Islamic Finance
A technology perspective

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Modern Islamic finance effectively began in the 1960s but it only came of age in the last 20 years when banks started to offer sophisticated Islamic products and finance arrangements.

Today Islamic finance technology solutions have matured and there is a concerted effort across the industry to standardise Sharia-compliant products. We will look into the various challenges a financial institution might face when considering opening a fully-fledged Islamic bank or just a window operation, i.e. a conventional bank offering Islamic products.

But let's first start with some background information on Islamic finance for the readers who might not yet be familiar with the concept.

Understanding Islamic finance

Islamic banking is governed by the Islamic law known as Sharia that was formed some 1,400 years ago. It aims to provide banking services while staying within the Sharia boundaries. The law has been specifically formulated to eliminate malpractice and exploitation while encouraging healthy trade and commerce. While Sharia is a complete set of laws that are to be followed by every Muslim, only a restricted portion pertaining to banking transactions applies to Islamic finance.

The basic rules to be followed are:

- The prohibition of **riba**, commonly translated as interest. Interest in any form is forbidden as it is considered unearned income and therefore unjustly gained. Any risk-free investment or guaranteed income is considered usury
- Money is **not a commodity** and cannot be traded as such because it has no intrinsic value if not used to buy tangible assets
- The prevalence of **justice at all costs**; financiers are not allowed to exploit entrepreneurs in any way
- Uncertainty or **gharar** of any form is prohibited. Therefore any contract which involves an element of speculation or gambling is forbidden. For example futures and options or derivatives are not permissible as the returns from such investments rely on events in the future which may or may not take place. Both parties have to agree on the terms of a particular contract and Sharia law forbids transactions where the subject or price cannot be fixed and agreed upon in advance

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- A percentage of the bank's net revenue will be paid as a charitable tax called zakat to the community, usually used to finance community projects
- Investments are based on a risk-sharing principle where profits and losses will be shared based on a previously agreed ratio. Although an IFI cannot charge or pay interest, its main purpose is profit. An Islamic bank invests in businesses, industries and real estate and shares the profit as well as any losses with the owners and investors. As the bank's profit is linked to the success of the business, the risk of exploitation is greatly reduced
- There are certain businesses and contracts that are prohibited by Sharia as they go against the teachings of Islam. For example, it is prohibited ('haram') to gamble or to trade harmful substances like alcohol and drugs, contracts based on interest rates, contracts based on high volatility, debt contracts at a discount and forward foreign exchange transactions

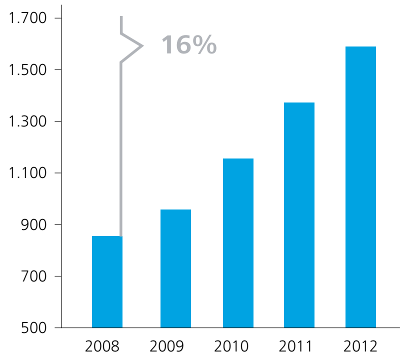
Although Islamic countries have followed Sharia law for financial transactions for a long time, applying them to form a feasible banking system is a trend that has picked up momentum only in the past two decades.

Naturally, several methods and forms of Islamic banking have evolved as institutions constantly reform rules to cope with economic changes and customer expectations.

Overview of today's Islamic finance market

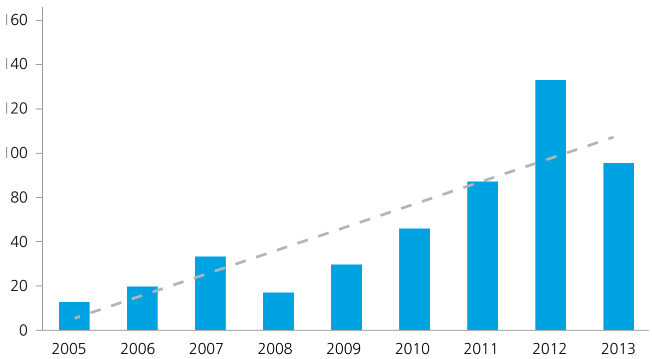
- Islamic financial assets are estimated at US$ 1.6 trillion. Considering that there are over two billion Muslims in the world and an increasing interest from non-Muslim investors, the Islamic banking potential is massive
- Sukuk issuance, a product equivalent to bonds in conventional banking, has been increasingly successful since 2005
- Islamic finance is growing at a rate of 15% to 20% every year, spanning mostly Asia and the Middle East but starting to make inroads into the West. For the most part, and mainly due to the underlying guiding principles, the industry has remained unaffected by the global financial meltdown
- More than 700 Islamic financial institutions operate worldwide in some 75 countries, of which 75% are full-fledged Islamic finance institutions and 25% are window operations as part of conventional banks

Global Islamic assets (US$b)

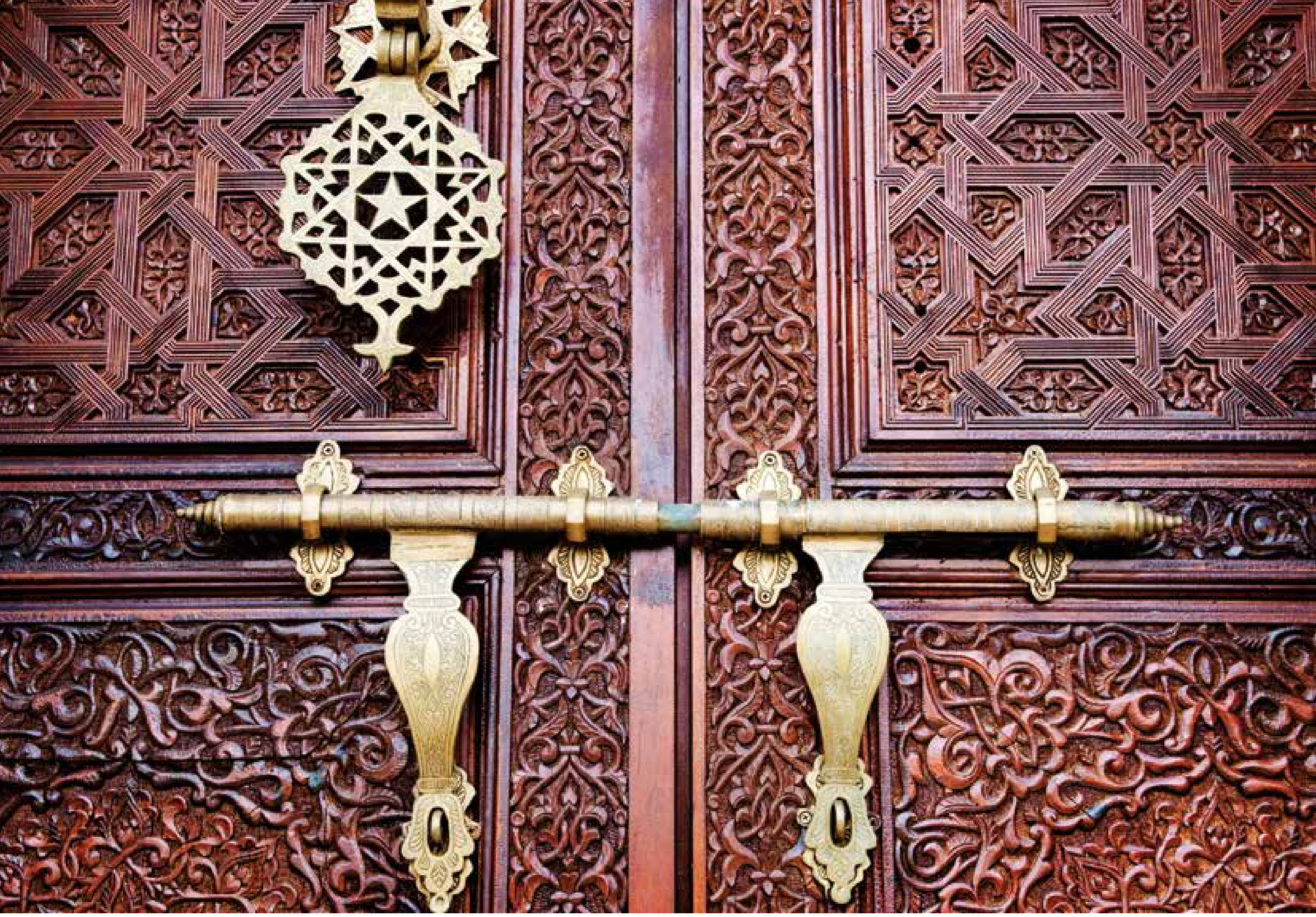


Source: Central banks

Issued Sukuk volume (US$b)



Source: Reuters, Bloomberg



- After the latest financial meltdown, an increasing number of non-Muslim customers and investors are looking for more socially responsible banking alternatives, which have proven to be much more resilient due to the restrictions on risk taking
- 56 Islamic countries are members of the Islamic Development Bank (IDB)[1]
- The leading Islamic finance centres are Bahrain, Dubai/UAE, Kuala Lumpur, Riyadh, Qatar, Singapore, London and Luxembourg
- Top management of Islamic banks is not confined to Muslim countries but spread across Europe, the United States, the Far East and the Middle East

Conventional finance vs Islamic finance

Islamic finance is not so different from conventional finance since approximately 80% of competences overlap and the same business, regulatory and technology requirements prevail.

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Islamic banks perform the same function as conventional banks: they attract financial resources from individuals and institutions and invest these funds in businesses that need external finance to support their activities. However, they share the profit and loss of the business activities and do not rely on interest payments from the borrowers.

1 *Based in Saudi-Arabia, the purpose of IDB is to foster the economic development and social progress of member countries and Muslim communities individually as well as jointly in accordance with the principles of Sharia*

Nevertheless there remain some fundamental differences between the two types of banking:

Conventional banking	Islamic banking
Creates value by maturity transformation and pricing of money	Prices goods and services that represent real economic activity
Is based on fixed return on both sides of the balance sheet (difference being banks 'spread' profit)	Is based on sharing profit and risk
Does not involve itself in trade and business directly	Actively participates in trade and production
Depositors receive a fixed rate regardless of the bank's profitability, thus insulating them from the bank's true performance	Profit is shared with the depositor: the higher the bank's profit, the higher the depositor's income

Challenges faced by Islamic finance

- Since Islamic products are contract based, these contracts will be enforced under local country laws and regulations which might conflict with Sharia law and may incur additional costs
- Due to the fact that Islamic financing is comprehensively based on Sharia compliance, any misconduct or wrongly processed transaction could have severe consequences
- Late payment fees, penalties, overdrafts, debit interest and overdrawn accounts do not exist in Islamic banking, which may lead to lower returns
- If there is any doubt about whether a specific transaction complies with Sharia, all the profits must be given to charity, which is an additional risk for the bank and could impact returns
- Due to a lack of comprehensive interbank Islamic financing (lending), Islamic financial institutions may face short and medium-term liquidity issues
- There is no or limited standardisation in the vocabulary, financial instruments, documentation and pricing formulas used in Islamic finance
- Generally speaking the bank acquires the goods on behalf of the customer; if the customer pulls out of the contract the goods need to be returned to the supplier (for example in the case of car loans), which has implications on cost and risks and also calls for a possible change in business practices and commercial laws

Implications for financial systems

There is no set of globally applicable Islamic banking standards that allow banks to prove compliance with Islamic banking principles in a straightforward way or to assess whether a banking application is Sharia-compliant. Instead, an independent Sharia advisory board, the members of which are trained and certified in Islamic and Sharia law and the interpretation thereof, will serve on the IFI's Sharia committee. The advisory board determines whether the bank's products and services respect Sharia.

Vendors and their systems have to align with the products and the guiding principles of Sharia.

As stated earlier, Islamic banking and conventional banking differ in many respects but the same business, regulatory and technology requirements prevail. Both use similar customer channels and offer what are, functionally speaking, the same products.

Banks today deploy core banking systems to support their business processes, improve operational efficiencies and abide by regulatory requirements. Any core system transformation requires enterprise-wide planning, commitment and resources and it can possibly be even more complex for Sharia-compliant systems due to the customisation required to align with the financial products. The difficulty stems from the lack of product standardisation throughout the Islamic finance markets and the interpretation of the Sharia board.

This is especially true in the case of Islamic window operations where conventional core banking systems are tweaked to support Islamic banking activities. In these cases, the banks are required to maintain separate entity books for customers and reporting, and ascertain a segregation of funds.

Islamic banks are always seeking to innovate and come up with new products and services in personal finance, wealth management, bank cards, insurance and corporate financing. This requires core banking solutions that allow banks to build new products rapidly and ahead of the competition.

An Islamic banking solution must:

- Cover all lines of business such as investment, financing, payments, bank cards, treasury management, trade finance and AML services
- Have a **profit distribution engine** which provides flexibility in pool definition, profit-sharing schemes, revenue reserves allocation and distribution, alongside the ability to perform 'what if' scenarios prior to the distribution of profits
- Comply with **Sharia law** as well as with **Accounting and Auditing Organization for Islamic Financial Institutions** (AAOIFI) and international or local accounting standards
- Support the basic functionalities of **Islamic products/contracts** such as murabaha, musharaka, mudarabah, istisna, ijarah, etc.
- Involve stringent **treasury management** to reduce liquidity risk, since, as previously mentioned, taking potentially interest-based loans on the market to fulfil short and medium-term liquidity needs is not permitted
- **Provide for zakat calculation** and holiday treatment as per the lunar calendar, both of which are mandatory under Islamic principles
- Provide a **strong and flexible workflow** to enable the bank to redefine or copy and customise the existing products/processes and aid in new product launches

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- Provide or customise reports which help the Sharia board during their routine audits
- **Segregate funds:** this is especially important in the case of window operations. It is intended to maintain the moral purity of all transactions as funds stemming from Islamic banking cannot be mixed with funds from conventional banking that may involve riba, gharar or haram activities. This sometimes proves difficult, especially if an Islamic finance layer has been added to the conventional core banking system; it is therefore common for banks to choose to use different core systems for each type of banking
- **Screen funds:** the concept of screening companies before investing in them comes from the Sharia principle that Muslims should not partake in an activity that does not comply with the teachings of Islam. There are two types of screening involved:
  1. Business activity screening where the company must show that at least 95% of its gross revenue is generated by activities which are considered compliant with the Sharia
  2. financial ratio screening to exclude companies that do not comply with a minimum acceptable level of leverage, receivables and interest income. It is now possible to automate the screening processes through third party applications

The implementation of an Islamic and conventional core banking system must transform information technology into an enabler of business by providing an agile platform to achieve corporate objectives.

From a technology perspective, the market share will always be inclined towards vendors whose system will provide flexibility, scalability and is more customer-centric

It often forms an integral part of a business transformation programme addressing key banking issues such as:

- Increasing market share through unique positioning
- Reducing Total Costs of Ownership (TCO)
- Providing a single customer view and the related activities, portfolios, products, etc. while providing customers with a single view of the bank's products and services
- Delivering a consistent customer experience across multiple channels and providing full visibility to the bank's sales and servicing agents, enabling 'anywhere, anytime' banking
- Providing enterprise-wide information relating to regulatory reporting and risk management
- Creating less dependency on IT and more flexibility for business users

Islamic core banking vendors are typically divided into two groups: conventional system vendors that have transformed their existing products, and vendors that offer only Islamic banking systems.

Most of the conventional global core system vendors (Temenos, Avaloq, SAB, Sopra, Misys, Oracle, TCS, etc.) have successfully created Islamic banking systems based on their conventional platforms to fit the Sharia requirements. The other segment is mainly comprised of vendors that have only Islamic banking systems and operate mostly in the GCC region and East Asia (ITS, BML Istisharat, Path Solutions, etc.).

There are about 30+ vendors offering Sharia-compliant systems and with the constant development of financial products the maturity of those systems will improve.

Given the different requirements and needs, it is important to select the right technology supplier from the start and to provision for sufficient time and effort for the vendor's due diligence and to undertake a comprehensive RFP process.

A vendor that provides an Islamic banking model, which can also be easily modified through configuration, will maintain high rankings in vendor evaluations. Furthermore it is crucial that the vendors have local presences with knowledge of the local regulatory requirements, local support as well as to maintain skilled Islamic banking experts. It obviously does help if the vendor and his resources have been involved in several implementations.

The future of Islamic finance

With new markets opening their doors to Islamic finance, the sector is expected to achieve unprecedented growth. Tapping into those markets will yield great results. Although, it may take some time as local regulators and legislation need to adapt the laws and regulations to accommodate the specific needs of Islamic finance, e.g. double stamp duty on mortgage loans in the UK, etc.

Major Islamic finance organisations are striving to form a set of standardised regulations that can be implemented globally across all Islamic finance institutions.

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