



TECHNOLOGY AND INNOVATION IN ISLAMIC BANKING

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MALAYSIA
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Technology and Innovation in Islamic Banking

Over the last decade, Islamic banking has increasingly gained acceptance amongst market participants. The rising awareness of Shariah-compliant propositions has prompted more countries and entities to join the global cohort of Islamic finance stakeholders. The value of global Islamic banking assets reached an estimated USD1.48tn as at 1H2014, having recorded a CAGR of 16.89% between 2008 and 2013. The largest Islamic banking markets are in the Middle East and North Africa (MENA) region and Asia: MENA (ex-GCC) accounts for 42.9% of the total Islamic banking assets worldwide; the Gulf Cooperation Council (GCC) on its own has a 38.2% share in the aggregate; Asian jurisdictions cumulatively make up the third largest domicile area for Shariah-compliant banking assets with a 13.8% share¹.

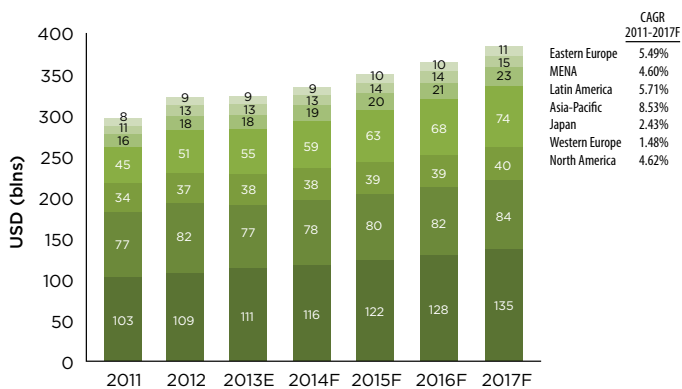
Across the global banking industry, with the Islamic banking sector closely involved, the current technology move is paving the way towards critical changes, partially from the pressures facing banks themselves, and by the opportunities generated by innovative technologies. Banks need to restore growth and profitability in today's challenging market of lower returns, higher

volatility and intensified competition. Meanwhile, banks have to cater for heightened customers' rapid changes in behaviour and expectations as consumers adopt digital modes of communication.

¹ KFH Research

In the post-crisis environment, the banking industries worldwide are characterised by moderated growth, stringent capital, very stiff competition and closer regulation. In light of this, banking organisations have to reflect their business model, cost base (refer to chart below) and operations to meet bottom-line growth. At the same time, banks have to constantly be aware of the rapid change impacting customers and societies they service, amidst changes within demographics and the global balance between traditional economic power and the arrival of the digital economy. Banks can respond with new technologies, which are addressing consumers' behaviour and needs towards their banks while presenting opportunities for banks and new non-banking entrants.

IT spending by banks according to region



Source: Boston Consulting Group

Today, these converging trends have put banks at a critical path to transform to adapt to the new environment, or compromise revenues, relevance and returns. Most banks view change as a necessity particularly at this point and not a matter of choice. Therefore, it is critical for banks to reposition themselves to be a market leader or a loser in technology-enabled environment. It is encouraging to observe that while the latest

technology adoption acts as a part of the bank's challenges, it can also help the banks with their solution to some teething issues. Emerging technologies could be used as measures to tackle underlying cost and quality issues in their operations and at the same time enhance their financial performance, address the competitive threat from new entrants, and offer customers a whole new service suite they demand. Technology also enables new market entrants to target the banking business, from established businesses such as retailers and telecommunications companies to innovative new start-ups. Meanwhile, many banks are already undergoing complex transformation initiatives to restructure and reshape their business as a result of the financial crisis. Some are experimenting with new digital and mobile services, predicting where the markets will move. It is observed that those businesses that can effectively engage technology to sustain and reinvent their business models, possess the ability to effectively adapt to the different dimensions of change.

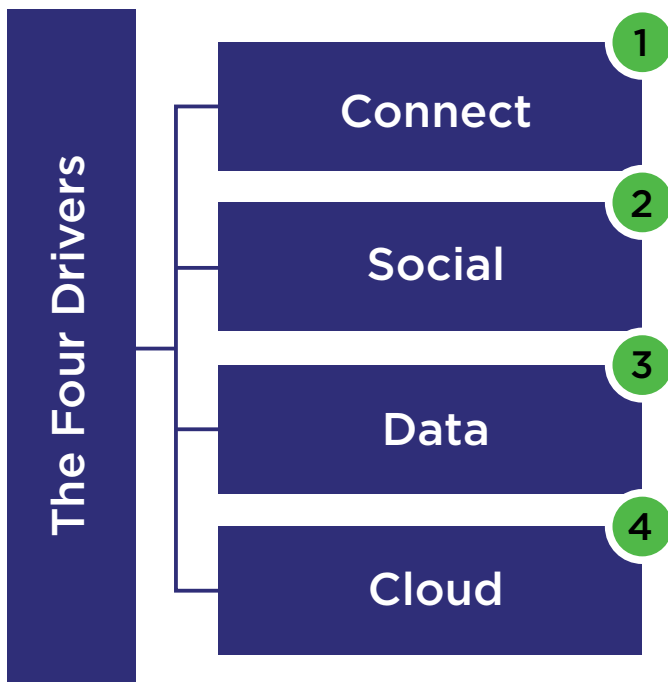
Banking Technology Drivers

Banks worldwide are facing an unavoidable move towards a digital marketplace, changing customer behaviours and the emergence of new entrants with innovative business models. These challenges demand broad and deep change across banks' business and operating models. Reducing costs requires banks to manage the high level of human capital in their businesses by automating work, or adapting to ongoing digitisation by improving their digital and mobile capabilities and refining physical networks to work in a multi-channel system. New capabilities are also required to capture growth and manage risks more effectively. Banks in the developed markets are struggling to reach a sustainable level of profitability in the face of increasing regulatory costs, and volatile revenues have exposed high and inflexible cost

bases. Meanwhile, emerging market banks are struggling to maintain profitability as margins are under pressure and investments in new capabilities are required to capture growth opportunities.

At bank's level, improvement and advancement must cater the sensitivity of customer insight via enhancement of customer experiences. This requires banks to invest in analytics capabilities, empowering risk managers with better credit, enhance market and enterprise analytics to improve risk outcomes. Critically, technology enabled business transformation able to rebuild income generation that banks need to achieve to reach sustainable levels of profitability.

The Pillars of Banking Technology Drivers²



Source: Accenture

Spanning connectivity

As of 2012 there are 6 billion mobile phone connections globally and around 2.5 billion internet users³. Already, developed markets are seeing mobile banking grow faster than internet

banking over a similar period after launch, with 30 million mobile money users worldwide, in some emerging markets mobile money, pre-paid account services on mobile phones, now reaches more people than traditional banking.

Socially engaging

There are more than a dozen social networks with vast users today. Time spent on social media is growing rapidly. Most banks have built a social presence, some have millions of likes, but only a few have started to drive business through social engagement. Social and digital marketing will play an increasingly important role to engage customers as online peer recommendation becomes a key influencer in customer purchase decisions, especially for the digital native generation banks.

Deciphering mass data

Going forward, the volume of digital information will grow. Banks already manage vast amounts of customer, payments and market data, but many are still facing the task to digest and make sense of the growing volume and rate of information. The critical issue here is getting the right information from an increasing volume of data. A few are pioneering new ways to drive value for their businesses by building insight from their vast data pool.

Emergence of cloud technology

Cloud technology is maturing and service offerings move up the technology stack from data storage and infrastructure to software, platforms and business process. More businesses are adopting cloud to increase flexibility, gain new capabilities and reduce costs. Financial service companies spending on cloud could make up to one quarter of their total spending. In addition, many companies are adopting the technology to build their own private or hybrid cloud bank.

² Adapted from Accenture

³ "Harnessing the technology wave in banking", Accenture, 2013

Islamic banking technology today

Conventional banks have intensely invested in technologies which has transformed the way they conduct their banking services and disseminate their products. They have reached a level where customers are able to execute financial and non-financial transactions online, from any location, with the help of internet and mobile banking. In accordance to social media banking, digital consumers prefer doing their own research before taking a decision on the best suited product or service offered by their banks. They can interact online or set up a meeting with their relationship

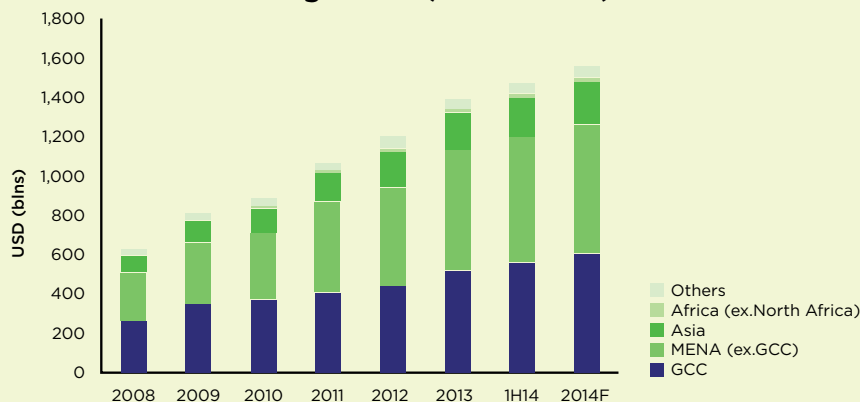
managers via unified communications technology.

In view of this all, a growing number of Islamic banks are offering customer service through digital channels as well. However in some jurisdiction where these Islamic banks operate, majority of the customers still seem to prefer the brick and mortar structure than any other channels. While basic services like account inquiry and transfers are offered online, interactive and advanced services are yet to be offered through internet and mobile banking.

Global Islamic Banking Sector

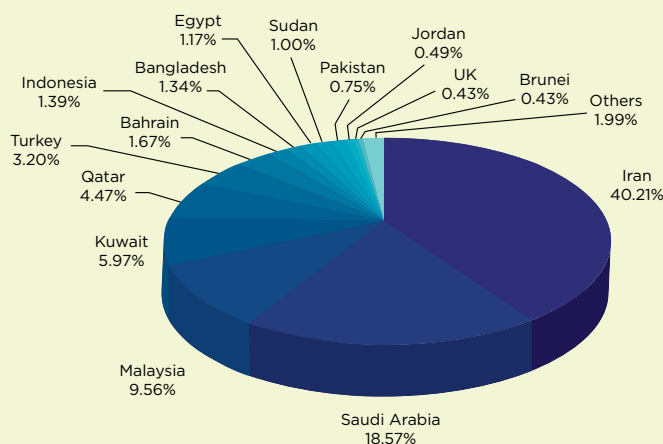
Over the last decade, Islamic banking has increasingly gained acceptance amongst market participants as rising awareness of Shariah-compliant propositions has prompted more countries and entities to join the global cohort of Islamic finance stakeholders. According to KFHR Research database, individually the top ten countries in terms of Islamic banking assets – namely, Saudi Arabia, Malaysia, the UAE, Kuwait, Qatar, Turkey, Bahrain, Indonesia, Bangladesh, and Pakistan – hold about 91% of the global total Islamic banking assets (excluding Iran). This demonstrates the indubitable prominence of the Gulf and key Asian jurisdictions in the Islamic banking sector. In recent years, Turkey has emerged as a key player in the global Islamic finance industry, on the back of Islamic finance related initiatives implemented by the country's regulatory authorities and strong local retail and corporate demand for banking products and services that comply with the Shari'a law. The first quarter of this year has seen MENA's Libya, Morocco and Tunisia renewing their push for the accommodation of Islamic banking activities in their respective territories, as part of their economic reinvigoration efforts. The banking industry is also growing strong in neighbouring Egypt and strengthening its foothold in other African countries as well including Djibouti, Guinea, Kenya, Mauritania, Mauritius, Niger, Senegal, South Africa, and Sudan.

Islamic Banking Assets (2008-2014F)



Source: Central banks, annual reports, KFHR

Global Islamic Banking Assets by Country (1H14)



Source: Central banks, annual reports, KFHR

The Islamic finance industry's growth has critically been spearheaded by innovative product developments that have enabled the sector's offerings to include a diverse range of financial products suited to meet the evolving market needs. The once nascent segment which focused mainly on deposit-taking and retail financing schemes till the mid-1990s has now evolved into an integrated financial system that provides ethical financial solutions across diverse product areas including banking, equity markets, securitised debt markets and insurance services. In recent times, the Islamic finance industry's scope is being widened to penetrate into newer growth areas including among others: to support green, ethical and environmentally-friendly development projects; to enable international risk management through Shariah-compliant hedging instruments; to spearhead the burgeoning international halal trade business; to fund international infrastructure projects; and also to enhance liquidity management and capitalisation of Islamic financial institutions in line with newer regulatory requirements, for e.g., Basel III standards.

Appealing features to support financial inclusion and entrepreneurship objectives

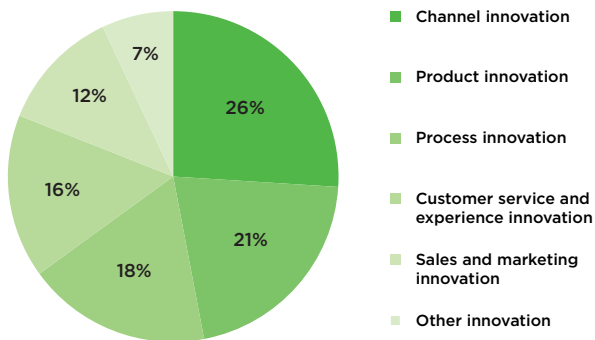
The tremendous opportunities and potentials available in these new growth areas are critically driving product innovations and developments in the global Islamic finance industry. Islamic finance players are increasingly turning towards financial engineering and innovations to develop Shariah-compliant products that can cater to modern market needs. There is significant potential in Islamic microfinance to support financial inclusion, especially in countries with a sizeable low-income population. Generally, financial inclusion is weaker in countries with lower-income and even within countries, there are urban-rural disparities.

The essence of Islamic finance is in risk-sharing contracts, which are very supportive of entrepreneurship and wealth creation to support SME industries. Importantly, the use of risk-sharing contracts eliminates the need to charge riba' and excessive penalties in case of default. Consequently, Islamic banks then have a vested interest in supporting the success of business, which is especially important for SMEs. In other words, access to finance can be improved by utilising Shariah-compliant contracts. Both households and business can use Islamic financing to fund asset purchases or as working capital. SMEs which need working capital financing may utilise various contracts such as Mudharabah and Musharakah.

Banking technology innovation to shape Islamic banking

In this world, the tech savvy digital consumer is ever ready to adopt anything that provides greater convenience. Internet usage is improving daily, giving the rise to new devices and gadgets. This is an opportune time to tap these technological advances and fulfil the ever increasing needs of the current digital generation. Furthermore, Islamic banks must race along its conventional counterpart in critical areas of banking technology and innovation.

Mix of innovation related IT investment in different areas



Source: Efma-Infosys Innovation Survey 2013

The omni-channel banking environment

Financial institutions including Islamic financial institutions have to open up more touch points to customers. Immerse the customer with anytime and anywhere banking, with almost any electronic device they have. Transaction volumes are bound to increase with increasing ease of access to banking services. Funds transfers, payments, bill payments, inquiries and service requests can be initiated online, without having to go to a branch. Customer origination, account origination and verification procedures can also be initiated through online channels and can be completed through call center or branches. Conventional bank branches have achieved significant productivity improvements by launching online channels. Branch staff can divert their attention to other critical tasks, which mandatorily needs human intervention.

Convenience entices new customer

Many banks in advanced countries have shifted towards online account opening and customer acquisition. Prospects can view the products online, and apply for products by providing necessary identification documents. The entire process, including application filing, identity and address verification, signature capture and creating new account, can be accomplished online. Islamic Banking can also adopt these techniques to initiate customer acquisition and account opening and online. These steps help banks in increasing customer base and also increase the productivity of bank employees. More importantly this poses a very cost saving avenue in growing deposit pools of the bank.

Banking for the whole family

This allows customers manage accounts belonging to their family members through online banking. Parents could be allowed full control of their kids' account, including inquires and transactions. Parents could also set transaction limits or even restrict payments to online shopping sites through their kids' account. Personal finance management can be extended to plan a monthly budget, and they could even monitor the spending habits of their kids. While kids get to plan their finances, it gives greater control to parents as well as educating their child on financial discipline.

The social media web

The younger generation of digital consumers would like to interact with their friends and seek their opinion on products. They might also want to share their banking experiences which might be useful to others. Such information and recommendations act as indirect marketing for banks. Banks can leverage social media for viral marketing and increase their reach. While making secure banking services available through social media portals, banks also need to ensure that necessary safety measures are put in place for protecting the privacy of customers.

Interactive customer experience

Visual representation of calculations are always appealing to customers. A variety of tools including charts and graphical illustrations can be used to explain and do a comprehensive product comparison through internet banking and mobile banking. These tools can be designed to take inputs from the customer and provide illustrations in a way that is preferred by the customers, thus giving an interactive experience and enhancing self service capability.

Digesting data for analytics

An avenue that conventional banks are adopting now is to gauge customer experience level through customer analytics. The ability to analyse customers' data in different dimensions, to derive intelligent actionable insights, is the next wave in banking analytics. Consider a customer, who may be doing frequent high value transactions through mobile banking can be protected using additional authentication measures for performing

these transactions and can be alerted over an e-Mail as soon as the transaction occurs. Similarly, a customer who generally uses internet banking for inquiry purposes could be offered a discount or reward points for paying bills online. Analytics is not only vital to service customers but to also effectively develop a product or service suite which can be sold to the customer.

Online customer servicing

The whole online banking experience involving self-service channels will take us to a point where the customers feel the need for personal assistance. It could be for discussions about a new product offering, or guidance on initiating some transactions online, or even tips on savings options. Remote advisory services, where customers can interact with their relationship managers or customer care representatives online, would go a long way in creating a loyal customer base and enhance customer experience.

While considering such innovations, banks must keep the "4C"s in mind - 4 key themes which are important for the success of an online banking portal⁴:



Source: Finacle

Beyond the conventional risks, the acquisition and implementation of an Islamic banking system presents a number of unique challenges that banks need to deal with as part of the procurement. A fundamental common ground here would be addressing special intricacies of products and processes of Islamic financial products which can be more delicate than conventional financial products as a result of the use of sale contracts, leasing arrangements, agency and profit-sharing arrangements and other structures in place of straightforward interest-bearing loans, bank accounts and other conventional banking products (such as credit cards and insurance). It is a challenge for a bank to procure an Islamic banking system with reasonable certainty that the system will comply, 'out-of-the-box', with their respective Shariah resolutions. In view of Shariah compliance, Islamic banks have to ensure that vendors of Islamic banking systems fully understand the complexity of the products that the banking system needs to support and to avoid disputes as to whether or not the need to support the relevant product was contemplated by both parties as part of the system contract.

Islamic banks like any other business entity have continuously invested in their business. In line with its growth agenda, Islamic banks have not only innovated the technological aspect of their operations but also products and services offerings. The Islamic banks have to contend with stiff competition with their conventional counterparts which have increased the bar of product innovation. These products cater to every aspect of the banking function either for the bank's own use i.e. treasury functions or products offered to their customers. Internet and mobile penetration continues to rise, and so does banking on these channels. As the digital generation constitutes a major portion of the online banking population, it is essential for banks to provide a differentiated experience through online banking portals and mobile apps. Today's digital generation need rich and personalized online banking experiences that is safe and secure.

Innovative customer experience offered through multiple channels and devices is one of the critical success factors for the uptake of new generation portals.

The story is no different for Islamic banks. Over the last decade, Islamic banking has increasingly gained acceptance amongst market participants as rising awareness of Shariah-compliant propositions has prompted more countries and entities to join the global cohort of Islamic finance stakeholders. The Islamic banking sector, which comprises the majority of global Islamic finance assets, is forecasted to amount to more than USD1.7bln by end-2014⁵. In view of supportive economic, regulatory and demographic factors, Islamic banking is set to gradually take the lead as the main banking sector in top Islamic finance jurisdictions such as Saudi Arabia, Malaysia and Kuwait; the sector is also making continued inroads in other countries including Qatar, the UAE, Bahrain, Pakistan, Indonesia, Bangladesh, and Brunei. These jurisdictions are expected to receive significant boost to their Islamic banking mandates on account of various Islamic finance regulator-driven developmental plans. Islamic banks can leverage the capabilities of online media and other technological innovations to entice the digital generation and create a pool of loyal customers, who can be the banks' ambassadors.

⁵ KFH Research

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