environment for conventional and Shari'ah compliant FinTechs.
- In some jurisdictions, the growth and digital transformation of Islamic banking are hampered by a lack of guidance, standards, and human resources.
- Banks will not be eliminated by digitalisation as long as clients appreciate their expertise, but another type of fund seekers will go directly to crowdfunding platforms for finance.
- Regulators should be aware of new challenges in digital finance, such as BigTechs forcefully entering the market or neobanks with extremely fast-growing client bases.

Concluding Remarks

Central bankers have traditionally understood their job as regulators, but with the accelerated digital transformation, they also have to think of being enablers and promoters of digital financial services. Without change of mindsets, regulators may find themselves lagging behind the transformation. They have to be open-minded about change. The new business models and the economy at large will be moving in a direction that dictates the change. Unless they understand the direction of change, regulators will only play a catch-up role.

The IFSB is still largely focused on regulatory standards for issues that have come up in the non-digital world, while some of its members are already deeply involved in the design of a regulatory ecosystem for a digital economy. These members are willing to share their knowledge and experience to benefit the global Islamic finance industry. There was a consensus that the IFSB could play a pivotal role in knowledge sharing and competence building. A body like the IFSB must be aware of the latest ideas, trends, and practices in digital financial services, for which the Secretariat might set up a working group or task force. To function as a knowledge hub, the IFSB should be enabled to draw from the knowledge and experience of the members. Regulators in member jurisdictions with less advanced financial systems might get support through this hub for capacity building in Shari'ah compliant digital finance.

Knowledge should be collected and disseminated among regulators and processed in a way that makes it easily accessible to Shari'ah board members whose judgements can shape the course of innovation in the Islamic finance industry. Familiarising scholars with digital thinking and the level and speed of change is important. A lack of understanding of business models and new solutions could hinder the advancement of new Shari'ah compliant solutions. Any *fatwā* based on a lack of proper understanding will make it difficult to sustain momentum in the digital transformation space.

Multiple-choice poll

What are the main policy considerations to support innovation and digital transformation of the Islamic financial services industry while ensuring resilience and stability?

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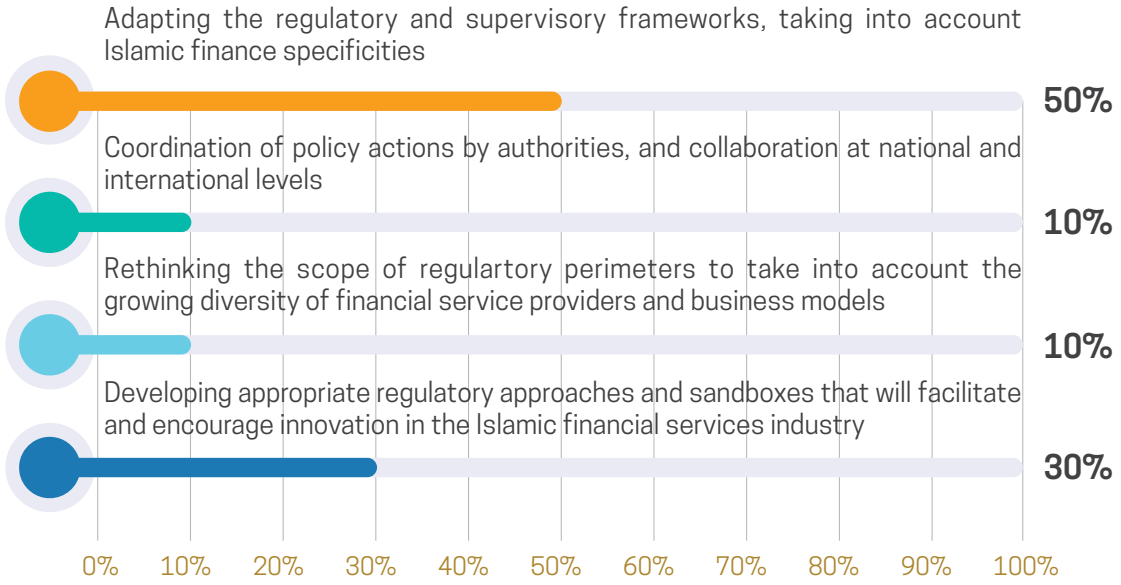

Multiple-choice poll (Multiple answer)

The biggest challenge faced by Islamic Financial institutions in digital transformation is:

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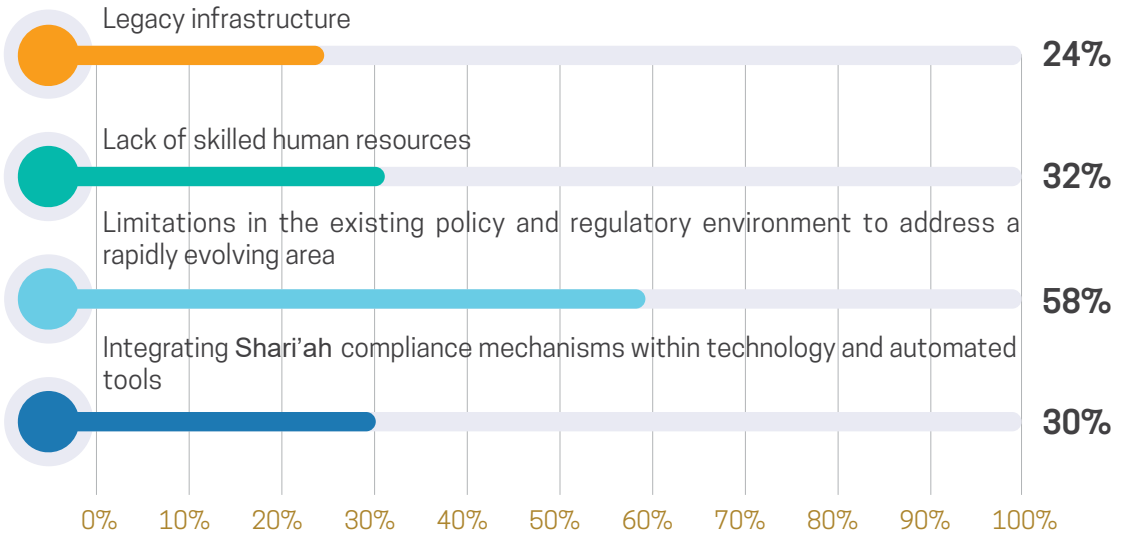

CYBER RESILIENCE OF ISLAMIC FINANCIAL INSTITUTIONS: CYBERSECURITY REGULATION AND SUPERVISORY PRACTICES

Cyberattacks have the potential to disrupt Islamic financial services and endanger financial stability. Regulators must keep up with the changing nature of cyber risks to Islamic financial institutions, including the evolving technologies. The session discusses emerging risks, the regulatory and supervisory steps taken by authorities to mitigate cyber risks, and the effective response to and recovery from cyberattacks. It also highlights areas where further work is needed

Session Summary

The chairman of the session, **H.E. Dr. Feras Milhem**, Governor of the *Palestine Monetary Authority* (PMA), confirmed that the new modes of remote working had widened the possibilities of cyber security attacks, which requires continuous development of the defence systems and frameworks to ensure the continuity of the workflow while maintaining information security and data privacy. The defence systems associated with digital transformation in the banking sector should be resistant to cyber-attacks. Hence, and for that, central banks play a vital role that complements the primary role of the financial institutions.

Supporting cyber security is a priority, and it must consider the high level of intelligence and sophistication of the attackers. As a first step, supervisory authorities should collect and analyse information to understand the actual and potential risks, including exchanging information on the national and international levels. The IFSB could play a role in this process, for example, by conducting technical sessions to discuss cyber security. The IFSB might recommend guiding principles on cyber security to supervisory authorities as a new standard.

Islamic banking in Palestine has grown remarkably by 17% CAGR between 2011-2021, which is three times more than the growth of conventional banking. Islamic banking assets now stand at about 18% of total assets in the Palestinian banking system.

The PMA plans to enhance the cyber security system for the banking system, following international standards and best practices. Besides, PMA has adopted cloud computing and outsourcing services, drafted consumer data protection and security instructions, and operated a special centre for information security management 24/7. Training the staff on cyber security management within the banking sector was another step taken by the PMA.

The Deputy Governor of *Bangladesh Bank*, **H.E. Abu Farah Md Nasser**, informed that 14% of the banks operate under Shari'ah principles in Bangladesh. They manage 22% of the total banking assets. About 29% of investments (in conventional terms: loans and advances) and 22% of total deposits are controlled by Shari'ah-based banks.

Risks for digital banking in Shari'ah-based banking are emerging, particularly in the physical hardware-human interaction. Prominent examples of cyber risks are equipment malfunctioning, inside and outside attacks by hackers, the misuse and accidental or intentional loss of data, and the vulnerability of applications and IT systems. Further risks are phishing, identity theft, malware, and password attacks. In 2016, the accounts of the central bank (Bangladesh Bank) were attacked, and USD 101 million was stolen. Only USD 34.53 million have been recovered from this theft. For the rest, a suit has been filed in New York City.

Obviously, malware attacks are very risky for the banking system. Bangladesh Bank has issued some policy guidelines, including an email policy, an ICT hardware and software usage and disposal policy, and a backup and rescue policy. The *Guidelines on ICT Security for Banks and Non-Bank Financial Institutions* describe how financial institutions should operate their ICT security.

Based on this cybersecurity guidance, the Islamic Shari'ah-based banks have implemented policies against cyber threats and for malware and spyware protection. The measures for cybersecurity work on the network level, server and system level, and endpoint level. The banks have started internal audits of their information systems, their security asset management, and compliance controls of their cyber security measures.

In addition to internal audits of the banks, the central bank conducts external information system audits, covering the ICT security management of the banks, ICT risk management, ICT service delivery management, infrastructure security management, access control of information systems, business continuity and disaster recovery management, acquisition and development of information systems, alternative delivery channels security management, service provider management, and customer education.

Bangladesh Bank will upgrade its existing *Guidelines on ICT Security for Banks and Non-Bank Financial Institutions* by adding new sources of emerging technological risks such as cloud computing, internet of things (IoT), big data, blockchain, artificial intelligence, and machine learning, furthermore a cyber crisis management plan for the financial sector and a cybersecurity framework for the banking and other financial institutions based on standards of the *National Institute of Standards and Technology* (NIST). The cybersecurity framework includes the formation of a computer incidents response team (CIRT) to give special focus on building strong resilience against financial cyberattacks, a platform for malware information sharing among financial institutions, a regulatory sandbox for the evaluation of emerging cyber threats, the formation of a cell for advanced persistent threat and cybercrime monitoring, and strong ties with the *Organisation of Islamic Cooperation* (OIC).

Regional cooperation among Islamic countries is needed to minimise cybersecurity risks. Capacity development and sharing programmes among Islamic countries should be organised for building a better cyber security and resilience against emerging threats. Finally, membership in the *Forum of Incident Response and Security Teams* (first.org) should be considered. Islamic countries could get information in advance that help to build a low-risk banking system.

Deputy Governor of the *Central Bank of Nigeria* (CBN), **H.E. Aishah Ndanusa Ahmad**, shared perspectives and experiences of the CBN on a policy framework for cyber-related issues. While acknowledging the key advantages of digital transformation can bring to Islamic financial services, policymakers with a mandate for financial stability must also look at the risks.

The potential for bank losses has increased significantly. Research by IBM says that the costs of cyber risks and data breaches are about USD 6 trillion annually. According to Accenture survey every financial institution faces 85 targeted cyberattacks on average. Out of that, one-third is successful. That indicates the quantum of losses that is possible in this area.

There is a strong consensus about the need for effective supervision, but there is no agreement regarding what that should look like. Some schools of thought believe that cyber risks should be covered like any other risk that financial regulators are looking at. Other schools of thought believe that a dedicated, focused, and tailored cybersecurity regime is needed, especially in light of FinTechs and BigTechs coming into the space.

Nigeria is the largest economy in Africa and has seen a rapid evolution of the payment and financial system due to deliberate plans and initiatives by the CBN. The aim to foster investments in the sector was achieved. Out of every USD 1 that comes into Africa for investments in FinTechs, at least USD 0.40 go to Nigeria. That indicates the size and the opportunities of the market. With developments like open banking, QR codes used in banking, and the recent launch of the e-Naira – the first African central bank digital currency – the need to focus on the potential negative sides of these technologies becomes greater.

Nigeria's *Cybercrimes Act* provides a legal framework for financial regulations regarding cybersecurity. Nigeria has a national cybersecurity policy and strategy as the basis for collaborations across the private and public sectors and within the public sector for a consolidated view of cybersecurity. The CBN itself has adopted important international standards such as ISO 27001 (information security management) which recently came up with a data governance council to provide strategic guidance on data protection.

The CBN launched a risk-based cybersecurity framework for the financial services industry in 2019. The framework provides guidelines for cyber resilience and mandatory standards for self-assessment systems and third-party service providers. Third-party service providers are an often-overlooked vulnerability point. The CBN focuses on financial institutions and FinTechs but not third-party institutions connecting with the financial sector. It treats cybersecurity no longer as a stand-alone issue but integrates cybersecurity risk reviews into the risk-based supervisory framework. Reporting should be structured as a platform for sharing cyber intelligence to help regulators and the industry become more resilient. Testing the cybersecurity framework and policy, playbooks are consequential.

To echo the thoughts around capability building, policymakers need to have a keen understanding and build capabilities in this area. A strong collaborative effort between public and private sector partnerships can ensure that the public sector to upscale itself with technologies used by the private sector.

The Secretary-General of the *Accounting and Auditing Organization for Islamic Financial Institutions* (AAOIFI), **Mr. Omar Mustafa Ansari**, reported that nearly one-fourth of all cybersecurity threats are related to the financial sector. The financial industry is exposed to cybersecurity risks because of its dependence on information technology and interconnected payment systems. In reaction to COVID-19, mobile banking and online financial transactions have become the new normal. Financial service firms have no alternative but to understand cyber threats and manage them properly.

There are some critical aspects in which Islamic finance differs from conventional finance in cybersecurity issues. Regulators and standard-setting bodies need to take note of these differences.

Many IIFS use old systems and legacy IT infrastructure, which is more vulnerable. While the conventional world moves forward, Islamic financial service providers are left behind. This is a real risk and alarming for regulators and supervisory authorities.

Since most IIFS are smaller than their conventional counterparts, their capability for massive investments in cybersecurity infrastructure is limited. IIFS must maintain a balance between costs and a reasonable level of security.

Choosing between specialised Islamic finance software and high-quality conventional software is a vast topic. There is some good Islamic finance software in the market, but it is often less regularly updated to address additional cybersecurity and IT infrastructure risks. Frequently updated conventional core banking systems do not cater to Islamic finance's specificities, which implies risks regarding Shari'ah compliance and reporting. The software specialised in Islamic finance products may not match the top-quality cyber resilience of conventional banking institutions.

Consumer education and protection must be paramount, but this is more challenging for Islamic finance. IIFS have brought a lot of new customers into the financial systems that have never banked before. Many are less educated, and their use of online services involves new risks for the IIFS.

IT systems used by the IIFS need robust testing to counter cybersecurity incidents. Testing mechanisms that are up to the mark with conventional ones might not be available. There are concerns that IIFS are exposed to additional security threats that are not sufficiently captured by the existing testing mechanisms due to limited resources and a particular customer base.

There are several approaches to mitigate the outlined cyber risks. Considering that cybersecurity is a very specialised field that regulators cannot handle alone, there is a need to involve the industry and external experts and create task forces or commissions to study or advise on the latest cybersecurity issues.

Internationally coordinated efforts by RSAs and standard-setters is needed to develop, adopt, and adapt global cybersecurity standards, policies, and practices for the Islamic financial services industry on an ongoing basis. IFSB is in the right position for that purpose, and AAOIFI would extend whatever support it can provide.

RSAs should support programmes and incentivise cybersecurity training and education. Islamic financial institutions are more in need of this because of their limited resources, lesser experiences, and inclusion of previously unbanked consumers.

Cybersecurity should be regulated within the Islamic finance industry. Cybersecurity insurance or *takāful* policies should be planned to benefit the overall industry and to safeguard the users and consumers of Islamic finance.

Mechanisms for the regular exchange and sharing of experiences, knowledge, and best practices regarding cyber risks should be implemented within individual countries and globally. Here organisations like the IFSB have to play the role.

A multifaceted approach to support, save, identify, react, and improve internal and external risk mitigation functions shall be applied. This should be part of plans for on-site inspections by the RSAs to check whether Islamic financial institutions are up to the mark in this area.

A preventive instead of reactive approach should be adopted to minimise cyber risk. The wisest person is the one who learns from others' mistakes rather than from his own mistakes.

Key Takeaways

- New modes of remote working have opened new doors for cyberattacks.
- Even the central banks can become victims of hackers.
- Capacity development and sharing programmes among Islamic countries should be organised to build better cyber security and resilience against emerging threats.
- A risk-based cybersecurity framework with guidelines for cyber resilience and mandatory standards must not overlook third-party service providers as potential vulnerable points.
- Islamic banks are more exposed to cyber risks than conventional peers as they are too small to invest the same amounts in cybersecurity infrastructure, their IT systems are less frequently updated, and the use of online services by many less educated customers involves additional risks.
- RSAs and standard setters shall develop, adopt, and continuously adapt global cybersecurity standards, policies, and practices for Islamic banks.
- A cybersecurity insurance or *takāful* product should protect consumers of Islamic finance against financial losses from a cyberattack.

Concluding Remarks

Islamic finance is particularly vulnerable to cyber risks. The IFSB is borne by regulatory and supervisory agencies that have a vested interest in ensuring the soundness and stability of the Islamic financial services industry. Cyber resilience considerations should be integrated into the prudential regulatory framework. Beyond that, and because of the great importance of protection against cyber risks, the IFSB could set up a platform for its members to share knowledge about threats and mitigation policies regularly.

The adoption of joint principles for the reporting of cyber incidents and a systematic collection and evaluation of incident reports from the whole Islamic finance industry could become the nucleus of a cyber risk control unit of the RSAs. With the support of its members and other bodies with related mandates such as AAOIFI, the IFSB could establish a documentation centre for cyber risks in Islamic finance that can provide case study material for, among others, training in RSAs, law enforcement, business consultancy, and academic research.

Regional cooperation can help to protect the Islamic banking sector from cyberattacks and to develop preventive approaches to minimise cyber risks in banking. Ideally, expertise from the IFSB could be deployed to complement and support the staff of RSAs in actions against cyberattacks.

One type of preventive action could be cybersecurity testing exercises amongst interested members. The IFSB issued a *Technical Note on Stress Testing for Institutions Offering Islamic Financial Services (IIFS)* in 2016, and it might consider a supplement to cybersecurity stress testing.

Multiple-choice poll (Multiple answers)

What role(s) can regulators play to promote cyber resilience in the Islamic financial services industry?

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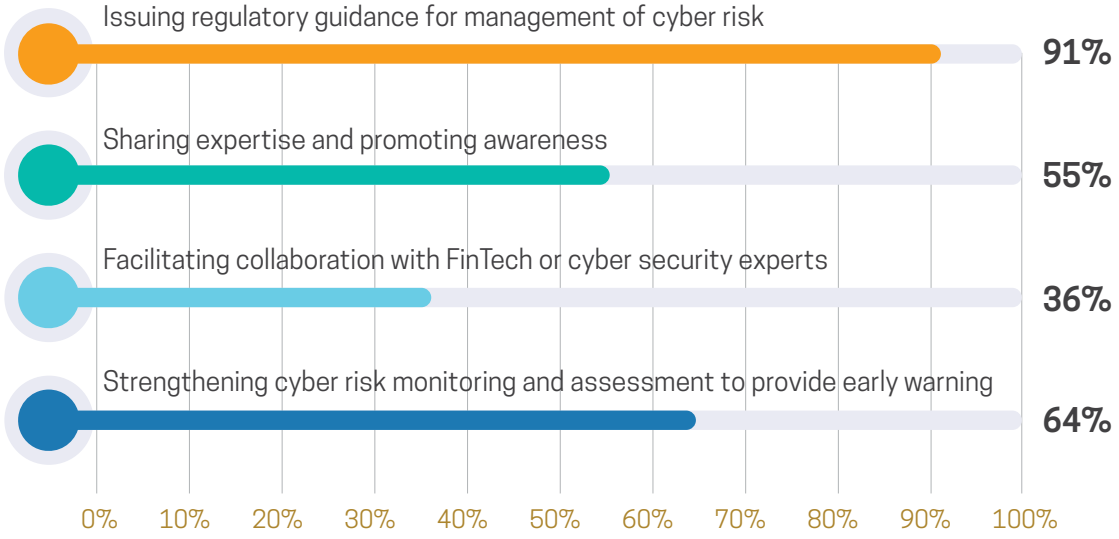

CRYPTO ASSETS AND THEIR IMPLICATIONS FOR ISLAMIC FINANCE: ONGOING WORK, REGULATORY APPROACHES AND POTENTIAL GAPS

*Crypto assets raise several policy issues, such as the need for investor protection, market integrity, anti-money laundering, and financial stability monitoring. Additionally, where crypto assets are linked to the Islamic financial services segment, it may also present the need for further considerations about their characteristics from a **Shari'ah**-compliance perspective, with related oversight and regulatory implications as well as potential confidence effects and reputational risks where such offerings are unregulated. However, the rapidly evolving nature of the crypto asset ecosystem and related risks presents challenges for authorities in assessing the significance of potential gaps in regulation and oversight*

Session Summary

The session was chaired by **Ayman Sejiny**, Chief Executive Officer of the *Islamic Corporation for the Development of the Private Sector* (ICD). He noted that scholars' views on the permissibility of cryptocurrencies or crypto assets under Shari'ah law are mixed. The regulators are still trying to find firm footing while the world of crypto assets rapidly evolves. The growing crypto investment market is gaining popularity for a global Muslim audience. The Islamic finance industry must act, and regulatory clarity is needed more than ever before.

To shape this new landscape and include crypto assets in the Islamic finance portfolio, Shari'ah screening of crypto assets is essential. The development of international guidelines on the Shari'ah-compliance of crypto assets will provide potential investors with much-needed clarity and make it easier for crypto assets to be accepted in mainstream Islamic finance.

Prof. Dr. Mohamad Akram Laldin, Executive Director of the *International Shari'ah Research Academy for Islamic Finance* (ISRA), reported that the International Islamic Fiqh Academy (IIFA) of the OIC discussed Shari'ah perspectives related to cryptocurrencies a few days prior to the IFSB 2021 Summit. There were already some discussions in the previous meeting in 2019 in Dubai, but a Shari'ah ruling was neither given then nor now. The next meeting might adopt a resolution about the Shari'ah standpoint on cryptocurrencies.

The world of cryptocurrencies comprises 7,066 cryptocurrencies as of 6 November 2021. The global crypto market amounts to USD 2.85 trillion, and the Bitcoin price is currently hovering around USD 65,000 (10 November 2021). The trading volume is about USD 112 million in 24 hours.

Shari'ah scholars need to look into the different aspects, dimensions, and types of cryptos. It is not appropriate to give one ruling to 7,000+ types of cryptos, although some say that everything is forbidden. Instead, it is advisable to dissect and categorise different types of crypto as they may have different Shari'ah implications.

One concern of scholars is that crypto issuance is not centralised. Anyone can issue cryptos or mine Bitcoins. Start-ups have issued cryptos to generate funding for their business, and scholars want to look at every aspect of cryptos to see whether it complies with the requirements of Shari'ah.

Another concern of scholars is whether cryptos are an asset or a kind of service. The *Fiqh Academy* also discussed whether cryptos could be defined as securities when they are not asset-backed. Perhaps some might be, but there is no mechanism in regulating digital currencies and protecting them against manipulative transactions.

A third concern is the difficulties in controlling cryptos' value and price. Bitcoin, for example, has fluctuated wildly. The volatility raises concerns regarding elements of manipulation and speculation or uncertainty *(gharar)*, about which the Shari'ah is very critical. Bitcoins have been invested for speculative purposes and are not used as a medium of exchange.

Some opinions of religious scholars have attracted much public attention in the past. The Egyptian Grand Mufti, for example, issued an official *fatwa* banning Bitcoin, and he mentioned that trade in cryptocurrencies is similar to gambling which is prohibited in Islam. This is a very general broad statement that needs to be investigated further. An OIC symposium and Turkey's *Directorate of Religious Affairs (Diyanet)* have published similar views.

Cryptos should be seen as an innovation that is available in the market. It falls within the general rule of Shari'ah (in the context of ***muʿāmalāt***) which is everything is permissible unless there is a clear indication that it is otherwise. That is why a further investigation on the innovation is needed. When cryptos are used in transactions, there might be benefits, but they might also bring some harm when the transaction is speculative or manipulated. Therefore, a possible ruling might be that crypto is permissible but with certain conditions.

One of the conditions is that there must be a body that regulates the cryptos. Also, if it is a currency, there must be a body that gives legitimacy, as it is with currencies nowadays. A currency is a legal tender issued by the central bank, i.e., backed by the government. If cryptos were declared a currency, they must be backed by an authority, and there must be some form of stability. Something that is very volatile cannot function as a currency.

These were some of the questions that needed to be discussed. At the end of the day, scholars will probably come up with certain conditions to legitimise cryptocurrencies.

Zeiad Idris, Chief Executive Officer of *Algrba*, agreed that there should be no blanket ban on 7,000+ different instruments. Part of the controversy is caused by the names used here. Words like "currency" can be misleading. People are not always talking about the same things.

When the talk is about blockchain and cryptos, the talk is about a database, agreements between contracting parties, and smart contracts. The focus is on the use of technology. It can be used for speculative purposes prohibited by Shari'ah, but it can also be used for legitimate and fully Shari'ah-compliant purposes.

It was pointed out in a previous panel of Governors that the role of regulators is not only to regulate a sector but potentially also to empower and promote it. The promotion should be for legitimate and responsible players, and the regulation protects consumers.

As long as those issues are addressed, it is not important how companies technically transact with each other. Technology is always changing. The technology for a contract could be a handshake, word-of-mouth, a piece of paper, an email, or a blockchain-registered smart contract. Technology is a means to an end.

The IFSB brings standardisation to Islamic finance regarding Shari'ah compliance. This is a high-level matter where the industry needs guidance. But authorities who try to regulate technology will always be behind the curve. The curve of technology will inevitably move faster than regulation and policy. Understanding what a particular instrument, token, or cryptocurrency offers is always key. Today, none of the crypto tokens or coins are currencies. A currency should be used as a medium of exchange, even in the Cryptoverse. Bitcoin is not used as a medium of exchange primarily. The terminology here is very confusing. What counts is the action that is taking place.

Hassan Usman, Managing Director and Chief Executive Officer of *Jaiz Bank* (Nigeria), refers to the technology of smart contracts and how the financial services industry takes advantage of it. Regulators are concerned about cryptocurrencies. While Shari'ah scholars are trying to identify the key issues that make cryptocurrencies permissible as an asset class in the Islamic finance space, it is important that the industry recognises the potency of the technology behind cryptocurrencies and adopts it for their products and services.

For instance, one of the key drivers for setting up *Jaiz Bank* in Nigeria was to increase financial inclusion, i.e. to bring Muslim communities and societies into the financial space and integrate them into the real economy. In many Muslim countries, the majority of people are struggling to survive. Financial inclusion, as such, is not very meaningful to many of them. What matters is not just access to banking instruments but empowering them to utilise the financial system. Some communities and people may not be economically active, but when some finance is provided to them – no matter how small – they will start some economic activity that empowers them to live above the poverty line. They can send their children to school and become part and parcel of the economy. Only then financial inclusion becomes relevant to them. This approach is behind the work of *Jaiz Bank* with women groups in rural communities. These people never had an account in a financial institution or a wallet. They are gathered in groups, and the bank – rather than asking them to open an account and put deposits – provides initial small capital to enhance the capacity of their small businesses in the economic space. A pilot with about 5,000 women was done pre-COVID-19. The recovery rate was almost 99.9%. When COVID-19 came, there was some disruption, but now it is returning to normality.

The bank staff has to bring the groups together in an establishment where they work with them, train them, and then provide the financing. The challenge for *Jaiz Bank* is the economically feasible scaling of a model from 5,000 women to a country of about 200 million population with significant diversity in many respects. That is where the underlying technology of cryptocurrencies – the blockchain – comes into play. The secure delivery and distribution of funds through blockchain-encrypted channels are cheaper than through a banking application. For transactions recorded in a distributed ledger, it is not necessary to use any bank or financial institution as a service provider for the delivery.

The key challenge for deploying this technology is a strong internet connection, which is required for blockchain technology to work. *Jaiz Bank* ensures people can afford a smartphone, but that is not enough. The literacy level is such that the people may not be able to operate the technology without compromising security. Like a private password in online banking, cryptocurrency uses a private key to access the funds. It is difficult at this low literacy level to ensure the safety of the private key.

The challenge, especially in Africa, is how to deploy the underlying blockchain technology that can accelerate the financial and economic inclusion of the vast majority of people and uplift them from the bottom of the pyramid. Digital technology can help create an economic balance in society, stability of the financial system, and peace and harmony in society.

Khalid Howladar, Head of Credit & Sukuk Advisory Business at RJ Flemings & Co, emphasised that for the first time in 500 years, people have the opportunity to use technology to create a complementary financial system that keeps up much better with the principles of Islamic finance than anything before. The potentials of cryptocurrency and crypto assets benefit communities on the micro-level by bringing more inclusion into the system. They also have benefits on the macro- or institutional level, where Muslim countries face challenges in the international banking system due to the political agenda of certain other countries. The crypto assets and cryptocurrencies ecosystem is significant and relevant for the Muslim community. It provides an opportunity to take Islamic finance into a new phase of innovation beyond copying products of the conventional side. Muslims can now create a new parallel system that works together with the existing Islamic finance industry.

More than 200 million people are participating in the new crypto economy. For Shari'ah concerns, as outlined previously, Muslims risk crypto exclusion. A cryptocurrency is a tool, a technology that can be used for good and bad things. Taking a blanket approach to crypto is the wrong approach. One has to look at each token, each asset specifically, which constrains the scholars. There is already a shortage of Shari'ah scholars, and now a new skill set for cryptography is required on top of the shortage. That makes a much more challenging Shari'ah situation.

The starting point is crypto as a technology. In the same way that Microsoft Office is not certified *ḥalāl* or *ḥarām*, one has to look at what the technology does and then formulate an opinion. Many crypto tokens involve some form of *ribā* or some form of lending. These would be prohibited. Other tokens are based on utility, staking, or trading. It is necessary to look through the entire crypto universe and screen which tokens are *ḥalāl* and which are *ḥarām*. Unless Muslims embrace this technology intelligently and discerningly, they risk exclusion from a sector that will be as big as the Internet was 20 years ago.

There are a lot of risks and fraud in the Cryptoverse. An ethical approach to crypto is crucial. Governance within that system is needed. Going back to the point of inclusion: Because of their low costs, these networks promise much greater inclusion for the excluded low-income communities. Unfortunately, the Muslim world has a high concentration of countries suffering from wars, famine, or civil challenges. Therefore, it is highly relevant for the Islamic finance ecosystem to bring access to the lowest levels of the communities.

The last element is complexity. This is something that will take time to fix – through education. Only education will get the Muslim ecosystem to the point where it can take advantage of the potential on the regulatory, community, and stakeholder sides.

The USD 3 trillion liquidity in the Islamic finance sector includes USD 149 billion of conventional decentralised finance (DeFi), but only USD 0 Islamic DeFi. That has to change. The Muslim communities, the Islamic banking system, and the Islamic corporates must claim a share of the ecosystem and not get left behind in this amazing sector.

Currently, the Cryptoverse is a very retail-driven space: many young and brave people participate with small tickets, and only a few holds large tickets. The Islamic banking sector is a low-yield environment: over USD 1 trillion worth of corporate and retail deposits worldwide are receiving less than 1% return. People cannot find a way to grow wealth there, but many wealth opportunities are emerging in the Cryptoverse.

Consumer protection, anti-money laundering, and KYC must be implemented for an institutional DeFi solution. This is where the regulators come in. They should be encouraged to break up the Cryptoverse. It is not one monolithic technology. People use crypto for lending, investing, or as a currency. From a regulatory standpoint, one cannot see crypto as a simple one-sectoral problem. It has to be broken up into different areas of domain expertise. In terms of Islamic banks, there will be huge growth for the banking sector if banks can offer retail-oriented crypto products. The new generation of Muslims is very into crypto and also very Shari'ah sensitive. That is the space for growth. An example of a full-featured DeFi ecosystem of ethical and halal finance solutions is *MRHB DeFi*, which is set up in Dubai. There shall be some screening products for tokens, some NFT (non-fungible tokens) products, wealth products, et cetera.

In summary, the Muslim community has a once-in-a-generation opportunity to put Islamic finance at the lead of innovation and to bring in the community at every level, from the smallest to the biggest. Working together with the scholars can give Muslims their place in the Cryptoverse.

Key Takeaways

- The term "cryptocurrencies" is misleading because the vast majority of 7000+ tokens or crypto assets have never been designed as currencies (= medium of exchange).
- Reputable *fiqh* bodies are working on an authoritative ruling on Shari'ah qualities of crypto assets. It seems necessary to differentiate between different types of tokens.
- It is expected that crypto assets will be considered permissible, provided certain conditions are met.
- The digital ledger technology (blockchain) underlying most crypto assets can efficiently deliver microfinance services at a large scale where stable internet access is ensured.
- The new crypto economy ("Cryptoverse") is expected to become the engine of future wealth. Islamic banks can find huge growth opportunities by offering retail-oriented crypto products.
- Crypto assets and DeFi techniques can take Islamic finance into a new phase of innovation beyond the copying of conventional products.

Concluding Remarks

The cryptoverse is expanding at high speed and in multiple directions. While crypto assets that generate returns from speculation or *ribā* are clearly no options for Muslim investors, the Shari'ah implications of many complex crypto structures are far from evident. Shari'ah scholars who are asked for a ruling need a new skill set for the assessments of crypto assets. This will exacerbate the much-lamented shortage of Shari'ah scholars who are well-versed in modern finance.

Regulators are in a similar situation: they also have to analyse and assess complex products of the cryptoverse concerning their implications for systemic stability, market performance, and consumer protection.

Given the high urgency and wide scope of the task, individual assessments of all crypto assets by each regulator are probably not the most efficient approach. Regulators of financial economies on a similar level of development or located in neighbouring jurisdictions might act jointly and practice a division of labour where each regulator specialises in analysing a particular type of crypto asset. Taking the results together, they would cover the full Cryptoverse.

RSAs that are members of the IFSB could focus on crypto assets with likely Shari'ah concerns. The IFSB could team up with recognised Shari'ah bodies and provide a platform for knowledge sharing about technical features and Shari'ah qualities of crypto assets. Access to the technical knowledge of regulators can support Shari'ah scholars in developing new skill sets, and the interaction with scholars will help regulators better understand Muslim consumer protection issues. The interdisciplinary interaction through the IFSB as a platform in an early stage of (pre-)regulatory action could help to achieve a common understanding of regulatory and Shari'ah requirements that might lead to a crypto asset standard to be implemented in the IFSB's member jurisdictions.

Multiple-choice poll (Multiple answers)

What is the biggest challenge for Islamic finance with regard to crypto assets?

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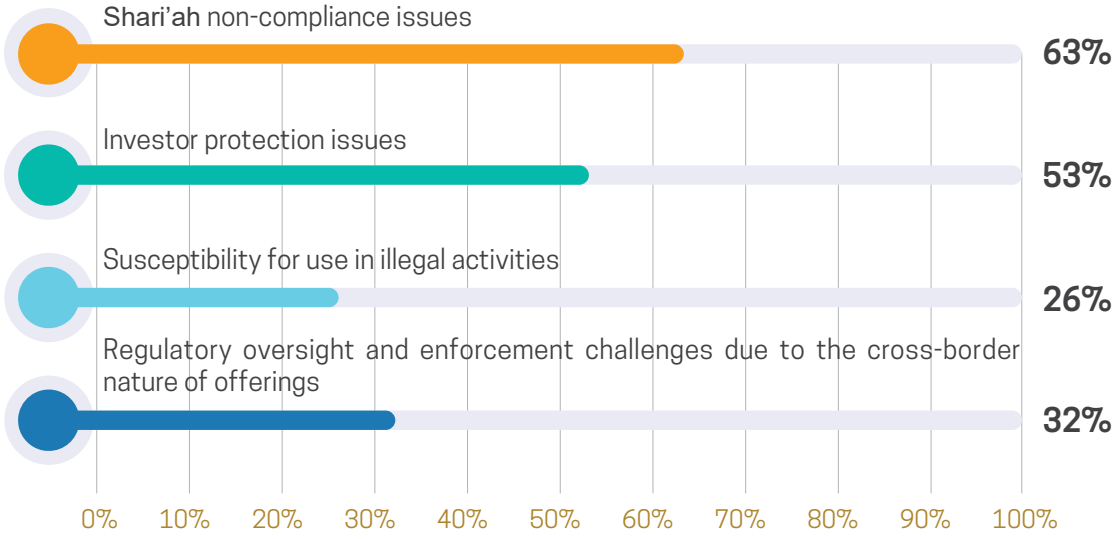

FINTECH AND ISLAMIC FINANCIAL SERVICES: MARKET DEVELOPMENTS AND EFFECTIVE REGULATORY APPROACHES

Technological innovation presents great potential and opportunities for providing Islamic financial services. New entrants and innovations in Islamic financial technology (FinTech), along with the associated increase in competition and diversity, could also potentially create a more efficient and resilient Islamic financial system. At the same time, there could also be new implications and risks for financial stability and regulatory oversight that need to be considered. The session aims to discuss significant market developments in FinTech in the Islamic financial services industry, the different regulatory approaches, and practices that have been applied by jurisdictions and their effectiveness, as well as the challenges and trade-offs in terms of balancing the need to encourage and promote innovation in financial technologies with the need to maintain resilience and financial stability.

Session Summary

The chairman of the session, **Prof. Dato' Dr. Azmi Omar**, President and Chief Executive Officer of the *International Centre for Education in Islamic Finance* (INCEIF), quoted the Global Islamic Fintech Report 2021 that estimated the Islamic FinTech transaction volume within OIC countries to be USD 49 billion in 2020. This represents only 0.7% of the global FinTech transaction volume. However, Islamic FinTech is projected to grow to USD 228 billion by 2025 with a very high compound annual growth rate of 21% compared to 15% for conventional FinTech. Saudi Arabia, UAE, Malaysia, and Indonesia account for the largest transaction volumes. They are also among the countries with a legal and regulatory environment for Islamic FinTech. The *Fintech Report* classifies FinTech into nine categories: alternative finance, capital market, digital assets, payments, fundraising, deposits and lending, wealth management, insurance and *takāful*, and social finance *(zakāt, waqf, sadaqat)*.

Islamic FinTech has great potential and opportunities for increasing financial inclusion within the OIC countries. However, there are also implications as far as risk and financial stability are concerned. Hence, regulatory oversight of FinTech development is important.

In Malaysia, INCEIF has been given the mandate to manage grant funds to promote Islamic FinTech. For this, INCEIF brings together FinTech companies, researchers, end-users (such as financial institutions or zakāt bodies), and civil society. FinTech companies shall develop solutions based on demand by users who could be market players or civil society. To support the development, universities and research institutes provide technology.

Through closer cooperation between FinTech companies, industry players, researchers, and civil society, the ecosystem is fully developed to push forward the FinTech development in Malaysia, particularly Islamic FinTech.

Sharifatul Hanizah Said Ali, Executive Director of Islamic Capital Market Development, *Securities Commission Malaysia* (SC), provided some data for context setting: Malaysia's capital market expanded by 7% in 2020 to about USD 819 billion. The Islamic capital market is 60% of the total capital market. It has been steady over the years, proving the resilience of Shari'ah-compliant investments against volatile market conditions during various cycles and crises throughout the decade.

Malaysia implemented various capital market-related measures, such as flexibility in complying with regulatory requirements for capital market participants during the COVID-19 lockdown periods; the SC facilitated e-service documentation. To meet the need for market-based funding for small and medium companies, especially in smaller industries, SC raised fundraising limits and allowed equity crowdfunding and P2P platforms to introduce secondary trading.

New risks related to data and technology required regulators to rethink their approach to regulating the capital market and enforcing investor protection. Globally, regulators had to adopt greater use of technology for oversight, surveillance, and analytics for forward-looking supervision and policymaking.

SC Malaysia has undertaken various initiatives to facilitate the emergence of the digital economy. In 2017, digital investment managers and a framework for licensing and conduct requirements for discretionary portfolio management were introduced. Malaysia was the first country in ASEAN to develop a regulatory framework for crowdfunding platforms and guidelines on recognised markets that facilitated the growth of digital operators. Malaysia has 21 players, of which one operates as full-fledged Islamic and five through Islamic windows. The Shari'ah compliant funds account for 5% of the total funds raised by the digital operators. It is noteworthy that FinTech-enabled platforms have aided close to 4,000 MSMEs in Malaysia. The growth was in the three digits last year.

SC Malaysia has also approved four digital asset exchanges with over 300,000 accounts. In 2020 the guidelines on digital assets were issued to facilitate, among others, the development of initial exchange offerings (IEOs), digital assets [digital currencies or digital tokens], and digital asset custodians. There are five approved digital assets in Malaysia to enable companies to raise funds. SC Malaysia wants to grow this segment and allow new players to come in.

SC Malaysia is a two-prong regulator with a regulatory and oversight role but at the same time a developmental agenda. In May 2021, SC Malaysia had the first regulator-led FinTech accelerator program to identify innovative start-ups focusing on the Islamic capital market (ICM). The key challenge areas for the participants were new ICM offerings (ideas, products, services), accessibility to ICM (for greater inclusivity), and greater integration of ICM with Islamic social finance.

In its recently released *Capital Market Masterplan 3* (2021-2025), SC Malaysia is eying on collaborations and forward-looking regulatory technology (including RegTech and SupTech) to improve compliance outcomes, strengthen reporting, and manage risk better. SC Malaysia is trying to strike a fine balance between innovation and regulation. It adopts the principle of proportionality for any measures to liberalise and rationalise.

Imansyah, Deputy Commissioner, Institute and Digital Finance, *Financial Services Authority* (Otoritas Jasa Keuangan, OJK) of Indonesia, noted that FinTech has unique features compared to the incumbent financial institutions in terms of the business model, risk model, legal arrangements, intermediation, income, disclosure, and particularly the supervisory approach. The *OJK* adopted a prudential supervision framework for financial institutions, particularly policies and standards from the *Basel Committee for Banking Supervision* and for the Shari'ah banks from the IFSB. But for FinTechs, the regulation is a market conduct approach rather than prudential regulation because FinTechs differ significantly from the incumbent institutions in terms of capacity and capital. The imposition of prudential regulations on FinTechs would not provide a conducive environment for their growth.

OJK has issued regulations for P2P lending, *Digital Financial Innovations* (DFIs), and securities crowdfunding. A light touch and safe harbour approach is the basis of FinTech supervision. OJK has a regulatory sandbox for assessing the business model, capacity, and risks of platforms. Innovations in digital financial services are tested before being launched to the public.

The FinTech start-up sector in Indonesia comprises 355 FinTechs as of September 2021, of which about 104 are P2P lending FinTechs. Seven platforms have been licensed for equity and securities crowdfunding. 81 FinTechs are recorded as DFIs in 16 thematic clusters. Six of the 81 DFIs are Shari'ah-based: two each in the clusters 'aggregator' and 'financing agent', and one each in 'funding agent' and 'InsurTech'. The number of Shari'ah-based DFIs has decreased from 12 in 2020 to six in 2021, but the assets have increased from IDR 65 billion to IDR 154 billion, which is a positive development.

OJK pursues a new holistic approach to financial technology supervision and is committed to providing an adequate FinTech ecosystem. OJK wants to guide FinTechs in their business from the beginning. The regulations were first introduced in 2016. OJK applies a light touch and safe harbour approach as the base of FinTech supervision.

OJK launched the FinTech centre *OJK Infinity* in 2018. It acts as an incubator, innovation hub, and platform for knowledge sharing between the regulator and the FinTech players. OJK has very close cooperation and intensive communication with the *Indonesia Fintech Association* (AFTECH) and the *Indonesian Sharia Fintech Association* (AFSI). There is still a big gap between conventional and Shari'ah-based P2P lending contributions. OJK and AFSI are committed to facilitating together the growth of Islamic FinTech. The FinTech associations are also OJK's partners in, among others, FinTech surveillance and the preparation of a code of conduct for FinTech players. OJK is leveraging on the FinTech associations for the FinTech market conduct supervision through discussions about self-regulation, implementation of RegTech, risk self-assessments, the code of conduct, and law enforcement.

OJK protects consumers against illegal FinTechs and creates market discipline based on an obligatory code of conduct. This is very important because Indonesia still has no personal data protection and security law. Respective legislation is in progress. Balancing the use of big data with consumer protection is one of the major challenges for the regulator, the FinTechs in general, and the Islamic FinTechs in particular.

The total Shari'ah-compliant assets have reached USD 132.7 billion (as of July 31, 2021). Its market share is still 10% only. Banking accounts for 33% of these assets, nonbanking financial institutions 6%, and the capital market (excluding Shari'ah-compliant stocks) 61%. It's an ongoing challenge to increase the share of Shari'ah-compliant finance.

One objective of the *Islamic Capital Market Roadmap 2020-2024* is to strengthen and develop the Islamic capital market (ICM) infrastructure. One of the programs is the support of the ICM by financial technology, specified in three action plans to optimise the utilisation of blockchain technology in the ICM, use crowdfunding platforms to promote micro-***ṣukūk*** issuances, and support the establishment of Shari'ah-compliant crowdfunding platforms. Other instruments and measures include a Shari'ah-compliant online trading system and several capital market activities based on information technology such as e-general meetings of shareholders, e-IPOs, and an online mutual funds transaction system.

In terms of non-banking financial institutions, the *Micro Waqf Banks* (Bank Wakaf Mikro, BWM) are particularly noteworthy. A BWM is an Islamic microfinance institution that aims to provide capital for financing small communities (mainly in rural areas) that do not have access to formal financial institutions. The term *Micro Waqf Bank* reflects the expectation of the government that the capital from which funds are distributed to the communities will be maintained. The first BWM was established in 2017. The number has increased to 62, with 23,100 customers and assets of IDR 257 billion. Financing distributed by BWMs amounts to IDR 72.6 billion. BWMs use cost-saving FinTech technologies.

Ijlal Ahmed Alvi, Chief Executive Officer and Secretary to the Board, *International Islamic Financial Market* (IIFM), informed that the IIFM has so far developed 15 standards, covering hedging for risk mitigation, liquidity management, ***ṣukūk*** documentation, some trade finance-related standards, and a standard for the implementation of risk-free rates as a replacement of LIBOR for *ijārah* and ***murābaḥah***, in particular syndicated ***murābaḥah***. Some IIFM standards have been done jointly with other global bodies, including IFSB and AAOIFI, as the key standard-setting bodies for Islamic finance.

An important topic in the actual work of IIFM is netting laws. A close-out netting law for reducing regulatory capital or credit exposure is required to handle early termination events and defaults. IIFM is looking at a uniform law that assists in creating greater stability in the financial system.

The *G 20* has introduced new financial regulations to overcome the financial crisis. This has put a lot of pressure on the operating structure of bilateral financial markets that often need to handle unstructured data, bespoke paper-based contracts, and complex inconsistent requirements between different asset classes. IIFM is looking for a digital future with common data and process standards across the industry. That will allow for the consistent aggregation of financial data and a more comprehensive risk assessment of supervised firms, leading to greater confidence and financial integrity. IIFM also looks at increased digitisation to improve risk management through greater alignment between contracts, processes, and data. This will facilitate real-time regulatory oversight.

COVID-19 has highlighted the urgency of efforts to accelerate financial market reforms in digitisation, embrace transformational changes, and adopt strategies on which all standard-setters work together. The Islamic standard-setting bodies jointly approached the *Financial Stability Board*, IOSCO, and the *Basel Committee for Banking Supervision* to seek their cooperation whenever initiatives fall into their mandated areas.

A challenging aspect of the digitisation of contracts is smart contracts. A smart contract is a contract that automates tasks. Software code is used to make processes more efficient and faster. Smart contracts work well with distributed ledger technology but can also be used with other technology platforms. However, a smart contract does not digitalise the entire contract. It is only looking at tasks that can be automated. If there is logic, it is possible to use technology. But if no strict logic is applied and human intervention is envisaged, it will be difficult to put it into the smart contract form.

From a legal perspective, the computer code of smart contracts is not the law. Many legal aspects have to be considered, for example, where the counterparties are based and what law will be applied. Islamic finance is growing in cross-border markets, and it has to be clarified whether the national law provides for that. There are no precedent cases and court judgements regarding smart contracts. In legal disputes, judges have to see what the terms of the contract specify and whether and how the terms can be changed. If terms can be changed manually, the counterparties can agree on something. If the agreement is in smart contract form, that will create problems. It has to be determined whether the terms contemplate the operation of the relevant laws. The whole regulatory and legal systems need to be assessed. IIFM has done several sessions on this and organised consultative meetings. Another issue is: what will happen if the terms of the contract are breached. There may be payments that have been put into an automated form. Stopping those automated payments can lead to not meeting contractual obligations. Again, one has to look at the applicable law. These are some things one must be mindful of when looking at smart contracts. IIFM is assessing this at the moment.

Another huge task is on the data side. In Islamic finance, there are not enough transaction data available that allow the regulators to see and assess how the business is going and whether the right principles drive it. Transactional data for the key products most widely used in Islamic finance are not available at the global level. The closing of this data gap requires joint efforts of standard setters who are linked with regulators and market players, such as IIFM and IFSB.

Shina Akeem Oyewale, Chief Executive Officer, *Marble Capital Limited*, Nigeria indicates that Africa has experienced huge growth in FinTech over the last six years. As of 2021, 576 FinTechs are headquartered in Africa. There was a massive inflow of funding into FinTechs in Africa over the previous two to three years. More than USD 1 billion has been invested in the largest three FinTechs on the continent - located in Nigeria, South Africa, and Kenya - with some more coming up in Senegal. The focus of these FinTechs has largely been on payments, digital banking, and wealth management.

The largest economies like Nigeria, South Africa, and Kenya are coming up with regulations to support and manage the growth of FinTechs. However, some FinTechs complain that those regulations inhibit growth. It is challenging to strike a balance between the aspired growth of FinTechs on the continent and ensuring that they don't blow up the system, especially when strong investors put their money behind the FinTech operations.

Islamic FinTech has not had a lot of growth on the continent. As of today, only 10 Islamic FinTechs are actually of scale. A larger number of Islamic FinTechs exist and strive to grow, but most lack sufficient funding. They are still either in sandboxes or tested. This leaves huge opportunities for Islamic FinTech growth.

Most FinTech growth has been in payments, remittances, and wealth management. Islamic FinTechs have opportunities in social finance largely untouched by FinTechs on the continent. This is an area where regulators could provide support. The fact that 41% of the population of Africa are Muslims indicates the vast size of the potential market and the largely untapped opportunities for Islamic FinTechs.

However, obstacles in the legal and regulatory environment inhibit the seizing of opportunities. One obstacle is the lack of appropriate regulations that are Shari'ah-inclined regulations that support the growth of FinTech on the continent. The other aspect is that the level of collaboration from regulators is still not as robust as it should be. Regulators are coming up with instructions or guidelines that they think will expand the growth of FinTech, but actually, they are inhibiting it. Some Islamic FinTechs tried to scale up, but whenever the regulator comes up with some new guideline, they realise that they either have to shut down and go back to the drawing board or run afoul of the laws. A high level of collaboration between the regulators and the FinTechs is needed for the FinTechs to grow properly.

Nigeria as of 2021 has three unicorns that are conventional players. This points to huge opportunities for growth in FinTech. A high level of collaboration, appropriate funding, and more engagement with the engineers and entrepreneurs behind the various innovations can lead to a higher level of FinTech growth in the Islamic space on the African continent.

Key Takeaways

- Experts agree that Islamic FinTech has great potential to increase financial inclusion in Muslim countries, but the delivery falls behind expectations. Opportunities in social finance are largely untouched by FinTechs in many jurisdictions.
- Most Islamic FinTechs have emerged in the Middle East and Asia, while in all of Africa, only 10 Islamic FinTechs are actually of scale.
- The regulation of FinTechs follows primarily a market conduct approach rather than prudential requirements because they differ significantly from banks in terms of business model, capacity, and capital.
- RSAs often have a developmental agenda in addition to their regulatory and supervisory function. They provide FinTechs with an enabling legal and regulatory environment and further support (e.g. infrastructure, coaching, links with research institutions and industry players) in sandboxes where innovations are tested before being launched to the public.
- The focus of FinTech regulation is not on prudential supervision but market conduct and investor protection. Regulators often apply a light touch and safe harbour approach.
- Regulators often maintain close working relations with FinTech associations on, for example, new technologies, risk (self-)assessments, codes of conduct, and RegTech.
- For regulators and (Islamic) FinTechs, two major challenges are (a) balancing the use of big data with consumer protection and (b) the wider use of smart contracts.

Concluding Remarks

Unlike banks, FinTechs such as P2P platforms are no intermediaries. They are institutions facilitating the conclusion of private contracts between fund seekers and fund providers. It seems that this concept of decentralised finance does not need a regulator or supervisor. However, many RSAs have decided to regulate and supervise P2P platforms. First, in the interest of stability of the financial systems, P2P lending activities should be monitored once they have achieved a sizeable volume. In addition, jurisdictions have introduced some risk management and capital requirements (adapted to specificities of FinTechs) and anti-money laundering regulations. Second, a proper governance and market conduct framework for FinTechs regarding the contracts between the parties served by P2P platforms should be implemented for consumer protection. Overall, RSAs should contribute to developing a conducive ecosystem for Islamic FinTechs to unleash their presumed developmental potential.

Regulations for FinTechs should not be developed by legislative bodies or standard setters in isolation but in interaction with market players and industry associations to achieve a common understanding of the potential and challenges of innovative technologies and business models. However, continuous and close cooperation of regulators and the regulated harbours the risks of regulatory capture. To minimise it, interactions should be transparent and as public as possible. In addition, independent experts, e.g. from academia, should be involved in the process.

Financial technology also impacts incumbent Islamic financial institutions, in particular banks. Standard-setters such as IIFM and IFSB could work on common data and process standards across the industry for improved risk management and more effective regulatory approaches such as real-time regulatory oversight. Currently, the volume of available transactional data for key products in Islamic finance at the global level is deemed insufficient. Closing this data gap requires joint efforts of standard setters linked with regulators and market players, such as IIFM and IFSB.

Ranking poll

How do you rank the following factors in terms of their importance in supporting the development of Fintech in the Islamic financial services industry?

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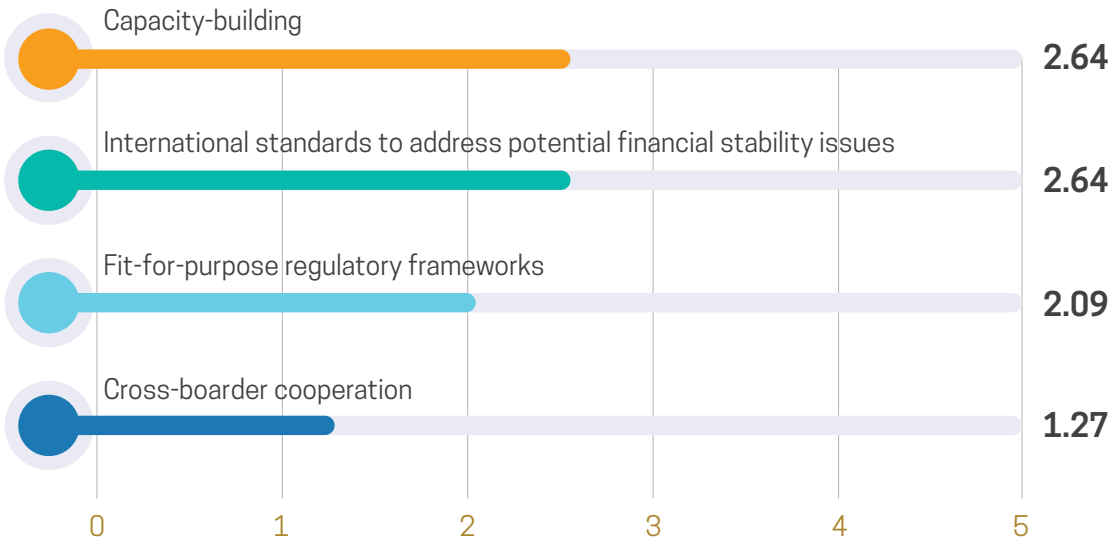

SUMMIT DAY 2 – SESSION 5

EFFECTIVE USE OF SUPERVISORY AND REGULATORY TECHNOLOGY BY AUTHORITIES AND REGULATED ISLAMIC FINANCIAL INSTITUTIONS

SupTech and RegTech have the potential to improve supervision, surveillance, and enforcement by regulatory and supervisory authorities and reporting and compliance by regulated Islamic financial institutions, which can, in turn, strengthen the resilience of the Islamic financial system. However, the effective use of such tools requires consideration of several things, including the need for strong governance frameworks, skilled human oversight, as well as common data standards to improve data collection, among other things. The session aims to discuss current best practices and challenges and the factors that can improve the effective implementation and utilisation of SupTech and RegTech

Session Summary

The chairman of the session, **Dr. Zamir Iqbal**, Vice President of Finance and Chief Financial Officer, of the *Islamic Development Bank*, requested the panelists to dispute whether new technologies make the work of regulators more effective or more challenging. Technology can also have an impact on how Shari'ah scholars look at things. Therefore, some thought should be given to the challenges of digital transformation from a Shari'ah perspective.

H.E. Dr. Yakup Asarkaya, Second Chairman, *Banking Regulation and Supervision Agency* (BRSA), Republic of Turkiye, pointed to technologies such as application programming interfaces (APIs), web services, machine learning, predictive analytics, big data, and further technologies related to data mining and analytics, cloud computing, blockchain, visualisation solutions, etc. These technologies can be used by banks and regulators and offer many benefits in terms of time savings, cost reduction, increased availability of information, increased compliance, and data analytics.

SupTech and RegTech facilitate data collection and data analytics. The BRSA of Turkiye has access to customer-based and transaction-based data useful for data analyses. Like most supervisory authorities, the BSRA collects reports from banks, including Islamic banks, and other financial sector firms. Overall, the BSRA gets 192 reporting sets with different periodicities (mostly monthly or quarterly). The data availability has allowed the BRSA to disseminate more information on its website to the public, such as aggregated data about conventional and Islamic banks or prices and service charges of banks so that consumers can make comparisons.

Recently many banks introduced working from home, which brought a lot of risks, especially cyber risks. The BRSA tried to minimise these risks, for example, by mandating two-factor authorisation for employees, IP restrictions for connecting to the banks' systems, use time limits, and various other regulations for working from home.

Since technology has been moving very fast in recent years, regulations are lagging and need an overhaul to catch up with the technology. Hence, some regulations were changed. For example, banking as a service was allowed and expected to be implemented by the end of 2021. Banks are moving in that direction, but more importantly, it allows non-bank technology firms to offer banking services with licensed banks in the background. There are already examples of this outside Turkiye. For instance, one of the Turkish Islamic banks established a subsidiary in Germany (with no German banking license) that uses another licensed bank's systems in the background to provide its services. Since 2020, right after the COVID-19 outbreak, banks have been allowed to onboard customers by an online mechanism.

As technology evolves, more technology-oriented forward-looking thinking is required. For example, the BRSA is thinking about future real-time automated supervision and enforcement. Other innovations may facilitate machine-readable regulations and reporting utilities. The challenge is continuous and automated regulatory adaptation. Other issues where the BRSA is still in an early stage of development are dealing with big data and conceptualising the supervisor as a node in a distributed ledger network for real-time monitoring.

Dr. Bashir Aliyu Umar, Deputy Chair, Financial Regulation Advisory Council of Experts, *Central Bank of Nigeria*, noted that one of the greatest factors of human development is innovation, which is a gift from Allāh. History has shown that the Shari'ah is quite adaptive to human development. The response of the Shari'ah to the introduction of paper currency and now digital currency shows how responsive the Shari'ah is to innovations.

Digital transformation has been quite disruptive in one way but also very positive in other ways. Among the fundamental objectives of the Shari'ah is the creation of wealth and its circulation. Digital transformation has facilitated the creation of wealth in a very great way. Africa can be taken as an example. Three FinTech start-ups and one e-commerce firm have reached the unicorn level with valuations of over USD 1 billion. Three are located in Nigeria and one in Egypt. Wealth creation has been realised through digital transformation, making it imperative for Islamic finance to embrace it.

Redistribution is one of the fundamental objectives of the Shari'ah related to wealth. Wealth must not remain concentrated in the hands of a few. For FinTech, wealth redistribution is a great challenge. Regulators and supervisors must ensure that effective market practices do not empower one section of society at the expense of the other, and exploitative practices must be prevented through their interventions. For Islamic finance, all scholars, practitioners, and academicians are constantly hammering on the importance of Islamic social finance as the greatest tool to achieve wealth redistribution. This appears achievable within societies when businesses and national governments embrace it. But a global redistribution between societies can be achieved only when supranational and multilateral institutions take responsibility for reducing the gap between advanced and emerging economies. The prospects of success are not very bright.

For consumer protection, Shari'ah scholars play a very important role because interventions are necessary to regulate the greed in the human being. Consumers can protect themselves by following the tenets of the Shari'ah, which protect both individuals and society. Shari'ah scholars identify the Shari'ah basis of contracts and structures such as cryptocurrencies. Because digital innovations develop fast, Shari'ah scholars need to respond speedily to determine what is permissible and what is not. The delay in coming up with a position prevents consumers from self-protecting themselves.

People must be able to ensure that a transaction they are going into does not entail unethical and unjust practices, dealing in *ḥarām* products, usury, and excessive speculation. Then a person can protect themselves, and others are protected from that person. Many people venture into new FinTech opportunities without asking genuine questions about their permissibility. But when the consumer and the business manager find out the position of the Shari'ah about the opportunities they pursue, they will be protected. It is a great challenge for the Shari'ah scholars to understand the developments and innovations and be responsive.

It is a principle of the Shari'ah that one cannot give a ruling over a thing until one can conceptualise it in its proper perspective. Some innovations are so complex that it is very difficult for a layperson to perceive what they are. Nevertheless, Shari'ah scholars must arrive at a judgement, even if innovations are so fast that the next innovation has come up before the previous one is well understood and dealt with. This makes it imperative for Shari'ah scholars in Islamic finance to be very responsive because this responsiveness is an embedded quality of the Shari'ah. The Shari'ah is supposed to be dynamic for all societies and at all times. Hence, there has to be speed in responsiveness.

There is also a need for speed in responsiveness regarding regulatory and supervisory measures to prevent harmful effects of innovations, e.g. adapted disclosure requirements to ensure transparency and market discipline for consumer protection and financial stability. This is the responsibility of standard-setting organisations like the IFSB. One can learn from what has been done in the conventional arena and then address the specificities of Islamic finance, as IFSB is doing since its inception.

It is important to realise that innovation is regarded by Shari'ah as something that has to come. Part of the fundamentals of the Shari'ah is that anything in the world that is beneficial is permissible unless it is prohibited. This makes the area of permissible activities extremely wide. There are only very few impermissible activities, and their scope is quite limited. Balancing innovative ideas and techniques properly within this context will gain the advantages of FinTech and avoid its pitfalls and harmful impacts.

Dr. Nouran Youssef, Senior Financial Sector Specialist, *Arab Monetary Fund*, mentions that the financial industry deploys cutting-edge technologies such as natural language processing, machine learning, artificial intelligence, and DLT/blockchain. The current RegTech landscape is an example of harnessing these innovations to ease the requirements of doing business and the mission of regulatory authorities.

Regulatory authorities and financial institutions see great opportunities for adopting RegTech and SupTech to strengthen compliance with regulatory requirements and to enhance monitoring and supervision processes with real-time valuation. All of this is coupled with increased cyber threats and exposure to financial crime. Market participants in the Arab region see challenges mainly related to the technological capabilities of RegTech tools and solutions providers. Market players have problems integrating new technologies into their legacy systems. They also perceive a problem of interoperability between regulated institutions and regulators. Further issues are the lack of mature solutions, the dire need for training, and the limited availability of technical skills, particularly in artificial intelligence, big data, and deep learning. Regulators and regulated entities consider it desirable to have clear regulatory guidance or a legislative framework for all market participants.

Regulatory authorities have highlighted many barriers to RegTech/SupTech, such as budget constraints and the lack of human capital for artificial intelligence, machine learning, and data models. They might need to hire new staff, go into deep education, and organise learning programmes for their current staff. In the meantime, it has been noted that there is a lack of available mature solutions ready for adoption by the supervisory authorities. The authorities are also concerned about data challenges, the protection of client data, and the consumer protection framework as a whole. This must be coupled with the cyber resilience framework because all these solutions must be integrated into the current legacy systems. A strong cyber resilience framework is needed for all the innovations and other online schemes. Regulators can outsource functions, but they remain responsible for their effectiveness. This may explain some reluctance regarding adopting more SupTech for their institutions.

Nevertheless, many regulatory authorities across the GCC and North Africa adopted initiatives to foster RegTech and SupTech ecosystems. Several regulators have established digital labs with particular RegTech and SupTech sections. Many are formulating national strategies for RegTech adoption. Some have included RegTech and SupTech providers in their regulatory sandboxes, accelerators, and incubators, and others have instructed regulated financial institutions to employ RegTech solutions for compliance in some areas. Education is also considered very key to enabling and accelerating a necessary cultural mind shift within the regulatory and supervisory authorities.

For shifting from manual oversight processes to automated ones, regulatory authorities must take the lead and guide the regulated entities, incubators, accelerators, and sandboxes. Regulatory and supervisory authorities can initiate a top-down approach to foster an innovation mindset and a bottom-up approach to empower employees for real organisational changes. Providing staff and employees with the tools to future-proof their roles along with their tasks is another approach to activate the organisational talents in regulating and regulated institutions.

That regulated institutions can be hesitant to implant new technologies into core regulatory and supervisory processes is understandable because of the perceived repercussions if something goes wrong. However, risks for decision-makers can be mitigated by clearly defined proofs of a RegTech concept and the implementation of pilots with a limited scope.

Regulatory requirements are published far and wide. This allows the industry to adopt solutions with proven track records. Best practices can be shared to allow the pooling of resources. This may start a process from recommended best practice examples to some binding directives and finally to a complete set of rules. An agile approach is needed for a collaborative RegTech and SupTech ecosystem.

Professor Volker Nienhaus, a consultant to the IFSB, summarised that RegTech is not about disrupting financial institutions but about disrupting legacy technologies applied to meet regulatory requirements. The number of RegTech/SupTech providers is relatively small compared to FinTechs in other segments, and an explicitly Islamic RegTech firm has not been found.

The benefits of RegTech from the perspective of financial institutions are compliance with regulatory standards, support in risk management, combat of financial crime, and more effective and efficient processes. There are challenges such as data issues (availability, quality, privacy, cybersecurity), interoperability with legacy systems, frequently changing national and international regulations, a lack of qualified personnel, budget constraints, the maturity of RegTech solutions, and the size and longevity of specialised RegTech providers. The deployment of RegTech comes with various risks related to regulatory compliance, the concentration of providers, business continuity, data protection, and various operational risks, including ICT security, the conduct of business, and consumer protection.

Regulators see challenges, particularly in assessing the effectiveness and reliability of RegTech solutions and in a lack of skills and tools for assessing and auditing software in general and algorithms in particular. A closer look at why regulators are concerned about software and algorithms will reveal some issues that should get more attention from Shari'ah scholars.

There is a traditional understanding that digital technologies are neutral tools, and there are no Shari'ah issues in technology. What counts is the intention of the user. But some digital technologies exist that have Shari'ah relevance irrespective of the user's intentions.

Digital technologies are data-driven. Data are abstractions of reality. Abstractions never capture everything but leave out certain aspects. Thus, a fundamental question is what to ignore in abstractions called "data" and, consequently, in data-driven models and technologies.

The European Union has implemented the *General Data Protection Regulation* (GDPR) which defines a list of so-called prohibited data. These are information about a person's race, ethnic origin, sexual orientation, political opinion, and religious beliefs that must not be used in the context of life-altering decisions, i.e. for decisions on jobs, loans, or insurance coverage. This is fundamentally different from the FinTechs' big data approach, summarised in phrases like: "data are the new oil" and "all data is credit". This approach prevails in the USA and many other parts of the world. It suggests collecting and processing as much data – e.g. from e-commerce, mobile phones, social media, websites, streaming services, online games, or car navigation – to create a very detailed (and intrusive) profile of a person. As prohibited data are correlated with all the collected data, it is possible to compute statistical proxies for the prohibited data that could be used in decisions that might be discriminating based on prohibited data. Strong data protection and privacy regime could prevent this, but only a few jurisdictions have such a system. Given privacy principles in Islam, Shari'ah scholars may find it worthwhile to look more closely at prohibited data and big data proxies.

Another issue arises when big data are used as input for machine learning models. The most advanced and, in terms of predictive quality, most effective digital technologies are based on so-called non-linear non-monotonic response functions. That means it is unknown whether a change of input data in one direction will change the model's output in the same or a different direction. The quantitative dimension of the reaction is also unknown. Things become even worse when self-adjusting models are used because they continuously modify their response function unpredictably to get better fits for their output. The output of such a black-box model cannot be explained causally.

Being denied from a vital service such as a *takāful* cover for unknown reasons is ethically not justifiable but a possible consequence of the design of this particular digital technology. This technology is not neutral. It has inherent ethical qualities – irrespective of the intention of the user. This should be a matter of concern for Shari'ah scholars because uninterpretable black box models could become more widespread in the future. It would be in the interest of a speedy response that Shari'ah scholars familiarise themselves with those issues discussed in the West under the heading *Ethical Artificial Intelligence* by intellectuals, civil society groups, and supranational entities like the EU and OECD. Maybe institutions such as AAOIFI, IFSB, or the IsDB Institute could become instrumental in such a venture.

Key Takeaways

- Technologies offer many benefits in terms of time, cost, access, and compliance. Both the regulators and the regulated can apply the same digital innovations.
- Since technology has been developing very fast in recent years, regulations are lagging behind and need an overhaul to catch up with the technology.
- Better compliance with regulatory requirements and supervision processes with real-time monitoring of financial flows are objectives of RSAs in advanced markets.
- Real-time monitoring might be accomplished not only in centralised systems of incumbent banks but also by integrating an RSA as a node in a decentral digital ledger network.
- Shari'ah scholars are no technical experts, but they must understand digital innovations to be competent to protect Muslims from *ḥarām* products and unethical practices.
- The general attitude of Shari'ah towards innovation is positive. What is beneficial is permissible unless it is prohibited.
- Because digital innovations develop fast, Shari'ah scholars need to respond speedily. The same is expected from standard-setters for Islamic finance.
- The Shari'ah has built-in rules that allow wealth-creating innovations and prevent exploitative behaviour.
- The Shari'ah also has rules for wealth redistribution. Islamic social finance instruments (e.g. *zakāt, sadaqat, waqf*) function within a society, but a global wealth redistribution to the benefit of less developed countries need additional political interventions.
- Islam values privacy. Shari'ah scholars may find it worthwhile to examine big data models more closely for proxies of data that must not be used for life-altering decisions.

Concluding Remarks

Since technology has been developing rapidly in recent years, regulations are lagging behind and need an overhaul to catch up with the technology. This is recognised by many RSAs who are willing to modernise and adopt RegTech and SupTech.

Currently, the RSAs of most jurisdictions make efforts to update their national regulatory systems. This approach may yield satisfactory results if the digital transformation affects the financial systems differently in different jurisdictions. However, with the continuous spread of digital innovations, differences in structures of financial systems may level, and the challenges and needs for regulatory updates converge among the jurisdictions. Cooperation and joint initiatives may become more appealing. For example, common training and education programmes could be more effective than unilateral efforts in addressing the shortage of staff competent in artificial intelligence, machine learning, and data modelling.

Cooperation could be organised on a regional level with the active involvement of regional organisations such as the AMF or ASEAN. For specific topics such as Islamic finance peculiarities, the cooperation could be international under the guidance of standard setters with corresponding mandates such as AAOIFI, IFSB, or IIFM. Shari'ah bodies could also be included. Global organisations could become instrumental, for example, in efforts to establish common data standards or ethical principles for artificial intelligence.

Cooperation can not only lead to more efficient uses of material resources and human capacities but also to shorter response times. Agile leadership could speed up an evolutionary process that starts with shared best practices, continues with some forms of directives, and ends with a complete set of rules in response to digital innovation.

Poll Results

Multiple-choice poll (Multiple answers)

What would be the most important factor to consider in ensuring effective use of SupTech & RegTech

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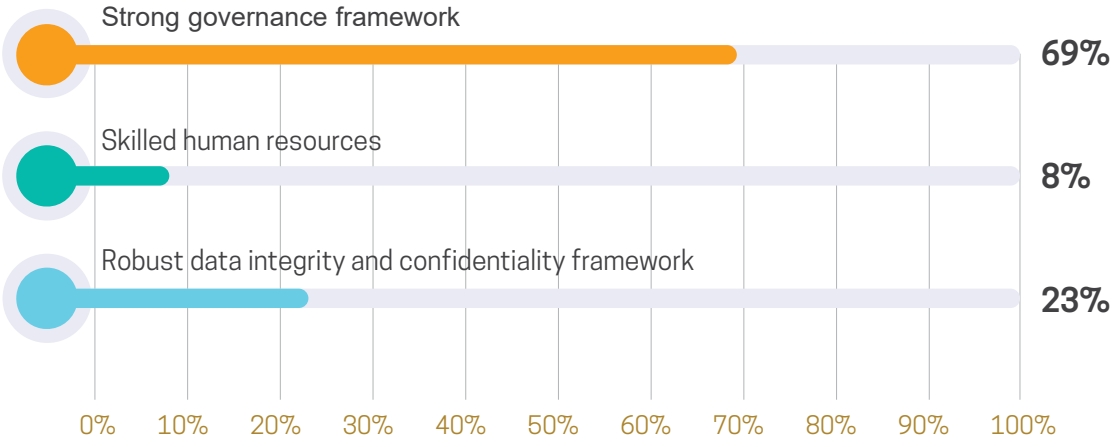

HARNESSING TECHNOLOGY IN ISLAMIC FINANCIAL SERVICES TO IMPROVE FINANCIAL INCLUSION

Digital innovation and technological solutions have the potential to increase the reach of Islamic financial services to unbanked or underbanked populations, as well as SMEs. It can play a pivotal role in closing the financial inclusion gap and improving access to Islamic financial services. Coordinated governmental and regulatory action can also help encourage and facilitate the adoption of technology for a better mobilisation of Islamic social finance instruments. The session discusses opportunities and strategies to facilitate innovation and adoption of digital finance and financial technologies by Islamic financial institutions to target underserved individuals and SMEs for more inclusive growth of Islamic finance.

Session Summary

The session was chaired by **Dr. Sami Al-Suwailem**, Acting Director General and Chief Economist, *Islamic Development Bank Institute* (IsDBI). He invited the panelists to share the experiences of their respective organisations with digital technology solutions in support of financial inclusion. He also asked them to comment on the observation that, despite much talk about how digital finance could reduce costs and make operations more efficient, the transfer of small amounts of money still costs relatively more than the transfer of larger amounts. The costs of transfers disproportionately burden the poor and the small users. The same can be observed for deposits: small deposits are charged fees, but large deposits are exempted. This does not enhance financial inclusion. Several ideas have been voiced on how to address this issue. For example, it might be possible to use *zakāt* to subsidise the costs for the least advantaged group in society, or costs and prices could be driven down by more effective competition. Panelists were asked about their opinion and requested to comment on the potential of micro-***ṣukūk*** to enhance financial inclusion by giving MSMEs access to the capital market.

Saud Al Busaidi, Deputy Chairperson, IFSB Technical Committee and Manager, Islamic Banking Department, *Central Bank of Oman* (CBO), points to commonalities between financial inclusion and the objectives of Islamic finance. Justice, transparency, and equality form the foundation of an Islamic economic system that aims to develop a prosperous economic and social system. The Islamic financial system's endorsement of justice and risk-sharing establishes a clear link between the Islamic concept of development and the notion of financial inclusion. Islamic financial contracts, particularly risk-sharing financial instruments and social solidarity instruments such as *sadaqat*, *waqf*, and ***qarḍ***, can be utilised for financial inclusion. The instruments shall safeguard the rights of the less able to the income and wealth of the more able, thus ensuring social protection and poverty alleviation.

Oman has created a strong legal and regulatory framework for Islamic banking. It began in 2013 with a reform of the *Banking Law 2000*, the creation of a robust Shari'ah governance framework, the establishment of a high Shari'ah supervisory authority within the CBO, the *Islamic Banking Regulatory Framework* (which is a comprehensive rulebook), the issuance of OMR and USD sovereign ***ṣukūk***, and tax neutrality regarding Islamic financial services. The potential of micro-***ṣukūk*** for financial inclusion is acknowledged. The government had issued a sovereign ***ṣukūk*** specifically for retail to involve the people and support the capital market in this area. All such instruments are in the right direction for financial inclusion.

Despite being a relatively nascent industry, the market share of Islamic banking crossed the15% mark in June 2021. That makes the Islamic banking sector systemically important in Oman, which comprises two standalone Islamic banks and five banks with Islamic windows.

Key initiatives undertaken by the CBO to promote digital transformation and technology adoption are (a) eased and simplified regulation for FinTech companies and provision of payment services, (b) issuing the *Payment System Regulations 2019*, based on the new *National Payment System Law 2018*, (c) constituting a *Fintech Committee* within the CBO with a wide mandate, (d) announcing a *Fintech Regulatory Sandbox Framework*, (e) drafting a *Fintech Framework and Roadmap*, (f) finalising the *Open Banking API Strategy*, (g) drafting the *Regulatory Framework for Availing Cloud Services* by licensed institutions, (h) working on the establishment of a *National e-KYC Utility*, (i) contemplating on a proposal to establish *Fintech Innovation Hub* to support local talents and innovations by establishing incubation centres and announcing acceleration programmes.

The CBO has set up a *Financial Inclusion Framework*. Its policy objectives are inclusive growth, financial inclusion and social cohesion, support of economic diversification, and greater participation in economic activities. The supportive framework for the implementation includes better payment system channels, a liberalisation of branch licensing, emphasis on the opening of branches in remote areas, emphasis on SME finance, the introduction of no-frills bank accounts, facilities for people with special needs, and fee waivers for people with low salaries and pensioners. Banks need to re-think all their charges to avoid undue burdens for poorer people. Proportionate charges should support financial inclusion.

The financial inclusion policy features include awareness campaigns for available products, financial literacy initiatives, applying fair and reasonable charges for services provided to selected groups, enabling and empowering front office staff, launching public campaigns, and enhancing media coverage.

The CBO gives the promotion of micro and small and medium enterprises (MSMEs) due attention in line with the *Oman Vision 2040*. The objectives of this policy are the promotion of growth, the support of the diversification of the economy, the generation of employment, and the channeling of funds to priority sectors. Initiatives for SME development include the allocation of a minimum of 5% of total financing to the SME sector, the application of low-profit rates and reduced other charges, the establishment of a dedicated SME department headed by senior management staff, the extension of relevant training and awareness for staff to meet the needs of SMEs, the institutionalisation of a well-defined approval process with adequate delegations, the ensured availability of working capital and timely credit flows to SMEs after initial financing, and the provision of training, coaching and guidance opportunities to SMEs, including feasibility studies. Especially during the pandemic, the central bank provided regular incentives for SME finance by relaxing provisioning requirements and lower risk weights on small business loans.

The CBO is working on a new strategy for Islamic banking development in Oman. Three highlights of this strategy are (a) introducing strategies for the integration of Islamic Banking Entities (IBEs) with ESG principles and demonstrating the sector's sustainability and societal impact, (b) building a framework for integrating Islamic social finance with IBEs' operations to enhance social and financial inclusion, (c) investing in advanced internet and mobile technologies for Islamic banking customers while strengthening collaboration with FinTech firms.

In conclusion, there is a need to enhance risk-sharing instruments in Islamic finance that help promote equitable distribution of wealth and justice. Integrating Islamic social finance instruments with Islamic commercial finance (Islamic banking, *takāful*, and funds) is necessary. Regulators shall support technological transformation through adequate policies and interventions. A rising collaboration between FinTech firms and commercial banks offers a viable model for sustainability and enhanced financial inclusion.

Dr. Aamir A. Rahman, Senior Advisor on Islamic Finance, *United Nations Development Programme* (UNDP), summarises five themes that UNDP identified when witnessing the digitalisation of finance, accelerated through the COVID-19 pandemic.

The first theme is the alignment of pools of capital with the SDGs through capital markets with the help of digital platforms. The capital market alignment has been accelerated by digitalisation. An example from the Islamic finance world is UNDP's work in Indonesia in the green ***ṣukūk*** programme. The initial tranche of the green ***ṣukūk*** was for institutional investors mainly from Europe, North America, Southeast Asia, and the Middle East. As the program moved forward, a retail component was added, and the retail distribution has been largely digital. The digital distribution of green ***ṣukūk***, sustainable ***ṣukūk***, or ethically aligned products is a great opportunity. The UNDP appreciates the idea that people can easily access sustainable issuances through digital platforms.

The second theme is the accountability of public finances. Digital finance allows for greater transparency and accountability. An area for application in Islamic finance could be the *zakāt* collection practice. There are examples in the UAE for a very good reporting of how *zakāt* is collected, where it has been used, and how it meets the giver's end goals. Indonesia provides another example. The *National Zakāt Agency* (*Badan Amil Zakāt Nasional*, BAZNAS) has committed to aligning all of its projects to the SDGs. They use mobile technology to collect data and report on the impact.

The third theme is channelling digitally aggregated domestic savings into long-term development finance. Domestic savings are important for many member countries, including promoting households' savings to prepare for retirement. UNDP feels that the digitalisation of finance makes it easier to build micro-accounts and collect micro-savings and micro-investments, also in Islamic finance. An example of mobilising and collecting domestic savings – way back in the 1960s – is *Lembaga Tabung Haji* in Malaysia. This *hajj* fund was very much retail-focused and mobilised domestic savings in Malaysia. Digitalisation has made it much easier to promote micro-savings for the domestic economy. Structures like *Tabung Haji*, which helped people save for *hajj* and *umrah*, can also be used more broadly, e.g. for retirement.

The fourth theme is informing citizens on spending and linking spending with the SDGs, a trend that can now be seen in Europe and North America but is expected to spread globally. The idea of more concern about sustainability and how products are produced are great examples of where the ESG landscape gets broadened. Many people think about environmental concerns primarily, but ESG also embraces social concerns in terms of labour practices, wages, or the transparency and governance of companies – all those things can feed into how consumers look at products. This is still a nascent trend, but digitalisation will help consumers be more conscious and consider how their products are sourced, fostering SDG awareness and fulfilment.

The fifth theme highlighted by UNDP is accelerating financing for SMEs' employment and income generation. Digitalisation can help banks and financial institutions reach more individuals and SMEs. Places otherwise hard to serve become accessible through digitalisation. Digitalisation can also be a big enabler for SME financing by non-banking financial institutions (NBFIs). Banks are reluctant to finance SMEs because it is too risky, collecting information is challenging, the costs of a branch network are too high, et cetera. These are all fair concerns, but NBFIs can operate with a lower cost base and more efficiently collect and process information. Platforms can be more focused on SMEs and get them their financing.

The wider digitalisation is very helpful for more sustainable forms of finance and Islamic finance, which may serve segments of the population that are either harder to reach or somewhat fragmented. Digitalisation makes it a lot easier to get to them. However, a cost reduction is not necessarily passed on to customers through lower fees. If a market actor believes he can capture a higher price for serving a client, the service may become more costly for the smaller client or even exploitative if the charges are very high. There needs to be supervision and regulation to inhibit exploitative pricing – whether through Shari'ah-compliant or conventional structures. In addition, digital finance should allow for more competition. As a general principle, increased competition improves pricing for the consumer. It is debatable whether a sufficient Shari'ah base could be found for using zakāt to subsidise bank charges for poor people. Apart from the Shari'ah issue, subsidies raise the economic question of whether customers for whom subsidies reduce the burden or high fees or the shareholders of a bank that can continue to charge high fees are the main beneficiaries.

Retail tranches in sovereign ***ṣukūk*** as in Oman are appreciated because retail investors can benefit from a high-quality, low-risk income-generating investment. But when it comes to micro-***ṣukūk***, the question is about the quality of the portfolio. Less sophisticated retail investors should not participate in a ***ṣukūk*** that is not rated and doesn't have the same safety as sovereign ***ṣukūk*** so that investors could lose their principal. Innovations such as crypto and blockchain ***ṣukūk*** should primarily address more sophisticated investors rather than putting them on the retail side.

Francesco Di Salvo, Senior Financial Sector Specialist, *World Bank*, indicates that the increasing adoption of technology creates affordable and convenient access to financial services by decreasing the marginal cost of operations with the automation of what previously was done manually. Increased speed and lower costs, and the possibility of increased security and transparency are key features of digital technology.

Automation and information technology are decreasing operating costs. Whether the cost savings are passed on to the consumer depends on the case by case. The *World Bank* regularly collects data on remittances for all countries that can be correlated with account ownership and the use of digital financial services. During COVID-19, the cost of remittances decreased more in the countries where account ownership and the use of digital financial services were higher. People who could use digital financial services during COVID-19 benefited more because these services provided the promised value proposition. Also, there was a decrease in the price because of the general shift from analogical to digital combined with effective competition.

When asking why the transfer of a small amount is proportionately more expensive than a large amount, one has to note that the marginal costs for processing payment are extremely low and can be ignored. However, most financial service providers charge a minimum fee for services like transfers. It is a fixed amount, and that creates distortion. These practices may not prevail in a more competitive environment, and a lot of work has to be done to achieve fairer pricing that matches the SDGs, especially for the services of the poor.

Among the financial services, products, and solutions that are marketed, the transactional account is the key basic financial product that allows to reach unbanked people, provide them with an opportunity to receive and send funds efficiently, and store them safely, i.e., achieve financial inclusion. This is the gateway for opening additional services in the savings space, insurance, or borrowing. Technology is a key to overcoming barriers on the supply side, where often high operating costs and limited competition block the development of the market and its accessibility to the poor. On the demand side, other elements also hamper the inclusivity of the financial system, like the lack of an identity system, lack of trust, and the formality that the financial sector has vis-à-vis the consumers, not to mention geographical barriers.

The *World Bank* provides technical assistance to countries in three key areas that should be all present to create favourable market conditions and develop financial services. The first area is a conducive legal and regulatory framework. The second area is the infrastructure that gives consumers – single individuals and SMEs – the opportunity to exchange information and funds. The third area is ancillary government services and systems like a digital identity system or a financial management platform. Regulation, infrastructure and systems are the key elements for a smooth take-up of digital financial services.

A few aspects need to be observed at in details. The first is digital connectivity and mobile phone penetration. The mobile phone has revolutionised the interaction with the financial sector in recent years. Second is the participation of a wider set of entities in offering financial services – not only traditional banks but also FinTechs and non-traditional providers. They can leverage different operational and technological setups to address challenges to put the consumer at the centre. FinTechs and non-traditional providers do not have to overcome legacy barriers that older organisations have created by the grown complexity of their organisations. The third aspect is creating a wider network of access points by facilitating, for example, the use of agents that offer transactional basics like cash-in and cash-out services. Agents also provide an interface for people who cannot use a mobile phone for self-service in financial matters. Fourthly, authentication systems can leverage national identity systems and biometric technology to ensure the security of transactions and increase trust in the system – be it payments or the purchase of a product or service.

Adopting these technologies brings many challenges – for example, cybersecurity, operational risks related to governance, the management of privacy, or the need to maintain fair competition among the different players. New players are sometimes advantaged because they have a better knowledge of technology and a more favourable regulatory framework that promotes their take-off.

Mobile money solutions are among the most innovative and essential products that have driven the transformation towards financial inclusion. Meanwhile, the traditional banking sector also provides a similar user experience with the introduction of instant payments.

Another key element that must be addressed in Islamic finance is how income is transferred from the state to the poor. This could be done digitally, which helps to achieve two objectives. First, supporting the poor by redistribution of wealth from the state to people in need has an ethical quality. Second, there is a benefit from financially including poor recipients in the formal economy at large and training them in the use of technology. They get acquainted with basic financial products like transactional accounts. This allows them to access other services and products, thus igniting a positive virtuous circle for developing these people's financial capabilities.

Nik Kamarun, Senior Manager, SME Finance, *Alliance for Financial Inclusion* (AFI), characterised the AFI as a non-political and non-profit organisation sustained by annual membership fees. AFI and IFSB have some common members. Financial sector policymakers and regulators from more than 80 emerging and developing countries, representing about 85% of the global unbanked population, are working together to advance financial inclusion. AFI's main goal is to support members in developing and implementing successful financial inclusion policies.

Financial inclusion is a state where individuals and businesses have access to and use a range of affordable and quality financial products and services – mainstream or Islamic – delivered by formal financial service providers transparently and simply. There are different reasons for exclusions from formal financial services, including the exclusion for religious reasons. *World Bank* studies show that approximately 9% or around 40 million people have excluded themselves for religious reasons. This is why Islamic finance must be one of the providers in the financial industry.

Islamic finance is a potential catalyst in enhancing financial inclusion. Islamic finance complements the conventional financial services landscape. It is an alternative to conventional debt financing by promoting risk-sharing contracts and leveraging specific instruments to redistribute wealth in societies. From one perspective, Islamic finance is associated with ***ṣukūk*** and big-ticket sizes. But from another perspective, Islamic finance is very close to inclusion. Islamic microfinance institutions and digital Islamic microfinance institutions operate for greater inclusion and stability in markets in Asia, like Bangladesh, Indonesia, and Pakistan. In a study on *Digital Finance for All* (2016), McKinsey showed that digital financial services will increase the annual GDP by 6% or USD 3.7 trillion by 2025 and offer 95 million jobs. It could bring 1.6 billion excluded people into the financial system.

AFI came out with a *Policy Framework for Responsible Digital Credit* in 2020. It identifies ten components RSAs should have in place when regulating and supervising digital credit markets: a clear legal mandate and regulatory framework, institutional capacity, a comprehensive and effective credit assessment system, transparency and disclosure, an industry code of conduct, data protection and privacy rules, fraud protection and cybersecurity and resilience, financial education and literacy (for people and SMEs), competition and collaboration, and a complaints and redress system. This framework covers challenges for regulators both from the supply and demand side. It also relates to risks that have been addressed in IFSB's *Technical Note on Financial Inclusion and Islamic Finance*.

AFI has also developed a *Policy Model on Consumer Protection for Digital Financial Services (DFS)*. It has identified five key areas and gives guidelines on the policy environment, product development and service delivery, consumer awareness, complaint and redress, supervision and enforcement.

From the gender perspective, AFI has developed a *Policy Framework for Women's Financial Inclusion using Digital Financial Services* that considers consumer protection, sensitisation, awareness and capability of women customers, the infrastructure, the gender-sensitive DFS policy and legislation, and regulation with gender-centric interventions.

Regarding the youth, AFI has documented some practical cases such as Islamic crowdfunding targeting the youth in Malaysia, *Islamic Youth Accounts* offered by banks in South Africa, and a digital bank for youth targeting the 8-19 years old in Abu Dhabi.

The green perspective is relatively new for financial inclusion and Islamic finance. AFI has tried to incorporate elements of green into financial inclusion, resulting in inclusive green finance (IGF). There are some similarities with the *Value-Based Intermediation* in Malaysia that links the green to digital inclusion. AFI has issued a guideline notes on *Integrating Inclusive Green Finance Policies into National Financial Inclusion Strategies* to support the AFI members in accelerating the development of inclusive green finance policies that enhance sustainable potentials for economic growth and managing the financial risks associated with the impacts of climate change.

Key Takeaways

- Despite political efforts to enhance financial inclusion, charges for financial services for poor people are often disproportionately high. Business practices seem to be in contrast to Islamic fairness principles.
- A strong legal and regulatory framework and various supportive measures have facilitated the rapid growth of Islamic finance in Oman to systemic importance in less than a decade.
- The Central Bank of Oman (CBO) has set up a comprehensive *Financial Inclusion Framework*, focusing on, among others, the payment system and SME financing.
- In its new Islamic banking strategy, the CBO will emphasise Islamic finance's ESG impact, integrate it with Islamic social finance to enhance inclusion, and strengthen ties with FinTechs.
- The retail trance of Indonesia's first green ***ṣukūk*** had been largely distributed digitally. The UNDP appreciated the easy access for people through digital platforms.
- Digital finance allows for greater transparency and accountability. The UAE and Indonesia use digital technologies to collect data and report on the use of *zakāt*.
- The digitalisation of finance facilitates the creation of micro-accounts, micro-savings, and micro-investments in Islamic finance.
- Digitalisation can be a big enabler for SME financing by non-banking financial institutions.
- FinTechs and non-traditional providers can apply the newest technology as they are not tied by legacy barriers from complexity grown over the long history of incumbent firms.
- Mobile money solutions of FinTechs and other start-ups have been drivers of financial inclusion. Meanwhile, traditional banks provide similar instant payment schemes.
- Islamic finance institutions should be involved and apply digital technologies when funds are transferred from public sources to the poor.
- *World Bank* studies show that approximately 9% or around 40 million people have excluded themselves from the financial system for religious reasons.
- Traditional and digital Islamic microfinance institutions contribute to greater inclusion and stability, particularly in Asian markets such as Bangladesh, Indonesia, and Pakistan.

Concluding Remarks

There is a consensus that digital and mobile technology is an enabler of financial inclusion because it reduces transaction costs and enhances access to financial services – in Islamic finance even more than in conventional finance. One reason is that the costs of serving an individual customer through a physical branch can be higher for Islamic banks than for conventional banks. In most jurisdictions with dual financial systems, the market share of Islamic banks is 20% or less. Therefore, a conventional bank can likely serve more customers in the catchment area of a physical bank branch than an Islamic bank which would result in lower costs per customer. Digital and mobile banking technologies can compensate for this cost disadvantage, at least partially. Another reason is that people who have excluded themselves from banking for religious reasons and for whom a brick-and-mortar branch of an Islamic bank is out of reach can get access to Islamic financial services through digital and mobile channels.

International organisations such as the UNDP and the World Bank support financial inclusion projects globally and in conventional and Islamic finance. Furthermore, AFI, as a membership organisation of central banks and other RSAs of countries with large unbanked populations, works on evidence-based policy solutions for financial inclusion and has paid special attention to the role of digital and mobile technologies. AFI has provided policy frameworks for, among others, responsible digital credit and consumer protection for digital financial services. IFSB, with its special mandate as a standard setter for Islamic finance, could intensify its working relations with UNDP, World Bank, and AFI, as well as the Islamic Development Bank Group, to add a specific regulatory perspective in the Islamic finance context to their policy recommendations. As the first standard in this direction, the IFSB issued the *Technical Note on Financial Inclusion and Islamic Finance* in 2019.

Ranking poll

How do you rank the following considerations for strengthening digital financial inclusion initiatives in the Islamic financial services industry?

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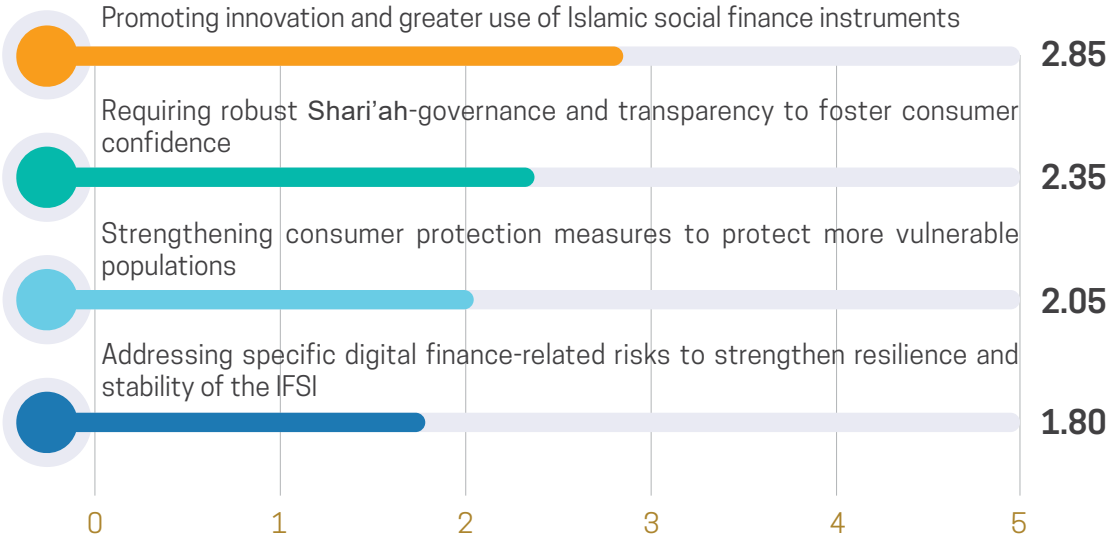


ACHIEVING SYNERGY BETWEEN DIGITAL ISLAMIC FINANCE AND SUSTAINABILITY

Environmental, social, and governance (ESG) factors, which have become an important part of investment decisions, share a common thread with the values and principles of Islamic finance and provide opportunities for Islamic finance to play a role in the transition to more sustainable economies. Blockchain, artificial intelligence, mobile technology, and other existing and emerging technologies can be structured to integrate sustainability into Islamic financial products and services. The session aims to discuss the opportunities and strategies for Islamic financial institutions and policymakers to achieve synergies between ESG objectives and digital Islamic finance

Session Summary

The chairman of the session, **Dr. Bello Lawal Danbatta**, Secretary-General, IFSB, invited the panelist to consider, among others, how environmental, social, and governance (ESG) criteria are blended with Islamic finance principles and how a synergy between Islamic finance, digitalisation, and sustainability can be achieved. Digitalisation is an accelerator to close the gap between the bankable and the un-bankable, i.e. the financially excluded. A particularly large excluded segment of society is women. Their inclusion should be a priority from an ESG perspective. A second priority for Islamic finance would be sustainability. The crucial question is how to achieve synergies between ESG objectives and digital Islamic finance.

Considering the commonalities between Islamic finance and ESG-focused finance, it is time to promote Islamic finance not primarily from a faith perspective but from an economic value perspective. Islamic finance adds to the well-being of societies in all ESG dimensions. This carries weight beyond Muslim-majority jurisdictions all over the world.

Henk Hoogendoorn, Managing Director, *Qatar Financial Centre* (QFC), clarified that the QFC is not a regulator but a financial sector developer. The *Qatar Central Bank* runs an incubator and accelerator programme and has mandated the Qatar Development Bank and QFC to develop the Islamic FinTech sector.

ESG has become mainstream, and sovereign wealth funds get interested in it. *Qatar Stock Exchange* is creating a benchmark on ESG, forcing the listed companies to be ESG compliant. ESG and Shari'ah investments have an overlap. Islamic finance seems to be too modest in its claims because Muslims have done ESG-sensible finance for the last 1400 years. The world should learn from Islamic finance and its products because they meet the criteria of ESG. It might make sense to create an Islamic institution to certify that a project or investment is Islamic and ESG. Otherwise, there could soon be a conventional institution in London that claims authority for ESG certification and pushes all others aside. Islamic institutions should take their position.

The development of the local financial markets in the GCC region is not as strong as in Southeast Asia. Specifically, the GCC countries with rich sovereign wealth funds should invest more in Islamic products like green ***ṣukūk***, social impact ***ṣukūk***, et cetera. There are not many corporate ***ṣukūk***. The perception is that ***ṣukūk*** issuance is expensive. There is an initiative of a FinTech company called Wethaq addressing this. They take the niche ignored by big banks and will democratise the ***ṣukūk*** issuance by using blockchain, standardised services, and lawyers that can do things cheaper than the old-fashioned way.

There is much talk about financial inclusion, but it is not happening. The gap between the bankable society and the non-bankable society is not becoming smaller. The banks have been sleeping but suddenly have been woken up by FinTech. FinTech companies use technology to solve the problems that communities, SMEs, or certain groups have. Platformisation and tokenisation are solutions for many issues. That banks will have less business is not necessarily bad because they may be induced to open up new markets they otherwise would not serve.

An example of a successful FinTech contributing to financial inclusion is *Paycode* in South Africa. The company focuses on the last mile of delivery of financial services. They go out to unbanked people that don't have an identity card, use digital biometric technology to verify their identity, and issue a payment card on the spot. The company operates across seven African countries with nearly 5 million users. The users can transfer money to each other without using a bank. MasterCard is now teaming up to increase access to financial services and government assistance for remote communities across Africa. There is no need for banks.

When FinTech came, a few disrupters like *Revolut* or *N26* in Europe emerged, but now the FinTechs partner with the banks. There should be more disruption from the Islamic side as well. Setting up a digital Islamic bank would be most welcome. The countries of the Islamic world should team up and do something for the currently unbanked groups. The message is to start today and not wait for another research, study, or regulator to be ready for it. As many of the regulations look similar, one idea - where IFSB can play a role – is to have some sort of passporting. If there is a basic set of regulations, then a specified number FinTechs or Islamic FinTechs from passporting countries are accepted under agreed-upon conditions.

Another observation is that Indonesia, Malaysia, and Pakistan, as very populous countries, are moving fast ahead. In Indonesia, FinTech is mostly in the P2P area, which is amazing because that doesn't even exist in other markets. These countries could team up with some of the richer countries from the GCC – for example, Saudi Arabia with Indonesia, Qatar with Pakistan, and the UAE with Malaysia – to create tandems to make things happen.

Syed Samar Husnain, Executive Director, Development Finance Group, *State Bank of Pakistan* (SBP), reasoned that it is often said that there is a natural nexus between Islamic finance and financial inclusion, but statistics show that half the total population that is financially excluded across the world is Muslim. Seemingly something went wrong.

Linking the digitalisation of Islamic banking with ESG brings a lot of challenges. The *Global Islamic FinTech Report 2021* says that the FinTech size of the OIC is USD 49 billion. This is only 0.7% compared to the conventional side. However, there is a huge difference in growth. Islamic FinTech is growing by 21% compared to only 15% for conventional. The difference between an ESG-compliant FinTech and an Islamic FinTech is that Islamic FinTech has all those characteristics which an ESG FinTech has, plus the element of faith. That makes a FinTech Islamic.

ESG and Islamic finance have commonalities regarding risk-sharing, avoiding interest, poverty alleviation, and social objectives. For example, alcohol is ***ḥarām*** in Islamic finance and has negative social consequences. The same applies to weapons, pork, and tobacco.

The biggest sources of Islamic social finance are *zakāt* (obligatory charity), *sadaqat* (voluntary charity), and *waqf* (endowment). FinTech or artificial intelligence can help in social finance, e.g. in *zakāt* collection and distribution. With an AI system, providing *zakāt* to its legitimate beneficiaries becomes easier. For example, during COVID-19, Pakistan launched the Ehsaas programme, providing cash support to those who deserve it. Millions of families have got that through digital channels. Here, digital finance has been very helpful in social finance.

Digital crowdfunding is another example. For crowdfunding and P2P lending, a dedicated department has been set up in the central bank, which will do projects in a sandbox. The *Securities and Exchange Commission of Pakistan* (SEC) also has a key role in that. The central bank is very active in digital banking. It is possible to set up a digital Islamic bank or a digital SME bank. FinTech and open banking have also been very actively considered.

50% of the world population, which is financially excluded, is Muslim. Islamic banking has been around for four decades, but the exclusion persists. One reason for this could be the perception of Islamic banking in countries such as Pakistan. Some Shari'ah scholars do not accept Islamic banking as Islamic banking because of its practices. Probably there is a need to address the perception, and the IFSB can play a role in that.

Within financial inclusion, another critical aspect is gender exclusion, which is much higher than normal financial exclusion. This gender inequality has to be addressed. In Pakistan, the central bank took the lead with its *Banking on Equality* policy. Banks are given targets they have to achieve regarding their staff and products in a given time. This was done to reduce huge inequalities and exclusion. By a certain time, all banks will be using a gender lens in developing their products and services.

The present era is sometimes called the era of digital natives. It is summarised in the saying that you will not be able to access the younger generation if you're not in the palm of their hand. That clearly shows how important digitalisation is.

Green digital finance is an area that is very important for the digitalisation of Islamic finance. The SBP has facilities that are not only Shari'ah compliant but also purely green finance. Green ***ṣukūk*** can also play a role.

When it comes to governance, the Shari'ah-compliant instruments themselves – ***muḍārabah***, ***murābaḥah***, *ijārah*, et cetera – are the best examples of good governance with clearly defined roles and responsibilities and transparency in terms of earning and expenses.

In conclusion, one should get into ESG or sustainable digital Islamic finance only when linkages between the components are clearly understood. One has to be convinced of the approach, but then one has to stand for it.

Dr. Yahia Abdul-Rahman, Chairman and Chief Executive Officer, *LARIBA Bank of Whittier*, drew attention to the *Community Reinvestment Act* (CRA) in the United States. A financial institution that collects money from a community has to invest back in terms of loans 50% of the collected deposits within the perimeters of this community. The loans must be given to recipients that reflect the distribution of the demography in that community. Punishments for violations can be severe. The CRA applies analogously to *Minority Depository Institutions* (MDIs). These are institutions owned by minorities like African-Americans, Latinos, or Chinese. *Community Development Financial Institutions* (CDFI) also develop construction and housing projects for the less privileged and people in need.

These examples show that one should not only call for the Islamic financial institutions to do this or that on their own. The regulators should define how to help those less fortunate in the community as it is done in the United States.

There was much talk about costs and technology. Three things contribute to reducing costs: First, one has to have a good loan portfolio with very small losses so that allowances for loan losses and the associated costs will be much lower. Secondly, one has to hire men and women who are dedicated to the cause of serving the community. LARIBA hires them fresh from college and trains them from scratch. The third thing is credibility. Credibility is not earned overnight but over the years. The customer must know the banker, and the banker must know the customer and the customer's family. Then he can make a difference to them.

For instance, LARIBA had some tough times when customers lost their jobs. Foreclosing the homes of defaulting customers was not an option. Instead, LARIBA started the *Miskin Fund*, which means 'the less fortunate fund'. The fund receives any unintended interest earned, compensations for delinquencies, and *zakāt* funds. The *Miskin Fund* is done privately, and the bank did not advertise it. The bank proctored the payment performance of every customer daily. Whenever a customer is one or two days late, the bank calls him up and often finds that he has lost his job. The bank offers him a ***qarḍ*** *hassan*, i.e. an interest-free loan, to make the payments for the next three months until he finds a job. The *LARIBA* finance company technically provides the ***qarḍ*** for regulatory reasons. If the customer does not find a job in three months, the loan can be extended for three more months. The repayment can be stretched over two or three years. The bank has never foreclosed on a community member's own home. This is compassion that creates a reputation.

Islamic banking is not the megabanks of rich families. Islamic banking is community banks, small banks managed by members of the community for the development of the community. That is the whole idea of what is called 'RF bank': ribā-free bank or ribbit-free bank or responsible finance. It serves everyone and does not ask about religion.

Key Takeaways

- ESG and Islamic finance have commonalities regarding risk-sharing, avoiding interest, poverty alleviation, and social objectives.
- Islamic finance has been practiced in an ESG-sensible manner for the last 1400 years.
- An Islamic institution should be established to certify that investments meet the criteria of Islamic finance and ESG.
- Digital technology (blockchain, smart contracts) can significantly reduce the costs of ***ṣukūk*** issuances so that not only the biggest companies could benefit from this instrument.
- FinTechs have shown that they can provide money transfer services better and cheaper than banks.
- A new digital Islamic bank would be a welcome disruptor of the banking sector.
- Populous Muslim countries in Asia should create tandems with a richer partner from the GCC to give the financial sector development, ESG, and inclusion a big push.
- The Islamic FinTech scene is only a tiny fraction of global FinTech.
- A highly critical aspect of financial exclusion is gender exclusion. Some jurisdictions launched programmes to reduce gender inequalities and induce banks to look at their products and services through a 'gender lens.
- Islamic banks should not only be conceptualised as megabanks owned by rich families. Instead, Islamic banks should be community banks with firm roots in the local society, close personal relationships with each client, and compassion in periods of stress.

Concluding Remarks

A financial system that excludes large parts of the population from the formal economy cannot be sustainable. Women are roughly half of the population, and RSAs in Muslim countries have taken action to overcome their financial exclusion. The IFSB could create more awareness of the potentially large but long-term benefits of this special form of sustainability policy and ESG approach by, for example, publishing a working paper or a collection of case studies and best practice examples.

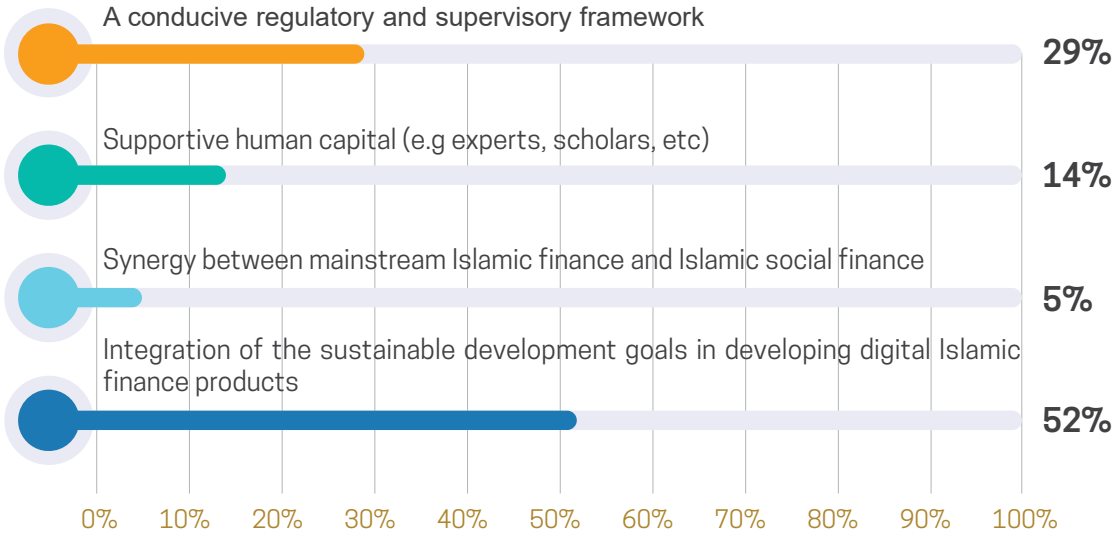
ESG criteria and Shari'ah rules for financial products and institutions are similar and overlapping but not identical. ESG criteria are widely shared on the highest general level, but substantially differing interpretations, policies, and business practices become apparent on the operational level. Therefore, reconciling ESG and Shari'ah principles on the operational level is challenging. Since ESG criteria and Shari'ah rules both demand global applicability, the IFSB, as a global standard setter for Islamic finance, would be the obvious institution to rise to the challenge of defining a set of minimum governance principles for ESG-conform Islamic finance products and institutions. Jurisdictions implementing such an IFSB standard should recognise products that meet the set of rules as ESG and Shari'ah compliant and allow free cross-border transactions. Ideally, this could lead to a more general passporting regime for Islamic finance products.

Poll Results

Multiple-choice poll

Which among the following do you consider the most important factor for enhancing sustainability through digital Islamic finance?

0 2 1



CLOSING REMARKS

Dr. Fahad Aldossari, Deputy Governor, International Affairs and Research, *Saudi Central Bank*, summarised the busy days of the 15th IFSB Summit. Many ideas, policy considerations, valuable insights from panelists, speakers, and comments were received. Dr. Bello has promised that IFSB will take into consideration all these discussions.

Financial relations and economic realities are widely transformed. Therefore, the Summit's topic focused on many aspects of innovation. Innovation is not something that is coming in the future; we actually live in it. Last year, we saw how the pandemic accelerated the implementation and adoption of innovation and technology.

One topic of this Summit was balancing resilience and innovation, and during the discussions, it was recognised that the wave of digitalisation brings many benefits. Similar issues are discussed in all jurisdictions, for example, the financial inclusion of unbanked people and underserved SMEs through digital innovations.

At the same time, innovations present new risks that have to be tackled. Sharing experiences will help to develop better policy responses. A regulatory sandbox is a prominent example of how regulators have introduced new financial intermediation models into their markets. The sandbox has helped to understand the underlying risks and develop a regulatory framework.

Technology plays a leading role in supervisory mandates through RegTech and SupTech platforms. It is an exciting time for the Islamic finance industry globally. Complex challenges during the COVID-19 pandemic have been mastered thanks to the accelerated digitalisation of Islamic finance.

Islamic finance growth up to today has been extraordinary. The industry is almost USD 3 trillion in assets globally. This is expected to grow over the coming years as the sector flourishes more and more in many jurisdictions.

Dr. Fahad Aldossari expressed his heartfelt thanks, gratitude, and appreciation for being part of the 15th IFSB Summit here in Jeddah, Saudi Arabia. It has been a pleasure for the *Saudi Central Bank* to host the event and give everybody a warm welcome, a comfortable stay, and a deep appreciation for the esteemed speakers and panelists of the past three days. The Saudi Central Bank is very grateful to Dr. Bello, the Secretary-General of the IFSB, and the IFSB Secretariat team for their efforts in organising this event. Thanks also go to the colleagues in SAMA who have collaborated and worked alongside the IFSB in jointly holding this Summit here in the Kingdom. The Summit had almost 400 attendees, which is outstanding. Most of them are here in person, which is really good, especially after the last year-and-a-half year-and-a-half year and a half in the virtual world. Finally, special thanks go to the organisers and supporters. Without their tireless work, the event would not have happened.

ISLAMIC FINANCIAL SERVICES BOARD

Level 5, Sasana Kijang,
Bank Negara Malaysia,
2, Jalan Dato' Onn,
50480 Kuala Lumpur,
Malaysia.

www.ifsb.org