

Fintech, blockchain and cryptocurrencies: disruptive or not?

The apostles of fintech tell us that financial markets are going to be transformed by peer-to-peer networks such as blockchain and that digital currencies will start to rival national currencies as a medium of everyday exchange. Yet the biggest investors in blockchain technologies are the established household-name banks and, as for cryptocurrencies, how many readers of *Arab Banker* have ever paid for anything with bitcoin or one of its rivals?

Arab Banker's Editor, Andrew Cunningham, considers how disruptive the new technology is likely to be and offers some advice for further reading so that readers can make up their own minds about the future of fintech.

The use of technology in the financial services industry is not a new phenomenon. Perhaps the first example of fintech was the ATM, launched in the north London suburb of Enfield in June 1967.

In 1989, Midland Bank (now part of HSBC) launched the first telephone-only banking service in the UK – First Direct – and a few years later, many banks began enabling customers to conduct banking transactions through the internet. Some banks set up new licensed subsidiaries that offered only internet-based financial services. For example, ING launched DiBa, an internet-only bank, in Germany in 2002.

These developments changed the way in which people thought about banks and the relationships that they as customers had with their banks, particularly at the retail level. However, the new technologies were not disruptive to the banks' business models – these new services were being launched by established players as a way of strengthening and diversifying their already strong business franchises.

In contrast, developments in distributed ledger technology (DLT) and cryptocurrencies are being led by new as well as established players. Furthermore, the technology now has the potential to exclude established banks and create new relationships between financial services providers.

Yet considerable doubt continues about the disruptive effect of new technology. Much of what is termed 'fintech' in the banking world entails

banks moving existing services onto digital platforms, so reducing the cost of delivery for the bank and hopefully improving the customer's experience. There's nothing conceptually different there from the installation of ATMs fifty years ago.

Trade finance is seen as an area where the use of DLT is particularly appropriate. Trade finance entails the creation and verification of a variety of documents which in turn enable the disbursement of funds. 'Smart contracts' based on DLT accelerate the documentation process, resulting in earlier payment for exporters and faster transaction turnover (and so more efficient use of capital) for banks.

New players are certainly entering the market. In the United Kingdom, so-called 'challenger banks' such as Metro, Aldermore and Shawbrook have created viable business models by using up-to-date IT systems (in contrast to the old systems that still pervade the back offices of many established banks) and more nimble customer service. In some cases, they have also grown by targeting specific types of customer – as opposed to trying to win over customers from big players.

It is too early to tell whether such challenger banks will be able to build market shares to rival the established banks, but it does seem clear that building a significant market share will take a lot longer than the creation of a viable niche business.

Many niche players – including many fintech start-ups – do not see themselves as disruptors of the established banking order. Their business plan is to use technology to create a

Useful documents for understanding the technology and possible uses of DLT and cryptocurrencies

Cryptocurrencies: looking beyond the hype. BIS Annual Economic Report, 2018 (pp. 91–114).

Distributed ledger technology (DLT) and blockchain. The World Bank, 2017. (This is a very clear overview of the various types of DLT, how it works and the uses to which it can be put.)

Enabling the fintech transformation: revolution restoration, or reformation? Speech by Mark Carney, Governor of the Bank of England, 16 June 2016.

Innovations in payment technologies and the emergence of digital currencies. Bank of England Quarterly Bulletin, 3Q2014. (Although four years old, this paper still provides one of the best outlines of the technical aspects of DLT and cryptocurrencies.)

The future of banking: how much of a threat are tech titans to global banks? S&P Global, January 2018.

Where do banks fit in the fintech stack? Lael Brainard, Member of the Board of Governors of the Federal Reserve System, 29 April 2017.



What is distributed ledger technology?

Distributed ledger technology (DLT) enables participants to record and share data across multiple ledgers and to conduct a range of transactions. DLT is therefore a development of peer-to-peer technologies, such as music sharing, that have existed for some time. What distinguishes DLT from previous peer-to-peer networks is that it enables the transfer of asset ownership because, through cryptography, it has overcome the challenges of identifying the true owner of an asset and preventing assets being spent more than once.

Some forms of DLT enable participants to transact directly with one another without the need for a central authority to facilitate or validate those transactions. For example, traditional bank-based payment systems use a 'clearing' process whereby one bank maintains a central ledger of payments due to and owing from other banks that are members of that system. At a national level, it may be the central banking authority that maintains the ledger of payments due to and owing from banks in the

system. In contrast, under certain types of distributed ledgers, records of payments are effected and validated by members of the system without intermediation of a central authority. The system contains its own internal procedures to ensure that only valid payments may be effected. Examples of invalid payments include spending the same money twice or spending someone else's money.

Blockchain is one type of DLT. Blockchain is particularly associated with bitcoin since it has been the platform that underlies trading in bitcoin.

DLT is associated with financial transactions such as trading in cryptocurrencies, and also with the transformation of more traditional activities such as trade finance. However, its use is also being explored in many other sectors, such as land registries, voting systems, medical records and the tracking of agricultural products and precious stones.

credible business which they can then monetise by selling to one of the larger banks.

As to the question of fintech and banking profitability, over the last fifty years banks have usually benefitted as much as their customers from the lowering of transaction costs. Customers who are able to transact digitally are now being syphoned off into new digital-only platforms (often termed 'neo-banks') that run alongside the parent institution. Established banks that create efficient and customer-friendly digital platforms will be able to retain their younger and more tech-savvy clients.

Banking regulators have been giving increasing attention to fintech, recognising its potential while also pointing out the need to maintain financial stability and protect customers. Speaking in mid-2016, Mark Carney, the Governor of the Bank of England, noted that "more diverse business models and alternative providers are positives for financial stability". He added that better credit screening could improve risk assessment and credit allocation, but that if fintech resulted in trading positions being more correlated, systemic risks could grow.

A different approach was taken by the Bank of International Settlements in its 2018 annual economic report. An article titled "Cryptocurrencies: looking beyond the hype" points out the technology challenges that cryptocurrencies still face. Assuming that the volume of cryptocurrency transactions continues to grow, the computing power needed to track and verify transactions on digital ledgers will soon be far greater than can be accommodated by smart phones or personal computers – effectively making the technology impractical for retail transactions.

Furthermore, the congestion that occurs when blocks on a DLT reach their maximum size limits the systems' usefulness for everyday transactions. The more people that use a cryptocurrency the more cumbersome payments become. The BIS notes that "this negates an essential property of present-day money: the more people use it, the stronger the incentive to use it".

The more advanced banking markets in the Middle East have embraced fintech, creating hubs, incubators and accelerators within which entrepreneurs can develop their businesses and draw on the experience of others.

The Central Bank of Bahrain has issued new regulations to permit crowd-funding loans for business; the Dubai Financial Services Authority offers an innovation testing licence that enables firms to develop and test innovative fintech ideas under a lighter regulatory regime than would apply to other authorised firms; and in June 2018, Abu Dhabi Global Market (the emirate's financial centre that operates outside the jurisdiction of the Central Bank of the UAE, as the DIFC does in Dubai) launched a crypto-asset regulatory framework. The Saudi Arabian Monetary Agency launched Fintechsaudi in May with the aim of promoting the Kingdom as a fintech hub, supporting financial inclusion and contributing to the rise of digital transactions.

The development of fintech fits easily into the image that many of the GCC city states have of themselves as modern economies, unencumbered by legacy industries and benefitting from a young tech-hungry population.

It will be interesting to see how Middle Eastern policymakers respond to the 'decentralised' nature of fintech and its underlying technologies. For many fintech entrepreneurs, the unpermissioned and anarchic nature of the DLT and cryptocurrencies are among the greatest attractions, yet those attitudes find little resonance among high-level decision-makers in the region. ■

