DIGITAL ECONOMY

The digital transformation of the banking industry

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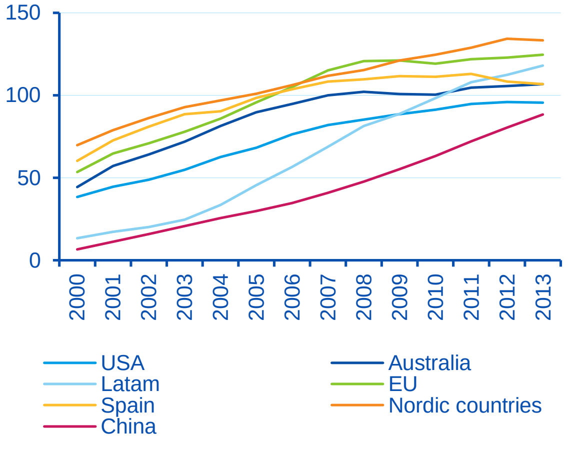
The changing habits of consumers and the new competitive environment are forcing banks to address their digitalisation process as a matter of urgency if they are not to be left behind in a market which finds itself in the full throes of transformation. We have identified three successive stages in a bank's digitalisation process: the first, where new channels and products are developed; the second, featuring adaptation of the technological infrastructure; and the last, involving far-reaching changes in the organisation, so as to achieve strategic positioning in the digital environment.

1. The financial digitalisation era: changes in demand and demand

Demand: changes in consumer habits

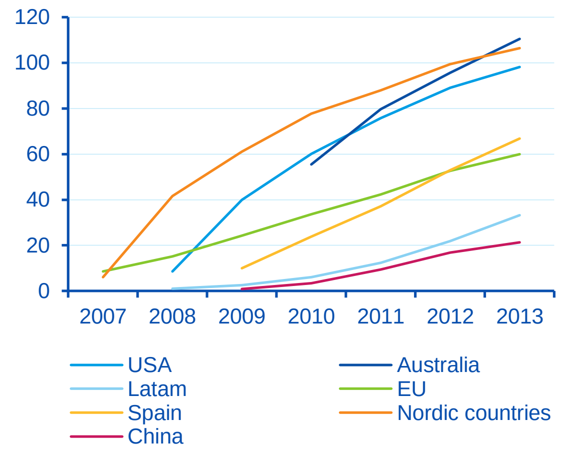
The penetration of the internet and mobile phones (see Figures 1 and 2) has produced a profound transformation of the habits and preferences of consumers, who are becoming increasingly used to interacting via digital media to share information about themselves, conduct their dealings with the authorities, shop online or access new services. A leading role in this aspect has been played by the penetration of next-generation mobile devices, above all within the developed economies, where mobile broadband networks (3G and 4G) are available at competitive prices.

Figure 1
Mobile phone subscriptions (per 100 inhabitants)



Source: International Telecommunication Union (ITU)

Figure 2
Mobile broadband subscriptions (per 100 inhabitants)



Source: International Telecommunication Union (ITU)

The internet has also represented a huge showcase for consumers, where they can compare all kinds of goods and services and share their experiences as customers of various firms. Online comparison sites have proliferated, especially in sectors such as insurance, telecommunications and financial services (featuring comparisons and rankings for products and services such as deposits, mortgages or brokers). This phenomenon has endowed customers with greater empowerment and hastened the smoother functioning of market forces to the benefit of customers.

As more consumers have by and by adapted to digital interaction in several areas of their lives, they have also been calling for financial services that are available anywhere 24/7 and which are as user-friendly as the social networks or email solutions that they use every day. In fact the role of the social networks has had a substantial multiplier effect in hailing the advent of digitalisation within several industries, thanks to the “natural” or seamless way in which digital solutions have become an extension of our traditional social interaction (Skinner, 2014). Facebook alone, that most popular of social networks, was able to point to almost 1.5 billion users in the first quarter of 2015.

Another major factor which has helped bring about the digital transformation process in a big way has been the penetration by mobile devices. According to figures from Skinner (2014), the average penetration rate of mobile phones worldwide is approaching 70%, and this phenomenon has become the platform for running new mobile app developments to be used far beyond social communication. This is illustrated by the fact that, according to a survey by Bain & Company (2014) of digital consumers from 22 countries, utilisation of mobile banking apps grew by 19 percentage points over 2013 and 2014, whereas usage of computer-based banking services remained virtually unchanged.

By population segment, there is notably intensive use of new technologies, particularly as regards digital banking, by the millennium generation (the cohort which started adult life in around the year 2000). According to Nava et al. (2014), more than 70% of the youngest segment in the United States have used mobile banking services in the last 12 months, compared to only 40% for the rest of the adult population, added to which around 94% of those in the millennium generation are active users of online banking.

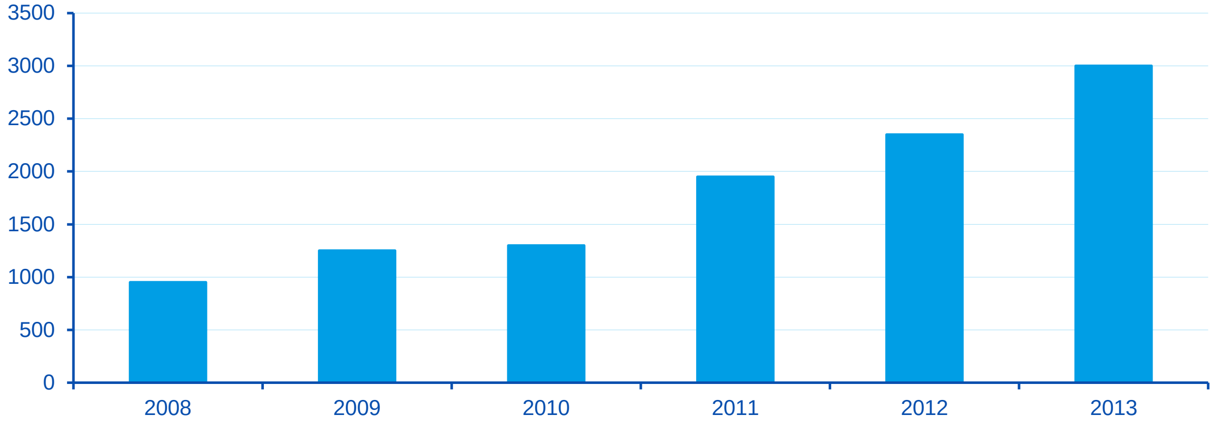
Supply: a new competitive field

In recent years, start-ups with a high technological leaning have burst into the financial sector and exploited the divide that exists between the new demands of customers and the sometimes outmoded services which the traditional banks offer, where these are overly burdened by the limitations of industry regulation, as well as their structure and corporate culture. These new competitors, known as *FinTech* companies, unbundle the value chain of banks by specialising in their different components, such as payments, foreign exchange, lending, access to capital markets, financial advisory services etc.

Conceived around new technologies, the *FinTech* companies are typically highly flexible, adept at the swift incorporation of change and tend to have a low cost structure. In most cases they also exhibit sharply redefined business models which are highly disruptive of traditional paradigms. For example, this is true of financial crowdfunding platforms and virtual currencies, which have the potential to cut bank intermediation out of the equation completely.

The high hopes for FinTech companies have attracted snowballing investment in recent years, which amounted to nearly USD3bn in 2013 (see Figure 3).

Figure 3
Global investment in FinTech companies (USD mn)



Source: Accenture and CB insights

The major internet companies - such as Apple, Google, Amazon or Alibaba - have also made inroads into the financial sector by offering services of this kind, mainly in the areas of payments and lending, as a bolt-on to their core business. Since they operate globally and have large numbers of customers, such companies can draw on substantial economies of scale.

Companies from other sectors, such as mobile phone carriers, are also on the lookout for new lines of revenue centred on financial services. Given that mobile phones are the digital channel with the most potential, they are starting to offer payment services using these devices. Notable too are the electronic money products they offer, which are particularlly significant in developing countries, where they mainly target unbanked segments of the population.

In general, the new entrants are beginning to offer financial services which are similar to those within traditional banking but are not subject to the same degree of regulatory pressure as that faced by the financial institutions in terms of licences, capital and/or rules which apply to identifying customers and monitoring and reporting transactions. In many cases, they operate from geographical zones where regulation is more lax or simply non-existent, even though the orbit of their activities extends beyond borders. The differences are even more patent in terms of supervision, where the rules are less uniform internationally.

This state of affairs has a particularly detrimental effect on the end consumers, who, while unaware of the regulatory differences among providers yet lured by a better user experience, access services comparable to those offered by traditional banking, oblivious to the risk to which they might be exposing themselves.

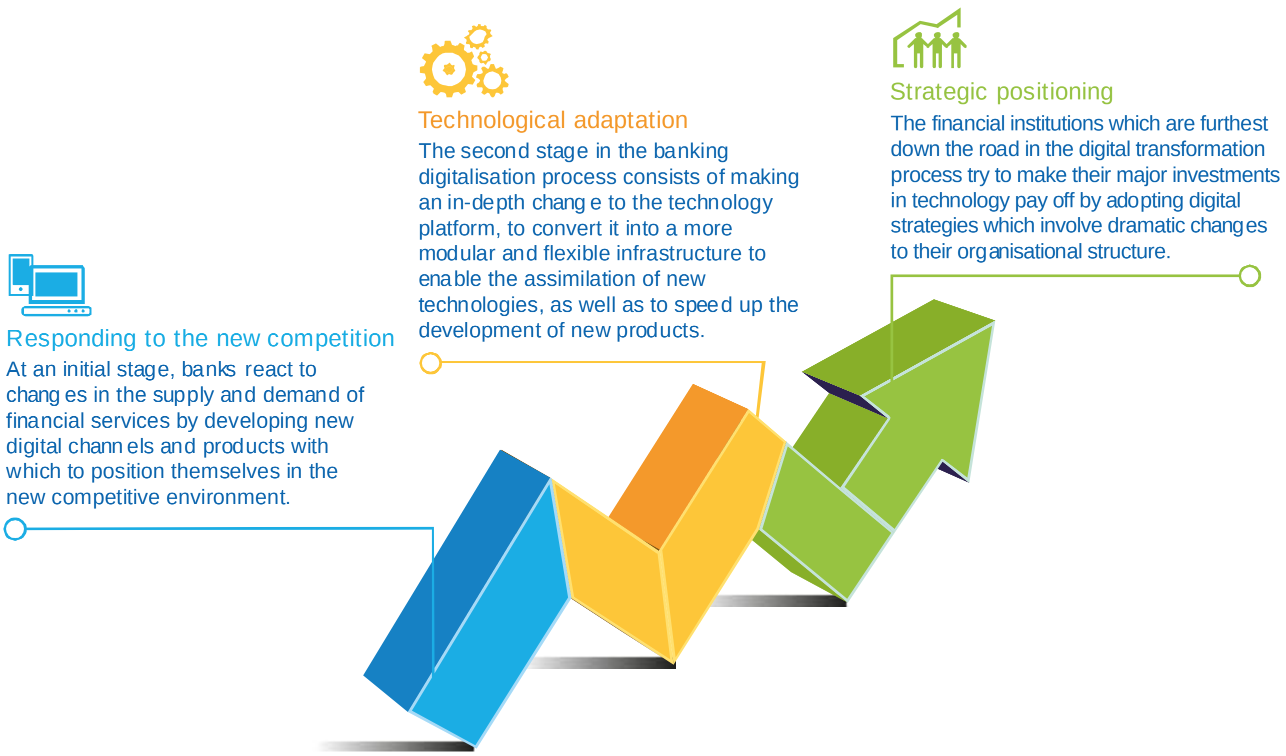
Finally, the openness of regional markets, which is prompted by initiatives such as the “European passport”, means that the traditional banks can broaden the range of digital products which they offer in geographical areas where they have no physical presence, thereby bringing greater competitive pressure to bear on the financial arena.

2. The process of transformation towards digital banking

Given the profound changes in the demand for financial services, the banks are responding to the digital challenge by using different approaches and at varying speeds, as not all companies understand what it means to transform into a digital bank in the same way. But what is digital banking? The literature does not offer a concise definition of this new concept. Whatever the case may be, this concerns issues such as generating the supply, distribution and sales of financial products and services via digital channels, exploiting cutting-edge technology to know customers better and anticipate their needs swiftly and suitably, and an omni-channel solution, or the possibility of customers communicating with their bank via all channels, both analogue and digital, as well as the automation of services. It is generally expected that digital banking will give priority to the needs of end customers ahead of product creation, since they are the focal point for which the range of products and services on offer is defined and there is something of a consensus that the concept of digital banking above all applies to retail banking.

In this regard, the traditional banks which commit to digital banking are undergoing a transformation which allows them to position themselves within the new ecosystem. This digital transformation depends on the set of circumstances with which each institution starts out, although it is evident that there are several phases depending on the level of maturity. In this paper we have boiled the process down to three main phases.

Figure 4
The process of transformation towards digital banking



Source: BBVA Research

2.1. Reaction to the new competition

At an initial phase, banks react to changes in the supply and demand for financial services by developing new digital channels and products with which to position themselves in the new competitive environment.

New channels: focus on mobile devices

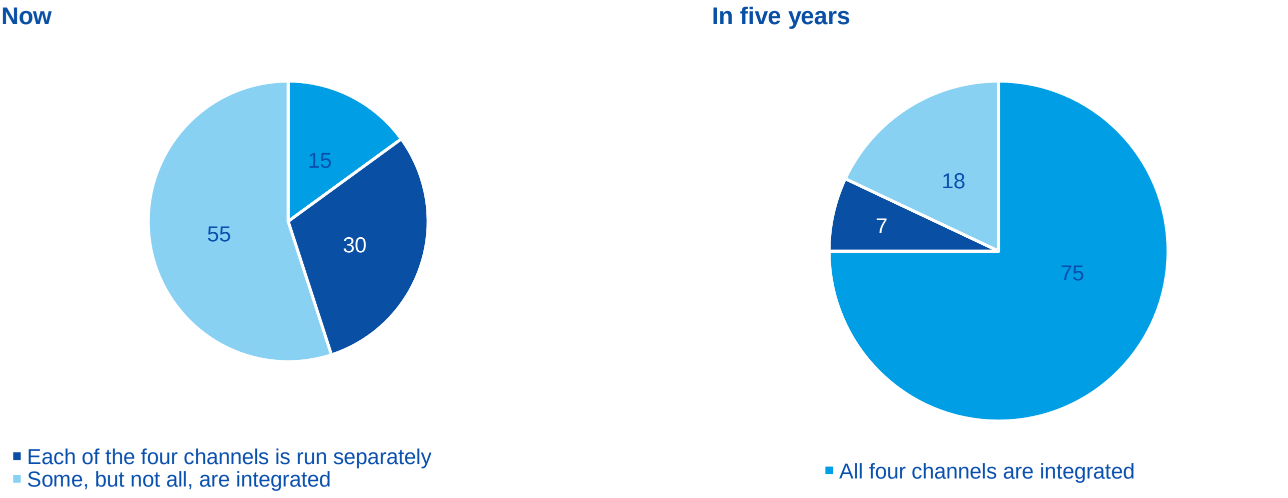
Since the end of the 90s, most financial institutions have offered internet banking services whereby a part of their product portfolio can be accessed. In recent years, besides modernising these platforms, efforts have focussed on opening up new access and distribution channels via mobile devices. New apps have thus appeared for smartphones or tablets with attractive interfaces and simple text, having been inspired by the user experience offered by the social networks, where any function is just one click away and where immediacy has special significance.

Digital products: focus on retail payments

The banks are likewise developing new digital products, mainly within the field of retail payments, such as digital wallets, near-field (NFC) technology payment solutions, or applications to transfer money between individuals (P2P) that are similar to those offered by the competition of the new FinTech companies.

In this initial phase of digitalisation, institutions normally treat digital developments as stand-alone projects and handle the various distribution channels either partially or totally on a separate basis (see Figure 5). Creating new digital channels and products in any case involves bolting complex new systems onto the pre-existing technological infrastructure, that have to be integrated with previous architectures.

Figure 5
How do retail banks manage the various distribution channels and how do they expect to handle them in 2019? (% of replies)



Source: The Economist Intelligence Unit based on a global survey of 111 managers in June 2014

2.2. Technological adaptation

The second phase in the banking digitalisation process consists of carrying out a makeover of the technology platform, to convert it into a more modular and flexible infrastructure which enables new technologies to be integrated, as well as speedier new product development.

New technology integration and architecture redesign

A hallmark of banking technology infrastructure is that this has tended to involve running large, centralised transaction platforms furnished with high-security systems that date from the 70s and which have had to cohabit with distributed systems that appeared in the 90s with the advent of the internet. Complex systems have thus come into being, in which the various products and services operate in isolation and where there is inefficient overlapping, and they have to be adapted to comply with regulatory requirements imposed by local, nationwide and supra-national authorities.

On the other hand, the new digital projects call for swift generation and processing of large volumes of information from various channels, which is vital to having the capability to offer multi-channel, ultra-convenient and user-friendly experiences that also satisfy demands for immediacy and full 24/7/365 availability for digital customers. Yet the infrastructure currently in place is not sufficiently modular for rapid integration of the new technologies or to move with the fast-changing requirements of business, whereupon a point of no return is reached where the whole technology platform needs to be completely remodelled, even to the point of effectively starting again from scratch.

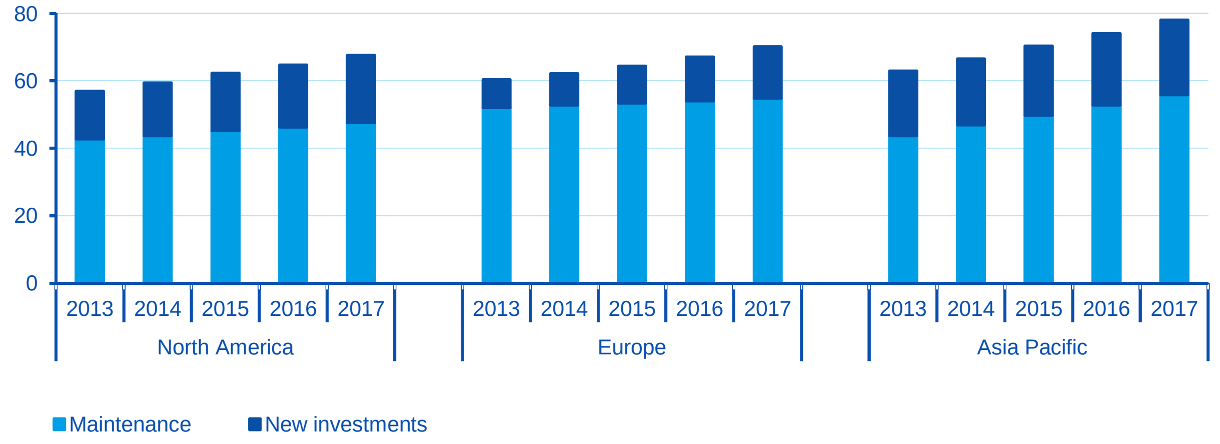
In this phase, several institutions also consider adopting cloud computing technology which allows optimal utilisation of in-house resources. The intention is to maximise the efficiency of the technology pool and achieve greater flexibility over the entire production process. Outsourcing services in the cloud provides even greater benefits, although the decentralising of the data housed in myriad servers does make its use impracticable for financial institutions, owing to compliance problems.

Automation of processes

It is also during this phase along the path to digitalisation that institutions think about automating processes to cut out manual and repetitive tasks, thereby improving efficiency and speeding up the whole system. Although the financial institutions have been aware of automation as a concept for some years now, in this phase of digitalisation it takes on a new significance: now the focus is not only on back-office jobs, but also on implementing automated front-office processes to bring in, and build up loyalty among, customers. Thus, for example, they are beginning to use analytical techniques and sophisticated algorithms based on artificial intelligence to improve scoring, make automated and customised product proposals or provide personalised advisory services.

Upgrading technology infrastructure means new investments which are additional to overall IT spending, which is already a major item on bank balance sheets. It should be noted that a very high percentage of IT spending is a recurring cost that is required for the upkeep of major data centres and telecommunications infrastructures (see Figure 6).

Figure 6
Spending by the banks on ICT (USD bn)



Source: CELENT

2.3. Strategic positioning

The most advanced financial institutions in the digital transformation process try to make large technology investments profitable by pursuing digital strategies that imply profound organisational changes.

Digital products and channels are not only a new means of access, distribution and conducting transaction business that improves solutions for the customer, but they also represent an opportunity to bring in customers and build loyalty. In conjunction with advanced analytical techniques, these new channels help to intensify and personalise commercial relations. They also make it possible to be proactive in terms of the customer's needs, thereby enhancing the sales force. In this sense the institutions which are further ahead in the digital transformation process set more ambitious goals for improving the productivity of distribution channels than do other, more traditional institutions.

In this phase, proper metrics have to be set up which quantify the effect of digital investments in terms of winning customers, building loyalty and marketing products. In this way, institutions can set spending and investment priorities successfully and shelve projects which do not add sufficient value.

Yet a technological revolution is not a sufficient condition for the institutions to attain efficiency and productivity improvements. In this, the last phase of the digital transformation, they face far-reaching organisational changes that are aimed at simplifying their structures and operational models, to make gains in accelerating the decision-making process, and which are intended to make strategy genuinely customer-oriented and omni-channel. These changes affect the entire organisation, from the office network to central services and on many occasions they become the object of in-house resistance, as they imply a radical change in the organisational culture.

One way to accelerate this cultural shift is to establish contact with technology start-ups via enterprise and mutual partnership programmes that can be backed up by investments or even acquisitions by the financial industry. Besides becoming familiar with the most innovative ideas at first hand, these small enterprises are a source of new skills and the talent required for digital transformation.

Another notable change is applying rapid software development approaches, in contrast to the lengthy cycles in previous phases, where the time that passed between the needs analysis and the software coming on-stream was so long that the result often no longer matched the needs of the business at that particular moment.

The institutions that reach this phase in the digital transformation process will be better-prepared to compete within the new technological milieu in which society is immersed, and they will be able to make the move from a situation of reacting to new entrants to taking up a leading role in providing financial services suited to their customer-base.

3 What effects are, or should be, noticeable as regards digital banks?

The first changes in the digital transformation are already starting to become apparent, both in the availability of a greater number of services via new channels and in the branch network.

In the new ecosystem in which the banks operate, certain changes are already noticeable — in the way that the institutions and their customers behave. In the medium and long term, further changes of greater significance are also likely to become observable. It could be that the first few steps are being taken towards a new industrial revolution, not only in the way the financial sector operates, but the other sectors as well.

The institutions are already displaying certain attitudes and changes in their structures, depending on what stage of internalisation of the "digital" concept they have reached. Generally speaking, those institutions which have a more highly-developed digital strategy might be expected to be well-advanced as regards the following changes:

- New forms of interaction with the customer and changes in the consumer experience. In the first phases of digitalisation of an institution, the digital channels come more to the forefront and banking starts to be provided on a "self-service" basis. The opportunities for contact between the customer and the institution via web apps and mobiles thus start to proliferate, as they do for new ATM functions and phone-based dealings. In the short term, changes in the **consumer experience** are likely to remain as the element that sets banking institutions apart from each other but, in the medium to long term, it will be the product that marks the difference, as is maintained in the February 2015 report by Forrester Research, titled *Banking of the future: how banks will use digital capabilities to remain competitive*.
- New branch **formats**: from areas used for providing services to sales offices. One of the consequences of the automation of transaction business will be that branches will become centres for marketing products and adding value for the customer.
- The **employees** of banking institutions will change from dividing their time between administrative and sales tasks to focussing on the relationship with the customer and designing and marketing high-value products. This should finally lead to an increase in new customer business, a stronger bond with the banking institution and a reduced incidence of account migration.
- The **new operational formats** will prevail over the more traditional methods. The new competitors have shown that things can be done differently, in a way where the bank has efficient processes, is faster to abandon poor decisions and faces reduced costs. Thus traditional banking will speed up its operational processes, decision-making, acting on those choices it has taken and correcting bad decisions.
- The new competitors have imposed the view of the **value chain** of the various products and services as an element that can be split out into segments where each of these can be improved. All efforts should therefore focus on incorporating the best alternatives throughout the value chain.

- **New metrics** have been generated that are aligned with these new operational formats and new processes. The ability to gather and analyse project data very rapidly will become increasingly important, as will gauging the average profitability of customers, given their product profiles and the time they have been associated with the institution, with a high degree of accuracy.
- One of the desirable changes which might be brought about in the medium or long term will be the chance to compete on **equal terms** for all of the players in the industry. With this in mind, the existing regulatory requirements for traditional providers of financial services should be brought into line with those with which new entrants into the industry or areas along the value chain (payments, lending, etc.) are required to comply.

All of these changes are occurring or will occur at banking institutions with a clear direction: **improving or maintaining profitability levels.** They will also need to defend themselves against new entrants. It is generally expected that the first effects will be on costs, and that at some stage in the digital transformation process the more advanced banking institutions will be able to offer differentiated products and services that are bigger income generators. Achieving lower costs in the short term and greater income in the medium and long term will hinge on making the right choices about digital investments, on the investment effort, and on the in-house attitude to change.

Conclusions

The changing habits of consumers, who are demanding new ways to use financial services, and the competitive scene onto which the large technology and the FinTech companies have burst, are forcing the banks to confront digitalisation as a matter of urgency, in order not to be left behind in a market in the full throes of transformation. We have identified three successive phases in the digitalisation process of a bank: the first involving the development of new channels and products, while the second means adapting technology infrastructure and the last requires deep organisational changes for strategic positioning in the digital environment. Those institutions which have embarked on this process earlier, and are now at a more advanced stage, are better-placed to satisfy the new demands of customers and to be competitive in comparison with the new digital financial service providers.

As the digitalisation of banking business evolves, it would be desirable to construct appropriate metrics in common across the entire financial system, and which are applied transparently to the market. This should be done in such a way as to be able to check on whether the investments made are appropriate and whether they produce the expected results, where this is done on comparable terms among institutions and countries. This exercise should be carried out by both the banking institutions, to chart their progress, and the authorities, to monitor financial systems.

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