



THE NEW DIGITAL LANDSCAPE: BANKING MODELS

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Introduction

The digital technology of the future is now a reality. Information and Communication Technology (ICT) plays a crucial role in any organization and is not limited only to the financial services industry. The adoption of ICT has revolutionised many industries, from music with the introduction of portable music players from Apple and Sony, to books with Amazon, and movies with Netflix, and so on. Therefore, the change brought about by technology is not something new. However, we have not seen such drastic change in the banking industry. This is because banks and other companies in the financial services industry have been somewhat resistant to technology changes throughout the years due to their rigorous regulatory framework. Nevertheless, the financial services industry has been the largest spender on ICT for many decades. Higher levels of spending are justified, as research has shown that banks with higher investments in ICT can lower transaction costs and eliminate risks posed by defaulters, thereby providing better protection for the investments made by customers.

The aim of this article is to discuss the impact of technology on the banking landscape in terms of current trends and disruptions, latest innovations in the banking sector from banks themselves and from other players outside the industry and the steps banks are taking to cope with this new digital landscape. It also looks at how platforms will impact banking and what types of platforms banks can use to offer their services.

Digital disruption in financial service

Several aspects of the impact of technology on the financial service industry can be considered. From research findings, the financial sector can be broken up into a few categories, based on how technology can impact the operation of that industry. Some of the technology developments in each of the areas are;

1. Retail banking – There are many initiatives in this area, both by existing players and new entrants, which are discussed further in this article.



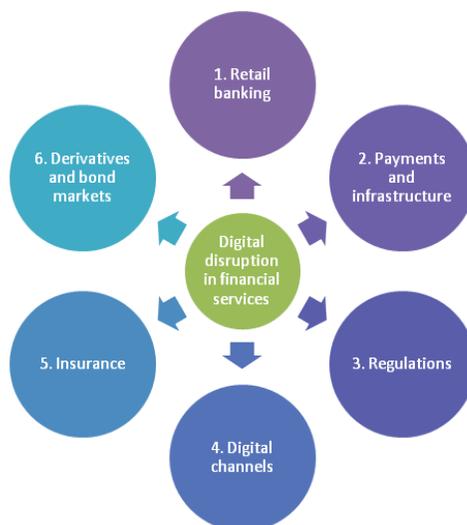
2. Payments and infrastructure–International networks such as SWIFT are using technology to drive standardisation in bank to bank transactions, and there are many developments in the P2P (Peer-to-peer) landscape. Even in Sri Lanka, standardisation of payments infrastructure is taking place through initiatives of the Central Bank such as the Common Card and Payment Switch (CCAPS).

3. Regulations–Regulators are moving towards open banking initiatives. This allows people outside the banks to access the data held by banks, such as transaction details of customers, which enable third parties to access details about lifestyles and choices.

4. Digital channels–Organizations are increasingly focussing on service delivery through digital channels, emphasising areas such as simplicity and positive user experience. There are even banks that solely focus on digital channels such as the Atom bank in UK, whose services are only provided via a mobile.

5. Insurance–Companies are trialling various products that take into consideration the data that can be gathered using digital channels. For example, a customer's data about how much they exercise can be used to decide the premiums of health insurance. This can even be extended to car Insurance. Cuvva, a car insurance start-up in UK allows a customer to insure the car by the hour, which could be beneficial for drivers that drive less, thereby saving costs to the consumer compared to a traditional insurance provider where a policy must be purchased for an entire year.

6. Derivatives and bond markets - In derivatives and bond markets, technology has already been able to lower transaction costs and enable high speed trading across countries. However, there are many more areas that can be improved, such as back office operations.





The emergence of Fintech

There have been numerous developments in sectors of the financial services industry over the last few years. In most of these developments, technology has played a key role. The most prominent of these developments currently, is the emergence of Fintech in cities across developed countries and especially in London, which is leading in research and start-ups in this sector. This is enabled by the advancement in Information and Communication Technologies used in the financial sector over the last few years. Although technology has revolutionised the financial services industry, its impact can vary from one country to another. In this regard, the recent emergence of Fintech is a major technological challenge for banks. Fintech, a concatenation of the words 'financial' and 'technologies', refers to the use of ICT in providing financial services in an innovative way. Fintech is not a new concept, but something that has been around since the 1990s. This rapid pace of change in the financial services industry due to technology has recently given rise a 'buzzword' to categorise and identify the phenomena.

Broad reasons as to why Fintech came to the forefront in recent years are;

1. Ideology – The importance of eliminating the central controlling authority for monetary transactions, especially after the economic crisis in 2007 – 2009, due to loss of trust in the system.
2. Investment – People started to view Fintech as an investment opportunity, given the lack of alternative investments due to dire economic circumstances.
3. Transaction fees – Transactions fees for payments and transfers of money were high when compared with the value of those transactions. Therefore, a method to bypass these mechanisms was needed.

The direction of banking is currently driven mainly by Fintech solutions. However, banks can only succeed in providing Fintech solutions if the developments in this space can be successfully incorporated into the existing ICT ecosystem of banks. The difficulty in re-designing the existing ICT infrastructure to accommodate Fintech solutions may be a reason why start up Fintech companies can be more successful. This is because they can design and tailor their ICT infrastructure to cater to Fintech solutions rather than traditional banking. When it comes to shaping the strategic direction of Fintech, banks face a dilemma as to whether the path they have chosen is correct. This is because banks are not used to a technological environment that is subject to rapid change from internet banking, mobile banking, app-based platform ecosystems, and telecom-operator-based solutions, to wearables within a period of a decade. This creates uncertainty in banks who are more used to drawing up plans for the longer term rather than being subjected to disruption every few years.



Current impact on banks

There are 3 major trends that were identified in the last few years that could have a significant impact on the banks. They were;

1. Virtual Banks

These are banks that operate with no physical presence and have been in existence for a long time. For example, in the United States, virtual banks have been in existence since 2003. However, these internet-only banks have been taken over by established banks, liquidated or have moved into physical banking during the subsequent years. This may have been due to the inability of those banks to provide a unique value proposition to the consumers. However, the recent internet-only banks can provide an unmatched user experience over digital channels when compared with what is on offer by traditional banks. Most of these banks can be seen centred in London. Examples are Monzo Bank and Atom Bank in UK, and Fidor Bank of Germany.

2. Mobile channels

Mobile is becoming the dominant channel to carry out banking activities. With today's smartphones having the same capability as a desktop PC, people prefer to use banking services on the go. This has led many banks (and even non-banks) to develop mobile solutions that cater to different customer requirements. For example, in the developing world, we have seen mobile operators getting in on the act by developing P2P (peer-to-peer) solutions such as the M-pesa and even ezCash in Sri Lanka.

3. Banking platforms

Banks and technology companies have started to work together to build platforms that can be used as the single point where customers can satisfy all their banking needs. This is irrespective of what bank the customer chooses and how many diverse banks they deal with. There are examples of this in Europe where Crédit Agricole of France has developed platforms that enable multiple stakeholders to participate in providing financial services to the consumer. HSBC in UK will also be trialling technology that enables most banks in the UK to provide their services through one platform.

Factors that drive disruption

1. Traditional bank distribution models and economics are at risk of being deeply disrupted by the drive towards platform models of banking. Catalysed by regulators and driven by a desire to more efficiently satisfy customer needs, platform banking business models – where banks offer connections with other firms in addition to their own – are gaining momentum.

- Increasing technological capacity through APIs (Application Programming Interfaces), a type of software that can intermediate between different interfaces and provide specific functionality using the enormous amounts of data that a bank holds.



- Initiatives by regulators, who have identified the market opportunities, are bringing changes to the regulatory landscape. Regulators in many jurisdictions have begun mandating that banks share data and access with third-party organizations via open APIs. These open banking standards, such as PSD2 in Europe, are expected to weaken banks' control over customer data and allow customers much greater control over third-party access to their accounts.

- Shrinking margins are also affecting the traditional model of banks due to increased competition.

2. Banks no longer define customer expectations of the banking experience; instead, Fintech and large technology companies set the standard. Experiences with non-incumbents are raising the bar for banks, as customers expect more value-driven, personalized and seamless service than ever before. Incumbent banks, focused on recapitalizing their post-crisis balance sheets, are playing catch-up. For example, Fintech firm Venmo allows users to make P2P payments at no cost, and share their transactions within their social network. It has been so successful (transferring over \$5 billion in the last three months of 2016) that US banks have launched Zelle, a competitor offering free payment transfers and links directly with bank accounts, in the hope of taking back market share.

- Customers' use of digital channels for banking has risen, as adoption of smartphones and other internet-enabled devices increases worldwide. Customers are also becoming more trusting of digital channels when conducting monetary transactions, as illustrated by the global rise of online shopping.

- Customers now demand the same immediate access, frictionless experience and low-fee or free offerings from their mobile banking apps as they receive from Uber, AirBnB, Starbucks and other leading mobile applications, forcing banks to learn lessons from outside the banking ecosystem. Even local examples for transportation like PickMe are setting the standard in Sri Lanka.

3. Incumbents are starting to migrate core systems to the cloud, as legacy infrastructure creates challenges in meeting customer needs. Banks have made significant efforts to move to newer, cloud-based architecture, but still struggle with legacy infrastructure that weighs down profits and limits banks' ability to meet customer needs.

- There are infrastructure issues in banks where many of the core solutions are built on decades old infrastructure, using outdated programming languages and architecture. Banks then use integration programmes to bridge the gap between the old and the new, thus creating complex ICT systems that are harder to manage.

- On the other hand, new companies can build ICT systems from the ground up catering to many of the customer demands, thus making them simpler to manage and more flexible. Traditional banks struggle with building ad-hoc solutions which over time can become quite complex.



However, traditional banks also have some advantages. Research has shown that only a few customers have moved away from traditional deposit accounts, despite significant effort from online and mobile challenger banks. Also, virtual banks have a challenging business model. This is because unlike other Fintech companies that depend on innovative financial solutions, virtual banks must obtain banking licenses in the market they operate in, subjecting them to the same rules and regulations governing the high street banks. Given the lack of track record in providing banking services, they lack the power to attract customers.

- Customers' preferences are quickly shifting to digital channels, but physical branches remain a critical component of the banking experience. Many customers have banking needs which only physical locations can currently fulfil (e.g. getting a same-day wire transfer for a home purchase), while other customers prefer a channel based on human interaction.
- Because challenger banks are unable to meet more complex needs, they tend to be used as secondary bank accounts by most customers, causing them to lose out on a large share of revenue. In addition, traditional banks tend to focus on the profitable customers, thus resulting in only less profitable customers switching to these types of banks.

There are many innovative solutions coming from the tech industry and start-ups. For example, MespoUK a Fintech start up, analyses spending patterns along with usage patterns and automatically suggests improvements. It can monitor the usage of various digital services and suggest the best package, thus helping to save the consumer money on bills. Banks could also exploit regulatory compliance for service advantages. For example, analytics allows banks to use Know Your Customer data to be aware of customers' life events and offer personalized services at the right time.

Accordingly, the factors that drive disruption are increasing technology capacity, regulatory pressure, shrinking margins, customer preferences, and innovation from companies outside the banking industry.

Innovations impacting banks

There are numerous innovations that are taking place that could impact the banks. But this is only possible if the banks are willingly, or unwillingly through regulatory directions, required to share the information with others. Therefore, these initiatives by authorities around the world are impacting banks and encouraging the growth of new start-ups.

Obtaining customer data from banks for data monetization

There has been evidence of instances where regulators are evaluating the option of forcing banks to share the data with third parties. For example, in the UK and Germany, common APIs are being developed that will allow others to access banks' data. This means data that was



visible to banks only internally will now be accessible to Fintech companies that identify unique customer insights. Since transaction data can give insights into the lifestyle patterns of customers, the opportunities for innovation in this area are limitless. As an example, JP Morgan and Wells Fargo recently signed agreements with Intuit that will give the latter easy access to banking customers' data in exchange for new limits on how Intuit uses the data. Intuit's solutions include Mint.com, a personal finance management app, QuickBooks, an SMB accounting solution, and TurboTax Online, a tax management app. Such Fintech companies have been demanding access to customer data in order to be able to provide a customized service for clients, and roll out more efficient new products. Before this agreement, customers usually had to share their passwords with Intuit if they wanted to use the banks services together with Intuit's. With this agreement, only the required data is shared between the two companies, thus ensuring the security and privacy of the customer.

Developing simple P2P platforms at no cost to the customer

There are also many companies that have developed simple P2P money transferring services at no cost to the customer. Tech companies like Apple also recently announced such initiatives through Apple Pay. Social Media companies such as Facebook already offer this service through their Messenger app, and WeChat in China also offer the same through their app. There are even B2B payments providers such as Traxpay, a secure payment method for B2B commerce through the benefit of escrow-like account services, where funds from buyer are held and only released on delivery of goods by seller.

Breaking down of services into small segments

Many innovative companies are focussing on one aspect of the banking experience and enhancing that experience. For example, they may focus on individual segments such as money transfer, retail payments, budgeting, savings, and so on. These companies aim to specialise in their category by offering a user-friendly digital interface and by offering a convenient service that established retail banks have failed to offer so far. They draw inspiration from tech companies that allow users to carry out tasks within a minimum number of actions.

Initiatives taken by the advanced banks to cater to the new digital landscape

Some banks have identified the threat posed by Fintech companies and have started to collaborate with them. Many leading banks in Europe now have startup incubators and accelerators or are working with them to identify how they could exploit opportunities. Level 39 in London is one very famous location that involves many of the leading financial institutions in London.

Introducing digital tools for customers

Banks are using third parties to provide digital services to customers at faster pace than ever before. MX provides modern, external solutions to incumbents for data collection, enrichment,



analysis, and money-management tools. MX partnered with BBVA to develop BBVA's Compass Financial Tools, a suite of financial management and account aggregation tools.

Migration of legacy technologies to the cloud

Banks are migrating their legacy technology to the cloud to take advantage of the new capabilities, to be more flexible and to drive down the costs of managing their ICT infrastructure. For example, Capital One, a financial corporation has been a leader in migrating its core systems to the cloud. It adopted a cloud-based infrastructure approach for all new applications by 2015, and in recent years has been focused on migrating its core systems to Amazon's AWS platform, with the aim of cutting over 50% of its data centres by 2018.

Banks are trying to catch up by gradually digitising their customers' experience. There are many examples such as the Bank of America's automated branches and Santander's digital experience. Bank of America recently tested the idea of automated branches by opening three mini bank branches that have ATMs and videoconferencing, but no employees. In addition to the ATMs, the new robot banks – called automated centres – allow customers to make a videoconference call to a Bank of America employee at another location. Santander's new Walk Out Working (WOW) initiative allows customers who open an account at a Santander branch to set up their digital banking tools on-site. Bank employees ensure that clients' mobile and online accounts are fully activated and accessible on the first day, so they can "walk out working" and are not tempted to switch. Then there are banks such as BNP Paribas which has created an entirely different brand and launched a digital-only bank known as the Hello Bank with operations in 5 European countries.

Future outlook

In recent years, the 'sharing economy' has come to the forefront. This is where companies or individuals can offer their services on a common platform and consumers can choose from one of these providers. Uber and Airbnb are the most quoted examples, but there are many other such platforms in the industry and some of them are exclusively B2B. Offering banking services as a platform is sometimes known as BaaP (Banking as a Platform).

Curated platforms

This could be a platform where banks are able to offer services through a moderated model. In this model, the banks will have the ability to control the platform while other companies can partner with the bank to offer services in this platform. However, this gives the power to the banks to decide the types of products and services to be offered, but the customer choice may be limited. However, limiting the distribution of innovative financial products and services through this model may not be favourable to all the Fintech companies as they will not have control over what can be added to the curated platform. Curated platforms, however, will be able to provide quality products and services to the consumer. Taking an example from the



mobile operating systems, Apple's App Store, which is a curated platform, provides more quality apps than the Google's Play Store, which is less curated. Due to the quality of the Apple's App Store, it generates more revenue than the other. This is something the banks and other financial players need to look at very carefully when deciding on the platform type.

An example of this is a German digital-only bank, N26. It has clearly identified its user-centred digital experience as its key differentiator. The bank engages "best-of-breed" providers, from Allianz to TransferWise, to offer products that N26 itself does not focus on, thus creating a highly curated platform.

Aggregation platforms

This is where an outside company could develop a common platform and banks and other financial service providers could offer their services on this platform. It could be an established technology company that decides to offer this. We can already see tech companies like Facebook and Apple working on financial service products on a small scale. This would increase competition but there may be question marks about the quality as anyone can use the platform with no central authority overseeing the platform. Products and services previously bundled under the banking umbrella would become unbundled, with only the regulated pieces staying with the bank. This would not be beneficial for the profitability of banks.

Open platforms

This is a platform where any company could offer financial products on a level playing field with the banks. This might especially be popular if the banks are forced to share the data with third parties, thus allowing others to build insights on customers and create their products to cater to needs accordingly.

An example of this type of platform is CréditAgricole. The CréditAgricole Store is the first platform for jointly creating and downloading banking applications. It brings application developers together in a community known as 'Les Digidulteurs' ('Digi-farmers') and puts them in touch with the bank's customers. The latter can not only download apps but also suggest innovative ideas and help to create them. Those outside developers can licence a SDK (software development kit) that allows them to code mobile applications, through which customers can access their banking details securely. Currently, the store offers 21 applications on four platforms and has received over 100,000 visits over the first 3 months.

Whatever the platform type that will ultimately dominate the banking industry, leading banks in the world have started testing solutions in this area. For example, in UK, HSBC will start testing a platform that will allow participants to manage the accounts of 21 banks on one single platform including the direct competitors such as Santander, Lloyds and Barclays banks. This will be done through a mobile app that will allow customers to not only manage current accounts but also loans, mortgages and savings. This is known as open banking in the developed world. HSBC stated that in a press release.



“Soon, customers will have access to a Safe Balance feature which shows them how much disposable money they have before their next payday, while a Spend Analysis option will categorise spending, add tags, notes and photos to transactions and analyse patterns for more informed decision making. A Digital Coach will provide insights into spending and offer tips on better money management, while a Saving Rules tool will round up spending amounts and send the extra to a savings account.”

Platform banking business models are nascent and little is understood about what the model and economics will ultimately look like. The uncertainty has discouraged incumbents and financial services software providers from investing in platform banking solutions.

Digital landscape of Sri Lanka

Adoption of ICT in developing countries can be quite challenging irrespective of the industry. The transfer of technology from developed countries to developing countries is normally coupled with the transfer of knowledge as well, which in turn influences the adoption of the said technology. This shows that for the ICT adoption in developing countries to be successful, the right skillset should be available and people should be willing to invest time and effort to realise the potential benefits of the imported technology. However, the acquisition of the knowledge, either through training or usage for an extended period, can take time. In industries like banking where the technical knowledge of ICT systems needs to be acquired, making decisions on what technologies to use can be a challenging endeavour.

Research conducted on the adoption of internet-based banking in countries has shown that the national environment and the socio-economic system of the country plays a key role in how consumers choose to fulfil their banking needs. Like some of the developing countries, similar to that of M-Pesa in Kenya and other solutions in India, Sri Lanka also has its own peer-to-peer (P2P) mobile money solution called eZ Cash. This has been well received by the market where it now has 200 000 active users per month compared to 15 000 mobile banking active users when it was launched in 2013. Within the context of Sri Lanka, which has a population above 20million, this was a significant development. However, to enable this entire P2P service, the infrastructure of local banks was required. This shows that despite the technological advancements achieved, the role of a bank is very important and integral within the confined boundaries of the financial system of a country.

In developing countries, sometimes, there are likely to be dominant market players who are also encouraged by national governments to be monopolistic due to various political reasons. In an environment where competition is not even, ICT solutions can have the effect of driving costs higher for the end consumer thus creating switching costs from one solution to another. This could also be a possible downside for Fintech. In addition, in countries where there are no strong privacy laws, involvement of multiple parties in the ICT or Fintech solutions can be a major concern.



In terms of the infrastructure that connects the Sri Lankan financial system to the rest of the world, SWIFT plays a significant role. In Sri Lanka, as of end 2016, there were 38 banks and financial organizations using SWIFT for financial transactions. Internet-based payments within Sri Lanka have shown a growth of over 30% in 2016, compared to the previous year as per the Central Bank of Sri Lanka, providing evidence that there is an appetite in the market for internet-based banking solutions in the country. A barrier to adopting technology in the finance industry is that the physical forms of cash is still considered valuable by the people. Statistics suggests that money circulation in the world comprises more of physical cash than digital methods (Weichert, 2017). This is also true in the Sri Lankan context. As of Q1 of 2016, cash was by far the most dominant mode of transaction in the country (Central Bank of Sri Lanka, 2016).

Common Card and Payment Switch (CCAPS) was set up by the Central Bank to establish a national platform for electronic retail payments in Sri Lanka. It is the designated national payment switch in Sri Lanka, which consists of five switches: Common ATM Switch (CAS), Common Electronic Fund Transfer Switch (CEFTS), Shared ATM Switch (SAS), Common POS Switch (CPS) and Common Mobile Switch (CMobS). The objectives of establishing these common switches was to enable banks and non-bank financial institutions, without the required technical skills and funds to invest in their own networks, to make use of its advanced ICT infrastructure. This standardised the payment mechanisms in Sri Lanka and thus created the technical infrastructure required for innovative Fintech solutions to be adopted. From 2007 onwards, more than 10 regulations, guidelines and directives have been enacted in Sri Lanka to enable the Fintech environment from the regulators' perspective. This is further evident from the fact that by 2012, two mobile operators have obtained banking licenses, a first step towards the creation of a Fintech ecosystem in Sri Lanka. In addition, the internet is available to more than 90% of the population of the country. This is far more than some developed countries mainly due to Sri Lanka's high population density, concentrated in a small geographical area. The actions by the regulator show that they are willing to 'sponsor' the technology that will create an environment where local banks are forced to adapt to these technological changes.

Although the trust in the banking systems of the West collapsed during the economic crisis, in Sri Lanka, the trust remained unaffected mainly due to a series of regulatory actions by the Central Bank of Sri Lanka. Given that the 3 largest banks in Sri Lanka are under the ownership of the government, with one bank having 100% guarantee on deposits, the people of the country seem to trust the banks more than their compatriots in the developed world.

Banks in the developed world have trialled many innovative technologies that will provide convenience to the consumers. While these have seen various levels of success in the market, there is no one dominant technology. Similar to the examples cited previously in this article, we see some of the local banks taking significant steps to improve their digital landscape. For example, like Santander Bank in the US, a local bank has started establishing digital branches to familiarise their customers with the digital offering. Another local bank has started to extensively use social media channels to cater to some of the customer needs. While these steps are commendable, the banks need to do more if they are to be in line with trends seen all around the world.



From an organizational point of view, factors such as the utilization of technology, and the objectives of the banks and the types of customers they serve are the major driving forces influencing the decision on the digital direction that the local banks should take. These influence the technology direction of the banks in addition to the usual factors such as cost of investment, availability of expertise and awareness of latest technologies. Current technological trends in the banking industry and common initiatives that can be identified across banks are centred around collaboration, information sharing, automation, and building trust. However, in Sri Lanka, the focus should be on having the required infrastructure in place before ushering in the technologies around Fintech.

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