

4. The Internet of Things and digital banking

The increase in the number of connected devices will make the Internet of Things a key source of information for knowing our banking customers better

The use of this technology will also allow to attract generations of consumers who are get used to digital media, allowing them to contract to banking products without the need to be physically present in the branch, as well as offering them a more complete user experience, with greater control over their personal finances.

Banks react to a new ground-breaking panorama

The Internet of Things (IoT) is a potentially disruptive technology, which reconsiders the use of traditional products and processes in a wide range of industrial sectors. According to the *International Telecommunications Union* (ITU), the IoT is defined as a worldwide infrastructure for the information society allowing access to advanced services by means of the physical and virtual interconnection of things, based on existing and evolving interoperable information and communication technologies²⁴. In mid-2015, TATA Consulting Services published the results of a survey which included the IoT expenditure budgets for 13 industrial sectors. According to this study, the telecommunications sector was expected to reach the highest IoT expenditure in 2018 (US\$169 million), followed by the **finance and banking sector** (US\$153 million) and the manufacturing industry (US\$136 million). This highlights the banking sector's reaction to the possible disruption posed by an emerging technology.

McKinsey Global Institute²⁵ estimates a potential annual economic impact (gross value added) of between USD US\$2.7 billion and US\$6.2 billion²⁶ by 2025, mainly as a result of savings in costs and increased productivity due to the use of this new technology. For example, the logistics operator UPS has stated that its productivity has increased through better monitoring of its delivery trucks and delivery team. According to their figures, "a typical driver can normally deliver 90 packages a day, and thanks to the optimisation of our process, it has now increased to 120"²⁷. Secondly, by the generation of revenue through new products and processes. For example, the technology firm OnStar now uses an automatic replacement system in the event of accident, monitoring of stolen vehicles and roadside assistance, among other services.

Attracting, understanding and retaining customers

For the banking sector, improvements in terms of productivity and costs savings will presumably be the result of **digital onboarding** (the process through which a relationship with a new consumer begins through digital channels) through devices which are able to identify a customer through their biometric data and the use of

24: *The Internet of things — Machines, businesses, people, everything*, ITU News, 2013.

25: Manyika, Michael Chuim et al, *Disruptive Technologies: Advances that will transform life, business, and the global economy*, McKinsey Global Institute, 2013.

26: Based on Spanish figures.

27: *The Internet of Things: Making sense of the next mega-trend*, Goldman Sachs, 2014.

smartglasses, for example; as well as improvements to intelligent buildings, in which energy efficiency will improve thanks to greater automation and connectivity.

Meanwhile, a possible strategy for increasing revenue stream is that of attracting new customers (with a special focus on **millennials** and the **Generation Z**), ensuring a greater knowledge and understanding of them and retaining their business.

Banks have an important competitive advantage in terms of their new customers, as they hold a great deal of information on the consumer patterns and behaviour of users. The difficulty lies in attracting these new customers and retaining them over time, given the highly competitive FinTech environment and the trend toward people having greater control and empowerment over their personal information.

How therefore can banks attract the new generations of consumers and keep them, ensuring customer loyalty? Firstly, by getting to know the customer. Each generation, and in particular the millennials, do not follow the same behavioural patterns that are identical to their predecessors. The **user experience** plays a much more important role in this journey, with some banks succeeding in finding ways to catch the attention of future customers, who may well find themselves in a cash free world. An example of such a bank is New Zealand's ASB. In 2015, it launched an electronic toy in the form of an elephant (*Clever Kash*) which becomes a virtual money box. Children receive money directly from their parents' bank accounts which is paid into their accounts. The toy allows interaction with the mobile app, ensuring that the child learns savings awareness.

Secondly, the new generations of customers are connected to their smartphones, meaning that the banking sector has a key role to play in the digital interaction of users. A good example here would be the role played as **payment managers**. There are numerous applications that make payments via a mobile phone, although future payments will not only involve a connected phone but also cars capable of automatically paying for fuel and smart fridges, as well as other objects.

Finally there is a business stream that focuses on **data exploitation**. Thanks to the endless torrent of data sent from IoT devices, information can be obtained in real time through advanced analytics, which are implemented either through the banks themselves or the transfer of non-personal data to third parties. BBVA has an application based on Big Data (*Commerce 360*) which offers commercial intelligence to small businesses²⁸. The data stored regarding the behaviour of a certain individual represents a commercial advantage in itself, where the user has given their consent and all relevant data protection legislation and guarantees are fully complied with, as it may have considerable value to third parties. If the consumer in question authorises the use of their personal data (including data stemming from IoT-connected devices), companies will be able to use this information to microsegment the consumer mass, offering not only products that are closer to consumer tastes, but which are also affordable.

Nevertheless, IoT in the banking sector has certain difficulties to overcome in terms of implementation. Firstly, cybersecurity severely limits movements in the sector, as was seen after the DDoS (Distributed

28: BBVA.com, (9 August 2016), Commerce 360, data offering new opportunities for your business, URL: <https://www.bbva.com/es/noticias/economia/macroeconomia/commerce-360-datos-abren-nuevas-oportunidades-negocio/>

Denial-of-Service) in October 2016²⁹, when IoT devices were shown to be lacking in terms of having effective security standards in place. Furthermore, such devices do not receive security patches and updates. There is also a problem when it comes to data ownership attributing responsibilities regarding its use. In many cases, people are questioning such ownership lies with the user or the company supplying or managing the device. There has also been criticism as to whether the data thus gathered may result in price discrimination. As was mentioned previously, a greater awareness of user behaviour patterns allows microsegmentation based on purchasing power. This makes it possible to ensure that certain profiles are automatically excluded from specific market segments on the basis of the information provided previously. Similarly, some companies will be able to take advantage of the available information in order to push up the price of products to customers with higher purchasing power. This will result in a lively debate which will need to be closely followed in coming years.

29: Guillén, B, Faus, J, Jiménez Cano, R, (22 October 2016), Mass cyberattacks bring down the websites of large companies, *El País*. URL: http://tecnologia.elpais.com/tecnologia/2016/10/21/actualidad/1477059125_058324.html

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