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MANAGING RISK in the Islamic Finance sector
Managing Risk in the Islamic Finance Sector

By Dr. Ziyaad Mahomed, MD, IFISA & Prof. Dr. Shamshir Mohamed, Professor of Finance, INCEIF

Introduction

The nascent Islamic banking and finance sector is confronted with almost identical risks as the traditional interest-based industry. However, the Shari’ah (Islamic law) parameters for the interest-free industry introduces additional risk elements of compliance (and therefore reputational risk) and limits the use of conventional tools of risk mitigation. This section discusses the suitability of conventional risk management techniques in the Islamic banking and finance sector. The emerging risk management solutions for the sector are highlighted with some derivative options currently practiced in the Islamic finance market.

It is an accepted fact that due to functional similarities between both Islamic and conventional banks, they embrace similar risks. Kahl (2005) stated that Islamic banks have qualitatively similar credit risk to conventional banks; therefore, the process of calculation for minimum equity requirements for credit risk exposure should not be different from the conventional method. However, Sarker (1999) and Khan & Ahmed (2003) assert that Islamic and conventional banking is different at the product level, requiring different regulations and risk management procedures. The two predominant risk management issues at Islamic financial institutions (IFIs) are the unique risks present, and the impermissibility of conventional risk management solutions.

For example, Islamic banks face reputational risk that arise primarily from operations that are not compliant with the Shari’ah. The products and services offered at IFIs have unique exposures to risk at different phases of application, which renders conventional tools inadequate in providing solutions that are both mitigants and Shari’ah-compliant at the same time. This creates a lack of sufficient risk management tools for IFIs. A typical consumer asset financing technique that applies murabaha (cost plus mark-up) for example, requires the bank to purchase (or acquire) an asset on behalf of the customer before it sells: no sale contract can be entered into between the two parties during the process. Failure to comply will imply excessive or prohibited gharrar (uncertainty), making the transaction Shari’ah non-compliant.

Furthermore, risk transformation takes place during various phases of implementation of Islamic finance transactions. For instance, during the initial phase of a murabaha wherein the bank purchases the asset for onward sale to the customer, the bank is exposed to inventory risk. When the customer concludes the purchase of the asset through the murabaha contract, the risk transforms into credit risk due to the possibility of default on installments. Therefore, Islamic banks are required to utilize different risk mitigants at each phase of the transaction in order to minimize overall risk exposure.

Risk-sharing techniques have long been espoused as the preferable method of transacting and financing in Islamic finance (Mirakhor, 2010). These techniques provide the advantage of spreading the overall risk exposure, apportioning each party in the transaction to a more equitable risk share. However, the increased use of risk-sharing or equity-based products results in higher costs, thereby creating a competitive disadvantage for Islamic banks. Conventional financing products on the other hand, are primarily designed to transfer risk to the clients. Therefore, we consider the trade-off between the cost of risk-sharing and risk transfer between the two models.

There is currently limited consensus on the permissibility of using conventional derivative tools in managing risk in Islamic financial institutions.

Wadj (2011) and Razif, Mohamed and Abdur Rahman (2012) assert that hedging in Islamic finance using conventional solutions has conditional permissibility. They analyze hedging instruments based on evidence from the primary sources of Islamic Law (Qur’an and the Sunnah) that are consistent with the objective or Maqasid al-Shari’ah provision to protect one’s wealth. However, the condition is based on the fact that these tools are only used to reduce or mitigate risk and not to generate income or speculate for gains. It is emphasized that the substance of the structure of the risk management tools or solutions must not contravene the principles and objectives of Shari’ah.

Probably, a more practical approach in managing risks at IFIs is to consider the issues of urgency, necessity, the available alternatives, the costs of application (both in terms of tools and reputation) and the potential loss to IFIs. This section highlights the pertinent differences between conventional and Islamic risk management solutions. Additionally, we review the concerns raised by Shari’ah scholars on the use of conventional risk management tools. Most scholars discuss the concept of risk management based on information in classical texts and interpret the basic insights from the perspective of modern banking practices. To understand these opinions better, the Islamic perspective of risk is discussed next.
Islamic Perspective of Risk

Recent authors have documented that the use of the word ‘risk’ originates from the Arabic riza which means sustenance. This is because sustenance is understood in Islam as something that carries uncertainty and probability of gain or loss that is not entirely in the control of the recipient. Although the specific measurement of risk in financial contracts as a discipline is contemporary, risk exposure and mitigation forms the fundamental nature of Islamic finance contracts. This is true, even in a classical sense. For example, the Prophet Muhammad (PBUH) forbade the sale of an unborn calf or any asset that is not owned by the seller. The underlying reason (falsafa) can be conferred based on the uncertainty of delivery that would potentially result in unfairness and conflict. Two Arabic words are often applied to define this high probability of risk: khataar and gharar. Whilst khataar is the modern translation of risk, its origins refer to respect and also recklessness or danger. Gharar on the other hand, refers to any uncertainty, ignorance, deception or speculation that may exist in a transaction. Since all transactions have a certain element of gharar present, impermissible gharar is only that which is excessive or material. This implies that risk that is generally calculable must be managed, mitigated or eliminated.

Managing Risk in the Fundamental Sources of Islamic Law

Prophet Yusuf mitigated the risk of starvation and famine through seven years of reduced consumption and storage. This act highlights two contemporary techniques in risk management: first, the identification of risk which was the probability of calamity and second, risk mitigation through reduced consumption and storage. This example is particularly relevant to Islamic wealth management for a few reasons, as it:

i. instructs on the relevance of managing wealth in order to ensure sufficient disposable income over the long-term, through sustainable and strategic employment of capital

ii. inculcates a hedging mindset that strives towards mitigating risks that can destroy or diminish wealth

iii. ensures that risk-hedged portfolios develop scenario-building techniques, around economic, political and/or social risks that might affect wealth preservation and creation

iv. indicates that when constructing investment portfolios and managing wealth, consideration is given to the probability and extent of risk exposure in order to employ necessary safeguards and apply strategic diversification.

An example of diversification of risk is provided in the same chapter in the Qur’an, as Prophet Yaqub (Jacob) addresses his sons: “Oh my sons, do not enter from one gate but enter from different gates; and I cannot allow you against the decree of Allah at all. The decision is only for Allah; upon Him I have relied, and upon Him let those who would rely [indeed] rely.”

Note that reliance on Allah is qualified after effort has been made to avoid the risk. Hence, the outcome of what is not in the control of man – after he has taken all possible precaution – is entrusting it with Allah.

In the secondary source of law, the Sunnah, a hadith (tradition) is reported as follows: Anas ibn Malik reported: A man said, “O Messenger of Allah, should I tie my camel and trust in Allah, or should I untie her and trust in Allah?” Allah’s Messenger (PBUH) said, “Tie her and trust in Allah.”
Risk at Islamic Financial Institutions (IFIs)

The Islamic finance sector is made up of Islamic banking, *takaful* (Islamic insurance) and Islamic capital markets. Although each sector has its own set of risks, most overlap and they are generally similar to conventional risk exposure. For example, the nature of operational, credit and market risks are similar for both Islamic and conventional banking systems. Hence, we focus on the difference in the tools used by these different systems to mitigate these risks. Furthermore, certain risk mitigating tools used by the conventional industry are considered *Shari‘ah* non-compliant or controversial at best. For example, hedging instruments such as credit default swaps are prohibited in most regions whilst the sale of debt instruments is impermissible only outside Malaysia.

The six key risk categories for IFIs, identified in the guiding principles of the Islamic Financial Services Board (IFSB) statements, include:

- **Credit Risk**: 4 principles
- **Equity Investment Risk**: 3 principles
- **Market Risk**: 1 principle
- **Liquidity Risk**: 2 principles
- **Rate of Return Risk**: 2 principles
- **Operational Risk**: 2 principles

As with conventional banking, probably the most dominant source of risk at Islamic banks is credit risk. The use of Islamic sales contracts (murabaha, *istisna‘* and *salam*) at IFIs, all establish a debt transaction which inevitably means exposure to the risk of default of the debtor. The difference between *Islamic* and conventional practice involves restrictions on penalties on default, compounding of rates on outstanding amounts and any fees that may increase the debt during the transaction. These all fall within the prohibition of *riba*.

One way of reducing the liquidity and credit risk arising from long-term financing is the conventional practice of the onward selling of debts through securitization. These credit derivative instruments package the separated risk portion of outstanding loans and sell/swap them with investors with matching risk appetites. Securitized loans can even be ‘shorted’ such that insurance companies take a position betting against the repayment of loans. During the sub-prime crisis for example, lenders were not confident of repayment due to liberal lending practices. They sold the credit default risk using swaps, to seek protection against default. The swap-buyer would feel secure that he would be compensated should the debtor default. However, since hedge fund managers responsible for this trade would not sell swaps to single buyers, a number of financial institutions would purchase these derivatives, artificially increasing the value of overall financial assets. According to the Bank of International Settlements¹, the derivatives market stood at USD700 trillion in the second quarter of 2008, ten times the total world output in the real economy (USD77 trillion). Credit derivatives are generally prohibited in Islamic law due to the high levels of gambling and uncertainty.

Risk management forms a core component in finance sector sustainability and has become more crucial in recent regulatory reporting. Market decline, credit crunches and alarming crashes (aka 2008/2009 global financial crisis) have caused connected countries to suffer severe economic loss, giving rise to more stringent regulations in the aftermath. The most recent international regulatory amendments for example (Basel III), enhance both micro and macro-prudential regulation with the objective of improving bank sector resilience against financial stress shocks. Core banking risks however, have not evolved as quickly as their mitigants. For example, credit risk or the risk that a customer defaults on his loan is mitigated through more rigid credit analysis, collateral and asset encumbrance. Liquidity risk that arises from insufficient capital adequacy for depositor withdrawal or further lending makes use of securitization, derivative and other money-market instruments with ever-increasing complexity. Some of these techniques are discussed with respect to their compatibility in the Islamic finance sector.
Hedging Techniques

The risk of loss can be minimized by controlling or off-setting it with an alternate transfer of risk or hedge. The use of hedging techniques has become more sophisticated over time, often in the realm of accomplished statisticians, actuarial scientists and even quantum physicists that develop intricate risk-based formulae to predict probabilities of occurrence with counter transactions. Differing definitions exist on hedging, summarily accounting for its protective nature in reducing overall loss in an investment or transaction. Therefore, researchers suggest that a form of hedging is simply acquiring an insurance policy to protect the parties in a transaction from any future economic loss.  

Hedging techniques are based on the transaction they are designed to protect. For example, forward currency exchange contracts protect a party from an uncertain future currency rate by capping or limiting the loss. Hence, a number of benefits can be attributed to the use of the technique. However, the existence of short-sales, sale of debt and gambling make these instruments doubtful or outright prohibited for use in the Islamic finance sector.

The application of hedging instruments in conventional finance and their Shari’ah issues in using these instruments are discussed next.

A. Forward Exchange Contracts

In a forward currency exchange contract, two parties typically enter into a foreign currency transaction for sale at a future date. The objective is that the buyer is protected from future currency price fluctuations, thereby securing the rate at the date of transaction. The technique mitigates losses that could occur from sharp fluctuations in currency rates, thereby reducing market risk exposure for the buyer. An additional advantage is that parties can forecast cash flows more accurately. However, the transaction is largely speculative and although reducing the uncertainty from fluctuations, it reduces the uncertainty of future price benefits (and converse losses) for at least one party (it is a risk transfer transaction). Therefore, the Islamic position on speculative transactions such as these is that it is impermissible for at least three reasons:

i. Future sales are not permissible in Islam unless conditions of a salam (Islamic forward) are fulfilled.

ii. There is uncertainty or gharar in the future rate although it is speculated at spot.

iii. The prohibition of sale of debt applies since both counter values are deferred (ba’al kan bi-kal kah)

This is supported by AADIFI Shari’ah Standard No 1 on currencies, that prohibits any forward transactions or future sales as well.  

The problem arises when parties deal internationally, requiring banks to act as intermediaries or even provide the financing. Trade finance deals such as these, utilize murabaha as the primary contract in asset financing, requiring that prices are fixed at the beginning of the transaction. Unfortunately, in the case of import transactions, delivery takes place in the future. If the transaction is in both domestic and international currency (local currency between customer and bank but foreign currency between bank and supplier), then the customer or the bank might be at a loss, depending on the date of transaction.
For instance, a customer is required to enter into a unilateral promise (wa'd) by way of a purchase order, to buy goods from an Islamic bank on the 1st of June 20XX for 40,000 Malaysian ringgit or US$10,000 according to the spot rate. Since the bank does not own the goods, no sale transaction can be concluded yet. The Islamic bank must purchase the goods in a first sale from the foreign vendor, before selling to the customer. The bank purchases at the spot rate. However, the bank must wait 30 days for shipment and therefore, a second sale will be concluded only upon delivery to the bank: 1st July 20XX. When the goods arrive, the customer is ready to enter into the murabaha agreement but he can only do so at the prevailing forex rate (the new rate on the 1st of July, 20XX). If the local currency has devalued, the customer loses since the bank can demand the new spot rate at the time of delivery. If the customer refuses to pay the new rate presenting the initial purchase order, the bank may argue that no sale was concluded between the bank and the customer at that time. The bank may also state that the customer unilaterally promised to buy at the US$1.54 rate, creating no obligation on the side of the bank to sell at the same rate.

From a Shari’ah perspective, the bank’s argument would be valid as the price is based on offer and acceptance once delivery is capable, i.e. the bank has acquired full ownership rights to be able to transfer the goods. Hence, the customer would then be forced to pay the new rate. If a forward exchange contract was applied, the customer would thus be protected from these fluctuations.

Of course, alternative practice does exist and the issue may easily be resolved by using a different instrument like a kafalah (guarantee) in the form of a letter of credit. The customer may also be obliged to provide the undertaking (initial promissory in the foreign currency itself, avoiding any future uncertainty or conflict.

There is no Shari’ah contention in hedging the transaction in this way. Contemporary practice also includes Islamic foreign exchange forwards that exist as individual transactions. A buyer would provide an undertaking (wa’d) on a dealing date that would indicate a commitment to transact on a future date. Using another instrument — tawarruq (commodity murabaha), both parties secure the commitment to transact at a fixed future rate.

B. Futures Contracts

The use of futures contracts as a risk-hedging instrument is based on an arrangement between parties to transact on a commodity at a future date with a specified price. These contracts are usually based on market-traded commodities like maize, wheat, coffee and metals. In the case of future purchases, the buying party would take a long position in locking in the spot price in order to hedge its risk against future fluctuations. Conversely, a seller would short a futures contract to close out any future price movements as well. This removes the uncertainty of price in the future. However, the commodity is rarely delivered (an average only 5% is delivered and 95% is cash settled) and only a fractional payment (5% or less) is made at agreement date. Although it is permissible in Islamic law to transact on future delivery (salam), the conditions of legitimacy include that the price is paid in lump sum at agreement. This is because both counter-values cannot be delayed at the same time, or else the transaction would be the prohibited sale of a debt for a debt (bi‘ al kati b‘ kati). In addition, the genus, quantity and market availability must be determined for salam to be valid.

The Shari’ah Advisory Council of the Securities Commission of Malaysia, in its 13th meeting on 19 March 1998, endorses trading in commodity futures on the condition that the underlying asset is permissible in Shari’ah. Crude Palm Oil (CPO) futures were thus approved for trading. However, stock index futures were not approved based on the disqualified stock within the index.

C. Options Contracts

Futures and forward contracts hedge the risk from changes in price or rate at a future date. However, an additional risk is created by agreeing to a predetermined price: what happens if the parties want to participate in profitable scenarios that take place due to fluctuations during the contract period? In addition, situations might arise that result in significant losses due to contingent claims during the contract period. Option contracts provide a hedge for this form of risk by extending the right to buy or sell to the parties. Option sales involve the payment of a premium for the right to buy or sell (call or put option) an asset at a predetermined exercise price. Since the option is provided on the basis of a promise, it is fundamentally permissible in Shari’ah. In an attempt to provide a permissible solution, 'Islamic' options have emerged.

An example is the foreign exchange option structure that is based on a unilateral promise or wa’d. If a customer requires foreign exchange at a predetermined price, the bank enters into an undertaking or wa’d arrangement (at start date) to provide currency at a pre-agreed rate on a future transaction date. If at maturity, the customer prefers to exchange at the prevailing rate rather than the promised rate, he will release the bank from its promise. The customer pays a fee for the bank’s undertaking, making it almost identical to the conventional option contract. In other examples, a tawarruq sale (form of commodity murabaha) is included in order to create an obligation on both parties. This is because a wa’d only binding and enforceable in the case of loss.
D. Swaps

Swaps can be defined as a transaction in which two parties agree to exchange streams of payment or cash flows for a predetermined period and according to specific rules. The variety of swaps extend from basic interest-rate swaps to equity and commodity swaps and the more infamous credit default swaps identified as the malefactor in the 2008/2009 global financial crisis. Although swaps can be used for hedging risks, they are also used for speculative profit-making purposes, sometimes leading to disastrous consequences on economic sustainability. They provide the highest leverage of any derivative instrument, resulting in astronomical notional values that have little semblance to real-world values.

For example, the ISDA (International Swaps & Derivatives Association) market survey of outstanding derivative instrument value at the end of 2009 totaled USD457 trillion in comparison to its GDP for that year which was approximately USD14.42 trillion\(^2\). This consisted primarily of interest rate, currency and credit default swaps. Although this value was primarily synthetic, the costs in the aftermath of the crisis were real. In the US alone, lost household wealth was reported at around USD19.2 trillion according to the US Treasury Department, whilst the stock market declined by USD11 trillion.

Conventional swap transactions are structured for the purpose of hedging against rate fluctuations by exchanging cash flows. These rates can take the form of interest rates on loans, currency exchange rates or cash flows from projects. The interest-based swaps are expectedly prohibited and the nature of cash for cash transactions in the same currency that are not at par may also fall into prohibition. Furthermore, forex swaps that involve future delivery at defined rates also fall into prohibition due to the limitation of future sales in Shari’ah.

In the case of a conventional cross-currency swap, hedging on interest rates and forex exposure is utilized. The need for currency hedging arises for example, when a Malaysian Firm A, is expanding to a new country – say Indonesia – and Firm B that is based in Indonesia intends to expand to Malaysia. Firm A will typically have difficulty sourcing finance from Indonesia, as will Firm B in Malaysia. This is because banks are unwilling to lend to international companies with no established credit histories in the bank’s base country. If at all, banks will only be willing to lend at a premium. Hence both firms will source more accessible and cheaper financing in their own countries at much lower rates, then lend to each other. This reduces the overall cost of debt significantly, except for the exposure to foreign exchange risk. Both parties will be paying each other in the domestic currency of the lender, even though the transaction is based on a net return or set-off between the two. The returns represent the premiums charged for the currency swap and are usually low (a few basis points). Since the transaction involves lending at interest rates at all levels, it is not permitted in Islamic law.
However, it is possible that the initial transactions of loan are actually Islamicly permissible financing such as *murabaha* or *ijara*. Then it would be possible for each firm to sell off the asset purchased or rented, to the other in a parallel sale or rental, to be paid in the local currency of the seller. In the case of Malaysia, even the foreign currency risk can be hedged by using an Islamic cross currency swap (ICCS).

An ICCS is a bilateral agreement whereby two parties agree to make regular payments to each other in opposing currencies. It is used to protect both parties from currency fluctuations and profit rate volatility. The agreement may also be based on the risk preference of the parties, allowing the exchange of floating rates for fixed rates as well. In order to facilitate a sale transaction that is in compliance with the Shari‘ah, a commodity sale takes place at every settlement date, typically in the form of a *tawarruq* transaction.

Therefore, it is possible to hedge against risks of profit rate fluctuations and forex risk using Islamic swap structuring. Some Shari‘ah councils have approved the use of swaps based on adherence to specific conditions. For example, the Shari‘ah council of Kuwait Finance House (September, 2006) allowed the rental-rate swap based on a *wa’d* and *tawarruq*, with the following provisos:

i. the agreements in the structure are real and actual and involve no fictitious contracts

ii. agreements are applied according to their contractual effects. This means that sale contracts must result in full ownership passing to the buyer, with transfer of risk of ownership without any obstacles restricting such an application

iii. the agreements are separate, and

iv. the agreements are not conditional upon one another.

### Emerging Risks

A recent Bank Governance Leadership Report\(^7\) stated that after primary research with executives in the North American banking industry, core banking risks are managed whilst emerging risks are not accorded sufficient resources. Whilst an overlap of risks exists between both IFIs and conventional banks, the unique nature of Islamic finance business gives rise to unique exposure and limitations in mitigation. Furthermore, a group of emerging risks to Islamic finance require consideration. For example, the requirement of real asset existence in almost all forms of Islamic finance, exposes the sector to higher levels of commodity risk. This in turn, increases the impact of procyclicality as higher levels of credit lead to significantly higher levels of default impact on commodity prices in the event of market downturn. Other risks such as the close resemblance between IFIs and conventional banking exposes the sector to the threat of convergence. With no advantage of difference, the Islamic finance sector may face significant decline. In addition, both the conventional and Islamic sectors are exposed to the threat of disruption. The impact of financial technology on Shari‘ah-compliant instruments has received minimal attention, although the impact may be significant. These risks are considered in more detail.

### Procyclicality

It may be conceded that Islamic banks face less credit risk due to the premise of profit and loss sharing finance (PLS) that tends to spread the risk. However, the use of Islamic sale-based contracts results in debts that require conventional credit analysis. Rather, it is often the nature of the assets financed that influences the risk exposure at IFIs. Since IFIs require that real assets form the underlying reason for seeking finance, the economic life of the asset influences the extent of recourse for the IFI in the case of default.

The IFSB statement on capital adequacy\(^8\) for example, notes that IFIs provide financing that is closely linked to real assets, reducing the effects of credit bubbles and non-performing finance. However, IFIs’ increased exposure to real estate finance is based on underlying assets and not just financial contracts, does expose them to procyclical risk.

Loan loss provisioning at IFIs based on business cycles have also recently been found to be procyclical\(^9\). Loan loss provisioning at Islamic banks have been found to decrease as economic growth\(^10\) increases, implying conversely that an increase in provisioning might have a detrimental impact on economic growth. This is because an increase in provisioning usually results in tighter credit control and restricted financing from banks, leading to slower economic growth. Mitigation of procyclical trends could be addressed by increasing Islamic bank capitalization. This is because banks with lower capital ratios seem to be most likely to inflate loan loss provisioning\(^11\).
Threat of Convergence

The Islamic finance sector is based on the premise of Islamic law or Shari’ah. The distinction between Islamic and conventional finance has unwittingly established a unique selling point for Islamic financial services as an alternative ethical and socially responsible option, beyond religious preference. Islamic wealth management for example, offers investment in a stock universe that follows an ethical screening philosophy, by removing ‘sin’ stocks. However, the launch of the UNPRI initiative in 2006 and the subsequent global move towards socially responsible and impact investing has narrowed the gap between Islamic and the ‘new’ ethical screening movement.

In Islamic banking as well, benchmarking the profit mark-up with market rates has increased exposure to interest rate risk in the same way as conventional banks. This similarity increases when considering Islamic personal financing products like Bai’ al Inah (credit sales) and Organized Tawarruq (monetized documentary sale).

An emerging risk therefore, is the threat of the Islamic finance convergence with the practices of the conventional finance market. This will reduce the need for alternative finance and stunt growth in the Islamic sector. Mitigating this risk will require the Islamic finance sector to innovate, by developing products that are unique to its precepts and appeal more strongly to customer preference and yet remain competitive with similar conventional products. Real sector development for example, forms a core component of Islamic finance through risk-sharing contracts. This is expected to result in a positive impact on the industry and economy as a whole.

Disruption

The entire financial services sector is facing the risk of disruption. Both institutional Islamic and conventional wealth management have always relied on traditional methodology in delivering financial services. Since 2009, a global wave of technological ‘disruption’ has revolutionized the transport, hospitality and retail industries. Companies like Amazon, Air Bnb and Uber have initiated lifestyle changes with convenience, speed of delivery and cost-efficiency raising the levels of competition and non-performer exclusion. The financial services industry has been impacted significantly as well. The advent of crowdfunding, peer-to-peer lending and robo-advisory is setting the scene for a financial technology (fintech) wave that is expected to change the landscape of product delivery within the space of a few years. This disruption to the Islamic financial services is especially poignant, as they already face existential threats of convergence, the standard conventional risks (i.e. credit, market, liquidity risk, etc.) and possibly extinction if these new developments are not embraced. Therefore, a better understanding is required of fintech solutions that can impede the progress of the Islamic finance sector. In fact, as conventional banks have determined, the way forward is to embrace the technology and enhance existing product offerings rather than attempt to compete for the same market share using traditional methods. This is expected to hold the entire traditional finance sector in good stead as they adapt to technological innovations and ride the fintech wave.

Summary

Managing risks at IFIs is similar to conventional risk management, except for specific unique risks: displaced commercial risk, Shari’ah non-compliance risk, inventory risk, profit rate risk and equity investment risk. IFI risk management is restricted by the tenets of Islamic law that considers conventional solutions such as typical derivative and risk-hedging instruments as impermissible. However, the sources of Islamic law encourage IFIs to manage risk by establishing sustainable and strategic employment of capital, introduce hedging techniques that do not contravene the Shari’ah parameters, consider scenario-impact studies for better diversification or exit strategies and continuously monitor the extent and probability of risk exposure.

Emerging risks that threaten the future of Islamic finance include procycleity, the threat of convergence and financial technology disruption. Each of these present a new and formidable hazard to the sector, that may dilute the unique ethical proposition that the industry offers. Of these risks, financial technology disruption impacts on both conventional and Islamic finance sectors if not adopted adequately. Next we consider the nature of this disruption and the extent of its impact on both the conventional and Islamic finance and wealth management industry.
FINTECH
Technology application in the Financial Product Ecosystem
Concept and history of ‘Fintech’

By Dr. Ziyad Mohamed, MD, IFISA & Prof Dr Shamshir Mohamed, Professor of Finance, INCEIF

Recent success in the technology sector has witnessed the transformation of start-up companies with relatively small or no seed capital into billion-dollar companies within a very short-space of time. From the advent of taxi-hailing apps (like Uber, Lyft and Grabcar) to accommodation (eg. Airbnb), smartphone applications and web-based platforms provide the evidence of this growing phenomena. The application of technology in the financial sector has “disrupted” the traditional ‘brick-and-mortar’ style distribution channels and if not embraced, would cause the current financial sector to lose a substantial portion of their businesses (estimated between 20 to 40%) to firms using fintech.

So what then, can be understood by the term ‘fintech’? Fintech or financial technology is the application of technology in the financial product ecosystem. This includes financial product administration, vetting, marketing, distribution and supervision.

A brief history of technological developments that required businesses to change their business models to survive

1844 - Moses Ganek installs the first telegraph cable between New York and Europe.
1866 - The first transatlantic telegraph cable is laid.
1915 - The first transcontinental telephone system is introduced.
1920 - The first computer card reader is invented.
1950-58 - The world’s first automated teller machine is introduced.
1966 - The world’s first electronic cash register is introduced.
1968-70 - The world’s first automated teller machine is introduced.
1973 - The world’s first electronic cash register is introduced.
1979 - The first online shopping website is launched.
1982 - The first e-commerce website is launched.
1983 - The first online banking website is launched.
1987 - The first online banking website is launched.
1994 - The first online banking website is launched.
1999 - The first online banking website is launched.
2001 - The first online banking website is launched.
2009 - The first online banking website is launched.
2011 - The first online banking website is launched.
2015 - The first online banking website is launched.

This translates to a 200% increase year-on-year, from 2013 to 2015. Researchers attribute the recent meteoric rise of fintech startups and the supporting equity contributions as a response to the financial crisis. They note that the 2008 Global Financial Crisis possibly acted as a catalyst to the growth of a new digital era in financial services. Researchers list that specific factors driving this trend include public perception, regulatory review, political pressure and the prevailing economic environment.

Annual Global Financing Trends to VC-Backed Fintech Companies

<table>
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<th>Year</th>
<th>Q2 Investment</th>
<th>Overall Investment ($B)</th>
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Q2 Investment
Overall Investment ($B)
A review of the investments by continent over the 18 months from the second quarter of 2015 to the end of the second quarter of 2016, indicate that Asian appetite for fintech funding is significantly higher than Europe and trailing only to North America in investment size.

The largest global fintech companies in 2015, by valuation and capital raising are presented by Citi GPS:

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Business Area</th>
<th>Target Customer</th>
<th>Category</th>
<th>Country of Domicile</th>
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<td>Personal &amp; SME</td>
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<td>Stripe</td>
<td>Payment</td>
<td>Personal &amp; SME</td>
<td>Online payment</td>
<td>US</td>
<td>Private</td>
<td>$2.9bn</td>
<td>$5.2bn</td>
</tr>
<tr>
<td>Zennonis</td>
<td>Institutional Tools</td>
<td>SME</td>
<td>HR software</td>
<td>US</td>
<td>Private</td>
<td>$98.3m</td>
<td>$4.5bn</td>
</tr>
<tr>
<td>Credit Karma</td>
<td>Lending</td>
<td>Personal</td>
<td>Credit scoring</td>
<td>US</td>
<td>Private</td>
<td>$568m</td>
<td>$3.1bn</td>
</tr>
<tr>
<td>Adyen</td>
<td>Payment</td>
<td>Personal</td>
<td>Online payment processor</td>
<td>Netherlands</td>
<td>Private</td>
<td>$266m</td>
<td>$2.3bn</td>
</tr>
<tr>
<td>Kiama</td>
<td>Payment</td>
<td>Personal</td>
<td>Online payment</td>
<td>Sweden</td>
<td>Private</td>
<td>$291m</td>
<td>$2.2bn</td>
</tr>
<tr>
<td>Dinjoff</td>
<td>Payment</td>
<td>Personal</td>
<td>Online payment</td>
<td>India</td>
<td>Private</td>
<td>$166m</td>
<td>$2.0bn</td>
</tr>
<tr>
<td>Prosper</td>
<td>Lending</td>
<td>Personal</td>
<td>Peer-to-peer loan</td>
<td>US</td>
<td>Private</td>
<td>$315m</td>
<td>$1.9bn</td>
</tr>
<tr>
<td>Oscar Health</td>
<td>Insurance</td>
<td>Personal</td>
<td>Online health insurance</td>
<td>US</td>
<td>Private</td>
<td>$727.5m</td>
<td>$1.7bn</td>
</tr>
</tbody>
</table>

Source: Citi GPS Report

Although the majority of the largest fintech start-ups are in the US, the two largest companies, Ant Financial and Lufax, are based in China. Ant Financial is a payment gateway and finance provider for small to micro enterprises and belongs to the largest b2b (business-to-business) online marketplace: Alibaba.com. Ant Financial includes Alipay (online payment gateway similar to PayPal), Alipay Wallet (a digital wallet that enables online P2P payments), Yu'e Bao (largest money market fund in China), Zhao Cai Bao (digital investment and lending platform to SMEs), Ant Micro Loan (b2b and p2b lending) and Sesame Credit (credit-ratings provider). This financial ecosystem provides the necessary credit analysis and verification and digital disbursement reducing the need for traditional bank involvement in the process. The revenue shifting from transactional and non-intermediary costs is significant as fintech portals can partner with varying service providers to deliver complete financial products.

Lufax began in 2011 as a P2P lender and now offers a broad range of financial services including a digital wallet, wealth management solutions and fund distribution channels. The wealth management industry has now ventured into the post-crisis digital revolution, with robo-advisors and lower transactional costs, challenging physical advisory functions and effectively disrupting the traditional investment distribution channels. Firms that embrace the technology as a solution rather than competition, are expected to be successful in riding the fintech wave and surviving in the digital era.
The Fintech Ecosystem

A more traditional view of the fintech ecosystem could be categorized into five key areas:

- Finance and Investment
- Payments and Infrastructure
- Customer Interface
- Operations and Risk Management
- Data Security

However, the most recent drive towards technologically-powered financial services has effected change in another five broad segments.

01 Banking and Lending

Traditional banking requires strategic adaptation to deal with fintech developments. Two specific issues impact traditional banking activity when considering fintech disruptors: an alternate banking strategy and peer-to-peer (P2P) lending.

a. Adapting banking strategy to deal with disruption

Traditional lending is quickly transforming into online distribution channels as banks are gearing up to challenge new fintech start-ups. It is estimated that between 30 and 80% of branch utilization will be reduced in the coming decade. This will decrease more expensive over-the-counter transactions and shift even more transactions to virtual digital platforms. As King [2014] states:

“The shift is that banking is no longer about the place or the space, it is all about the utility. The more you think about the brand as enabling financial utility, the more you come to terms with the fact that the branch generally no longer offers significant advantage.”

In order to remain competitive, banks have adopted new product solutions that utilize virtual channels and mobile or online delivery. "Digital readiness" or IT capacity for adopting new technological platforms become crucial to traditional bank survival in the near future. As software becomes more open-source, programming units have opportunity to mold them to suit specific sector needs. For example, SaaS (software-as-a-service) solutions that are coupled with APIs (application program interfaces) can be integrated with existing banking solutions to provide interactive digital platform banking. Overall development costs are also reduced since SaaS and API are constantly releasing updates based on efficacy and customer needs.

Leading banking strategists, Bain & Company, suggest that traditional banks need to consider the following paradigm shift to survive the fintech disruption:

i. Integration of distribution channels and network redesign

Banks are required to provide a seamless customer experience that is based on customer preference of how they would want to interact with the bank. In this way, it is the customer that experiences the process that he/she most prefers. Bain & Company cites the example of Finansbank in Turkey that allows customers to check their approved credit limit via secure messaging, prior to entering into a major purchase transaction. However, successful integration of distribution channels should be comprehensive, always accessible at the place and time of the customer's choice. This requires a redesign of existing network architecture and a paradigm shift from reliance on physical branches during office hours.

ii. Adopting a digital mindset

Strategic direction from the senior executive level is required to motivate and espouse a digital mindset. This requires enhanced levels of transparency and disclosure, as response to poor service becomes instantaneous and viral. Social media impact can be disastrous to non-conforming banks as bank switching is easy and convenient on digital platforms. Hence, banks will have to execute transactions with increasing speed and delays in finance approvals may lead to loss of group business—individuals are more connected than ever before. Therefore, the focus on the customer becomes priority. Traditional banking attitude of being apathetic to customer needs over rigid compliance with central bank regulation, writing policy and setting procedures needs a new outlook. New fintech service providers operate with the objective of delivery and customer satisfaction rather than elaborate operational and regulatory procedure that tend to delay response times. In addition, data collection of customer online habits will enable a predictable and more targeted response for new digital offerings.

New fintech service providers operate with the objective of delivery and customer satisfaction rather than elaborate operational and regulatory procedure that tend to delay response times.
b. P2P Lending

Peer-to-Peer (P2P) lending can be understood as any online transaction in which one or more individuals lend money to others. P2P financing can be traced back to two companies: Zopa (UK-based) that launched in 2005 and Prosper (US-based) launched in 2006. The process of P2P lending allows interested parties to lend to each other on mutually agreed terms over an online platform. By 2016, Prosper claimed that their total lending was at approximately USD6 billion whilst Zopa reported a total loan base of GBP1.4 billion. In the US, additional regulation in the aftermath of the crisis attempted to reform the finance market by providing further safeguards to the consumer. The Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 effectively tightened credit availability even further, supporting the emergence of P2P platforms that had less stringent controls on lending.

A key component of traditional banking revenue is credit provision. The process of application, approval, and administration throughout the period of the credit facility attracts significant costs that are all passed to the borrower. Since the financial crisis, banks globally have become more critical of the quality of credit applications. Besides the more cautious approach to lending, the regulatory environment has also released more stringent capital requirements: Basel III. With the objective of improving market stability and enhancing resilience against future shocks, banks now have further challenges of capital adequacy, to ensure safer lending practices. The US market response to the credit shortage resulted in a variety of non-traditional banking offerings, even through legislation. An example of this is the JOBS Act 2012 (Jump Start Our Business) that promotes entrepreneurship and job creation. The JOBS Act aided initiatives in bypassing the stringent credit requirements of traditional banks by allowing start-ups to raise financing directly from interested parties on P2P platforms.

The rapid growth of P2P lending extends beyond the innovative use of technology. Fintech platforms provide customers with a seamless experience that is focused on an objective evaluation through an easily accessible interface. Milne and Parboteah (2016) list four categories of advantages that P2P lending offers over traditional banking lending:

- Higher returns than bank deposits for lenders, with low fees
- Easier access to financing for borrowers that have difficulty or are unable to access bank lending
- The ethical and social contribution of P2P lending is perceived to be higher than traditional banking
- Technological innovation is rapid, making online platforms quicker and accessible on a variety of devices with no time limitations.

P2P lending in the Asian region is at a nascent stage, although the typical rate of fintech growth makes P2P lending a formidable force within the sector. Lufax and Jimubox in China, Funding Circle in the UK and SoFi in the US have all achieved in excess of USD1 billion in valuations during their short tenure. Debt-financing has often been preferred in corporate fund-raising due to relatively cheaper financing costs. Although P2P lending is expected to reduce these costs even further, large fund-raising rounds for start-up companies without credit histories require the more expensive equity financing route. Even here, fintech providers are capturing market share by offering crowdfunding platforms to entrepreneurs with ideas that have potential. But more on this under the investment and wealth management discussion.

Recent capital-raising activity for P2P lending sites:

<table>
<thead>
<tr>
<th>Date</th>
<th>Lending Platform</th>
<th>Capitalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECEMBER 2014</td>
<td>Lending Club</td>
<td>USD15 billion</td>
</tr>
<tr>
<td>DECEMBER 2014</td>
<td>OnDeck</td>
<td>USD1.8 billion</td>
</tr>
<tr>
<td>APRIL 2015</td>
<td>Prosper</td>
<td>USD165 million</td>
</tr>
<tr>
<td>APRIL 2015</td>
<td>Funding Circle</td>
<td>USD150 million</td>
</tr>
<tr>
<td>SEPTEMBER 2015</td>
<td>Avant</td>
<td>USD325 million</td>
</tr>
<tr>
<td>SEPTEMBER 2015</td>
<td>SoFi</td>
<td>USD1 billion</td>
</tr>
<tr>
<td>OCTOBER 2015</td>
<td>Kabbage</td>
<td>USD135 million</td>
</tr>
<tr>
<td>JANUARY 2016</td>
<td>LendUp</td>
<td>USD150 million</td>
</tr>
</tbody>
</table>

MARKET CAPITALIZATION
02 Payment and Fund transfer

E-commerce start-ups were initially focused on creating online marketing platforms for the retail of goods across markets (aka Amazon and eBay). Their success in capturing significant market share within a short period, presented new digital challenges that demanded urgent solutions. Transactions taking place online, required payments that were instantaneous and secure. Online payments therefore, introduced a new set of threats to economic safety and stability. For instance, how would customers make payments for goods securely? Banking details could easily be intercepted and used for fraudulent online purchases using phishing scams, packet sniffing or other forms of hacking. In 2011 in Australia alone, one million fraudulent payment transactions were recorded and 71% of losses from credit card fraud occurred on online or telephonic purchases. The introduction of secure payment gateways like PayPal, Stripe and Authorize.net reduced the threat of identity theft and other fraudulent activities, whilst unwittingly introducing a new competitive business threat to the role of banks in traditional payment transactions.

Accessibility to mobile and smart phones have driven change in the payment and fund transfer sector, by enabling vendor payment gateways to recognize them through free downloadable applications. Using concepts like digital wallets where online details to accounts are stored, or simply transferring airtime to a vendor as an instant payment reduces the role of traditional banks even further. These services and apps have brought along new risks in security, although customer-demand for convenience and accessibility has forced providers to enhance security protection whilst improving the overall customer experience.
03 Investment and Wealth Management

Crowdfunding

Digital crowdfunding platforms can be traced back to informal micro-finance ventures that attract small equity contributions for an entrepreneurial activity. In 2009, the launch of an online platform (Kickstarter) provided an opportunity for many small investors with ambitions of owning equity in the next ‘Microsoft’ or ‘Google’ venture to participate in potentially the ‘next big thing’. Entrepreneurs that could not or did not want to access traditional bank funding, now had an alternative capital-raising method.

For example, FORM1 (a group of MIT Media Lab researchers) received crowdfunding by intending to provide an affordable 3D printer for public use. Although they intended to raise USD100,000, they received USD3 million in funding, rapidly shortening the time to market. Another popular crowdfunding initiative, the Pebble smartwatch, raised USD1 million in 28 hours on Kickstarter and USD10 million in total. Oculus Rift is probably the most significant of the Kickstarter projects, raising ten times the USD250,000 goal in 2012. The company sold out two years later for USD2 billion, one thousand times its initial capitalization. A variety of crowdfunding initiatives are currently offered. Fajr Capital Advisors (2013) provide some examples:

Box 1: Types of Crowd Funding

<table>
<thead>
<tr>
<th>MODEL</th>
<th>EXAMPLES</th>
<th>FEATURES</th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DONATION</td>
<td>Just Giving</td>
<td>Funders donate without expecting monetary compensation</td>
<td>No risk</td>
<td>Donors do not acquire securities. Entrepreneurs have difficulty raising substantial capital.</td>
</tr>
<tr>
<td>REWARDS</td>
<td>Kickstarter, Indiegogo</td>
<td>Funders receive a token gift of appreciation or pre-purchase of a service or product</td>
<td>Low risk</td>
<td>Potential return is small. No security is acquired, and there is no accountability mechanism. Most entrepreneurs may have difficulty raising substantial capital without a product with mass appeal to sell.</td>
</tr>
<tr>
<td>LENDING</td>
<td>Kiva, Funding Circle</td>
<td>Funders offer to lend a portion of a loan in exchange for a specified interest rate. Business repays the loan over time.</td>
<td>Provides capital formation opportunity for cash flow positive businesses</td>
<td>Loan maybe unpaid/loss of investment. Banking regulation maybe unclear on individual to business lending. May be less popular with Muslim users due to the interest element.</td>
</tr>
<tr>
<td>INVESTING</td>
<td>CrowdCube, Gate Impact, OfferBoard, SeedInvest</td>
<td>Funders receive equity instruments or profit sharing arrangements</td>
<td>Potential to share in the profitability of the venture. Significant potential for financial gain. May attract relatively large number of investors.</td>
<td>Potential loss of investment. Equity holders are subordinate to creditors in the event of bankruptcy. Security laws related to crowd fund investing may be complex.</td>
</tr>
</tbody>
</table>

Source: Fajr Capital Advisors (2013)
Robo-Advisors and Wealth Management

Investors have always sought the advice of professional financial advisors for the placement of their funds, portfolio construction and protection of their wealth based on upon individual risk profiles and appetites. Whilst the investor objective of minimizing risk for maximum return has not changed, the delivery of financial advice is being revolutionized through a digital platform. The traditional advisory service is quickly evolving into either a fully automated ‘robo-advisor’ or a technology-assisted advisory service.

The use of neural network programming (NNP) and artificial intelligence (AI) form the core technology for fintech start-ups in this sector. They aim to offer a unique client experience through a series of questions, the program (robo-advisor) determines an investor risk profile and recommends a portfolio based on the type of securities expected. For example, some fintech investment advisors provide ETF (exchange-traded-funds) solutions whilst others select from stocks in specific categories in the domestic general equity sector.

More accurate quantifying of risk is achieved by superior back office data analytics in order to balance investor risk-return expectations. The significant difference between traditional wealth management is that the digital exercise is accomplished faster and at much lower costs. This implies that future wealth management solutions will be more sophisticated and more cost-efficient than traditional methods.

Data analytics provide additional advantages in wealth management. More sophisticated technology provides for more detailed reporting and disclosure. This in turn increases the data available for analysis which reduces information asymmetry between institutions and investors. Ultimately, system-driven portfolio selection will provide more reliable forecasting models and more predictable returns.

Hence, by combining data sets from various sources, AI will have the ability to create an unrivalled comprehensive profile of investors and investment opportunities. This will provide effective best-fit solutions beyond what has previously been achievable.

04 Insurance

A recent PwC survey on fintech application in the insurance sector indicated that self-directed services is the most notable trend in the near future. Although most of the larger insurance companies provide online quotes and claims, the user experience is not always as efficient as the customer expects. More sophisticated digital channels with smartphone capabilities will provide more customer-centric solutions with the objectives of speed, accuracy, understanding of unique cases and post-transaction support. Whilst human intervention is not expected to cease, the existing insurance market will be significantly enhanced with the new solutions.

Additional developments in the fintech insurance industry include usage-based insurance (UBI) and more dynamic risk-based premium calculations. Premium calculation is based on actuarial analysis of the risks being exposed to, for individual customers. However, changes in the customer profiles are often not updated until annual reviews if at all, as a result of high cost. UBI more accurately assigns risk exposure based on unique and dynamic customer profiles. For example, auto-insurance that applies UBI will charge for cover based on how often the vehicle is used. Geo-tagging for instance, will assist in assessing risk changes when motor vehicles move into higher risk zones. Existing technology provides solutions for much higher levels of accuracy in quantifying risk.
05 Blockchain technology

At the beginning of 2009, blockchain technology was used to create a cryptocurrency by an anonymous developer, famously known as ‘Bitcoin’. By 2016, the market capitalization of approximately 600 cryptocurrencies are monitored
d, although Bitcoin remains the most dominant. For a digital currency to exist, its credibility cannot be compromised. Therefore, a decentralized or shared database of ‘tokens’ must be stored such that none can be replicated but rather transferred and owned. The technology that makes this possible, consists of three components:

• a shared state
• a set of rules for updating the state, and
• a trust model for timestamping.

A blockchain is thus a database that controls a shared ledger that cannot be altered or fixed, ensuring secure contracting that is always traceable. Although there has been significant cynicism towards cryptocurrencies such as Bitcoin and Ethereum, they have proven their resilience against security attacks, legal argument and general skepticism.

Blockchain technology is being applied to more solutions both in the corporate and government sector. For example, in 2016, the central securities depository of the Russian Federation announced a pilot project that is considering electronic voting for bond owners using blockchain methodology. The UK government as well, has recently approved a blockchain provider for public sector organizations, introducing distributed ledger technology (DLT) to everything from health services to financial regulation.

Challenges in Fintech implementation

A recent PwC survey of the most significant challenges facing fintech companies and incumbents, revealed the following barriers to entry and/or survival:

i. IT Security

IT vulnerabilities are particularly challenging for new entrants into the field, probably due to a knowledge gap when identifying weaknesses in security. This is less of a concern for fintech companies who are specialists in the field.

ii. Regulatory Uncertainty

Both fintech companies and incumbents considered this critical to the sustainability of fintech implementation. Minimal regulation exists internationally that governs the fintech sector. Furthermore, there is a lack of clarity on which regulatory authority is responsible and whether all fintech companies would be governed by comprehensive dispensation. What is becoming clearer is that fintech solutions provide advantages for products to market, essentially enhancing the means of delivery rather than the product category itself. Hence, more suitable regulation would be sector-specific: fintech investment and wealth management solutions to be regulated by the securities regulator and fintech lending solutions to be regulated by banking regulators and so forth. For Asia and the Islamic finance industry globally, Malaysia is leading the initiative, having already released regulatory guidelines on crowdfunding, P2P lending and the application of a ‘sandbox’ environment for application testing.

From the results of the survey, additional challenges that concerned stakeholders include differences that exist in business models, management & culture, operational processes and knowledge. New entrants were particularly concerned about IT compatibility with existing infrastructure. Significantly large IT costs to introduce these new solutions make traditional financial service companies hesitant and uncertain on whether the decision to implement would be cost-efficient and beneficial in increasing shareholder value. Furthermore, the required investments to enter and remain in the sector become a significant barrier to entry, especially for start-up companies that require large capital injections for development of programming infrastructure. To a large extent, this barrier might be reduced as fintech programming becomes more open source, much like smartphone apps based on Android or the Apple iOS platforms.

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Islamic Wealth Management and Fintech

Malaysian initiative

The Islamic finance sector has been growing at a steady rate globally, although many countries are yet to offer a full product suite to their customers. Malaysia however, is established as a pioneer in the field of Islamic finance since the 1960’s (Tabung Haji). The Malaysian financial regulator was also the first to promulgate Islamic banking law (BAPIA Act, 1983) amongst many other firsts that it can lay claim to.

Another milestone for Malaysia and the global Islamic finance industry was the introduction of the first Islamic interbank investment platform (IAP) in 2015. The IAP was developed with the vision to allow cross-border investment and funding through a multi-currency channel that will eventually link with global markets. Raedel, IAP Integrated Sdn. Bhd., owns and manages the platform on behalf of a consortium of Islamic financial service providers. Individual, corporate and institutional investors channel investment funds through Islamic banks (due diligence and finance customer assessment filtering) to provide financing to approved customers that apply online. The investment platform is the first Islamic fintech solution offered by a consortium of six Islamic banks, indicating the willingness for Malaysian Islamic banks to embrace the fintech revolution and ride the wave.

The advantages of the IAP solution include the fact that direct financing is offered to approved customers that present viable ventures. Customers that require financing will have an alternative source of funding available to them, that is provided by a group of investors, thereby spreading the overall risk exposure for any individual fund provider.

RAM Ratings, the Malaysian credit-rating provider, will provide independent ratings on ventures that will obtain a listing on the IAP. The initiative provides a secondary market for investors that can have direct, yet secure access to innovative business ventures. In a bid to attract international investors, the government regulator that provided oversight and support in the IAP formation, also placed no restrictions on foreign capital inflows. Furthermore, all profits from investment are exempt from tax for the first three years.

The Securities Commission (SC) of Malaysia, under an initiative known as the Alliance of FinTech Community or ‘aFiNityMSC’, has also been active in preparing regulation that will allow for fintech solutions to operate more seamlessly in the country. The initiative includes:

i. Creating awareness and catalyzing innovative fintech solutions
ii. Forming clusters to organize and nurture a wider fintech ecosystem, and
iii. Providing policy and regulatory clarity that is conducive for innovation.

The objective of the framework is, to enable a variety of company forms to participate and access market-based funding through a digital platform. In September 2016, the SC confirmed that selected and approved P2P entities will be announced within a few months, with six registered equity crowdfunding platforms that have already begun fundraising. The Equity Crowdfunding/P2P financing framework was issued in early 2016.

BNP Paribas have deployed strategic fintech initiatives that have contributed to their competitive edge in the financial market. Through partnerships with fintech solution providers, BNP Paribas is able to co-create and develop solutions for clients. By using these solutions internally as well, the financial services provider expects to develop new communications channels that will motivate quicker response times and a higher culture of transparency and efficiency. With more advanced communication, external customers can be assisted more efficiently in embracing digital methodology in their core business modes.

On the international stage, BNP Paribas has actively been involved in co-innovation programs with Fintechs, to design solutions for all segments of the banking industry. Application of data analytics software for example, using large existing databases, allow for more efficient fund matching and distribution at the bank that were not possible before.

Three components form the core of their digital strategy:

i. Artificial intelligence (AI)
ii. Blockchain technology
iii. Big data

Artificial intelligence (AI) is expected to enhance employee productivity by using natural language generation in the preparation of routine reports such as fund fact sheets.

Advancements in AI are constantly shifting the frontier, proven from the ongoing testing in everything from driverless cars to digital personal assistants. The use of AI in portfolio fund construction for example, is based on the concept of a ‘robo-advisor’ that challenge users through questions melded by interactions between man and machine. The result is a personalized portfolio construction based on carefully constructed algorithmic risk profile. Placing investments are carefully calibrated to suit individual customers.

Through leading digital providers, BNP Paribas is also taking advantage of Blockchain technology in record-keeping and warrant issues. The resilience of Blockchain methodology and digital infrastructure has quickly become the benchmark in serial-flow databases that contribute to the credibility of the records stored. Existing technology ensures that documentation is kept secure, reducing the possibilities of fraud and tampering.

By making use of leading innovators in the data analytics environment, BNP Paribas is also able to discover new insights on customers and their preferences and provide more rapid and efficient decision-making.

The use of these types of cutting-edge technology solutions is expected to have a positive impact on competitiveness, ultimately improving the customer experience. Additionally, cost benefits for the bank are expected in both retail distribution of funds and their selection.
Summary

The rapid success of the fintech sector and emergence of digital platforms threatens traditional banking business. Capital investments in the sector have doubled each year, since 2013. In different forms, fintech development has entered the banking and lending market, payments and gateways, investment and wealth management, insurance and currencies. Through a complete ecosystem, fintech evolution is impacting key areas in the financial services industry.

The most significant developments have taken place in P2P lending and crowdfunding. Through P2P lending, lenders and borrowers can interact over digital platforms without the need for lengthy applications and high transactional costs. In crowdfunding, businesses (not limited to businesses) can quickly raise capital for product development or project funding. The future success of these platforms and solutions relies on credible security in information technology and enabling regulation. Malaysia is well-poised to benefit from the fintech wave as it has already introduced regulation for P2P and crowdfunding. Most recent regulation ensures that product testing is conducted in a controlled environment with sufficient monitoring and supervision, before going to market. These strategic initiatives will serve to enhance customer confidence and attract more players into the Malaysian market.
A RECIPE FOR SUCCESS
Making Malaysia a World Class Fund Administration Centre
A Recipe for Success
Making Malaysia a World Class Fund Administration Centre

By Justin Ong, Asia Pacific Asset & Wealth Management Leader, PwC

The State of the Industry Today

The asset management industry continues to face headwinds in today’s volatile environment, and industry players face many challenges in seeking growth, containing costs and creating new avenues of business. According to the PwC 19th Global Asset Management CEO Survey 2016, only 30% of global asset management (“AM”) CEOs expect global economic growth to improve. Despite the gloomy outlook, global AM CEOs have greater confidence in their own company’s prospects for revenue growth over the next 12 months.

Overall, the outlook for the future remains bright: PwC’s Asset Management 2020 report projects that global assets under management will exceed US$100 trillion by 2020, up from slightly under US$65 trillion in 2012. A large part of this growth will be led by Asia as part of the SAAAME region (ie. South America, Africa, Asia and Middle East).

A number of trends and developments in Asian asset management is also changing the operational landscape, creating increasing competition and margin pressures for asset managers. This includes the faster adoption of disruptive technology, the rising need to upscale operational infrastructure, on-shoring and creating substantive presence to penetrate domestic growth opportunities, and ambitions to grow regionally and globally.

Based on another PwC survey on Asian AM Chief Operating Officers in 2015, asset managers are already exploring more outsourcing options, driven by the need to manage costs, reviewing investment priorities and releasing capacity from non-core functions.

From a fund administration perspective, this has immense implications, as well as opportunities. As assets under management grow in Asia, asset managers in this region will look to outsource more non-core activities. There is a growing view that investment spend on new technology is expensive and will need constant innovation and change, thus being better left to those who are in the business. Regulators and investors are also demanding more information, better transparency and faster reporting response time over a multitude of areas, and asset managers who currently manage their own in-house fund administration and back/middle-office functions will face pressure.
Fund Administration
What Does Success Look Like?

There are many jurisdictions today competing to be fund administration centres, including Luxembourg, Dublin, Singapore, Hong Kong and Cayman Islands. It is no doubt an attractive proposition, as fund administration is part of an ecosystem for the asset management industry which also encompasses a broader economic profile, including custodians, lawyers, accountants and asset managers. But what defines success as a fund administration centre? From PwC’s research, there is no one-size-fits-all solution. Different permutations may exist, playing on each jurisdiction’s key strengths and competitive advantage. What is clear is that successful fund centres aren’t necessarily where the portfolio managers are based. A strong legal, tax and audit ecosystem is critical for future-proofing the hub status, and the existence of a broader financial services arena is also critical to creating a sustainable business – i.e., custody, trust, prime brokerage, treasury, financing and OTC clearing.

In particular, to be a successful fund administration centre, the infrastructure, talent and regulatory environment needs to be able to cater for more than just retail fund net asset value calculations; it needs to consider diversified asset classes, segregated mandates for institutional clients, regulatory and tax reporting, risk reporting, global compliance reviews and customised investor reporting.

An important consideration to become a successful fund administration centre is also the ability to be seen as a fund domicile – this means having a robust investment fund structure which will enable investors to use that fund jurisdiction to base its investment holdings. Most of the established fund jurisdictions globally have dedicated investment fund structures of varying characteristics to fit investor needs. More recently in Asia-Pacific, Singapore, Hong Kong and Australia have each announced the introduction of their own domestic open-ended investment company vehicle (OEIC) or corporate-form funds to allow global investors to domicile their fund ranges in-country.

In addition to the above, other important ingredients to being a successful fund administration hub are:

- Full service capabilities
- Talent availability and competency development
- Sustainable infrastructure
- Technological connectivity
- Low (relative) cost of operations

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Malaysia – What Will It Take?

Over the past decade, Southeast Asia has become an area of interest for many investment houses. The widening of the middle income class, outstanding talent and abundant natural resources have contributed to this growth. Over the past year, the Malaysian capital market has also played a pivotal role by providing access to capital and value creation. That, coupled with the economic success of Malaysia, is the recipe of a healthy asset management marketplace.

Still, the Malaysian mutual fund industry is relatively small even when compared to more underdeveloped neighbouring markets. It is not just the mutual fund industry that needs nurturing and developing but a broader development of the capital markets.
Malaysia can be credited for its introduction of strategic policy measures that have led to the growth of its capital markets. Some of the notable ones are: comprehensive revamp of the exchange board structure and equity fundraising framework in 2009; amendment to IPO rules; listing of foreign-owned corporations; listing of special purpose acquisition companies; introduction of Business Trusts; government contributing to venture capital funds; and tax incentives to venture capital investing. The Malaysian government has played an instrumental role in Islamic finance’s fast expansion in the country, including taking steps to establish forward-looking market infrastructure, institutions, and regulatory frameworks. Malaysia is also among the first countries to revise its tax regime to ensure tax neutrality for Islamic financial instruments. In addition, the Malaysian government provides substantial tax incentives to Islamic finance beyond tax neutrality, including tax exemption of Islamic banks and Islamic insurance companies, tax deduction on issuance costs of Islamic securities, and tax relief for Islamic REITs. Malaysia also has tax exemptions specifically for international Islamic banks, Islamic insurance companies, and Islamic funds.

Looking at the key components within a successful fund domicile, how does Malaysia fare in each of the key components?

Malaysia’s Proposition Today for Asset Management and Fund Administration

**Asset Managers** - The Malaysian asset management regime is the only one that has a distinct regulatory license for Islamic fund management, which enables the industry to remain agile to adapt to its specific development.

**Investors** - The Malaysian mutual funds market has seen a significant growth more specifically; the growth of the Islamic funds has shown great promise. Malaysia ranks second in the top 10 countries with high Muslim population.

**Service Providers** - Today, Malaysia has attracted global players to set up their regional hubs or processing centres in Malaysia. For example, globally renowned fund administrators and custodians such as Standard Chartered Bank, BNP Paribas, HSBC and Deutsche Bank all have a presence in Malaysia. The healthy and competitive mix of local and foreign players today is a good indication of a developing asset management servicing market.

**Products & Structures** - Malaysia offers a healthy mix of fund products to customers today ranging from REITs to ETFs, to Unit Trusts. However, a product that is lacking in Malaysia’s asset management offering today is the corporate-form fund. As described earlier, Singapore, Hong Kong and Australia are currently in the process of introducing legislation for corporate-form funds. Other developing Islamic dominated fund centres such as Luxembourg, Ireland, UAE - DIFC and UAE - ADGM offer company-form funds in addition to trust-form funds. Therefore, to be regionally competitive and to enhance its position amongst Islamic fund dominating or growing centres, it would be strategic for Malaysia to also consider the creation and introduction of company-form funds.

Taking lead from the above, two specific areas in the growth that would build Malaysia’s value proposition have an underlying common theme in the Islamic funds market. First, further development of Malaysia’s value proposition as a fund domicile hub for Islamic funds. Second, to position Malaysia as the fund administration hub for Islamic funds.

To achieve this ambition of being a global fund administration centre, especially one for Islamic funds, requires the consideration and assessment of the following:

1. **Is there a demand?**
   - What’s the differentiator to Singapore, Hong Kong, Luxembourg and Dublin?

2. **Is there a deep enough pool of talent?**
   - Does a competing framework exist for the development of skilled professionals in the fund administration and asset servicing sector?

3. **What are the regulatory advantages and incentives available to encourage the growth of this sector?**
Overall, fund administration and asset servicing is becoming a fiercely desired space by many fund jurisdictions, and finding the competitive advantage will be key to success. Growing the overall financial services area would also be critical, as without this, fund administration would be limited in its offering by simply calculating net asset values. Developing the talent pool and supporting infrastructure to create more value is necessary to ensure that the sector is well-serviced and remains operational and cost-effective. Lastly, having a national corporate-form fund vehicle to entice global investors to use Malaysia as a fund domicile would anchor and accelerate the role of Malaysia as a global fund administration centre.

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