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"STRATEGIC ALTERNATIVES FOR BANKS TO SEIZE FINTECH REVOLUTION OPPORTUNITIES: CASES OF SUCCESSFUL M&AS AND ALLIANCES"

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INTRODUCTION

We are with banks today to what we were, let's say, with traditional books at the end of 2000's first decade: Financial Services industry, as happened in many sectors, is already been and it is going even more to be transformed by digitalization and Fintech companies are experiencing what can be defined as their *"e-book moment"*; that is a critical point in which customers becoming conscious of and eager to adopt alternative technological solutions are significant (Mead, 2016).

Complexity, interconnection and technology are some factors driving the change in financial services and enabling Fintech companies to gain consumers' appreciation and attract investors' attention; while major traditional banks often suffer post-crisis vulnerability, lack of trust and damaged brand equity.

Banks' traditional business models and bureaucratic structures do not suffice anymore, new patterns of partnerships are emerging and new skills are required for banks to be developed, in order to successfully serve customers in a way that can adequately fit with their new habits and needs, paving the path for future prosperity.

In order to present the Fintech "Revolution" and to state the opportunities it brings in for banks, we first present an overview on the banking industry's current situation; in the first chapter we will discuss the most relevant changes which have characterized this industry, in the decade after the global financial crisis, and the trends which will reshape it in the coming years. In the following chapter, we will present in-depth the Fintech ecosystem; from the drivers which caused to a vast range of new participants to jump within Financial Services to the characteristics of their innovative business models.

The analysis of the Fintech universe will lead us to understand what banks are facing today, who their new rivals are and how much digital disruption can impact traditional businesses; in particular, it will give us reasons to claim banks need to change, innovate and try to succeed in a world of huge technological possibilities and in this revolutionary era.

Moving from the underlying idea of such need for banks to approach change and integrate technology into their business, the aim of this dissertation is to investigate how players in banking sector will translate this into reality; whether developing innovation in-house or buying it in the market, exploring, in the third chapter, the pros and the cons of these alternatives and how they are implemented in banks.

Furthermore, the thesis will list the possible partnering alternatives for banks to implement the change, i.e. strategic partnerships, equity alliances or Mergers and

Acquisitions, with the aim of analyzing the different facets that could characterize banking industry re-shaping in the next future and all the various possible degrees of co-opetition between banks and Fintech companies. As a matter of fact, according to a recent global report on Fintech, 82%, on average, of incumbent financial institutions surveyed expect to increase partnerships with Fintech companies over the next three to five years (PWC, 2017), with a shift from competition towards collaboration.

The above mentioned emerging partnering relationships will be better explained through the use of examples, by mentioning a list of benchmark initiatives already in place in the banking industry. Finally, in the last chapter, with the use of a case study analysis on an international bank, BBVA Group, we will gain further insights on the opportunities banks can seize in their new challenging environment and we will use the case to further understand the reviewed literature.

CHAPTER 1 - OVERVIEW BANKING INDUSTRY: ECONOMIC AND COMPETITIVE LANDSCAPE

The aim of the chapter is to present an overview of the banking industry, as it appears today, some years after the crucial event of financial crisis of 2007-08, and in light of the subsequent regulatory and strategic changes put in place in the sector.

Furthermore, we want to recall what have been the business models of banks over the past years, which contributed to shape the common idea of traditional banks mainly as large companies and bureaucratic organizations.

These premises, together with a snapshot of the underbanked subjects' situation, serve the purpose of stating what is happened in the banking industry so far, in order to move to what is going to happen in coming years, thus presenting the most relevant trends towards which banks are heading.

1.1. Global financial crisis effects on current economic scenario

International economy has been strongly suffering after financial crisis burst just a decade ago, with liquidity troubles spreading quickly among subprime lenders and causing many of them to go bankruptcy, thus rendering agents in the systems worried about such spread poorly-backed assets and leading them to put in place bank runs.

The subprime crisis, which came after a period of optimistic ease in credit access also fueled by low-guarantees borrowers' desire to follow their "American dream", infected banking system, where bankers had originated a secondary market for subprime loans (mainly through CDOs); this forced governments and central banks to intervene with liquidity injections to rescue their banking systems and to put in place different bail-out measures.

The day after such crisis the world woke up in a situation in which economy proved to be very fragile, with interconnection among countries rendering contagion easier and with structural weaknesses that make liquidity problems easily convertible in solvency crisis.

1.1.1. Banking: after-crisis state of the system

Financial crisis and the credit boom which preceded it had substantial effects on the banking system, which has been facing thereafter stricter regulations, higher requirements, stress tests to keep track of financial stability; also, banks have been acting in an environment of lower growth and lower interest rates, while being required to put in place deleveraging measures.

The underlying idea of constructing such a new environment, which challenged banks' business models and margins, was that of having safer banks, able to face possible negative scenarios without neither the need to be saved by huge injections nor the risk to damage others in the system.

As a result, in addition to the required higher capitalization, the major trends that characterized the response by banks to post-crisis adjustments were: a change in their funding mix, which relied much more on retail funding by customer deposits rather than on unsecured short-term wholesale funding, and also a downsizing or exiting from riskier activities, which had caused litigations for banks in the past (Bank for International Settlements, 2017).

So, in order to reduce their riskiness, and making a u-turn with respect to the past myth of diversification, many banks reduced their branches number and their scope, either geographical or in terms of business range, trying to allocate resources on core competencies and seeking ways for cost-saving.

By the way, other changes affected organizations within the industry, see, for example, how the financial sector reputation has been impaired by the financial crisis, indeed some signs of skepticism by investors are still present; this possibly contributed to another drawback of after-crisis era for banks: they lost many young people esteem, their willingness to work within banks possibly decreased and a serious gap between millennials generation and banks was created and left to fill in (The Economist, 2017).

All the post-crisis concerns, in particular the larger equity base banks were required to have and the reduced profitability, contributed to banks' lower ROEs with respect to pre-crisis level (see figure below).

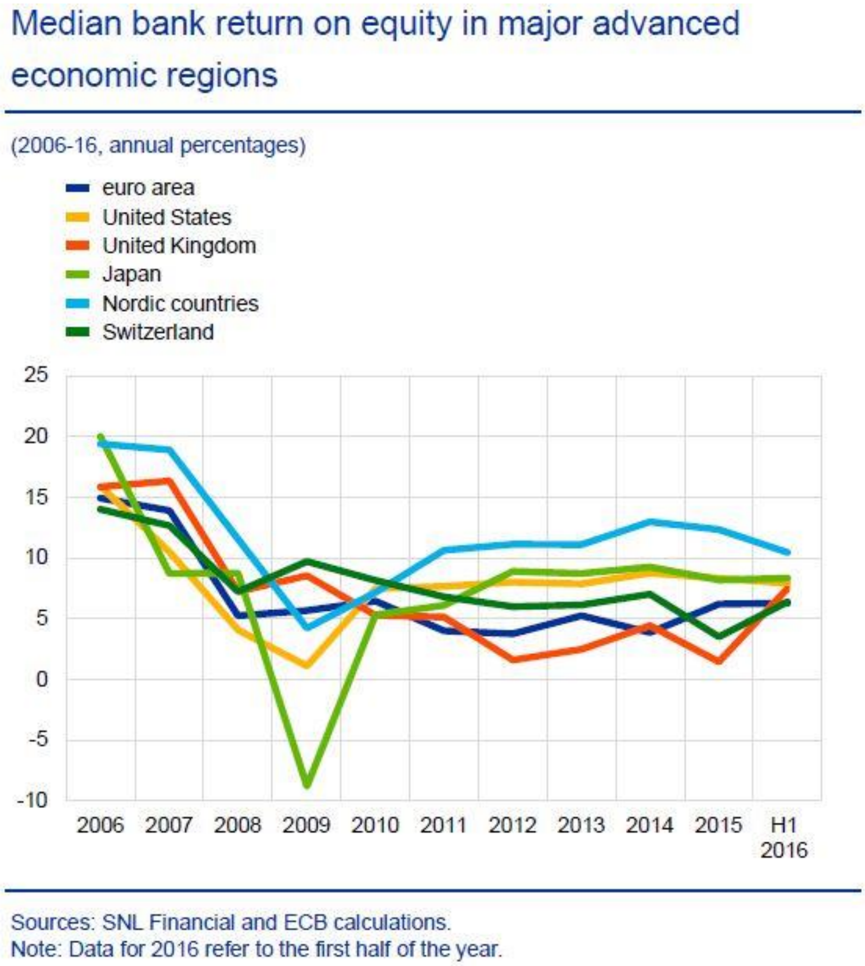

Fig. 1 -Median bank return on equity in major advanced economic regions
Source: European Central Bank

Despite the financial crisis spread its effects on banks worldwide, the situation of Euro area banks has been and still is more dramatic with respect to American ones, which outperform European rivals, especially in investment banking, and which better dealt with the problem of non-performing loans; other geographic areas, instead, see their banks return more on equity to shareholders with respect of both (The Economist, 2017).

The different recovery paths of Europe's and America's banks respectively were partly determined by the different bail-out measures put in place in each area: in particular, while American banks were kind of "forced" to receive injections as soon as the crisis erupted via the TARP (Troubled Asset Relief Programme), the recapitalization of European banks has been slower and intermittent, with delays in interventions caused by single countries' urgent aim of protecting their own major businesses first and with the emerging evidence of a still incomplete banking union; furthermore, we shall also bear in mind the differences lying in the whole economic system recovery, which was faster in the US (The Economist, 2017).

In addition to the strong tie with the post-crisis macro-economic conditions and together with the different bail-out measures put in place in banks' favor, there is evidence of other factors' influence on the sector lower performances: first of all, slower revenue growth. If we have a look at revenues' level track by year (see figure below), we can gain a significant insight: despite an appealing uptrend, the growth is slowing: while it was about 6% per annum from 2010 till 2015, the rate dropped at a dramatic 3% between 2015 and 2016 (Dietz, Lemerle, Mehta, Sengupta, Zhou, 2017).

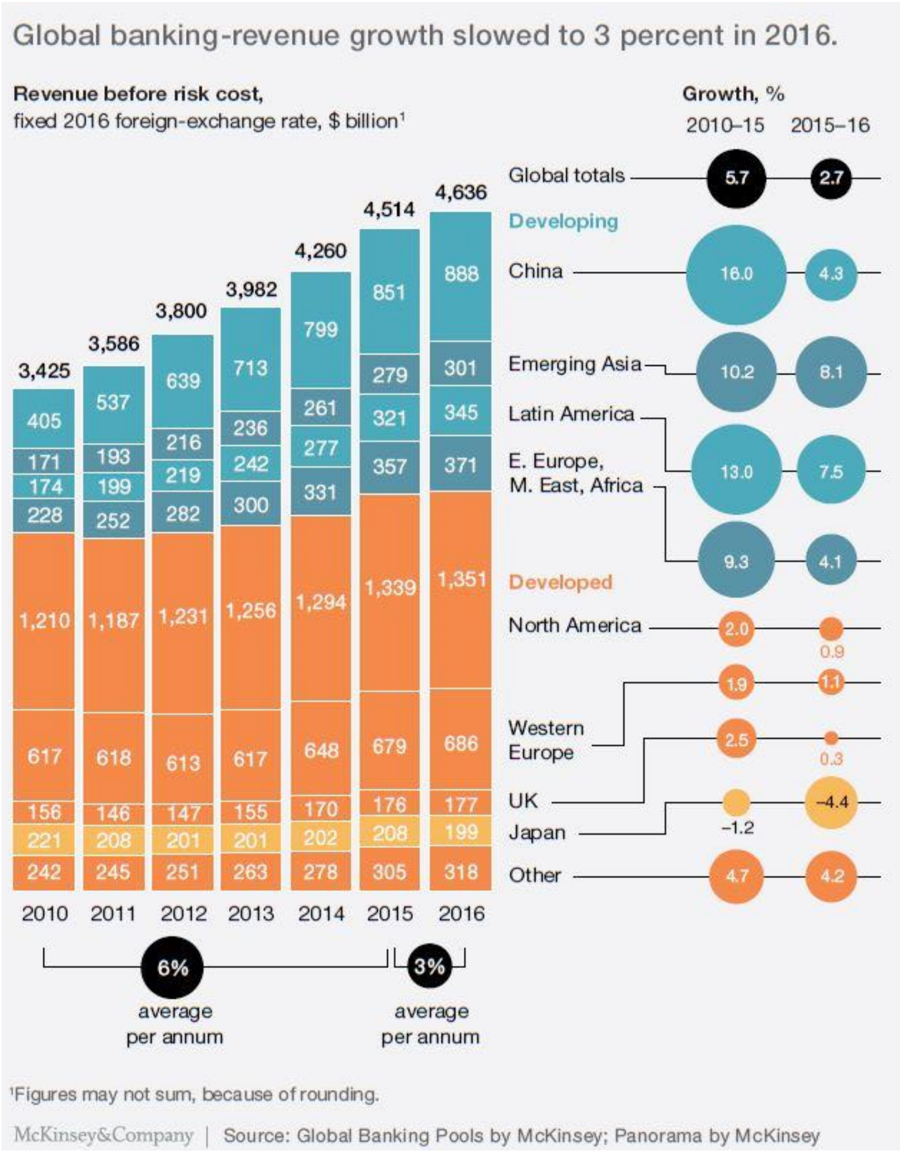

Fig.2 – Global banking revenue growth slowed to 3 percent in 2016
Source: McKinsey & Company

The threats posed on banks' profitability come with the rise of new competitors in the industry, namely non-bank players; in order to weigh how strong their pressure is on global banks' performances, McKinsey presented a breakdown of revenue and profits by activities (see figure below); in the end, the latter highlights that is just the most profitable area of banks, the one they call the *"distribution"* side, the one at higher risk (Dietz, Lemerle, Mehta, Sengupta, Zhou, 2017).

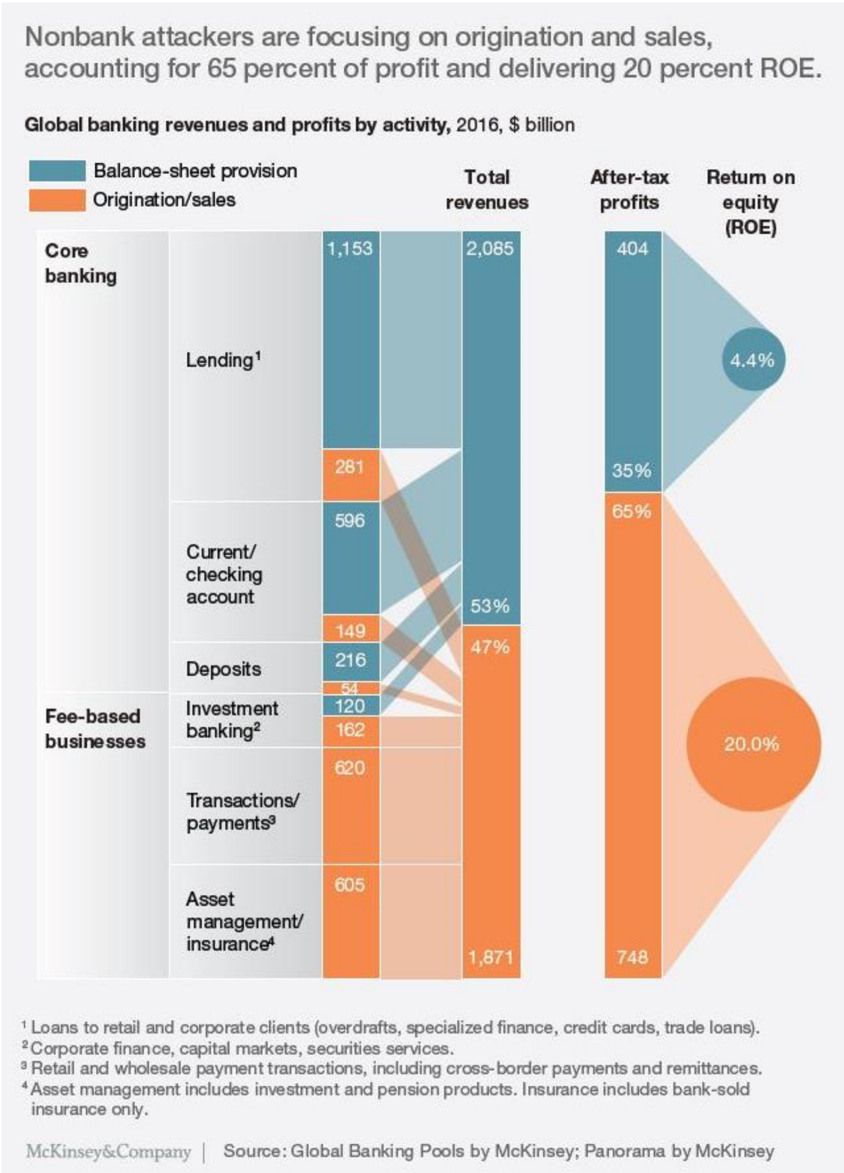

Fig. 3 – Nonbank attackers are focusing on origination and sales, accounting for 65 percent of proft and delivering 20 percent ROE
Source: McKinsey & Company

Overall, what seems to emerge by the above considerations is that the impact of financial crisis on banking system was huge at first; by the way players within the system, either compelled by new regulatory requirements, either seeking new profitability recipes and shareholders' approval, have put in place many organizational adjustments; this took them on the way towards calmer water, but still much is to be done to reconfigure banks' business models, especially in light of potential threats posed by outsider innovators and by the changing demand of customers.

1.1.2. Financial institutions' regulatory landscape: post-crisis main measures in EU and US

Since it can be considered the most evident consequence of financial crisis on banking system, the regulatory aspect is worth a more in depth analysis. Stress tests turned from being internally to externally run at banks; just to have a rough idea of the size such change had in organizational terms for industry players, we can rely on what the CFO of an international bank said, with reference to the number of data collected to perform the test, when this was internally done and when it became out of the banks' competence respectively: in the first case, the data collected amounted at a few thousands, but they rose to hundreds of thousands in the latter circumstance (The Economist, 2017).

The major representative and significant regulations that financial institutions had to cope with can be considered the followings.

- *Basel Committee[1] for Banking supervision on capital adequacy: Basel I, Basel II and Basel III Accords*

  Basel I: the Basel Capital Accord, was born from the increasing importance that capital adequacy was coming to have within the field of banking supervision; the first document was published in 1988, with the aim to see banks achieving the minimum

[1] Basel Committee was founded in 1974 by institutions from the G10 countries with the aim to cooperate on banking supervision and financial stability and to guarantee consistency among members jurisdictions' provisions. Today the Committee includes 45 institutions from 28 countries and still serve the above purpose of norming financial stability and banking supervision; its role became crucial and its after-crisis provisions are well-known in the banking industry worldwide; by the way, before issuing Basel I, II and III on capital adequacy, the Committee had presented other works, as:
- the "Concordat", a paper issued in 1975 and revised in 1983, when it was replaced by "Principles for the supervision of banks' foreign establishments";
- "Exchanges of information between supervisors of participants in the financial markets" was a supplement of 1983 report and it was published in 1990, its aim was to improve prudential information flow between banks and their supervisors;
- "Minimum standards for the supervision of international banking groups and their cross-border establishments" came out in 1992, stating what G10 countries' supervisors expected from each other to respect;
- "The supervision of cross-border banking", a 1996 report, which was formed by the Committee with the collaboration of institutions from non G10 countries and which was then applied by 140 countries;
-"Core principles for effective banking supervision" whose first publication was in 1997, while the most recent revision goes back to 2012, the first version contained 25 principles which now amount to 29; the topic areas covered are *"supervisory powers, responsibilities and functions"*, about which principles highlight what it is expected from an effective supervision system and the importance of a precise and on-time intervention, and *"prudential regulations and requirements"* in which we find principles related to banks' effective corporate governance, risk management and compliance mechanisms the Committee expects banks to implement. (See: https://www.bis.org/bcbs/history.htm)

target Total Ratio of Capital (tier1 and tier2) to risk-weighted assets[2] of 8% within the year 1992 and it was ultimately enforced by almost all countries with internationally active banks (even if not members of Basel Committee).

Basel II: the new Capital Framework, came to replace Basel I Accord in 2004 and in 2006, due to integrations and reviews, in its final comprehensive version, to be enforced within year 2007. The Accord sets three pillars on: minimum capital requirements, supervisory review process and market discipline respectively. According to the first pillar, the Total Capital (tier1 and tier2) Ratio must stay above or at the threshold of 8%; the accord requires capital charge to cover credit, operational and market risk[3]. Basel II introduces the concept of operational risk in order to move toward a more effective supervision, this implies that the capital requirements are meant to cover also this aspect of riskiness, which concerns to the adequacy of the banks' internal processes, people and systems. This then-introduced concept of operational risk fits well with the whole *ratio* underlying Basel II, that is

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[2] Basel I Accord contains definitions of both capital and risk weights on which adequacy controls should be run. Capital, within the document definition, is divided in two-tiers, where tier 1 includes *"core capital" (equity capital and disclosed reserves)* and tier 2 the "*supplementary capital" (undisclosed reserves, revaluation reserves, general provisions/general loan-loss reserves, hybrid debt capital instruments, subordinated term debt, deductions from capital).* According to Basel I, banks capital base is required to be at least for 50% constituted of tier1 capital, and, based on particular conditions stated in the document, capital elements different from tier1 ones are admitted to be included in tier2, which forms the remaining capital base (Basle Committee on Banking Supervision, 1988).
As regards the weights of the assets, the document sets 5 weights (0, 10, 20, 50 and 100%) that are applied to banks' assets according to their riskiness (intended as their embedded credit risk): in particular, the higher the weight the riskier the asset, for example, 0% weight is assigned to cash or claims on OECD central governments or central banks, 50% weight is assigned to residential mortgages and 100% weight is given to claims on private sector, or real estate (Basle Committee on Banking Supervision, 1988).

[3] Definition of Tier1 capital under Basel II accord stays almost put to the one stated in Basel I, then the accord states the definition of Tier2 and the conditions under which capital elements different from core ones can be included into supplementary capital, admitting it to be present in banks until a limit of 100% of Tier1. Furthermore, in Basel II we see the definition of Tier3 of capital: this class of capital is determined by short-term subordinated debt and can be used, under certain provisions, to face market risk only (Basel Committee on Banking Supervision, 2006).
As reported in the document, *"Total risk-weighted assets are determined by multiplying the capital requirements for market risk and operational risk by 12.5 (i.e. the reciprocal of the minimum capital ratio of 8%) and adding the resulting figures to the sum of risk-weighted assets for credit risk."* (BCBS, 2006; p.12)
In Basel II accord, the assessment of credit risk to calculate assets' weights is determined relying on credit rating procedures, either internal ones (IRB method, for banks authorized by supervisor approval) either standardized external ones (in this case, rating entities must be the ones certified by supervisors); the weights vary according to the procedures used, but, in any case, the higher the rating, the lower the weight of the underlying asset. The document allows banks which use standardized approach of credit rating to mitigate the risk of the asset, if some conditions are met (in particular concerning the existence of collaterals) (BCBS, 2006).
As regards operational risk, Basel II gives banks three methods for measuring it and subsequently calculate the capital charge required: *"(i) the Basic Indicator Approach; (ii) the Standardised Approach; and Advanced Measurement Approaches (AMA)*" (BCBS, 2006; p.144). These are increasingly sophisticated and this is the reason why the Accord encourages banks to shift towards the last one, as they improve their risk management system functioning.
Finally, market risk according to Basel II provisions can be measured either through standardised or internal methodologies (BCBS, 2006).

the one of enriching supervision activity, by rendering it not only an ex-post control of requirements' application by banks, rather a wider system of procedures and provisions that, while giving banks more tools to manage risk, allows supervisors to better judge banks' risk management systems' efficacy and also let banks, whose assets are safer, to meet softer requirements.

Following the same reasoning, the document presents pillar two, which highlights the importance of supervision not only with reference to capital adequacy control but also in terms of supporting banks in improving their risk management systems and monitoring risk aspects, which are not fully manageable by capital charge threshold set in pillar one. By the way, the second pillar also recognizes the relevant supervisors' role to monitor requirements' application, especially in light of first pillar introduction of vary and articulated methods to assess risk.

The supervisory pillar reminds that capital requirements are not the only key to ensure stability and to limit risk, whose management passes through a series of internal processes to be constantly reviewed and improved, and which has many other facets from credit, operational and market ones. Also, since the capital charge set in pillar one represents the minimum safety threshold, supervisors are asked to encourage banks operating above such minimum target and, if the threshold is falling from being respected, their intervention is recommended to come at very early stage.

Finally, pillar three completes Basel II Accord; the disclosure required to banks is needed just in light of higher complexity and greater discretion set in pillar one: to effectively respect the framework, banks are required to spread some information (either qualitative and quantitative), also in order to receive supervisors' approval to adopt a specific methodology (e.g. IRB).

Basel III came out as a result of the ongoing process of Basel Committee on Banking Supervision to enhance financial stability; in particular, just after Basel II was enforced, the financial landscape started showing its weaknesses through liquidity crisis and excessive ease in credit growth; in order to face this situation, whose main evidence to the public came with Lehman Brothers collapse in September 2008, the regulatory body shifted towards so-called Basel III Accord. The new reform package should serve the scope to incorporate in regulations the lesson learnt from financial crisis, recognizing the centrality of banks within economic systems as they are crucial for real economy growth and daily business operations.

As the issued documents clarify, Basel III field of action is either micro-prudential, in its aim to increase bank-level resilience and risk management, either macro-prudential, approaching the system-wide shocks and weaknesses and providing ways to contrast them.

A first step towards Basel III was the issuance of *"Principles for Sound Liquidity Risk Management and Supervision"* just in September 2008, which introduced the focus on the importance of liquidity within banks and which encouraged banks' stress tests to consider more dangerous scenarios and to seriously take into account the ease of contagion of liquidity crisis at whole system level.

The reform completion continued: "*Basel III: International framework for liquidity risk measurement, standards and monitoring*" and "*Basel III: A global regulatory framework for more resilient banks and banking systems*" were published in 2010, then the latter was reviewed in 2011; in 2013, the Committee issued *"Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools"* and, in 2014, the package was completed with *"Basel III: the net stable funding ratio"* issuance.

Basel III recalls and stresses the already established pillars of Basel II[4], also it introduces some innovations; in particular:

- *Capital conservation buffer*, equal to 2,5% of CET1, a threshold that, once breached, triggers constraints on banks' discretionary distributions;
- *Countercyclical capital buffer,* it is an additional measure that wants to safeguard banks from the adverse conditions of macro-financial environment in which they find themselves, this provision takes the form of an intermittent buffer (whose amount varies from 0 to 2,5% of RWA) that national authorities will ask banks to enforce whenever they assess credit is growing to an excessive dangerous level for the system;
- *Leverage ratio,* with the objectives of controlling debt levels in banks and avoiding subsequent deleveraging measures, it is a percentage ratio between CET1 and Exposure Measures, it should have been kept at minimum 3% (till January 2017);
- *Liquidity requirements: Liquidity Coverage Ratio (LCR) and Net Stable Fund Ratio (NSFR),* which focus on a short and long time horizon respectively, as

[4] Basel II introduced Tier 3 of Capital, which could eventually serve to cover market risk; but, following the wish to enrich capital qualitative and quantitative base, such capital layer is eliminated by Basel III. Also, in light of financial crisis, much more disclosure and risk coverage measures are imposed to banks with reference to trading book and securitisations (BCBS, 2011).
The third accord also increases the focus on common equity, as Common Equity Tier 1 CET1 is raised to 4,5% of risk-weighted assets; Tier1 capital (CET1 plus Additional Tier1) must be 6% of risk-weighted assets and Total Capital (Tier1 and Tier2) should amount to a minimum 8% of risk-weighted assets (BCBS, 2011).

LCR should grant a bank's survival to a stress scenario[5] lasting one month, while NSFR should improve banks' funding over the long run[6];

- *Further requirements for Global Systemically Important Banks (G-SIBs),* the aim is to have systemically important banks provided with higher loss absorbency capacity.

- *Dodd-Frank Wall Street Reform and Consumer Protection Act*, was issued in US in 2010, by Obama administration; the very articulated reform came after financial crisis in order to impose to so-called "too big to fail" companies greater stability, to prevent the need of further intervention by central entities and to strengthen requirements and control on banks.

  The Act focuses mainly on:
  - *financial stability and oversight agencies,* the act introduced Consumer Financial Protection Bureau (CFPB), within Federal Reserve, and the Financial Stability Oversight Council, the latter has significant roles as monitoring threats for financial stability, signaling any source of risk, proposing new regulations; the Council also looks at firms different from banks, to assess the financial industry state;
  - *securities and derivatives,* in terms of higher risk retention, disclosure, representation and warranties;
  - *credit rating,* this area was impacted as the Act created an Office at Securities and Exchange Commission (SEC), which has the role of overseeing credit rating agencies and kind of coordinating their work;
  - *Volcker Rule*, has the objective of posing some constraints on permitted banks' speculative activities (like fund activities), as a result of the belief that past trading, with huge usage of deposits, contributed to global financial crisis.

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[5] As reported in Basel III document, the LCR stress scenario, which is developed from the lesson of financial crisis erupted in 2007, *"entails a significant stress, albeit not a worst-case scenario, and assumes the following:*
- *a significant downgrade of the institution's public credit rating;*
- *a partial loss of deposits;*
- *a loss of unsecured wholesale funding;*
- *a significant increase in secured funding haircuts;*
- *increases in derivative collateral calls and substantial calls on contractual and noncontractual off-balance sheet exposures, including committed credit and liquidity facilities."* (BCBS, 2011; p.9)

The LCR is calculated as a ratio between High Quality Liquid Assets (HQLA) and Total Net Cash Outflows (over the next 30 calendar days). Under Basel III, such ratio should be at a minimum of 100% (by 2019), excluding periods of financial distress.

[6] NSFR is defined as the ratio between Available amount of Stable Funding (ASF) and Required amount of Stable Funding (RSF) and it is required not to be under the threshold of 100%.

The Act has been targeted by significant opposition, since many argue that it excessively overhauled regulations on banks and it ended up putting a huge burden of requirements and limits on them, sometimes missing the core objective of reducing risk.

By the way the debate is still on, it was also addressed by Mr. Trump, who promised to reform Dodd-Frank Act; in the US the topic is of crucial importance and even some different proposals came out, as the CHOICE (Creating Hope and Opportunity for Investors, Consumers and Entrepreneurs), by the chairman of House of Financial Services Committee (The Economist, 2017). The latter, which according to many will fail becoming law, would let banks, who deliberately choose to increase their equity base and to become less risky, to be subject to softer requirements with respect to those provided by the Act.

1.1.3. People perception: a collapse in trust

Financial crisis also triggered a real collapse in trust with very dramatic consequences on real economy: in its recent global study on trust, Edelman company found that 2017 is the peak of such *"trust crisis"* with subsequent shrinking confidence and hope in the system and increasing opposition to innovation and globalization; this problematic scenario, where combined with high levels of societal fears, has also brought to the top populist movements and actions, which in turn create uncertainty (Edelman R., 2017).

In particular, Edelman's trust index measures people's average trust in institutions, being them governments, businesses, media and NGOs: 2017 results show that global average trust declined with respect to 2016, but also that mass population does not trust institutions do what is right in about two-third of the surveyed countries, while distrusters represent a much lower percentage among informed public only, with such trust inequality gap growing. As regards the types of institutions towards which trust is lowest and under the threshold of 50%, Edelman found them in government (damaged by past scandals and solvency failures) and media; businesses have instead a great potential to lead the change, as still finding themselves at sort of a trust borderline (Edelman, 2017a).

Also, looking at trust index to business institutions, Edelman breakdown by sectors found that financial services one has witnessed an uptrend form 2012 to 2017 and it has also registered a lower gap in 2017 trust inequality between informed public and general population (Edelman, 2017b) and, with respect to trust index to technology sector, it is globally far above the mid threshold in percent, being at 76%, and, at varying levels, this holds true for all but one of the surveyed countries (Edelman, 2017c).

Albeit these data can be discouraging and can give us a clear picture of today's visible distrust, they open a window on technology as trust instrument with high potential and also call businesses, especially financial services, to action in order to rise people confidence and to improve the system standing.

1.2. Relevant trends in the banking sector

Traditional business models and the dominant organizational culture of banks have been challenged by the after-crisis' environment described above, but also due to the higher competitiveness that characterizes today's world in general: companies are needed to shift towards consumer-centric business models, organizational speed and more fluid cultures.

With a faster and even accelerating pace of change and with increasing customers' awareness, traditional industries' boundaries are blurring, some well-known strategic tools are becoming short-sighted and inadequate, as they are often unable to give businesses an ex-ante focus on what is going to happen, we indeed live in so-called times of *"hyper-competition"* (D'aveni, 2010), where dynamism, rapid technological novelties arrival, change of traditional incumbents and unexpected identity of new entrants in the market are a fact.

We are witnessing to what can be thought to as *"the end of competitive advantage"*, meaning firms can no longer rely on a single unique distinctive advantage, struggling to exploit it no matter what, rather they should continuously develop a bundle of transient advantages and be ready to change, reallocate resources, disengage and adapt; also, firms cannot consider innovation and strategy as separate activities, rather they are meant to be thought as strongly interrelated and innovation should become an ordinary task, systematically carried on within the organization, and, again, the areas of business intelligence interest should be broadened, moving from the mere concept of industry to the enriched one of *"competitive arenas"* (McGrath, 2013).

Banking system has experienced all of these conditions and disruption is guiding the industry towards evolution; while acting on stability is strongly required to banks and surely represents a priority, companies are re-shaping some established archetypes searching for less rigidity and trying to navigate the change.

Based on practitioners' effective snapshot on the point (Capgemini, 2017), we list and further examine what they see as the ten most relevant emerging trends in the sector in 2017.

- *Increasing collaboration with technological firms, known as Fintech:* rather than seeing them either as competitors to defeat either as temporary negligible players trying to address banks' customers, many companies in banking industry are recognizing the potential of these outsider disruptors and they are often trying to seize the opportunities underlying collaboration.
- *Shifting towards open business models:* the literature had often detailed the advantages of having *"open business models"*, through which innovation flows in and out of the company in search for its best owner, before going to the market (Chesbrough, H. W., 2007); in banking, the adoption of open APIs[7] would represent a way to customize products in a faster way and a possibility for third parties to help bank applications' innovation, providing customers with the ease of use and the user experience they can have in other aspects of their lives and that they are expecting to receive from financial services too.
- *BaaP, aka Banking as a Platform:* "sharing economy" representatives' successful business models are often mentioned to highlight how, in such cases, the best in class of some industries neither own the most used resource within it nor they directly provide the product that customers buy from them; this means, for example, that Uber, being the largest taxi company worldwide, does not possess cars or, again, that AirBnb does not own any accommodation building, and so on. In our opinion, the likely reason underlying this is that these players act being what literature refers to as *"strategic center"* within their industry (Lorenzoni, G., & Baden-Fuller, C., 1995) thus impacting innovation by orchestrating a network of strategically different partners for whom they create a common vision and effective strategy and to whom they offer a strong brand, acting as a platform: the same is somehow expected to happen in banking, once

[7] With the term API that stands for Application Programming Interface, we mean a set of commands and controls that allow two software or application to communicate, to be integrated.

incumbents focus on core competencies and develop an eco-system with various Fintech enterprises linked to them.

- *Reinforcing security systems:* this is going to happen as technology and the more digital environment render the cause of security breaches really tough and also add to traditional security aspects banks have to manage the one of cyber-security; in order to protect them against hackers and trying not to lose money and the already difficult-to-conquer consumers' trust; protecting against cyber-crime will surely become a priority in the sector, which is investing at a growing rate on it.
- *Adoption of public cloud-services:* this represents a novelty in the industry, as banks traditionally used to have their own data center, but they are now trying to downsizing them, as this should provide them higher flexibility and since providers of public cloud services are trying to prioritize the importance of security; the scope of the trend by the way is still small as banks are mainly doing preemptive attempts before shifting completely to public cloud.
- *Testing Augmented Reality:* mainly as a way to enrich the customer experience, to offer one better suitable for millennials, who are getting used to such technology or are seeing experiments with it in different fields of their daily life; the possible applications in banking go from virtual advisors and branches creation to the display of location-based information to customers.
- *Experiments in Distributed Ledger Technology:* deriving the concept from block-chain, banks are attempting, either alone or with some peers, to develop systems that could be beneficial in terms of security, as such technology would imply to make a simultaneous multiple attack to all of the updated copies of tracks in the system to be damaged, which is very improbable, also the technology could be good for banks in terms of efficiency, with a less costly and decentralized control of what is happening in the system.
- *Reliance on Artificial Intelligence:* as it has enriched the possible data analysis processes that businesses can put in place, also machines are becoming able to learn and improve constantly such process, with resulting better customization possibilities and quicker effective responsiveness for clients to be offered by banks.
- *Robotics Process Automation investments:* prompted by the need banks have to improve internal efficiency, by the accuracy which they are required to put in control procedures and also by the increasing accessibility customers require

often looking for 24hours availability; RPA can indeed act on cost savings, can absorb repetitive and highly meticulous tasks from human labor and leave room for human staff to perform more value-adding activities.

- *Possible use of biometric:* in particular helping enhancing security, as either biological or behavioral traits can be used as authentication methods and can prevent customers from identity frauds.

These brief description of what is emerging in banking industry can give us an idea of how the bank of the not-so-far future should be; with technology enabling great transformation throughout the aspects of our lives, we see a great potential change happening in banking industry too; this holds true, in particular, for those players who find themselves ready to welcome and even anticipate it, while not for those who struggle to stay anchored to the past and refuse to face an ever-changing reality.

1.3. Underbanked subjects

Despite what we could imagine seeing banks' and financial institutions' huge importance within economic systems and their high level of globalization, the population of those who have no access to banks account nor to other products from official financial providers is very large: finance is not democratically distributed yet and those who are not or not completely included in financial services are called "unbanked" or "underbanked".

It is not just a matter of incomplete geographical coverage by banks, even if many unbanked find themselves in Asia or African regions (see figure below): it is also a matter of kind of "discrimination" by financial institutions.

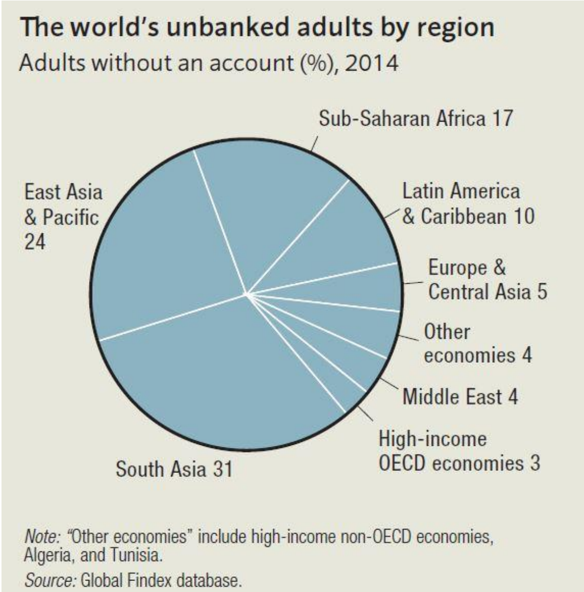

Fig. 4 –The world's unbanked adults by region
Source:Global Findex Database

According to the G20 the number of people excluded from financial services amounts to 2 billion, while the one of businesses stays to 200 million (GPFI, 2017).

The World Bank Group last Global Findex database (2015), which collects data on financial inclusion over time and across countries, found that there is also a gender gap in terms of financial inclusion, such gap stayed put from the first year of data collection, 2011 (notwithstanding an overall improvement of financial inclusion) and it sees the percentage of men having an account equal to 59%, versus the one of women at a lower level of 50%.

The Findex Database also tried to survey respondents in order to assess why the unbanked find themselves in state of financial exclusion, the barriers cited (reported in figure below) are many; the most reported one is that people do not have enough money to use an account, the second is instead they do not need it; but, as the report highlights, while the first reason was cited as the only one in many cases, the latter was not. This could suggest, and the same holds true even for the third most cited reason, that if other impediments were absent, it would not be so common for many people to give up on having a saving account just because a family member already has one or because they do not feel the need for it; somehow, the need for inclusion is less perceived just because other factors are present, for example cost barriers (World Bank Group, 2015).

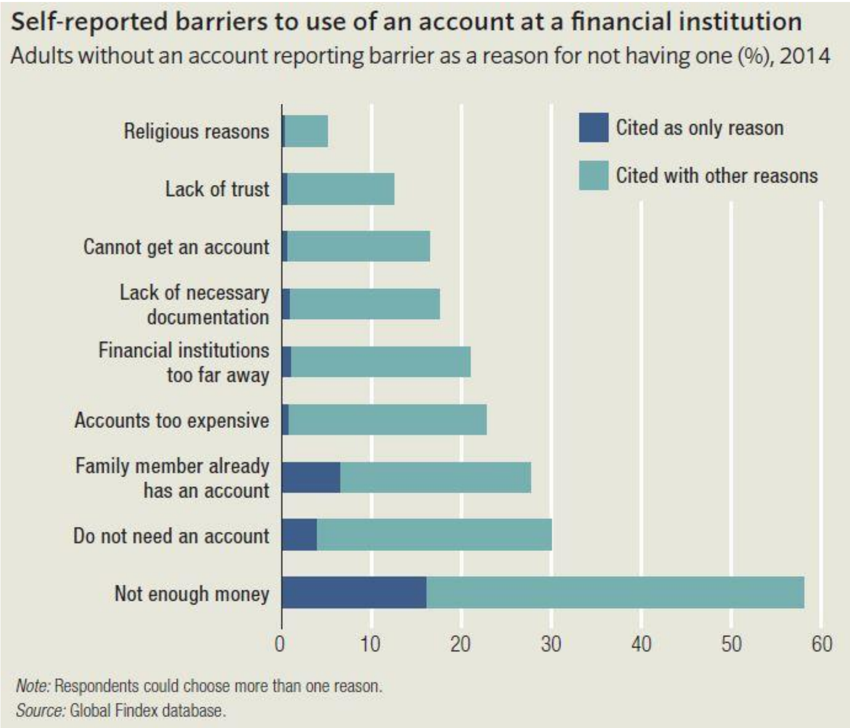

Fig. 5 – Self-reported barriers to use of an account at a financial institution
Source: Global Findex Database

The most reported reason, according to Global Findex, for not having an account at a financial institution, is, as seen, lacking enough money to do it; this response saw quite a similar percentage of answers across countries, while for the lower frequent responses there were much more differences at a country level: for example, in Sub-Saharan Africa, the second most common reason has been identified in distance from the institution, while this was lower ranked in other geographical areas.

Other considerations can emerge from the above reported barriers to inclusion, for example, the evidence of a lack of trust on which banks should act, or the need that customers are showing to have financial products compatible with their needs and lifestyle, see, for example, religious barriers to as-are financial services.

As regards the concept of trust, this recalls the problem that many countries experience in term of demand factors causing incomplete financial inclusion: many clients, whenever they had the possibility to use bank services, would have a negative sentiment in doing it and they feel to be discriminated or even frustrated by their countries' banking services; on this point, Meré (2016) reported some young customers' very impressive quotes, as *"Going to a branch is like going to a hospital[...]"* or *"My ideal bank would be one where there are no preferred clients."*

Furthermore, trying to better illustrate these concepts of exclusion using the case of Mexico, Meré (2016) reported that, despite the banking system of this populous country appears solid and banks having a franchise in Mexico find it very profitable, still credit to private sector as GDP percentage is low (18%) and large share of the adult population (60%) lacks an account at a formal institution. By the way, the mobile penetration in Mexico is high (87%) and such country is largely "connected", being world's "5^{th} in Facebook users, 7^{th} in Twitter users, and 5^{th} in Spotify users" (Meré, 2016).

All these data and examples can trigger a pivotal discussion on the potentiality to serve all the unbanked subjects; financial inclusion is not only a need for governments and central authorities to fight poverty and to have safer and richer economic systems, but also a huge opportunity for financial institutions; the focus by the way should be either on expanding the number of "banked", which is just roughly measured by the number of banks accounts, either on improving and increasing the use of such accounts, and, in general, of institutional financial services.

In a nutshell, the unbanked and underbanked can represent a significant number of non-customers to analyze and address; this especially thanks to mobile phones penetration and enabling technologies, as it has partially been done by Fintech companies; they are currently exploiting the underlying potential; this is also given by the fact that financial technology companies are indeed provided with outstanding digital know-how and agile structures and that they are not constrained by burdensome regulations.

CHAPTER 2 - THE RISE OF FINTECH AND AGILE REVOLUTION OF FINANCIAL SERVICES

In this chapter we will go through the Fintech phenomenon, defining what financial technologies are and what services they are able to offer, describing the background and the factors that took to the rise of this revolution in the financial services and also listing all the types of companies which fall under such definition.

Also, we want to focus on the importance that big technological players, which were not born as Fintech, are acquiring in providing financial services; this is indeed a new phenomenon currently in place and it clearly highlights how important some new capabilities and resources are becoming, allowing non-conventional players to jump in established industries and to disrupt them.

The objective of hereby define the state of the art of Fintech will be achieved by presenting who these companies target, the level of diffusion they reached, where this phenomenon is bursting and how much it has been able to catalyze investors' attention; finally, we want to report the main regulatory aspects which shape the field of action for financial technologies.

2.1. Financial technologies: blurring the boundaries of financial services industry

"Technology is anything that wasn't around when you were born." - Alan Curtis Kay (Pioneering Computer Scientist)

The above sentence is a clear and emblematic definition of technology, something that profoundly changed people lives in recent years and which is acquiring a huge role in shaping the future. The consequences of technological progress are impressive and simply amazing in terms of pace at which they occur and unfold their potential.

Such pace of the change in technological progress and the scope of its interaction with people lives, together with the systemic impact that changes enabled by technology are having across many industries give reasons to claim we are at the edge of a Fourth Industrial Revolution (Schwab, 2016). According to WEF Founder and Executive Chairman, the Fourth

Industrial Revolution, which comes after the first one of steam power, the second one of electric power and the third one of Information Technology, "*is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres"* (Schwab, 2016).

According to Schwab (2016), with these preconditions in place, we are witnessing to the disruption of many industries; the impacts of the new industrial revolution are either on the demand and on the supply side: in the first case, we refer, for example, to the ease or pleasure customers now experience in performing some tasks, as booking a flight from home at one's own comfort; in the latter, we mean instead the potential on industry value chains, which can become more efficient, transparent, agile, thus serving existing needs in new ways.

Given the above, when this apply to financial services, the Fintech phenomenon happens; even if we miss a unique definition for it, we can rely on what the governor of Bank of England refers to as the FSB definition of Fintech, that is "*technologically-enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services"* (FSB in Carney, 2017).

2.1.1. The main drivers of Fintech revolution

The interest towards this radical change in financial services has been growing recently, as the figures below[8] can somehow summarize: if we have a look at Google trends data on online searching for the term "Fintech" worldwide over the period 2004-2017, we can easily see a soaring interest registered by the search engine, with present being the peak of such interest; while a completely different dynamic is reported for the well-known term "bank", whose trend over time appears quite put.

[8] In the graphics from Google Trend: *"The numbers represent the search interest in relation to the highest point of the chart in relation to the region and the period indicated. The value 100 indicates the highest search frequency of the term, 50 indicates half of the searches, while 0 indicates a search frequency of less than 1% compared to the higher search frequency"*.

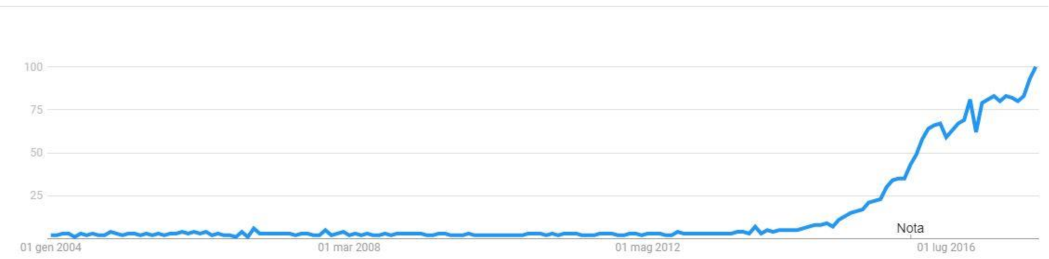

Fig. 6 – Online Searching for the term "Fintech" 2004-2017
Source: Google trends

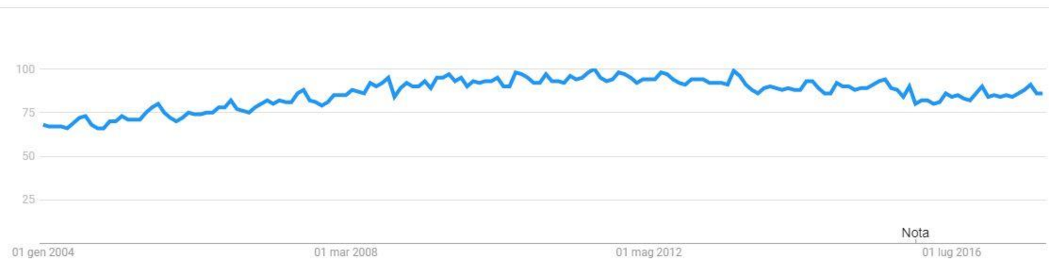

Fig. 7 – Online Searching for the term "Bank" 2004-2017
Source: Google Trends

Financial Technologies, aka Fintech, are those that allow financial services to be delivered in more convenient and faster ways, using a consumer-friendly approach; the basic needs they serve are the same financial services' institutional players have already been satisfying in the past as saving, investing, funding, exchanging money, etc. but the business models they use are new or non-conventional.

With this reference, we have seen in recent years the rise of new payments systems, among which Paypal became a representative example, the introduction of platforms[9] for Peer to Peer lending and for Equity Crowdfunding, the development of new asset management systems, as robo-advisory, etc.

These innovations were triggered and allowed by many factors, which, according to many (CGFS & FSB, 2017; IOSCO, 2017) can be grouped into two broad categories: "supply-side" and "demand-side" factors.

- *Supply side factors* are mainly identified in:

[9] A Platform, in business literature, can be defined as a *"business model that creates value by facilitating exchanges between two or more interdependent groups, usually consumers and producers*" (see https://www.applicoinc.com/blog/what-is-a-platform-business-model/), namely businesses which, often thanks to a strong reliance on IT infrastructures, focus their core activities on connecting value chain actors/stages.

- *digital DNA*, this means financial technologies providers are often agile and digital-savvy startups, which were born with lean operations and strongly committed to data analysis;
- *VC Funds' support,* it is considered an enabling factor as it significantly contributed to lower entry barriers in financial services for startup companies, as reported by the Head of Payments Services at Silicon Valley Bank, *"if you are a FinTech player, you have to talk to a number of VCs, and all it takes is for one of them to say yes and you can launch your product [...]"* (Capgemini, 2017b; p. 11), despite it does not grant they will all eventually succeed, ease in funding has given a great incentive to Fintech rise;
- *cost advantages*, given mainly by the ability of newcomers to scale a service without the need to rely on branches, especially thanks to internet which made accessibility of products ever broader;
- *gentle regulation*, especially in those cases Fintech are able to offer banking services, without suffering their huge regulatory burden; indeed especially so far Fintech enjoyed a sort of "first mover advantage" as regards regulation, which by the way is expected to become stricter;
- *underserved customer segments*, this mainly refers to SMEs which banks were often likely to exclude from target, either driven by profitability or legislative reasons, and to those customers, above defined as "underbanked", finding themselves not to be fully served by traditional players;
- *disintermediation and re-intermediation*, this factor is often considered a driver of Fintech rise as it explains cases of successful business models, for example those of peer-to-peer lending platforms, in which the valuable idea was just to let parties with complementary needs meet, without having to pass via a third one (as it happened in the past with banks) and bringing to the financial services industry what other sectors are familiar with (see for example Uber disintermediating taxi drivers, Airbnb disintermediating hotels, etc.) (IOSCO, 2017);

- *Demand side factors* are mainly considered the following:
  - *changing customers' expectations*, as they are now shifting towards financial institutions the expectancies (in terms of convenience, long-time or full-time availability, ease in use, comfort, etc.) they usually have

for other online business providers and, in general, for other services they are used to;

- *distinctive socio-demographic characteristics*, as the ones of "millennials generation", or "Gen Y", a label marketers coined for the cohort born from the beginning of the '80s till approximately the end of the 20th century and characterized by a strong familiarity with social networks and a quite open and optimistic mind-set; despite it fails to perfectly describe such generation in its inner variety, the analysis of this class and its well-known representative traits is useful to explain new emerging habits of the population as a whole, especially if considering the one of "millennial" a social label a person can be given today, regardless his date of birth;
- *distrust on incumbents and traditional institutions*, a factor which many identify as proper of the millennials generation, but that characterizes instead the population at a very large scale, as seen above.

Those factors by the way were also accelerated by the previously described post-crisis environment of damaged brand image on banks, which gave to new actors the legitimacy to operate having people trust by their side.

2.2. Leading the change: who are major Fintech players

The universe of Fintech, if the term is used (as it commonly happens) to broadly mean the whole ecosystem of innovations developing recently within Financial Services, is populated by various players: indeed, Fintech can be considered *"an evolution of Financial Services"* (McGuinness, 2017), but one which has involved also the participation to financial services of players different from "traditional" ones, as young start-ups or even companies coming from unrelated industries.

For this reason, if trying to navigate the identities of major players within Fintech universe, one could easily find names of tech giant companies or incumbent banks, too, together with those of startups providing a niche-focused financial service. This is the case, for example, of a study we would like to mention; it was made by CB Insights firm (2014) and it is a creative and effective visual representation of the *"key players"* within Fintech system; in this map we can easily understand the non-conventionality and the great variety of those who are leading innovation in Financial Services.

In this work, called *"The periodic Table of Fin Tech"* (see figure below), we find a vast array of players, each of them placed within a cell of the chemical well-known periodic table, and the list does not only include providers of Financial Services, nor only the latter plus some tech-giants, but it even comprises key investors and acquirers of Fintech landscape (since, as seen before, they played a very important role in driving the rise of Fintech as a system).

The Fintech periodic table should thus serve the scope to gain a base knowledge of master players active in Fintech system, including a very broad and heterogeneous amount of participants. It is developed as follows:

- *on the right block*, we have those that could be mainly defined enablers, such as VC firms (among which we find Felicis Ventures and Ribbit Capital, which both backed Credit Karma[10], a well-known Fintech company operating in personal finance landscape and serving 75 million users[11]), investors, either corporate ones (as Google Ventures; Citi Ventures, bringing innovation within the bank of the same name; Ping An Ventures, a Chinese firm which, in 2014, invested, among others, in eToro, a social investment network[12]; etc.) either Angels (as, for example, Mr. Richard Branson, founder of Virgin Group, who backed, among others, Fintech company Transferwise[13], in 2014), and also accelerators/incubators (as Y Combinator, TechStars. etc.);
- *on the left side of the table,* there are many companies operating in different Fintech sub-areas, which CB Insights (2014) details as follows, "Lending" (within we find e.g. Funding Circle or OnDeck, platforms for lending to SMBs), "Payments/Billing Tech" (with companies like Klarna, launched in 2005 and now one of Europe's largest banks[14]), "Personal Finance/Asset Management" (a sub-area for companies like, among others, Robin Hood, a company whose mission, as one could guess from the name, is to bring investing "*Now for the*

[10] See: https://www.creditkarma.com/about/releases/credit-karma-seriesb-funding

[11] See: https://www.bloomberg.com/news/articles/2017-07-26/why-should-you-trust-credit-karma

[12] See: https://www.etoro.com/en/etoro-secures-27-million-in-new-financing-to-fuel-continued-global-growth/

[13] See: https://transferwise.com/gb/blog/sir-richard-branson-joins-our-mission-to-stamp-out-hidden-fees

[14] See: https://www.klarna.com/uk/about-us/

rest of us"[15]), "Money Transfer/Remittance" (the table includes within this category mainly platforms for international peer-to-peer money transfer, as World Remit or Azimo), "Digital Currency" (with companies like Xapo or Coinbase, that allow transactions with digital currency), "Institutional Tools" (within this category there are mainly companies which provide tools to incumbents in Financial Services, as banks or advisors, as the investment management platform Addepar[16] or Quantopian, a "crowd-sourced" algorithm-based investment firm[17], or even Kensho, which levers on data analytics and machine learning technologies[18] to offer solutions to other professionals in the industry), "Equity Crowdfunding" (the last category where we find platforms for fund-raising, as Crowd Cube, and also online communities of investors which eventually contributed to other Fintech companies' financing, e.g. Funders Club, which was among the first in granting access to funds to Coinbase[19]);

- *on the bottom block*, CB Insights (2014) places the then-most noteworthy cases of exits, mentioning those companies that had been acquired or had gone public by year 2014 and throughout the previous 5 years, and the acquirers who made notable operations in the same time span; (with this reference we find here examples of notable acquisitions as the one, dated 2013, of Braintree by Paypal[20], which was then an E-bay's company, before going public[21]).

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[15] See: https://www.robinhood.com/

[16] See: https://addepar.com/

[17] See: https://www.quantopian.com/about

[18] See: https://www.kensho.com/

[19] See: https://fundersclub.com/

[20] See: https://techcrunch.com/2013/09/26/paypal-acquires-payments-gateway-braintree-for-800m-in-cash/

[21] See: https://investor.paypal-corp.com/releasedetail.cfm?ReleaseID=922829

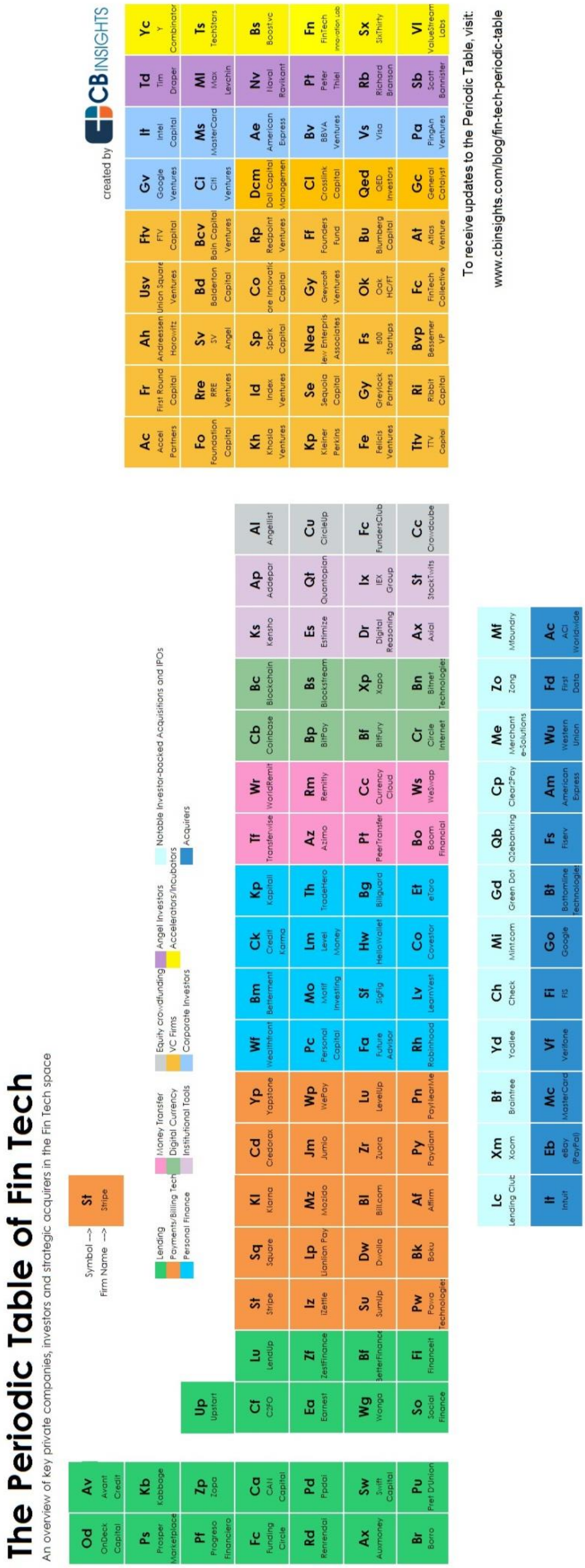

Fig. 8 – The periodic Table of FinTech
Source: CB Insights

2.2.1. A classification of Fintech companies by service offered: a focus on banking-related activities

Moving from the above presented heterogeneous landscape of leading players within Fintech, and in order to classify Fintech (here intended as young companies born on purpose to bring technological innovation in finance) by service offered, we shall first specify that the types of services offered by Fintech companies are many indeed and, as specified in figure below by KPMG (2017b), they mainly range across the following industries: "Banking, Insurance, Asset Management, and Other Cross-industry Propositions".

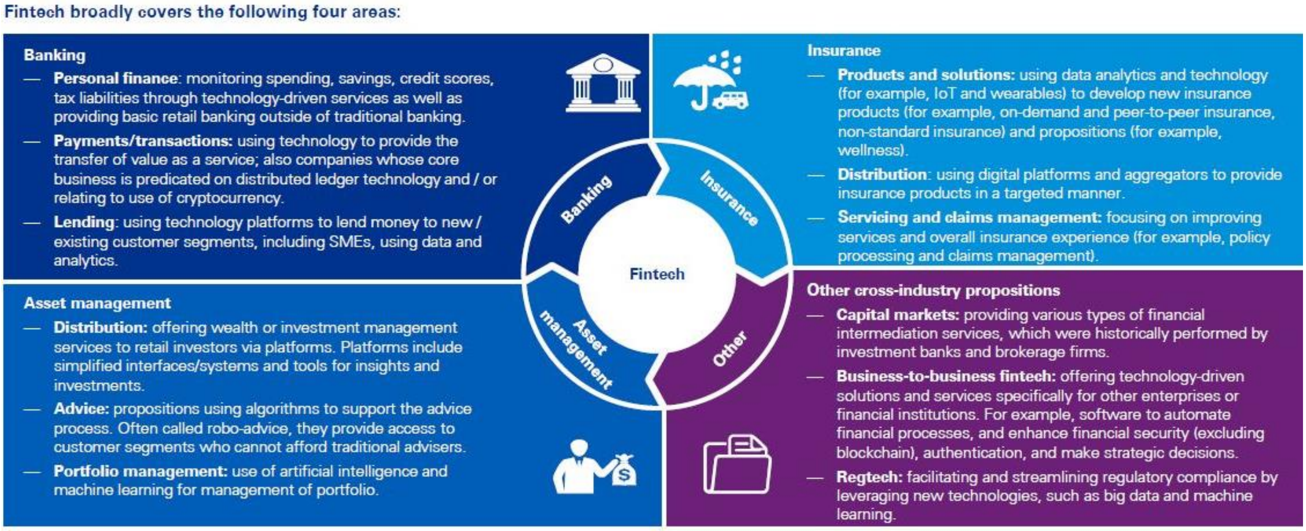

Fig. 9 – Fintech companies by areas of financial services
Source: KPMG

Within the above industries Fintech services impact quite every business line of traditional brick-and-mortar financial services providers; and, if for financial services we mean "*[…] just that, namely services enabling businesses, consumers and investors to access products and services which in turn allow them to achieve their respective ends"* (McGuinness, 2017), it becomes evident why lists of Fintech services' categories could be many and at varying detail levels.

Indeed, despite we still miss a unique classification of Fintech by service offered, we find in recent literature several categorizations which group examples of remarkable Fintech firms into categories; but, again, since the term Fintech, here specifically meaning the firms providing financial services in new/disrupted ways (not the ecosystem as a whole) is often used to comprise different kinds of actors, the available categorizations differ from one another.

Considering the above, and the ultimate scope of this work to further investigate how banks are copying with Fintech, our classification of Fintech companies by service offered will only refer to those companies whose services specifically impact banking and asset management businesses, thus not including either technology giants, which were not born as FS innovators even if they ended up doing it (so-called Bigtech, a category which we will analyze in depth further within this work) nor "Insurtech" (Fintech firms focused on insurance services).

Our suggested classification[22] of Fintech by banking-related service offered could be the one shown in figure below, in which we distinguish among the following service categories:

- *payments,*
- *alternative finance,*
- *digital banking,*
- *asset management,*
- *infrastructure.*

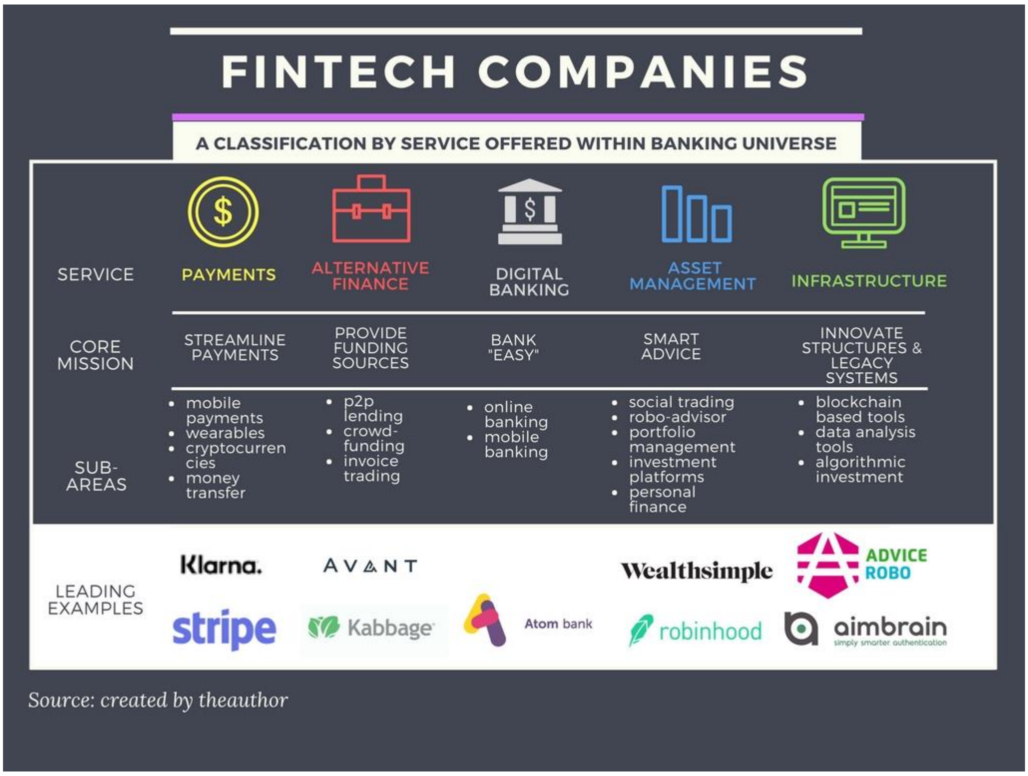

Fig. 10 – A classification of Fintech companies by service offered within banking universe
Source: created by the author

[22] In the classification here presented of Fintech companies by service offered, the author wants to give a broad picture of the very articulated Fintech industry, considering only those companies who are focusing on disrupting the main areas of pertinence of banks and, in order to give a clear understanding of possible types of services within each of the five presented categories, we want to mention some Fintech firms. All of the firms here shown as leading examples are taken by the "2017 Fintech 100" (H2Ventures, KPMG, 2017).

With regard to *payments*, the recent and ever-increasing popularity of non-cash payments, together with the rise of e-commerce and the greater use of mobile, had a huge role in spurring innovation; within this category we find, for example, firms offering mobile payment solutions, that let customers pay for goods and services (either purchased in physical or digital shops of payment companies' partners) with their mobile phones, especially smartphones, instead of traditional means, e.g. cash; these solutions enhance customers' payment experiences and make payments easier, as, for example, they let customers pre-register their cards on digital wallets and use them in one-click or one-tap, whenever needed. The same technology is applied also to wearables, for example watches or jackets, in order to provide customers frictionless experiences.

Thanks to the insights obtainable by spending patterns' analysis, incumbents lost what previously was their unique privilege on customers' knowledge (to be precise, they share this knowledge with others, Fintech new-comers). As a matter of fact, payments represent a remarkable source of cross-selling opportunities for Fintech firms active in this field: they can get to know how customers behave in shopping and paying; furthermore, they can also be active advisors of the best recommended payment options for each transaction.

Also, within payment services' universe, we find solutions to international money transfers, a field which developed mainly as a consequence of customers' concerns about transparency in traditionally banks-processed transactions (which used to be costly, even in cases of flat rates, because of charges by banks) and due to their usually longer time frames to complete the operations (ones which do not fit well with today's customers' desire and need to be speed); on these premises, enabled via technology, Fintech firms brought innovation and, most of all, transparency, by fixing a wholesale rate for currency transfers and offering customers full disclosure (Laven, Bruggink, 2016).

Finally, in the payment category we include also Fintech firms focusing on cryptocurrencies, among which Bitcoin became very popular, to make payments in a faster and more secure way; in particular, these use the blockchain technology, namely an application of distributed ledger technology (DLT[23]). The use of Bitcoin has many reasons on its favor; in particular, being digital, which directly translates in being global, allowing for international transactions.

[23] A DLT is a sort of "archive" of transactions which is rendered secure thanks to the underlying technology that does not allow to make changes on previously recorded transactions; furthermore, thanks to digital ledgers, all the participating nodes (parties) share a single real-time version of the record of transactions. Thus, there is no need to have a central authority to oversee the transactions.

Possible examples of Fintech firms acting in payments services are: Klarna, ranked 14th in "2017 Fintech 100" (H2Ventures, KPMG, 2017) and Stripe, ranked 17th (ibid).

Klarna was founded in 2005 in Sweden, one of the first countries in terms of digital money readiness[24] and it is committed to provide customers smooth and easy payment methods, in particular in face of and to facilitate for increasing online purchases; the company, which operates in 18 countries[25], offers either direct payments methods as options to postpone payments, thus offering customers a *"buy now, pay later"* shopping experience and entering an innovative credit offering method; Klarna is also worthy a mention about the story behind its funding by well-known Sequoia Capital: indeed, it was the founder's nerve which somehow made them gain the funding (Olson, 2016).

Stripe, founded in 2013, is a Californian company which currently operates in 25 countries and it has the mission to serve online businesses providing them a solid and easy to integrate (in terms of coding and technology) payment system, which can grant businesses to accept many currencies and cards and to include in their own sites/apps the most popular technological payments methods (such as Apple Pay)[26]. Among the company notable investors we find Sequoia Capital, Elon Musk, Y Combinator (H2Ventures, KPMG, 2017).

The one of *alternative finance* is a class within which we find a range of recently introduced services for access funding. In particular, when talking of Fintech companies operating in lending, we commonly mean online marketplaces, also called Peer-to-Peer platforms (see figure below), which disintermediate credit, putting in touch lenders and borrowers; this happens (in the traditional model of P2P) in a quite simple and intuitive way, namely potential lenders can accept to fund a credit request submitted by people who need money and who are often rejected by retail banks: especially, SMEs.

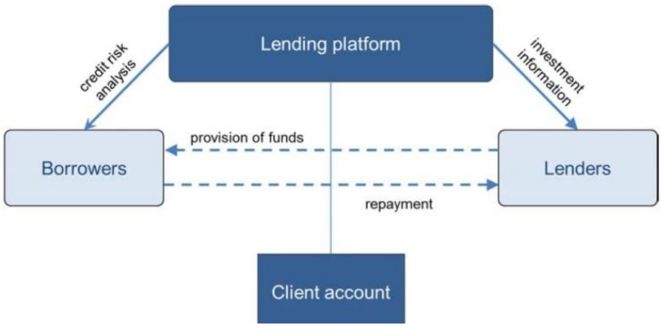

Fig. 11 – Traditional functioning of P2P platforms
Source: CGFS & FSB, 2017

[24] See: https://www.citibank.com/icg/sa/digital_symposium/digital_money_index/

[25] See: https://www.klarna.com/uk/about-us/

[26] See: https://stripe.com/about

Within lending platforms class we find several Fintech models; and, sometimes, the lending platforms involve also the participation of a bank or traditional financial institution (so-called "notary model" of lending platforms); in these cases the bank issues all the loans to the platform's applicants and it subsequently assigns them to creditors (CGFS, FSB, 2017). Other types of lending platforms, instead, act as direct lenders: in these cases ("balance sheet model" of lending platforms) it is the Fintech firm itself that originates the loan and provides funds by its own balance sheet; then the company can eventually give claims to other lenders (CGFS, FSB, 2017). Finally, according to CGFS & FSB (2017), another model of lending platforms is focused on factoring services for businesses (so-called "invoice trading model"); these Fintech firms allow businesses to sell their invoices or receivables at a discount in order to have liquidity.

Regardless the underlying precise model of functioning, lending Fintech, as seen, have been able to issue credit to previously poorly served consumers and businesses: in particular, SMEs. As a matter of fact, SMEs face a significant credit gap, which is given either by demand and supply side problems: the first refer to the length of process for accessing funds and to the cumbersome documentations and requirements that render SMEs reluctant to seek credit via traditional means, also because of its costs; while the latter problems are given by the fact that SMEs are considered too risky by banks; also, the amounts of money they need are such small and the information they provide publicly are such poor, they turn to be inconvenient to serve (Owens, Wilhelm, 2017).

Instead, a crucial characteristic of lending marketplaces is just the "ease" in access to credit offered to customers, in particular thanks to innovative methods applied by the platforms to assess credit worthiness of applicants; this is done for example via the use of behavioral data, machine learning, mobile phones provided data analysis, etc.; these analyzes can be made by the lender platform itself (for example through proprietary algorithms) or they can be offered by Fintech firms specialized in credit scoring (see the "infrastructure" category).

Indeed, the huge transformation in finance, which impacts most of all SMEs and which took to the rise of alternative access to finance, has been fueled by the availability of *"alternative data"* (Owens, Wilhelm, 2017): this means *"every time SMEs and their customers use cloud-based services, conduct banking transactions, make or accept digital payments, browse the internet, use their mobile phones, engage in social media, buy or sell electronically, ship packages, or manage their receivables, payables, and recordkeeping* *online, they create digital footprints. This real-time, and verified data can be mined to determine both capacity and willingness to repay loans"* (Beinker, 2017).

Furthermore, together with Peer-to-Peer Lending, equity- or debt-crowd-funding represent other forms of alternative finance (see figure below for a taxonomy of all the models within alternative finance category) on which individuals seeking for funds can currently rely; the beneficial aspects of the rise of alternative finance are on increasing competition they are putting in funding services thus eventually leading to greater efficiencies; also, they represent an additional investment possibility for investors and one which turns to be, with respect to traditional equity investments, suitable and accessible for a greater number of people.

Table 1: A Working Taxonomy of Online Alternative Finance Models

Alternative Finance Model	Definition
Marketplace/P2P Consumer Lending	Individuals or institutional funders provide a loan to a consumer borrower.
Balance Sheet Consumer Lending	The platform entity provides a loan directly to a consumer borrower.
Marketplace/P2P Business Lending	Individuals or institutional funders provide a loan to a business borrower.
Balance Sheet Business Lending	The platform entity provides a loan directly to a business borrower.
Marketplace/P2P Real Estate Lending	Individuals or institutional funders provide a loan secured against a property to a consumer or business borrower.
Real Estate Crowdfunding	Individuals or institutional funders provide equity or subordinated-debt financing for real estate.
Invoice Trading	Individuals or institutional funders purchase invoices or receivable notes from a business (at a discount).
Equity-based Crowdfunding	Individuals or institutional funders purchase equity issued by a company.
Reward-based Crowdfunding	Backers provide finance to individuals, projects or companies in exchange for non-monetary rewards or products.
Donation-based Crowdfunding	Donors provide funding to individuals, projects or companies based on philanthropic or civic motivations with no expectation of monetary or material return.

Fig. 12 – A taxonomy of alternative finance models
Source: Cambridge Centre for Alternative Finance.

Representative firms for the category of alternative finance which is worthy to mention could be: Avant and Kabbage; they respectively ranked 5th and 10th in the "2017 Fintech 100" (H2Ventures, KPMG, 2017).

Avant is a US company founded in 2012 and it is a fast-growing lending marketplace which focuses on offering fast credit access to customers; the company has been serving over

600.000 customers to date, with a main focus on consumers but with the aim to enlarge the customers' range; its mission is to lower costs and barriers for borrowing[27].

Kabbage, a Fintech from US founded in 2008, and now backed, among others, by ING Group, offers lines of credit up to $150.000 to small businesses through its platform, namely Kabbage Platform; Kabbage has offered $4 Billion in funding to more than 130,000 businesses to date and all the loans are issued by a bank[28]. In addition to Kabbage (for businesses) and Karrot (for consumers) B2C solutions, the Kabbage platform operates as a B2B under other brands for any organization which wants to offer automated online lending solutions[29].

The *digital banking* category encompasses all the banking services related to having an account (money transfers, withdrawals, bill payments, paychecks cash-in, etc.) which are provided through mobile phone or online platform only; these activities have been rendered accessible via mobile phones since the penetration rate of mobile devices is enormous and can represent an efficient mean to reach the underbanked population.

As a matter of fact, current age is referred to as *"the mobile economy"* and today there are more mobile connections than people in the world, 65% was 2016 global mobile penetration rate, defined as the number of unique mobile subscribers (a measure which counts for single individuals having subscribed to a mobile service, as a SIM card, regardless the number of phones owned) on the population, and it is expected to reach an impressive 73% in 2020[30].

As leading example of Fintech focused on digital banking we presented the one of Atom Bank, 8th ranked in "2017 Fintech 100" (H2Ventures, KPMG, 2017). Atom Bank is a UK online-only bank with no branches, founded in 2014; in 2016/17 the company launched Fixed Rate Saving products, Business Banking Secured Loans and Retail Mortgages; it is a 24/7 available bank with the mission to render banking easy and "customized" on the way each customer uses the banking services provided; the company reported average time to open a saving account is 10 minutes, as the company aims to render "the future of banking

[27] See: https://www.avant.com/

[28] See: https://www.kabbage.com/

[29] See: https://www.kabbageplatform.com/

[30] See: https://www.gsma.com/mobileeconomy/#oaconnections

available today"; Atom Bank saving customers were 17.916 as of 31st March 2017[31] and a notable investor behind the company is BBVA bank.

Moving to *asset management*, we find firms offering advice on personal spending, allowing customers to monitor their savings, their expenses and to achieve their goals by suggesting them how to invest, based on customers' risk propensity and needs, and how to better use their money. Within this category the characteristic of Fintech is the one of have broadened the access to many financial products to a larger customer base: what previously was a prerogative of financial literates and of wealthier people can now be an option for previously non-customers that are targeted by Fintech; they do so by lowering the account minimums and the fees usually associated with investment management.

A good portray of what we just said about wealth management can be given by the firms Wealthsimple, which gained the 29th position of "2017 Fintech 100" (H2Ventures, KPMG, 2017) and Robinhood, placed 50th (ibid).

Wealthsimple was founded in 2014 in Canada and it has the mission to offer investment advice accessible to the underserved by FS traditional players, especially younger customers[32], as average Wealthsimple's user is 29-years old[33]. With a 29-years old CEO at the top of the company, Wealthsimple brings the knowledge of professional investors at the fingertip of customers and the company is also well-known for its brand and marketing strategy, which is one of a kind within the field of investment services: with the aim to be at people's side, the brand is shown as having a strong understanding of common people concerns and the emotional side of the service is highlighted[34].

Thus we think of initiatives like the company "money diaries"[35] or advertisements as, to give an example, the one shown during Super Bowl before launching in US: the video, where young actor Tony Revolori, well-known for his role in the famous film "The Grand Budapest Hotel" is the main character, generated 3.971.766 views on Youtube to date[36].

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[31] See: https://www.atombank.co.uk/investor-information

[32] See: https://www.wealthsimple.com/en-ca/who-we-are

[33] See: https://www.fastcompany.com/3067695/wealthsimple-is-aiming-for-us-millennial-investors-with-creativity-and-no-b

[34] See previous note.

[35] See: https://www.wealthsimple.com/en-us/magazine

[36] See: https://www.youtube.com/watch?v=Yd3MMysL2NE, (accessed at 7th December 2017).

Similar principles of finance “democratization” inspire Robinhood business model; it is a company founded in 2013 in US and it is focused on brokerage, allowing US stocks and ETFs transactions with a $0 commission formula, backed and rendered possible to achieve thanks to the company lean structure[37].

Finally, we identified the category *infrastructure,* where B2B services are included; these are Fintech services developed with the aim to support the innovation of market structure and industry systems within Financial Services; indeed, this is rendered possible by the application of technologies (e.g. blockchain, biometrics, artificial intelligence, etc.) or capabilities (e.g. data analysis) which can allow the delivery of services needed by traditional incumbents, as the analysis of creditworthiness, the develop of security applications, etc.

With the aim to offer remarkable examples of the last category the two firms chosen were: Advice Robo and Aimbrain, respectively 50th and 51st in the “2017 Fintech 100” (H2Ventures, KPMG, 2017), opening the section of the Fintech 100 dedicated to “emerging” Fintech[38]. Also, given their characteristics both the companies are labeled as “enablers”, rather than disruptors of Financial Services (H2Ventures, KPMG, 2017).

Advice Robo was founded in 2013 in the Netherlands and it is a B2B solutions provider for banks and insurers; as far as banks are concerned, the company solutions help lenders to have a deeper understanding of their customers’ credit scoring and riskiness[39]. The services offered with this regard by Advice Robo are[40]:

- “Psychographic credit scoring”, a service which turns to be useful especially for the creditworthiness assessment by banks of so-called “thin-file” customers, namely those with a poor credit history, as self-employed, start-ups, etc.;
- “Behavioral credit scoring for optimal proactive servicing”, it is a warning system that aims to predictively reduce risks for banks;
- “Big Data Solutions”, with the possibility to tailor-make the data analysis models and get useful insights for lenders.

[37] See: https://www.robinhood.com/

[38] Please note that, within “2017 Fintech 100” by H2Ventures & KPMG (2017) the first 50 placed companies are labeled “leading” while the remaining 50 are so-called “emerging” Fintech.

[39] See: https://www.advicerobo.com/for-banks/

[40] See previous note.

Aimbrain, a UK company founded in 2014, provides institutions with user-friendly authentication biometric solutions; the company authentication methodology is patented, it exploits machine learning capabilities and it acts on different layers of security: behavioral, facial and vocal; in a nutshell, the company wishes to break the traditionally existing trade-off between "security" and "ease of use" [41], allowing FS providers to grant their customers security, at no expenses for the user experience on any of the FS player channel nor on any of the customer device.

2.2.2. Non-financial players offering financial services: major internet companies, e-retailers, social media & telecommunication platforms

Traditional firms, in particular banks and insurance companies, have been suffering not only post-crisis lower level of trust by people but also increasing competition coming from new entrants in their industries: this is the case of Fintech and Insurtech respectively, if we refer to technology-based companies born on purpose to change the status quo in those industries, but the range of digital disruptors does not end there; as a matter of fact, many giant technological companies operating in different industries are coming in the ones mentioned above and conquering a share of the market.

These new-comers from business different than Financial Services are "giants" with enormous potential to disrupt traditional industries and succeed; as a matter of fact, they already imposed greater competition in other industries, becoming market leaders in short time periods or causing incumbents to become much less valuable; as Apple in music retail or Google with GPS companies (Busch, Moreno, 2014).

In recent years, they have been heading traditional financial services providers' industry and this is what is happening in the Western economies with so-called GAFA, namely Google, Apple, Facebook and Amazon, whose increasing role in influencing the economy and the way people conduct daily life is going to impact financial services too; and also in the East with, among others, BAT companies, standing for Baidu, Alibaba and Tencent, Chinese tech champions turning to be "non-bank" banks.

[41] See: https://aimbrain.com/what-we-do/

In particular, Google Wallet[42] (first launched in 2011) now allows customers to transfer money among peers via pc or mobile using their e-mails or phone numbers and linking them to a bank account; the transfer service can be used via Gmail app (in US) or Google Wallet website (in US and UK, among people within same country); the claim to link the Gmail popular e-mail box to money transfers was to render them simple such that, as the company blog says, *"is as easy as sending any other attachment"*[43].

The company had also introduced its own plastic debit card (dismissed since July 2016), linked to Wallet account, given the fact that Wallet first served also as mobile payments system; by the way, Google launched a new mobile payments system for customers to pay on-line and in-stores, wherever contactless payment is accepted; it is Android Pay[44]. It allows customers to pay easily, safely and fast, without the need to physically carry all their cards with them; the app is available in 14 countries (at August 2017) and has partnerships with Visa, MasterCard and mobile payments' most representative firm, Paypal; thanks to the latter strategic collaboration, the two firms joint forces as Paypal US users are going to be allowed to pay with a tap in their phones (a feature of Android Pay), linking the payment to their Paypal account[45].

In September 2017, Google introduced a new digital payment app outside US, in particular in India; it is called Tez[46] and it was thought as a product *"that can compete with cash"*[47] in its underlying simplicity and ubiquity. Indeed Tez allows *"direct, bank-to-bank payments"*, *"Cash Mode for nearby transactions"*, which do not need the share of any information among nearby peers, and it is backed by Google with *"Tez Shield"*, a 24/7 data security system.

Also Apple launched its mobile payments system: Apple Pay[48], which came to the market in 2014; it can be used to pay with iPhone, iPad, Apple Watch and Mac either in stores

[42] For further definitions and news on Google Wallet see: http://searchcio.techtarget.com/definition/Google-Wallet and https://www.google.com/wallet/

[43] See: https://blog.google/products/gmail/send-and-request-money-in-your-gmail-app-android/

[44] See: https://support.google.com/androidpay/answer/7449801?hl=en&ref_topic=6224829

[45] See: https://blog.google/topics/shopping-payments/new-ways-to-pay-android-pay-and-paypal/ and https://www.paypal.com/stories/us/enabling-more-mobile-payments-in-partnership-with-google

[46] See: https://tez.google.com/

[47] See: https://blog.google/topics/google-asia/introducing-tez/

[48] See: https://www.apple.com/apple-pay/

or in the web; Apple payments service is available in more than 20 countries and the company is recently moving into money transfer too; as with Apple Pay Cash customers from the US will be allowed (by coming fall) to send and receive money stored in their Apple Wallet via text messages or asking Siri (Apple's voice-recognition system that assist Apple devices owners in many tasks, e.g. dictating text messages) to do it.[49]

Facebook, one among most popular social media, boasts 1.37 billion daily active users on average (June 2017)[50], it allows peer-to-peer money transfers through Messenger app; the service was first launched in US (2015) and recently took to UK and France[51].

As regards Amazon, incumbents carefully watch out its potential moves within financial services as the company already led to an impressive transformation elsewhere, as in retail industry; by the way, the "retailer-of-everything" already launched (in 2011) a lending service for SMEs which sell via its e-commerce platform. The service in the last year issued $1 billion in loans for Amazon's customers, the company evaluates credit-worthiness by analyzing potential borrowers' sales' trends, then offers loans from $1k to $750k; customers' repayments are done via deductions to their sales on Amazon website.[52]

Moving to so-called BAT, we can easily see (see figure below) they dominate Chinese Fintech landscape (EY, 2016b).

Group				
	Alibaba	Tencent	Baidu	JD
Payments	✓	✓	✓	✓
Financing	✓	✓	✓	✓
Wealth Management	✓	✓	✓	✓
Insurance	✓	✓	✓	✓
Securities	✓	✓	✓	✓
Banking	✓	✓	✓	
Credit Scoring	✓	✓	✓	✓
Crowdfunding	✓	✓	✓	✓
Subsidiary running FinTech business				
	Ant Financial	WeChat	Baidu Financial	JD Financial
Valuation	$60b[35]	$83b[36]	< $3b[37]	$7b[35]
No. of registered users	c.500m Alipay[38]	c.400m Tenpay[39]	c.65m Baidu Wallet[39]	c.100m 7 FS[40]

Fig. 13. – Sector focus of key tech companies in China
Source:EY,

[49]See: https://support.apple.com/it-it/HT207886

[50] See: https://newsroom.fb.com/company-info/

[51] See: https://newsroom.fb.com/news/2017/11/send-money-to-friends-in-messenger-now-in-euros-and-british-pounds/

[52] See: https://www.bloomberg.com/news/articles/2017-06-08/amazon-s-lending-business-for-online-merchants-gains-momentum

Baidu was founded in 2000; the young company provides a search engine platform as core product, and many others related ones; with a huge Chinese and internationally-expanding users' base, the company mainly gains its revenues from online marketing services, making customers pay whenever a Baidu user clicks on their links[53]. The company created its wholly owned subsidiary Baidu Financial Services Group (FSG) in 2015; the latter sells wealth management products and also issues micro-lending, using Big Data and Artificial Intelligence to assess credit-worthiness; furthermore the company allows payments through its Wallet.

Alibaba was founded in 1999 and its core business only, which is China Commerce Retail, now sells to 488 million of Active Annual Consumers (as at September 2017) thus being world's largest retail commerce company[54]. The company has a stake in Ant Financial Services, committed to provide financial services to SMEs and consumers; the businesses of Ant Financial are Alipay (payments system), Ant Fortune (an investment app[55]), Zhima Credit (a credit-scoring service) and MYbank.[56]

Tencent dominates China social messaging with its app WeChat and it launched WeChat Pay, which has similar features of its major rival Alipay.

As it is for Fintech, the advantages of such new entrants lie in their organizational culture, based on agility and entrepreneurship, and in their highly technological DNA; many refers to these new entrants as "Bigtech" and, according to the BCBS, *"Bigtech refers to large globally active technology firms with a relative advantage in digital technology. Bigtech firms usually provide web services (search engines, social networks, e-commerce etc) to end users over the internet and/or IT platforms or they maintain infrastructure (data storage and processing capabilities) on which other companies can provide products or services."* (BCBS, 2017; p.15).

Regardless their core business, Bigtech have a distinctive competitive advantage which allows them all to know customers behavior in depth and this is their enormous customers base's available data, from which they can gain significant insights. Furthermore, their high

[53] See: http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-homeprofile

[54] See: http://www.alibabagroup.com/en/global/home

[55] See: https://www.forbes.com/sites/ywang/2015/08/18/alibaba-finance-affiliate-launches-fund-investment-smartphone-app/#323cdd7c6301

[56] See: https://www.antfin.com/

level of internationalization together with the excess cash and investment strengths they own, allow Bigtech to succeed quite easily when launching a new product/service.

By the way, competition with GAFA does not end on technical skills only; the well-known success of these players lies in a bundle of capabilities they own throughout their business model implementation. Indeed, many claim that banking industry is becoming a *"consumer-to-business (C2B)"* one, just because of the standard of customer experience set by GAFA companies; this means customers are more and more in control and they are often able to create the value companies need to capture; just think to the amount of valuable data customers create through their interactions online with Facebook "likes" (Accenture, 2016).

With this regard, GAFA are masters in coping with such a new reality and, for example, Apple, whose brand is a very trusted one among consumers, with ever-increasing and first-ranking value[57], could be for banks a representative example of multi-channel finest offer and could even "teach" banks how to give customers a "frictionless" experience: indeed, as highlighted in a recent article (Salesky, 2017) the technology company's physical stores are absolutely successful and brick-and-mortar customers' experiences are complementary to the on-line ones. The store becomes just the right place for taking care of engagement, proving that to have a technology DNA does not mean necessarily to give up on branches.

The main ability for banks to learn from GAFA way of banking is indeed "Be digital", which serves as a premise, regardless how banks choose to embrace innovation, and which means having a diffused digital culture and an adequate IT architecture throughout the organization, together with a more liquid approach to customer engagement and a coherent and complete digitization of the processes which is end-to-end (involving also branches) (Accenture, 2016).

However, even if GAFA and similar companies have not completely transformed themselves into banks yet, still retaining their different core businesses put and having just jumped into some niches of Financial Services offer, what experts are focusing their attention on is the huge potential they have for doing it. In particular, they would eventually have young consumers' approval, as customers are used to their enormous and constant presence in a wide range of daily life activities; the "trust" issue somehow suffered by banks does not impair Bigtech companies. To be more precise, according to Accenture (2016), high percentage of respondents, especially the youngest (either aged 18-34 or 34-54) answered

[57] See: http://interbrand.com/best-brands/best-global-brands/2016/ranking/#?listFormat=ls

they would be “likely or very likely” to bank with companies as Google, Apple, and co., if they were offering banking services (see figure below).

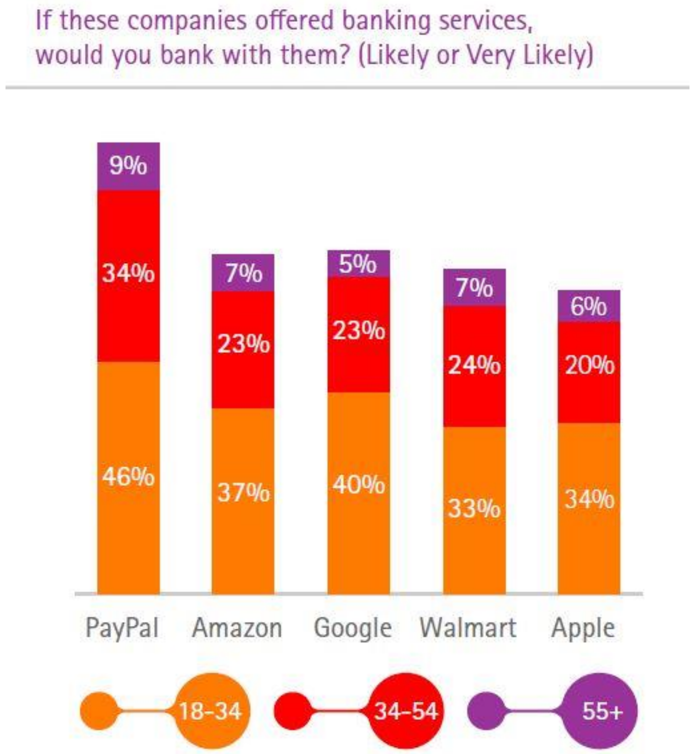


Fig. 14 – Would you bank with GAFA?
Source: Accenture

2.3. The impact of the (r)evolution: what Fintech brings in

By bringing innovation within financial services, Fintech “revolution” comes at the benefit of customers and, at a certain extent, of incumbents, too; by the way, the rise of Fintech has significant implications for a larger range of players, including also governments and regulators, who started addressing the phenomenon (indeed a regulatory framework has been and will be, at an increasing extent, developed to shape Fintech field of action).

There is quite overall consensus about the beneficial aspects that Fintech innovations will bring within Financial Services industry; our objective is to briefly describe the positive contribution to important issues in financial services, that Fintech firms rendered possible, and to identify (as we will do later in this work) which are the characteristics of Fintech players and of their successful business models, thanks to which disruptors are able to change things for the better.

Notwithstanding the positive influence of Fintech emergence, some possible drawbacks and risks related to the innovation/evolution of Financial Services require a special attention, too. As a consequence, after presenting the beneficial effect of Fintech firms and their inner DNA, we will also analyze the potential risks underlying the rise of this phenomenon and also the eventual challenges that Fintech firms should be able to overcome in order to succeed.

As regards the positive influence of Fintech, according to KPMG (2017b), Fintech help in changing the FS for the better across the following main areas (see figure below):

- *financial inclusion:* as seen before, customers and businesses (especially SMEs) which were previously out of financial inclusion had been served by innovative services and accessed financial products;
- *customer experience:* on this field Fintech contribution was huge and able to enrich the choices at customers' disposal, taking customization of Financial Services to the "tailor-made" level; also, Fintech brought to Financial Services the usability and the type of "user-friendly" experiences customers searched for;
- *transparency:* again, an imperative of today's world of increasing customers' awareness was brought to Financial Services, trying to eliminate the information advantages on which incumbents had developed lucrative revenue models in the past;
- *security and compliance:* the adoption of technologies such as biometrics took security issues to the next level; improvements and streamlined solutions were launched (in particular by so-called Regtech);
- *support and guidance:* increased demand for products and services rests on customers' higher knowledge of the underlying functioning of the Financial Services; thanks to technology support and relying on "easy" solutions, Fintech are able to enrich the customers' financial literacy and to reawaken "people" (meaning not only elite users) interest toward Financial Services.

Fig. 15 – Implications of Fintech
Source: KPMG

2.3.1. Common characteristics of Fintech business models

In order to understand what are Fintech success factors which enables them in delivering innovation, it would be useful to portray the typical DNA of a Fintech firm and to identify the characteristics of an ideal Fintech player. By the way, the objective of identifying a comprehensive list of characteristics of Fintech is a very difficult one, either because of the differences among companies which can be included in this class either because any of them could be showing or not all of such eventually found traits; by the way, there are some emerging key success factors which seem to pertain to Fintech. With these reference, we want to share some of these capabilities that drive successfully the innovation in financial services.

In order to effectively introduce them, we would like to rely on a brief story, told by the Governor of Bank of England at a speech he held on the rise of financial technologies: he said - *"But first I should make a confession: I was a banker once. To earn money for university tuition, I worked as a teller in my native Canada. To be more precise I was a Customer Service Representative. My core responsibility was simple: stand at a wicket and accept customer deposits, mainly from small businesses, and pay out withdrawals, mainly to their employees. Over time, I got to know the regulars ranging from the baker who would come in every afternoon to deposit a bundle of bank notes smelling of bread (literally dough) to the executives of a failing construction company who would cash weekly their pay cheques with* *alacrity and trepidation. I learned that there were two types of client: those who engaged with me and those who didn't. And I learned with time that the former got more from the bank because I and it knew more about them and what they needed – whether a savings product or a loan. The bank got more from them in terms of revenue and reliability (helpful given that two small banks had recently failed). Indeed, as my province was in a deep recession at the time, loyalty and understanding mattered. It could mean the difference between a restructured loan that could be repaid and a foreclosure that would bring liquidation"* (Carney, 2017).

This anecdote is crucial to shine a light on something typical of the approach of Fintech companies, that is engagement; its role in gaining customers and most of all in retaining them is quite obvious in business, even in banking, as the above tale wants to highlight; and such well-founded principle gets an even increasing soundness if we look at the instruments at Fintech's disposal to implement it: in particular, analytics, the capability to gain insights from different sources of raw data.

As a matter of fact, the Financial Services industry relies on information, which Fintech companies nowadays create through articulated forms of business intelligence, some which use machine learning and algorithms more and more and which can benefit from lots of consumers' data; the way Fintech approach engagement is in line with current era of more "powerful" consumers, who are seamlessly in touch with their most well-known brands, in particular internet-based business models.

In order to collect the attributes of successful innovators in financial services, literature identified the LASIC principles first (Cheun, Teo, 2015), that is to say the followings: *Low margin, Asset light, Scalable, Innovative, Compliance Easy*. Based on an analysis of the above, EY (2016a) coined the CLASSIC framework (see figure below), an acronym that stands for: *Customer-centric, Legacy-free, Asset light, Scalable, Simple, Innovative, Compliance Light.*

	Common characteristics	Description
c	Customer-centric	▸ Simple, easy-to-use, high-convenience products and services ▸ "Needs-focused" propositions designed around particular consumer use cases and pain points ▸ High degree of customer engagement
l	Legacy-free	▸ Purpose-built systems designed around digital channels and fulfilment ▸ Little drag from discontinued products, prior acquisitions or regulatory liabilities
a	Asset light	▸ Low fixed-asset base creating significant operating leverage ▸ Balance sheet frequently rented or outsourced to other parties
s	Scalable	▸ Scalability built into the business model by leveraging partnerships, distribution and simplicity ▸ Low capital requirements
s	Simple	▸ Fundamentally simple customer proposition ▸ Highly focused and transparent business processes
i	Innovative	▸ Innovation across the spectrum, e.g., new business models, products and services and delivery models
c	Compliance light	▸ Simple and unbundled models that are often designed so as to avoid the need for authorisation

Fig. 16 – Characteristichs of Fintechs
Source:Chuen & Teo, EY analysis

The two frameworks give us quite similar portraits of effective Fintech business models, however the former had highlighted a trait which we do not find in the following anymore and which is worth a mention, id est *low margin:* LASIC principles find critical the *"initial mass accumulation phase"* for Fintech businesses to prosper, till the extent they consider common accepting a starting low profitability and striving to implement a sustainable revenue formula based on low margins, at the advantage of customers, and large volumes (Cheun, Teo, 2015).

The "lock-in" of customers and the achievement of a significant number of users as common characteristic of Financial Services successful innovators is also crucial to gain another important mean which often helps innovators to succeed, namely funding; indeed it often comes to those start-ups with a valuable idea if they were able to develop a consumers' base to be considered as fundamental part of the seeking-fund company's assets.

As regards CLASSIC framework, it is a quite intuitive and complete one; it enriched the LASIC principles, adding the first characteristic of *customer-centric* (EY, 2016a): indeed, the centrality of customer and all its underlying facets recall the above mentioned story about engagement, which is gaining increasing importance with Fintech rise. This also explains why

Fintech companies are "need-focused", thus unbundling financial services and levering on customization to offer tailor-made products (EY, 2016a).

Fintech products are developed on purpose of serving a very precise target, such that, with their strategically focal role in shaping the firms' value propositions, customers become "prosumers", blurring the distinction between who creates products and services and who uses them.

The customer represents the core of strategy making in Fintech, they are the ones who can grant a company success by brand-advocacy and word-of-mouth, in particular if a service become such popular it goes "viral"; this rule implies a constant effort to develop a better user experience, one which can render customers' first impression good and make them feel comfortable in every step throughout the product/service purchase; this attempt to shift the focus on customer is not at his own advantage only and Fintech players are familiar with stories that can confirm this: one is "The $300 million button"[58], a sharp tale about how an online shop experienced an additional $300.000.000 on sales just thanks to designers' solution to change a "Register" button into a "Continue" one, which made customers more prone to conclude the purchase (Cordeiro, 2016).

Fintech companies are endowed of similar perspicacity and empathy, to implement which they rely on engineering and design know-how and dedicated resources; this contributes to make them "Simple" in the sense CLASSIC framework means (EY, 2016a).

Simplicity entrenches customers' tie with the brand, it can represent the reason to choose a company among many, it does not deprive companies of anything, rather it gives them several advantages; as fewer errors, faster rate of work completion, lower need of customers' assistance, more satisfied customers, etc.; in a nutshell, simple means lean at every piece of the company operations (Cordeiro, 2016).

2.3.2 Challenges to disruptors: potential risks and drawbacks for Fintech

However, despite the issues of Financial Services industry that Fintech firms are able to renew and improve, thanks to their characteristics and advantages, there are also potential risks and concerns about the future of this flow of innovations; first of all, as it often happens to

[58] See "The $300 Million button" at: https://articles.uie.com/three_hund_million_button/

technological innovations, Fintech companies may find the opposition and reluctance of more conservative players, especially if we consider the extent of care people use in managing their financial services. Also, the potential negative impact that any Fintech operators' mistake could have is large, considering that the social function of the service offered by Fintech is exactly to help other players in the economic system to grow and to prosper.

Furthermore, given the high reliance of Fintech firms on technology (as they usually carry on their main operations online), there is also a certain degree of cyber-risk to take into account when considering the possible drawbacks of Fintech business models.

For these reasons, Fintech firms can be considered to have some weaknesses to improve and some challenges to win. With this regard, analyzing the lending activities and business models provided by Fintech, the CGFS & FSB (2017) identified what they call "factors affecting growth potential"; the latter can, albeit they only refer to lending sub-area, be attributed to the Fintech firms as a whole, as follows:

- *counterattack from incumbents*, this refers to the possibility of a valid retaliation by incumbents, especially in areas, such as developed markets, where they already gained a significant presence; notwithstanding the emergence of Fintech and the disruption of recent years, many banks proved ready to respond and they succeeded in doing it;
- *not robust business models*, since many Fintech firms came to the market quite recently, still having not verified their business models' functioning over the long rung;
- *regulatory requirements*, they represent a critical issue in financial services and this applies also to Fintech universe, even if they are subjected to a lighter pressure with respect to incumbents;
- *uncertainty*, once the activity of Fintech firms is no longer peripheral, it will be treated by regulators in still unknown and possibly unfavorable ways, as Fintech could lose the "freedom" and "softness" which, at first, acted as a driver to their emergence;
- *reputation*, many Fintech firms still find themselves in a phase of "credibility" building and they cannot rely on a multi-decades brand; for this reason, even if some traditional FS providers have been distrusted and had a lot to do to recover the approval of customers, many incumbents still enjoy an advantage in terms of

brand value and awareness, while Fintech companies should carefully ty to avoid any possible mistake which could damage their "fragile" reputation.

In particular, as far as regulatory aspects are concerned, many representative players from banking industry are pushing regulators to align regulatory requirements on Fintech with those on the traditional incumbents of Financial Services industry, especially banks, according to the principle "same risk, same regulation", posing a great question to what has been considered so far an advantage on Fintech firms (Longo, 2017).

2.4. Global overview of Fintech market: the rate of adoption of technology-enabled financial services

Fintech companies, defined as technology-based companies developing financial services' innovative business models, started appearing on the market quite recently, as said; and despite the phenomenon attracted a huge interest throughout the spectrum of financial services' players – either traditional firms, regulators or investors - it is often a common opinion such a trend will not last long, as many see these innovations as a temporary bubble or even a "geeks" prerogative. By the way, a more in depth knowledge of the phenomenon and a founded awareness of its underlying drivers can and should lead to claim Fintech services are going to have a durable impact and to reach a significant share of users.

On this view, we find many industry practitioners and in order to measure the rate of adoption of Fintech services among digitally active population, in 2015, EY launched the "Fintech adoption index"[59] and the index was found to be about 15,5% (Gulamhuseinwala,

[59] In 2015, the index was in its first year of measurement and, as reported by authors, it was derived by *"a survey of 10,131 digitally active consumers, we look at FinTech adoption in Australia, Canada, Hong Kong, Singapore, the U.K. and U.S.1 In each of these markets, we have identified 10 FinTech services which fall into four broad categories: savings and investments, money transfers and payments, borrowing and insurance"* (Gulamhuseinwala, Bull & Lewis, 2015; p.18). On 2017 research's methodological aspects EY authors reported: *"We define a regular FinTech user as an individual who has used two or more FinTech services in the last six months. We identify 17 distinct services offered by FinTech organizations and non-traditional providers, and refer to these as FinTech services. These services are considered within the five broad categories of money transfer and payments, financial planning, savings and investments, borrowing, and insurance. Our 2017 research is based on more than 22,000 online interviews in 20 markets. Our surveyed population is drawn from a demographically representative sample of each market to the extent available, and all references to consumers relate to individuals who are active online, which we refer to as "digitally active." We have applied unweighted averaging of results, using a "one market one vote" approach to report findings, to offer a global, cross-market perspective on themes and trends. The 20 markets are Australia, Belgium and Luxembourg (considered as one market for the purposes of our analysis), Brazil, Canada, China, France, Germany, Hong Kong, India, Ireland, Japan, Mexico, the Netherlands, Singapore, South Africa, South Korea, Spain, Switzerland, the UK and the US."*

Bull & Lewis, 2015); by the way, the index, whose calculation has been perfected meanwhile and which is now calculated on a larger population coming from a wider range of countries to give a global perspective on the phenomenon, rose at 33% in 2017 (see figures below), giving to the authors reasons to claim Fintech services (defined within 2017 report scope as to include services from the categories of "*money transfer and payments, financial planning, savings and investments, borrowing, and insurance"*) find themselves at "early mass adoption" stage across those of the lifecycle of innovations[60] (Gulamhuseinwala, Hatch, & Lloyd, 2017).

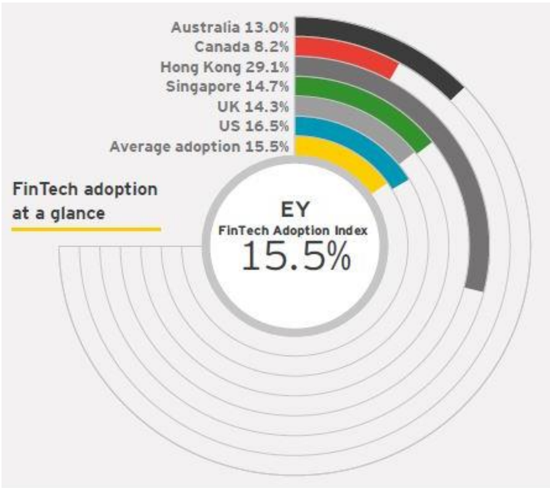


Fig. 17 – Fintech Adoption Index- 2015
Source: EY

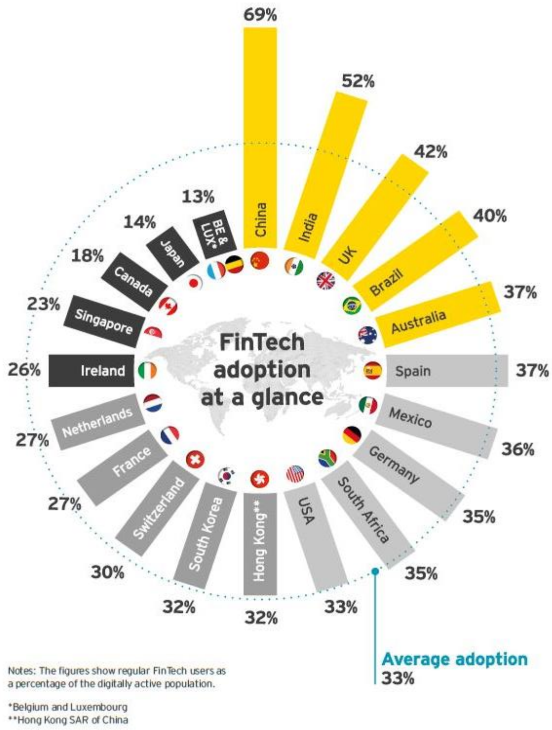


Fig. 18 – Fintech Adoption Index - 2017
Source:EY

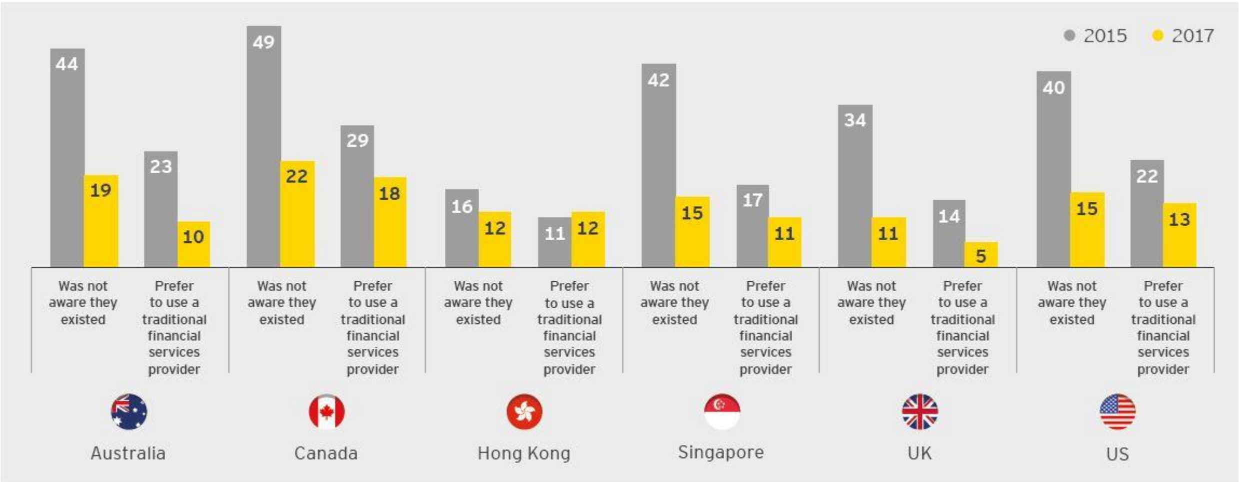
[60]The study recalls the "Innovation adoption curve" and the "Diffusion of Innovation" theory of Rogers, that is one which is often referred to when talking about people awareness of new innovations: according to Rogers, the way a new idea or technology spreads among people within a social system is crucial for its success to arrive; the author explains it succeeds when reaching a critical mass. Furthermore, the author explains that adoption, process by which people embrace what's perceived as new, is not simultaneous at the whole social system level. In particular, the author standardizes people distribution for adoption and he identified five different groups of people with reference to their attitude towards innovations; these groups all encompass people with different characteristics and who shall be addressed with different strategies, they are:

- *innovators (about 2,5% of total population):* they are brave and venturesome individuals, strongly eager to adopt new ideas and to bring them within the boundaries of its social system;
- *early adopters (13,5%):* they are much more local than innovators and they have, among any category, the higher degree of opinion leadership such that they can advocate for innovations and speed up their diffusion;
- *early majority (34%):* they come in adoption just before the large majority/the average member of the social system, they are follower of most leading categories;
- *late majority(34%):* their approach to innovation is cautious and skeptical and they adopt novelties after the average member of the social system, once they can feel the underlying utility and only thanks to or because of the social network's pressure and norms;
- *laggards(16%):* they are typically anchored to the past when judging for innovations and they are traditionalists, they often come to adoption of an innovation in times in which it has already been surpassed by change.

As regards the geographical breakdown, the just mentioned index found the leading countries are China, India, UK, Brazil and Australia for 2017 (Gulamhuseinwala, Hatch, & Lloyd, 2017). Furthermore, the 2015-2017 index comparison (only available for the six countries already surveyed in 2015) indicates that the countries which experienced the greatest change in adoption rate are Australia (which passed from a 13% to a 37%) and UK (whose adoption index varied from 14,3% to 42%).

The study has also found an increased awareness; in particular, for the six countries surveyed either in 2015 and in 2017, authors found the percentage of respondents aware of Fintech services rose from 62% to 84% (while across all the 20 markets, average awareness in 2017 is at 86% of the surveyed population); this trend will probably be persistent as, according to the analysis conducted by Gulamhuseinwala, Hatch, & Lloyd (2017) the adoption index is expected to increase, based on respondents anticipated future use, given the fall of people concerns and thanks to increased advancements in technology.

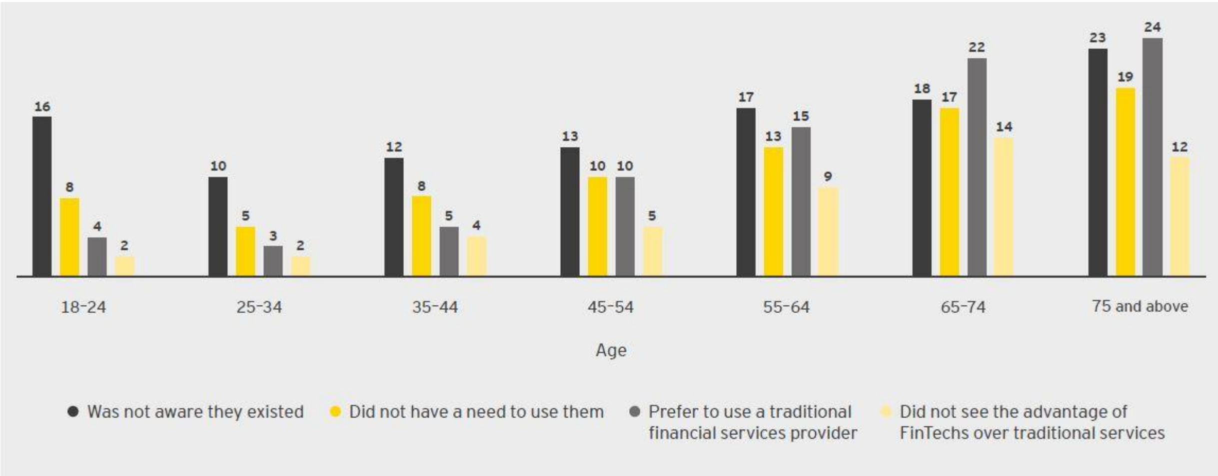
So, one of the most significant barriers to Fintech services' adoption, namely people *"was not aware they existed"*, already faced important reductions in the six countries of Australia, Canada, Hong Kong, Singapore, UK and US; whilst another barrier to adoption analyzed and reported as *"prefer to use a traditional financial services provider"* experienced less significant variations and even a slight increase among Hong Kong respondents (see figure below) (Gulamhuseinwala, Hatch, & Lloyd, 2017).



Notes: The figures show the percentage of all respondents who cited lack of awareness, versus a preference for traditional financial services providers, as barriers to using FinTech, by market. Survey respondents were allowed to choose multiple reasons for not using FinTech. Question was asked only to respondents who had used no FinTech services in the last six months, however, the analysis is re-indexed to show as a percentage of all survey respondents in each market.

Fig.19 – Fintech adoption barriers by countries 2015-2017
Source: EY

The study on Fintech adoption index gives meaningful insights, not only in terms of popularity and people education about the services provided by Fintech companies, but also in portraying most active Fintech users' typical identity; with this reference, the survey identified the most active cohort (giving an adoption index breakdown by age groups) in the 25-34 years old population (with a rate of 48% regular Fintech users on the total same-aged surveyed population), followed by the 35-44 years old group (with an index of 41%), behind which we find the 18-24 aged (37%), the 45-54 (30%), the 55-64 (22%), the 65-74 (15%) and, finally, the over 75 (with a lower 9% adoption index) (Gulamhuseinwala, Hatch, & Lloyd, 2017). The most active cohorts are more digital-savvy and also in such a age they need a wider range of financial services, in addition to this, they, in particular the youngest, still do not have a strong relationship with a traditional provider, for this reason the 25-34 aged are the least likely to cite *"prefer to use a traditional financial services provider"* as barrier to Fintech adoption, versus respondents over 65 years old, who indicated it as a reason whit much higher frequency (see figure below).



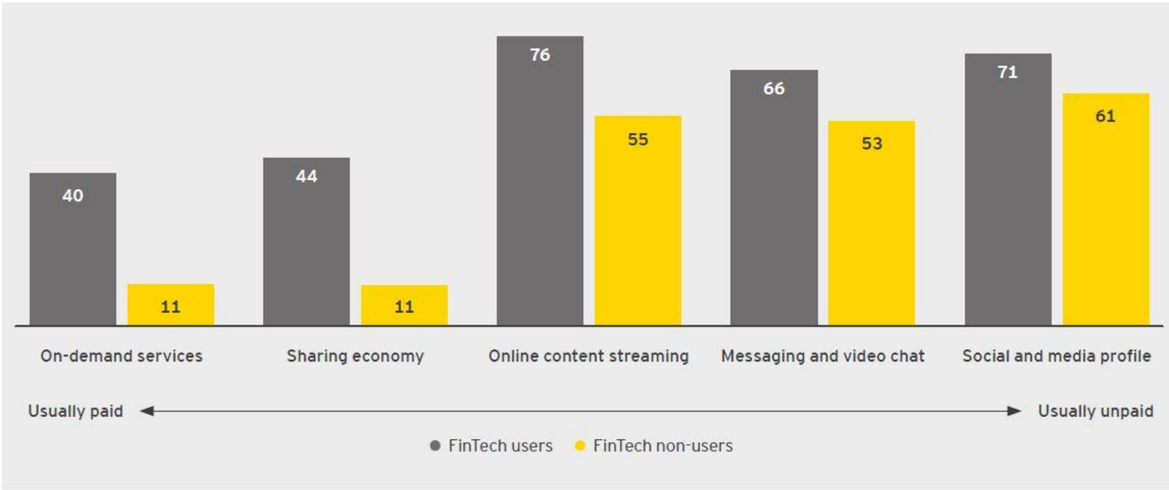
Notes: The figures show the percentage of all respondents who cited four barriers to using FinTech, by age group. Survey respondents were allowed to choose multiple reasons for not using FinTech. The question was asked only to respondents who had used no FinTech services in the last six months, however, the analysis is re-indexed to show as a percentage of all survey respondents.

Fig. 20 – Fintech adoption barriers by age groups
Source: EY

According to the Gulamhuseinwala, Hatch, & Lloyd analysis (2017), Fintech users are often (64% of them all) willing to manage their lives through digital channels, with respect to Fintech non-users (among which only 38% is willing to do it), who proved to be less digital-addicted. Furthermore, people using Fintech services are doing it on an enlarged and diversified spectrum, meaning many of them rely on more than one Fintech service and 13% of Fintech users diversified till the extent they use five or more different Fintech services: with this reference, EY authors define them *"super-users"*.

Fintech is gaining momentum and the analysis made by EY sees many countries at an higher than average rate of adoption, thus, applying Rogers' theory of Diffusion of Innovation[61], it also finds that all of the surveyed markets passed by the "innovators" phase; this means Fintech is not a peripheral phenomenon anymore, rather in many of the analyzed countries it is coming to critical mass adoption among digitally active population, that is the one Fintech companies address.

Even if all of the surveyed respondents with the purpose of EY analysis of adoption index are digitally active, Fintech users appear definitely more likely to use also other online services, in particular on-demand services (e.g. food delivery services), and they are more active parties of "sharing economy" (e.g. bike rental services) with respect to Fintech non-users (see figure below) (Gulamhuseinwala, Hatch, & Lloyd, 2017).



Notes: The figures show the percentage of FinTech users and non-users who are "regular" users of various online services. The definition of "regular" has been specified for each kind of services according to typical usage patterns: monthly for on-demand services and sharing economy; weekly for online content streaming; daily for messaging and video chat, and social and media profiles.

Fig. 21 – Fintech users vs. non-users: use of other online services
Source: EY

Overall, it is evident that Fintech market is already a significant one, with adoption on the rise and with consumers geographical patterns following the *"first the Rest then the West"*[62] logic in adoption, as it is increasingly happening for cutting-edge technological innovations; far from being a Western economies' privilege, and thanks to legacy-freedom and macro-economic potential of the "Rest" areas, Fintech is flowing more rapidly in

[61] See previous note.

[62] See for example: https://dailyfintech.com/2015/09/09/digital-financial-inclusion-driving-first-the-rest-then-the-west-trend/ on the point.

adoption in East geographies and it is taking roots among youngest and most tech-savvy population above significant threshold throughout many markets.

2.5. Investors' perspective on Fintech: a valuable market

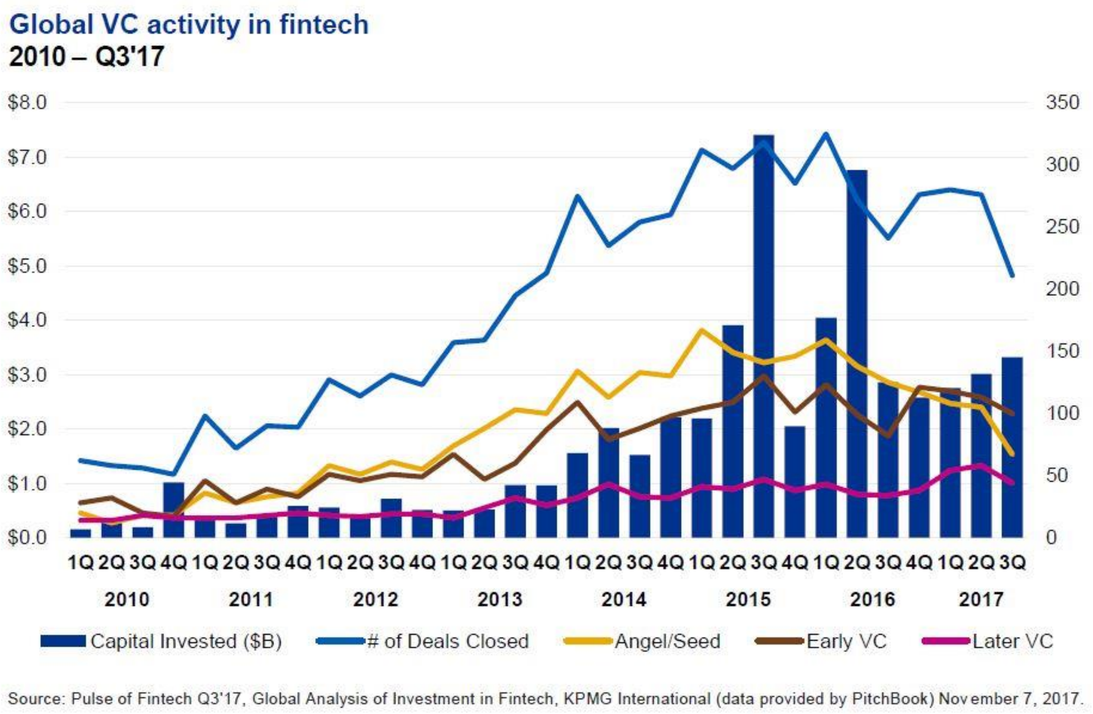


Fig. 22 – Global VC activity in Fintech
Source: KPMG

As highlighted previously in this work, investments in Fintech have been significant in recent years (especially after 2013) and they served, in particular VC investments, as a driving factor for Fintech phenomenon to burst. A crucial year was 2015, during which financing deals skyrocketed (see figure above and the following).

As highlighted in figure above, despite the lower number of deals (which mainly reflects activity trends across VC market), recent VC activity in Fintech still appears to stay robust in terms of value and, during Q3 of 2017, Fintech attracted a total of $3.3 billion in VC investments, keeping growing with respect to previous quarters of 2017 and with this quarter being the fifth in terms of value (among the tracked quarters); also, VC has still remained the dominant type of investment in Fintech (for example with respect to M&As, given the fact that many Fintech players are still evolving) (KPGM, 2017a).

Considering not only VCs, rather all of Fintech financing deals (VC, PE & M&A), again a slight reduction has been registered in transactions volumes globally quarter over quarter: they passed from 293 deals in Q2 of 2017 to a lower amount of 274 in Q3, for a total value of $8.2 billion (see figure below) (KPMG, 2017a).

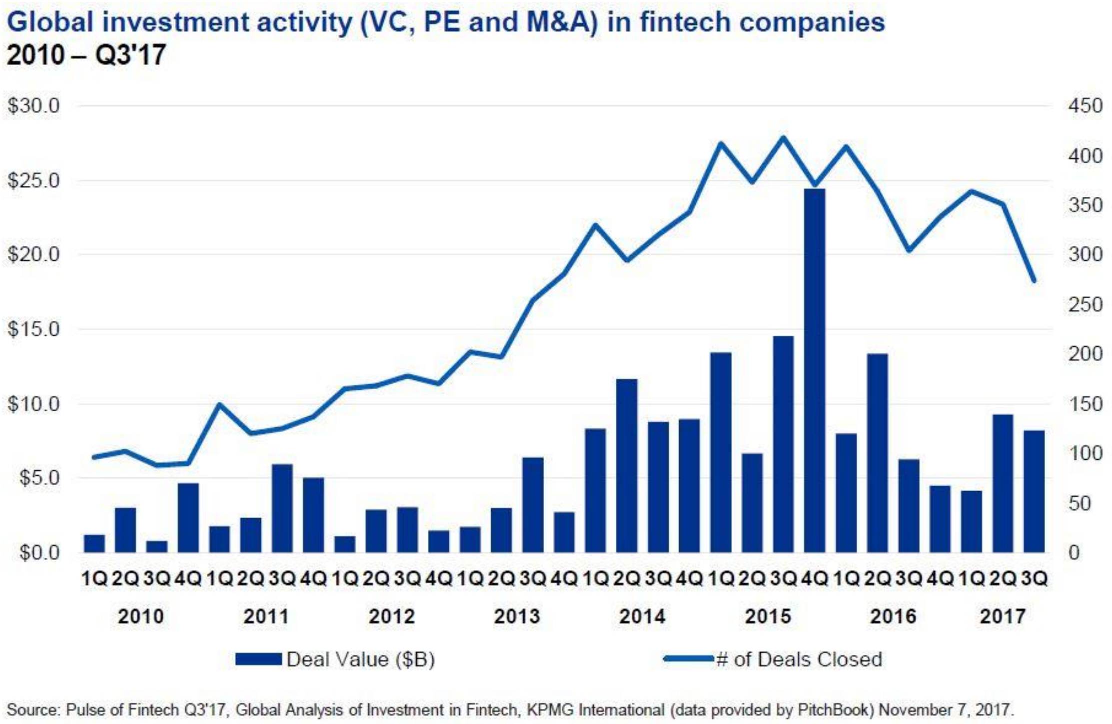


Fig. 23 – Global investment activity (VC, PE and M&A) in Fintech companies
Source: KPMG

As regards a breakdown of overall deals by geographies (Americas, Europe, Asia only) the Q3 of 2017 saw Americas, as leading area, with $5.35 billion and 158 deals (with US contributing to the greater extent), followed by Europe, with $1.66 billion and 73 deals, and Asia, which reached $1.21 billion across 41 deals (KPGM, 2017a).

By looking at previous years' quarter3 results, and with a focus on VC investments only, we could claim that Q3 2015 was dominated by US in terms of deals value's share, followed by Asia in Q3 2016; but, as far as Q3 2017 is concerned, Europe role in terms of deals' value's share completely changed: indeed, in relative terms to the total amount of VC funding for the third quarter of the year, it rose to about 20% in 2017 (see figure below)[63].

[63] The author analysis on the Q3 results for years 2015-2017 has been made on the basis of the following researches: KPMG & CB Insights analysis of 2015Venture funding in Fintech (KPMG & CB INSIGHTS, 2016b), KPMG & CB Insights analysis of Q3 2016 results on the same topic (KPMG & CB INSIGHTS, 2016a) and on KPMG analysis of similar results for Q3 2017 (KPMG, 2017a). From within each report data on global total VC funding were gained and considered as total amount, in order to present a geographical breakdown of the same for the main areas of interest: US, Europe and Asia. The latter breakdown is obtained by calculating the

This is probably a clear evidence of Europe entering a more mature and substantial phase on Fintech, with larger deals' values and with the emergence of different active hubs, but also with a higher awareness of incumbents, in particular banks, of the innovative phenomenon within Financial Services; indeed Corporate Venture Capital is a very active type of investment as a way to outsource innovation, and, in Europe, we see especially banks acting this way (KPMG, 2017a).

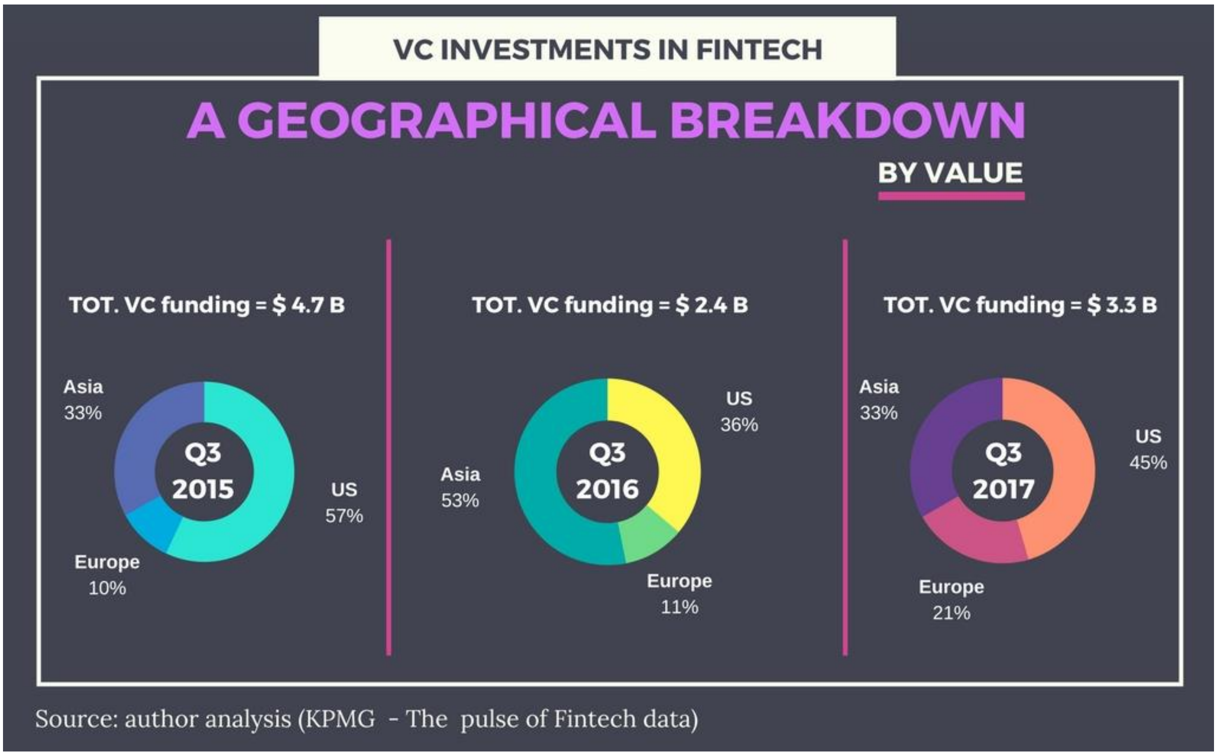


Fig. 24 – VC funding: a geographical breakdown comparison over Q3 for years 2015-2017
Source: author analysis on KPMG data

The geographical distribution of Q3 2017 top – by value - investment deals in Fintech (VC, PE and M&A) was dominated by US, a geographic area characterized by a significant presence of megadeals; in particular, the distribution saw six out of ten top deals for US, namely Intacct ($850 million), CardConnect ($750 million), Xactly ($564 million), Merchants' Choice Payments Solutions ($470 million), Access Point Financial ($350 million) and Service Finance Company ($304 million); the following one only for Asia, Dianrong ($220 million), and, finally, two deals for Europe, these were ConCardis ($806 million) in Germany and Prodigy Finance ($240 million) in UK; while another left top deal was closed in Canada and it was TIO Network ($238.9 million) one (KPMG, 2017a).

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rough percentages shown in the figure (considering the VC funding value for each quarter and geographical area, as presented in the above researches).

In order to state which have been the top VC deals (by deal value) and who the most active investors (by deal volume) throughout the first half of 2017, Innovate Finance recently summarized the first half of the year results, listing the most active investors (as 500 Startups, Startupbootcamp, Y Combinator, each making 17 deals in H1 2017) and also presenting some notable examples of deals (see figure below), such as: SoFi (in US), a company active in lending (from student loans to mortgages) and wealth management, which raised about $500 million funds for expansion[64]; Paytm (in India); Atom Bank (in UK); iZettle and Klarna (in Sweden); etc.

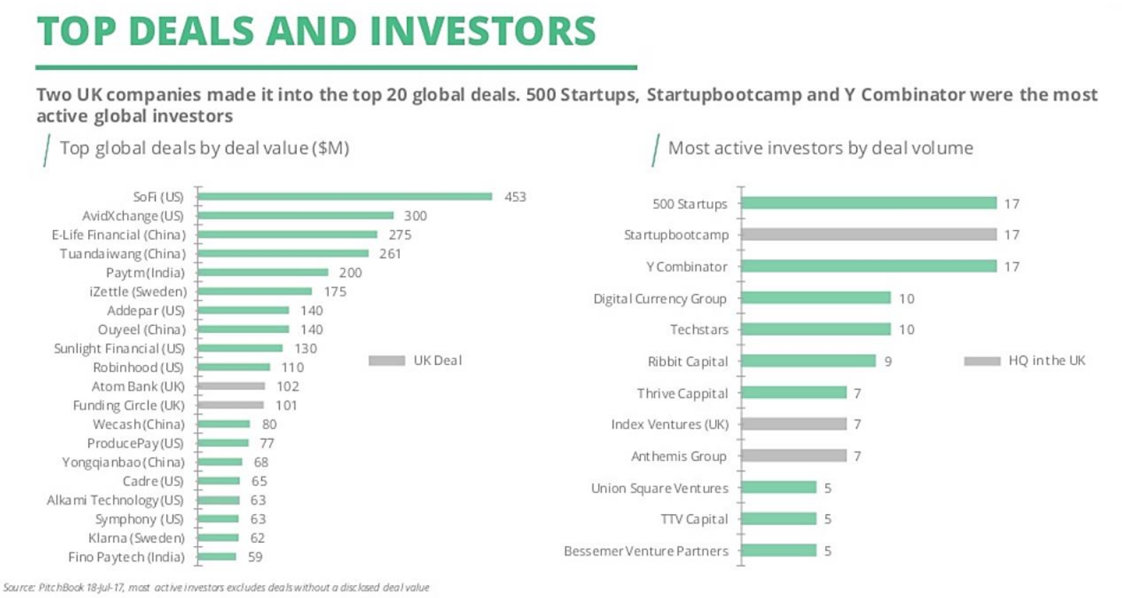


Fig. 25 – Top Deals and Investors; H1 2017
Source: Innovate Finance

2.5.1. Mapping innovation: Fintech hubs and leading geographies

The rise of Fintech and the subsequent flowering of opportunities, for incumbents and for new participants of Financial Services, are facilitated by the emergence, all over the world, of communities which are paving the way to the future of Financial Services industry and which prove to be more active in exploring Fintech themes and implications. These communities play a very important role for the transformation of this industry mainly because they allow entrepreneurs, innovators, bank experts, technological talents, investors to meet and, also,

[64] See: https://www.sofi.com/press/sofi-announces-500-million-strategic-growth-investment-led-silver-lake/

because they provide them a series of enabling structures which make easier to deliver innovation.

Among the affirmed and the emerging ones, we mention here some leading hubs for Fintech and explain the underlying factors which contributed to the development of these communities. Many of them are also considered crucial centers for the Financial Services industry as a whole, as the existence of a developed industry can itself be a significant catalyst for the rise of Fintech; with this reference, for example, Barba Navaretti, Calzolari, Pozzolo, (2017) measured the correlation between investment in Fintech companies and Credit/GDP ratio[65] (see figure below) and found that the first are larger in more financially developed countries.

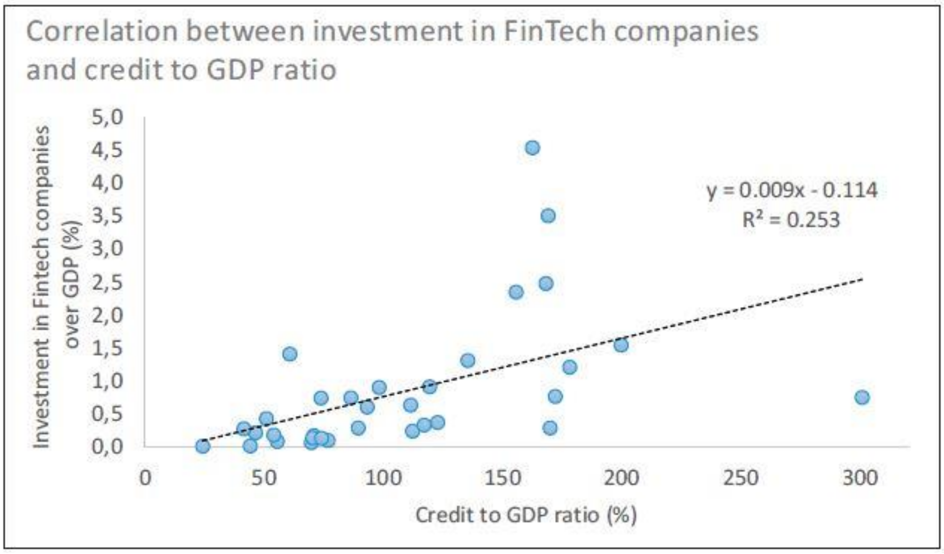


Fig. 26 – Correlation between investment in Fintech companies and Credit to GDP ratio
Source: Barba Navaretti, Calzolari, Pozzolo, 2017

By the way, other factors, e.g. the regulatory state of the Country of the communities, the proximity with universities which provide Fintech ecosystem with needed talents, etc. are crucial too; also, as Cockerton (2016) highlights ,the existence of a crowded startup community is a determinant factor, as many serial investors consider worthy to meet all of their funded companies by one single travel (think of Silicon Valley as the most representative example of this) and even because this facilitate innovators to partner.

[65] The authors used data from CBInsights and the World Bank’s Global Financial Development Database and, as they reported, “Credit to GDP ratio is the total value of credit to the private sector as a percentage of nominal GDP. The sample includes the following countries: Austria, Belarus, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, and United Kingdom.”

Despite some common drivers which characterize the Fintech leading geographies, as Gnirck & Visser (2016) point out, there are peculiar characteristics of each which contribute to its importance in Fintech and there are very different backgrounds between the Fintech hubs located in the developed countries and those in the developing economies; as a matter of fact, while the first rely on Fintech to innovate and add value to the most traditional financial services, the latter are prompted to innovate by the underlying need to address some critical issues, “pain points” (e.g. the one of financial inclusion), strongly felt in their economies and which have been turned into market opportunities.

All of the above determinants contributed, together with several specific characteristics that we will discuss for each hub, to the emergence of the following Fintech leading geographies (as London, Singapore, New York, Silicon Valley, Hong Kong, etc.); by the way, the list is not exhaustive, as throughout the world we are witnessing to the growth of Fintech communities, with new nascent hubs, such as Vienna, focused on niche areas of the whole Fintech universe, and with a rising number of regions which try to cope with innovation in Financial Services and to have an active role with this reference.

In order to map the state of the art of Fintech in geographies throughout the world, Deloitte and Global Fintech Hubs Federation (2017) recently presented a study which profiles 44 hubs and assesses how conducive they are for supporting Fintech. This study, which led to the assignment of an “index performance score[66]” for each hub (either to the “new” ones, namely those added to the list in 2017, either to the “old” hubs, that are less recently emerged hubs which were included in the previous edition of the study).

The scores (showed in figure below) are useful to make comparisons on a global base and to have a broad understanding of where innovation in financial service is boosting; as a matter of fact they somehow confirm which are the deemed leading hubs for Fintech (London, Singapore, New York, Silicon Valley, etc.) while shining a light on where emergent hubs are in comparison to them.

[66] The scores given to each hub shall be intended as follows: the lower the index, the more the hub is supportive for Fintech. The index is an aggregated total of three indicators: “Global Financial Centre Index” (a measure of the hub’s competitiveness as a financial center); “Doing Business Index” (a measure of the hub’s ease of doing business, based mainly on the government and regulatory support to setting up a new business) and “Global Innovation Index”.

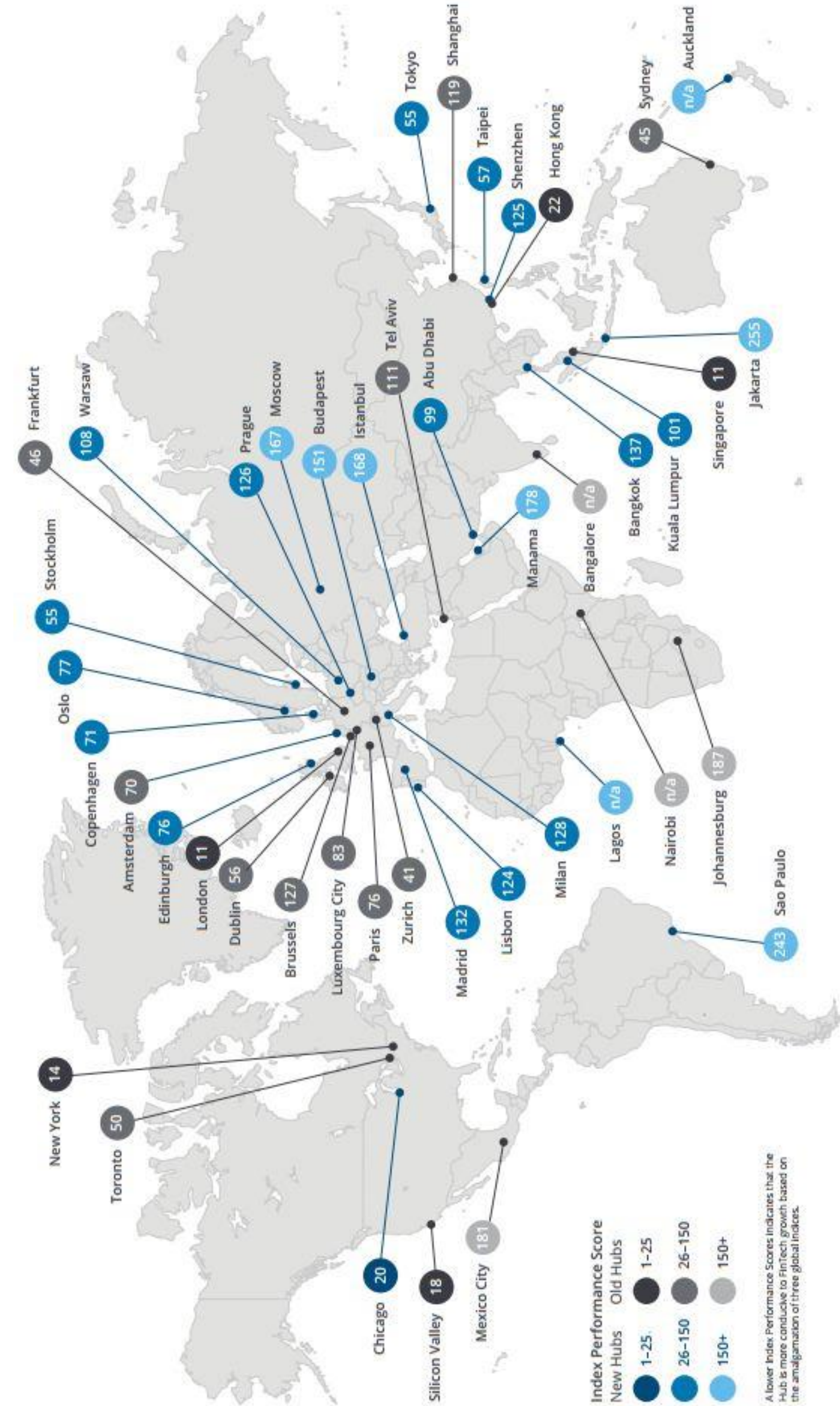


Fig. 27 – Fintech hubs: Index Performance Scores on 44 cities
Source: Deloitte, 2017

- **London: Europe’s main hub**

It is often referred as Europe’s heart for Fintech development; what renders it a leading example in Fintech hubs for Europe is, according to many (Cockerton, 2016), a series of factors, such as: the *state of financial services,* as the city can rely on a well-established financial sector and thus on the presence of many industry experts and of many banks, in addition to the abundance of funds for the setting up of a new firm; also, UK’s *governmental measures,* they are facilitators for new firms to settle down, think for example of gentle tax rates and labor laws and even to its cutting edge Fintech-specific regulatory attempts (which we will discuss further in the chapter).

Furthermore, London boasts a favorable *investment climate,* as the possibility to meet investors or to attend lots of networking events is high, and also a very good talent pool, given by the *mulidisciplinarity and multinationality* of the people living in London; these, coupled with the *excellence of* London’s *Universities* and with their engagement with the community, are also considered crucial by Cockerton, (2016) because they bring to an understanding of different markets and to the development of “diversity” within businesses, that is something needed to foster change and innovation.

Given the above and in order to maintain this leading position, London has also seen the emergence of many *Fintech-related institutions,* as Innovate Finance[67] organization, which prompt themselves the development of the community (Cockerton, 2016). For all of these reasons many champions of the Fintech ecosystem are based here; as highlighted by Deloitte (2017) some of London “Top Fintech Companies” include: “Atom Bank, Azimo, Clear Score, Crowdcube, Currency Cloud, Digital Shadows, DueDil, Ebury, eToro, Funding Circle, Go Cardless, Iwoca, Kantox, LendInvest, Market Invoice, Monzo, Nutmeg, Property Partner, Ratesetter, Revolut, Seedrs, Starling Bank, Syndicate Room, Tandem, Transferwise, World First, World Remit, Worldpay, Zopa”.

- **Singapore: South-East Asia strategic point of reference**

According to EY (2016) and Gnirck & Visser (2016), Singapore is still emergent on some aspects but it is gaining traction within Fintech ecosystem, mainly due to political factors, such as, the overall *ease of doing business, good talent immigration schemes* and because of the presence of a *dedicated Fintech team in the Monetary Authority of Singapore (MAS),* which tries to promote partnerships for the development of the industry and which

[67] See: https://new.innovatefinance.com/

committed, in 2015, $225 million for the next five years to the "Financial Sector Technology & Innovation" (FSTI) scheme.

Furthermore, Gnirck & Visser (2016), highlights how important are Singapore's *strategic positioning* in geographic terms, its *high financial maturity* combined with a significant *technological readiness*, and the *education development* on the theme demonstrated by local educational institutes.

- **New York: a main financial center opportunities**

This city main characteristics are the *development of its financial center* and the *presence of some among the largest financial institutions*, thus offering Fintech support in several ways, either by funding them (US investments used to lead by value in the peak years of Fintech financing) either by initiating collaborations; also, this directly translates into *availability of talents*, especially from the Financial Services industry (EY, 2016).

Furthermore, New York boasts impressive *proximity with customers*, as local demand is very high for innovative financial services. Another important factor on its favor is the *investment culture* of New York, which represent a catalyst for startups growth.

- **California: technology and entrepreneurship hometown**

This geographic area owes its merit within Fintech ecosystem because of, above all, *the impressive talent pool* of the area; this is mainly given by the presence of an unmatched *startup ecosystem* and due to the fact that many *technological companies* are headquartered here; this environment is also populated by numerous investors and entrepreneurs, thus ensuring to Fintech high *investment availability* (EY, 2016).

- **Hong Kong: promising hub to be developed**

It benefits from the *proximity to China* and since it is considered *"Asia's largest financial centre"* (Deloitte, 2017); according to the index score Hong Kong does better in financial center competitiveness and in ease of doing business, than in terms of innovation. Similar considerations can be found in EY (2016) analysis: according to it, *financial services talent* is high here, while the area suffers a cultural aversion towards risk and, as a consequence, entrepreneurial talent is poor or it is imported and this is seen as a limit.

- **Vienna: an emergent payment hub**

There is a rising interest towards Vienna as Austria's capital could be, according to Haas & Bierbaumer (2016), the right place for the establishment of a very vertical hub, namely the one of payments; this view is shared by the authors and attributed to several factors of pertinence of Vienna, such as: its *strategic location*, within Europe, its *banks' high presence throughout CEE region*, a *rising number of startups in the payment class*, *the presence of noteworthy investors* (e.g. SpeedInvest) and even the fact that Austria is the *country of origin of NFC technology*, the current standard for contactless payments.

In conclusion, provided the above description of main Fintech geographies, we would like to offer a comparative analysis of the most important ones; the latter was drawn up by EY (2016) with the attempt to compare and benchmark seven well-known regions of Fintech, namely UK, California, New York, Germany, Singapore, Hong Kong and Australia. These are compared in the study we would like to mention, on the basis of four attributes that EY (2016) considers crucial for the success of a geography towards Fintech growth; these are: "Talent"; "Capital"; "Policy (government policy across regulation, tax and sector growth initiatives)"; "Demand (end-client demand across consumers, corporates and financial institutions)".

The analysis of EY (2016), which overall ranked UK as the leading region for Fintech because of a combined good level of all of the attributes, gives interesting insights in comparative terms; for example, the report highlighted that (see figure below):

- as far as *talent* is concerned, UK is considered to lead "financial expertise", but to be lacking in terms of entrepreneurship if compared to California (scored highest on Talent), especially because of the existence of a very "vibrant entrepreneurial community"; by the way, the lowest ranked in this field is Hong-Kong;
- as far as *capital* is concerned, UK is considered good for early-stage but California stays dominant considering all types of investments; the analysis also takes into consideration that, despite being the third-largest geography for capital investments (with a total of £524m of FinTech investment in 2015), UK numbers are much smaller than California's (£3.6b) and New York's (£1.4b) ones for the same period;
- moving to *policy*, UK is considered first, thus the most supportive region for regulatory regime (in particular, the report mentions a greater manageability for the authorization process and the tax incentives, together with the UK's government initiative to fuel competition at the benefit of innovation); beside the first ranked, EY places Singapore as "an attractive place" and Australia as a region which is trying to incentivize innovation;

- finally, the *demand* attribute (here deemed either consumers' one and also the businesses and Financial Institutions' ones) sees its highest score in New York; with UK high score especially as far as SMEs demand is concerned.

Figure 3: **Benchmarked ranking of FinTech ecosystems**

	2015 rank by ecosystem Attribute				
Region	Talent ▸ Talent availability ▸ Talent pipeline	Capital ▸ Seed ▸ Growth ▸ Listed	Policy ▸ Regulatory regimes ▸ Government programmes ▸ Taxation policy	Demand ▸ Consumers ▸ Corporates ▸ FIs	Total points
UK	2	3	1	3	**9**
California (CA)	1	1	6	2	**10**
New York (NY)	3	2	7	1	**13**
Singapore (SG)	4	7	2	6	**19**
Germany (DE)	6	4	5	5	**20**
Australia (AU)	5	5	3	7	**20**
Hong Kong (HK)	7	6	4	4	**21**

Source: EY analysis
Note: Please see section 3 for a detailed breakdown of each Attribute by region

Relative rank: 1 = highest, 7 = lowest

Fig. 28 – Benchmarked ranking of FinTech ecosystems
Source: EY, 2016

- **Italy: what is the state of the art of our country's Fintech community**

As far as Italy is concerned, the only city included as Fintech hub in the study by Deloitte on 44 cities is Milan; it is there scored 128, namely 117 points distant than the best scored London (whose index is 11). Despite this distance with the best in class London, given mainly by a less competitive financial center and by a less favorable environment for businesses to be run in Milan, the presence of the Italian hub is an important sign of how Italy is trying to follow other geographies' example. Here, as highlighted in the report by Deloitte (2017), the most active investors are, among others, Innogest SGR, Principia SGR, United Ventures, Invitalia (public), Primomiglio SGR, SellaVentures, H – Farm Ventures, Vertis Sgr, etc., while some representative Italian startups can be considered:

- Satispay[68]; an Italian Fintech founded in 2013; its mission is *"Make the smart choice when moving your money"*, as it offers an alternative system of mobile payments that allows consumers to make free peer-to-peer transfers and free easy payments from their smartphones, either online and in physical partner stores; also, for businesses, the platform allows payments from individuals to merchants;
- Borsadelcredito.it[69]; an online lending marketplace which allows applicant SMEs in search for funding to meet potential lenders (either other firms or banks) and the latter to invest their money; since its launch the Fintech has allowed more than 22 million euros to be lent to Italian, mainly from Lombardy region, SMEs.

Furthermore, in order to understand the current Italian Fintech landscape, it is worthy to mention a recent initiative launched just in Milan, as the city represent the financial center of the country; it is the "Fintech District[70]", namely an open ecosystem created to support and represent the Italian Fintech community. It was established in 2017, by SellaLab and Copernico; the first is the innovation center and accelerator of the Italian bank Banca Sella Holding Spa, while the second is a platform to grow and accelerate businesses and which provides smart working solutions. At the Fintech District several events are held to let Fintech stakeholders meet and make networking, just with the aim to give Italian Fintech a significant support; there are several partners supporting the initiative, such as Cisco or other accelerators and many Italian Fintech startups are members of the district, among which the ones mentioned above.

2.6. Regulation and Fintech: some representative legislative initiatives to regulate innovation in Europe

As Fintech firms enter the field of providing financial services, their businesses should consider regulation an aspect of paramount importance; as said before, this could impact Fintech firms' business models till the extent it could be considered a challenge for new-comers to win in order to succeed in bringing innovation within financial services. As a matter of fact, handling regulation is a very complex task within the supply of financial

[68] See: https://www.satispay.com/it/

[69] See: https://www.borsadelcredito.it/

[70] See: http://www.fintechdistrict.com/

services and Fintech rises many regulatory challenges for new participants, for incumbents and for consumers too.

The main rationale underlying the first legislative attempts and the next future directions of regulators, when trying to norm the Fintech and the innovation in financial services, is and should remain the simultaneous pursuit of *consumers' protection* (with reference to their money and their financial data security), together with the *need for financial stability* (ensuring financial institutions' safety requirements compliance) and for *innovation support.* In particular, given the latter objective, the regulators should act in a constant search for an equilibrium between the willingness to regulate innovation, not to risk it flows into shadow activities and in order to provide a level field of competition with banks, and, on the other hand, the desire not to overload innovators, at the expense of their agile structures and inner core values; furthermore, considering the great opportunities related to collaboration between Fintech and banks, regulators' focus should also be on how to promote such matching.

In order to present a brief overview of current state of the art in Fintech regulations, we wish to mention here some benchmark initiatives undertaken in Europe, which tried to address the above key objectives.

First of all, these include the establishment of regulatory sandboxes; according to Deloitte (2017), in Europe, there are 5 countries (UK, Netherlands, Russia, Switzerland and Norway) which are currently experiencing with a *regulatory sandbox,* namely a regulatory-driven attempt to experiment with innovative projects, by allowing some businesses to test their innovative products, services or business models in a "live environment" thus conducting a market trial with the support of regulators. By the way, only two of the above sandboxes, in UK and Netherlands, are currently "live" (already launched and receiving applications) while the others are "proposed" (not effective yet); but they signal a regulatory commitment and Europe is also seeing some of its countries (UK, France, Switzerland) where regulators are trying to cooperate with others for international regulatory projects (Deloitte, 2017).

In UK, the regulatory sandbox is under the control of the Financial Conduct Authority (FCA) and it was launched in June 2016. As the FCA's website dedicated section explains, *"The sandbox seeks to provide firms with:*

- *the ability to test products and services in a controlled environment*
- *reduced time-to-market at potentially lower cost*

- *support in identifying appropriate consumer protection safeguards to build into new products and services*
- *better access to finance."*[71]

For example, based on each applicant's case and needs, the sandbox offers some "sandbox tools" to the selected participants of the project; these are:

- *"Restricted authorization";* instead of entering the traditional authorization and registration process, the participants to the sandbox can be given a restricted and tailored authorization by the FCA in order to be ready for the test in a shorter time and at lower cost;
- *"Individual guidance";* the authority offers a close advice on regulatory aspects and requirements;
- *"Waivers or modifications to our rules";* in face of the test to be run the FCA can eventually modify some of its requirements, if it is deemed helpful;
- *"No enforcement action letters";* it is a measure by which the FCA accepts possible "unexpected issues" to arise from the test and does not take disciplinary actions during the test period;
- *"Informal steers";* for products that are at an early stage of development.

Thus, the establishment of regulatory sandboxes allows the participants to innovation in Financial Services to benefit from the possibility to test and validate a new idea within a controlled time frame and customer base and relying on the support from the government; as a matter of fact many startups fail to pass their initial phase, because of, among the others, a possibly poor experience in regulations and this is extremely true for Fintech.

Such support to innovators, in turn, allows the regulatory body to identify the issues underlying any potential innovation and to be ready in dealing with them at the benefit of consumers' protection. Finally, such initiatives can benefit the incumbents too; as a matter of fact, looking at the list of participants selected up to date, we also find innovative projects launched by banks, such as: HSBC SaveSmart, an app for smart saving launched by the bank in partnership with the Fintech startup Pariti technologies.

Furthermore, UK is worthy to be known also for other regulatory initiatives related to innovation; for example, UK government tried to promote innovation and collaboration in Financial Services through the **"Bank Referral Scheme"**; an initiative, effective from

[71] See: https://www.fca.org.uk/firms/regulatory-sandbox

November 2016, that requires banks to refer a SME to alternative finance platforms, if it has been rejected after a funding request to the traditional financial institution. The rationale of this regulation lies in the commitment of UK government to fuel lending to small and medium enterprises, since this suffered a reduction by large banks, due to profitability and regulatory concerns, as we have seen above. The initiative was launched because many of the SMEs unserved by banks were not aware of the alternative finance possibilities they could turn to or they were not able to choose the best ones to address for their needs.

The scheme functioning is the following, as explained by the British Business Bank and summarized in figure below; if the applicant SME meets the eligibility criteria of the scheme, one of the participating banks after having rejected its funding request, automatically refers the client to one of the designated platforms; the platforms help the referred SME to find the best alternative finance options. The designated platforms of the scheme enable comparisons for funding options for businesses easily; they are: *Alternative business funding*[72]*; Business finance compared*[73]*; Funding Options*[74]*; Funding Exchange*[75].

Fig. 29 – UK: banks' referral scheme
Source: British Business Bank

[72] See: https://www.alternativebusinessfunding.co.uk/

[73] See: https://www.businessfinancecompared.com/

[74] See: https://www.fundingoptions.com/

[75] See: https://www.fundingxchange.co.uk/

- **Revised Payment Service Directive, PSD2: Directive (EU) 2015/2366**

The main European attempt to regulate innovation is the PSD2; the objective of the directive is to render international *electronic payments easier, more efficient and safer*. Furthermore, it opens the supply of payments services to new entrants, with the aim of *fueling competition* at the benefit of customers and in order to reduce prices, while regulating their conduct. It entered in force in January 2016 and EU countries had to adopt the directive into national law by January 2018.

Dirk Haubrich, Head of the Consumer Protection, Financial Innovation and Payments at the European Banking Authority stated in an interview from the CNBC (2017) that the PSD2, *"has the explicit objective to bring about competition in the market for payment services and to facilitate innovation in the market for payment services across the 28 member states of the EU"*; in addition to this, other underlying objectives of the PSD2 are "increasing security" for payments and making them more convenient for customers.

The Directive asks banks to open their accounts to external parties, (Third Party Payment Service Providers), authorized in providing payments services; the novelty supports the idea of "open banking" and this comes at the particular benefit of new participants, such as:

- *account information service providers*; those players which allow users of payment services to track their financial situation and to have an overview of their financial resources, in order to help their management;

- *payment initiation service providers*; those which allow online payments.

By the way, the PSD2 should also be seen in traditional banks' favor since, as HSBC's Josh Bottomley said to CNBC (2017), it facilitates the sharing of data, thus hopefully allowing also to a banker to provide customers a wiser advice, by letting him understand and know the customers' whole financial data situation.

As far as security is concerned, the directive sets standard requirements for e-payments and for the safeguard of consumers' financial data; it also calls for rules in terms of transparency of conditions and information for payments; consumer rights are protected also thanks to the reduction of the liability for some non-authorized payments and thanks to the removal of fees for the use of cards for payments. Finally, the directive is meant to strengthen the role of the EBA, for example by asking it to develop a public register of authorized payments providers, to be kept updated by national authorities.

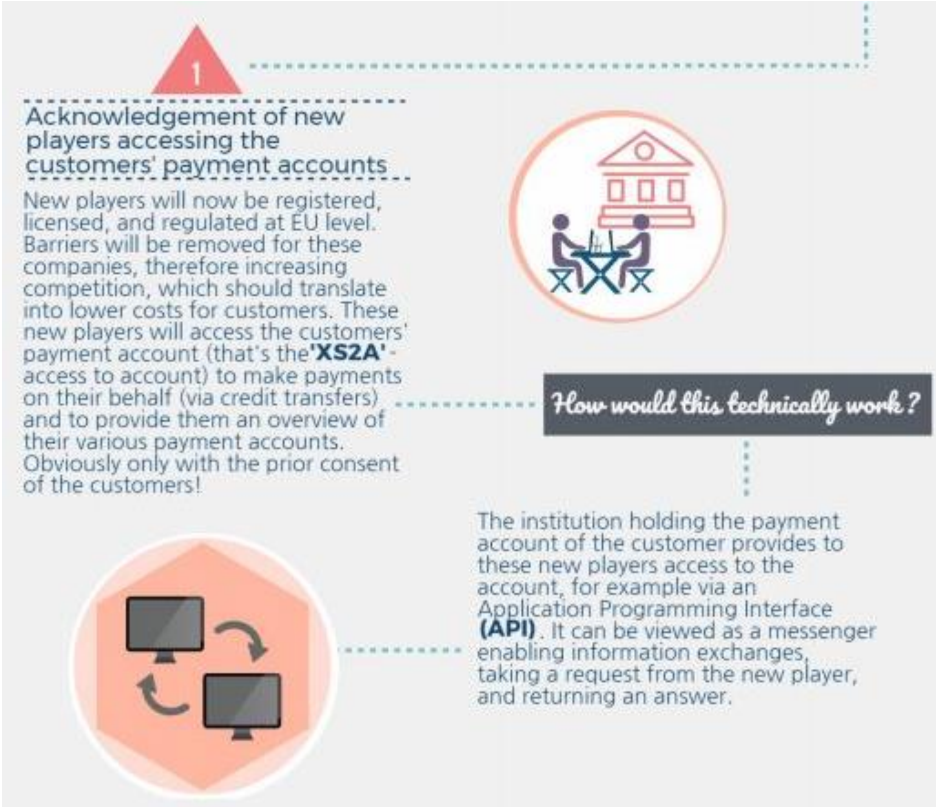


Fig. 30 – Main changes brought by PSD2 - 1
Source: European Payments Council, 2017

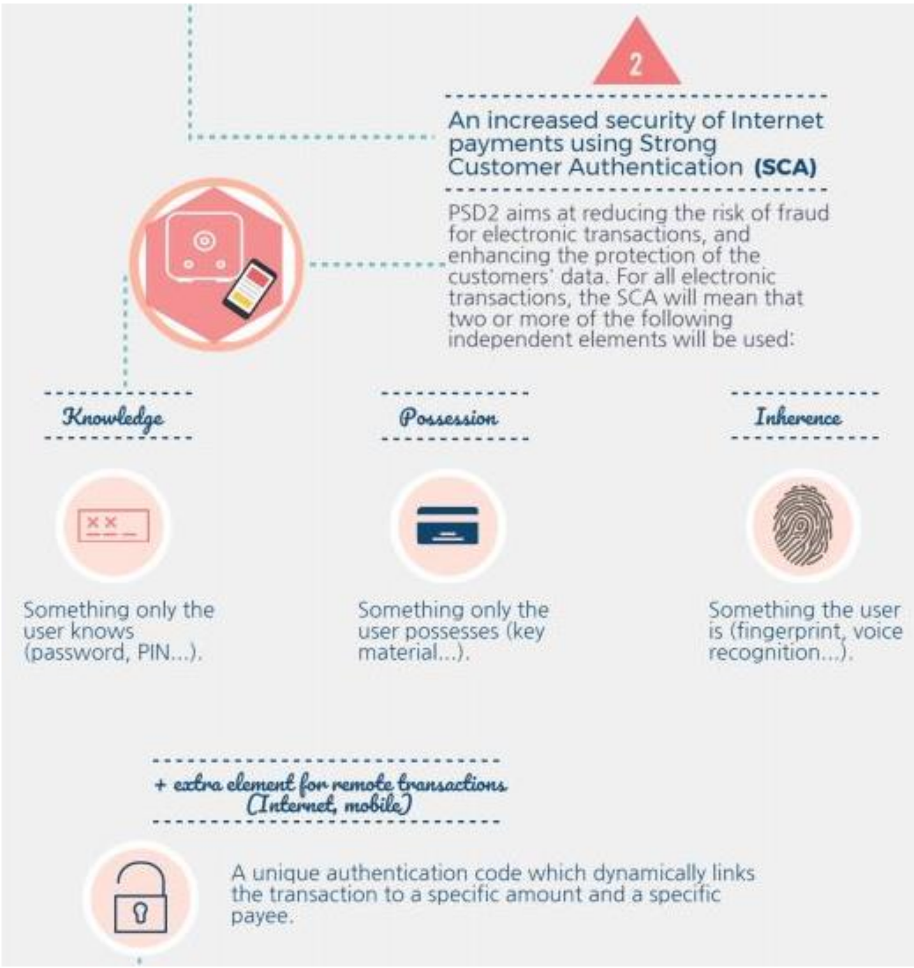


Fig. 31 – Main changes brought by PSD2 – 2
Source: European Payments Council, 2017

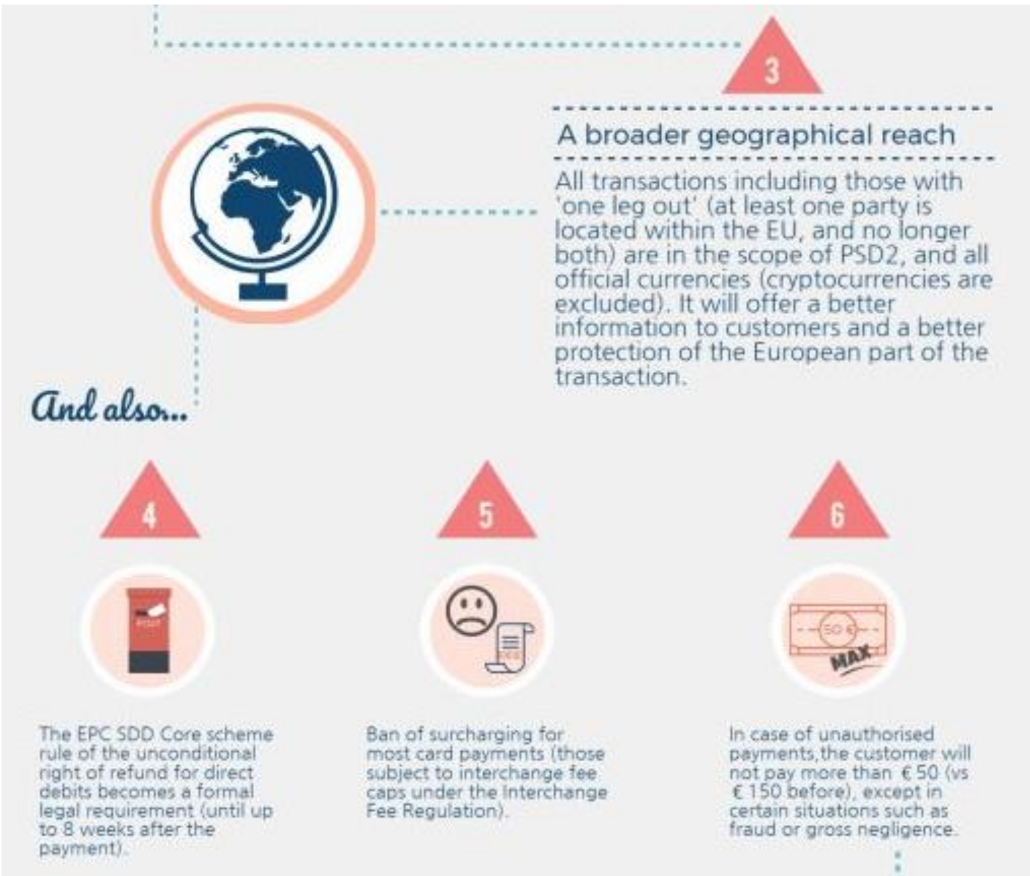


Fig. 32 – Main changes brought by PSD2 - 3
Source: European Payments Council, 2017

CHAPTER 3 - HOW BANKS WILL COPE WITH DIGITAL TRANSFORMATION AND EMBRACE INNOVATION

The objective of this chapter is, firs of all, to acknowledge the importance for banks to innovate their businesses and to approach the change in face of the emergent conditions and of the disruptive forces reshaping their industry, in order to subsequently analyze how this change can be achieved. Indeed, the entrance of new participants in their industry is forcing banks to develop new capabilities required by customers and to face new competitive forces; either by pursuing in-house innovative initiatives or by relying on Fintech to bring them what it needs to be competitive.

The specific issue of interest is thus analyzing how banks are implementing the change imposed by new market conditions, either in terms of in-house development of innovative offerings and also in terms of acquisition of new core capabilities from the external: with this reference, we discuss how the organic pursuit of innovation by banks is happening and also which role have the deals of M&As and the strategic alliances that banks are putting in place with Fintech players.

Keeping in mind all of the above possible different strategies via with banks are embracing innovation, we discuss the benefits, risks, processes and characteristics underlying each of them, trying to assess what could be an effective way for banks to innovate themselves. Given the above objective and considering recent trends, we mention some noteworthy cases of strategies for innovation recently seen in the banking industry.

3.1. The imperative of innovation: banks' need to change and face competition

In recent years Financial Services, as many other industries, have experienced a significant disruption mainly triggered by digital technology; a 2015 study by the Global Center For Digital Business Transformation (an IMD and CISCO initiative) had ranked it 4th out of 12 in "vulnerability[76] to competitive disruption by digital technology" (Bradley, Loucks, Macaulay, Noronha, Wade, 2015).

[76] The assessment of "vulnerability", which we mention here, was made by the Global Center For Digital Business Transformation on the basis of a survey, which included 941business representatives across 13

The evidence of disruption is indeed a fact; however, sometimes, it fails to be recognized in many organizations either in terms of importance and in terms of potential risk; thus, according to Bradley, Loucks, Macaulay, Noronha & Wade (2015), 45% of companies (across industries and countries) seemed not to consider digital disruption a matter that is *"worthy a board-level attention"* and 43% of them did not see adequately disruption-related risky consequences; in a nutshell, only 25% of them self-evaluated as *"proactive"* with reference to the phenomenon.

The digital disruption has been and still is changing the competitive dynamics within many industries, the profitability and attractiveness of which, using the 5 competitive forces framework by Porter (2008), is questioned by factors like innovation and technology and it is seriously threatened by new-entrants' and substitutes' increasing pressure, due to technology-eroded entry barriers and to new business models based on disintermediation of industry incumbents, and even by customers' enlarged force, if we consider how technology is empowering buyers and putting them at the center of strategy-making.

If we look at Financial Services industry's competition, in particular, we see it is more intense today than it used to be in past years, not only among industry rivals, but also between incumbents and new entrants (like tech giants) or substitutes (such as disruptors coming from Fintech universe) or customers (who are becoming more informed and influent).

If compared to other businesses, such as the airlines' or the travel agencies' ones, the retail financial services have been feeling the threat of digital disruption just recently, most of all because they've always used to be a very regulated business and the complexity of regulation used to protect their industry from the entrance of disruptors; by the way, many new participants to Financial Services industry have recently started to emerge by leveraging technology and mobile penetration at their own advantage and bypassing regulation by building vertical offers, namely very niche-focused and value-adding products and services (Lopez Moctezuma, 2018).

This wave of disruption does not only trigger firms' need to profoundly change themselves end-to-end, in terms of processes, culture and business models, but also forces them to strategy-making in terms of reaction to new competitive forces. Indeed, (as can be

countries. The score assigned to each industry was based on the following parameters: "Investment" (the amount of investors' contribution given to disruptors – as it can be predictive of the market's bet/expectancies on disruption with reference to the industry), "Timing" (time-lasting of the impact triggered by disruption), "Means" (the measure of entry-barriers limiting the entrance of disruptors and, on the other hand, the means of disruption at disposal to digital disruptors), "Impact" (the weight of digital disruption's effect on the industry, e.g. in terms of existent market shares, etc.).

seen in figure below), the surveyed industry participants (with reference to the above study on the assessment of digital disruption on industries' reshaping) see an average of 4 firms belonging to their industry, namely about 4 out of their direct rivals, losing their places in the "Top 10" of their respective industries, with Financial Services ranking second in terms of industry-specific number of companies at risk; such places are often taken by "unicorns"[77], whose commonness is on the rise, or, on a general basis, by digital disruptors (Bradley, Loucks, Macaulay, Noronha, & Wade, 2015).

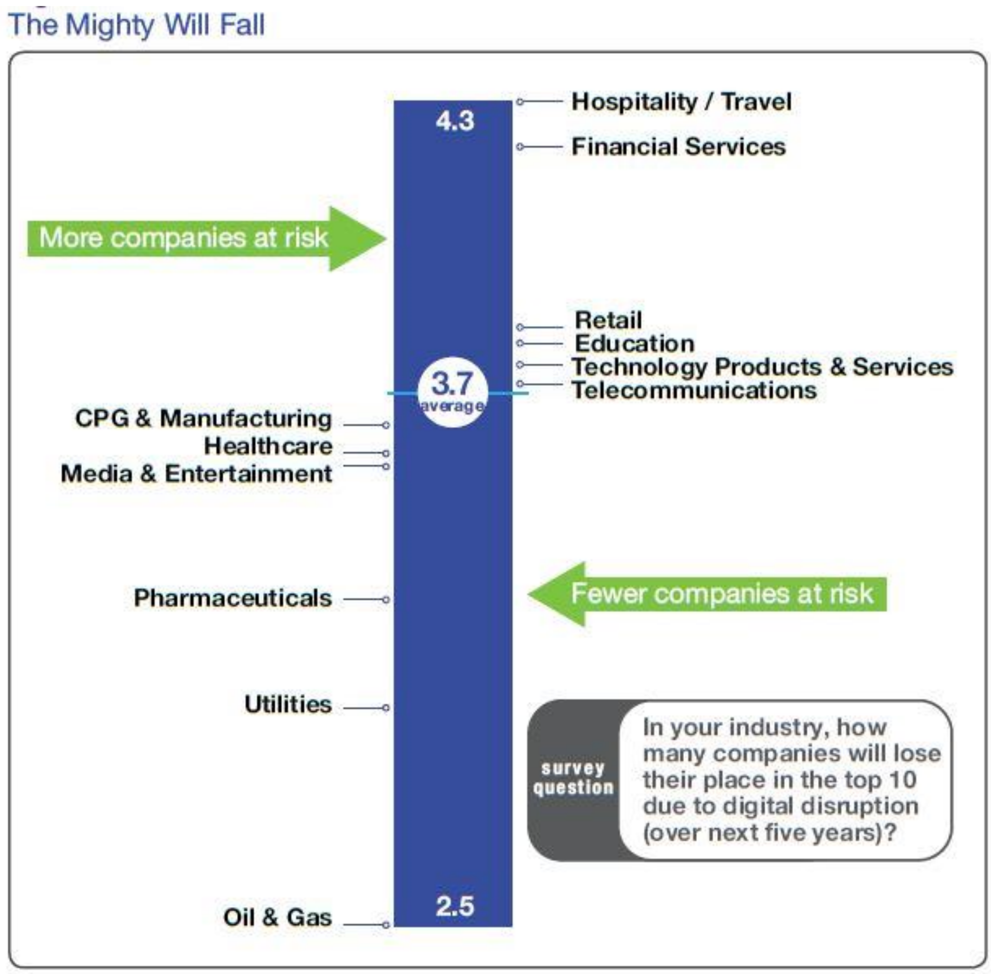


Fig. 33 – The Mighty Will Fall
Source: Global Center for Digital Business Transformation, 2015

Within such prevailing context of profound change, the incumbent players often fail to fight or exploit disruptive forces; their inner barriers to innovation can be many, as cultural impediments towards change, lacking entrepreneurial mind-set and a rooted habit in performing established processes and routines. This made us accustomed to the death of many

[77] The term "unicorn", within venture capitals and start-ups world, was coined to refer to startups with valuation of over $1billion; as the mythical term can easily recall, the rationale under such label lies in the low frequency of such cases. The list of current unicorns includes, among others, Uber, Airbnb, Spotify, Dropbox, till Lu.Com or Stripe (as Fintech companies). See: https://www.cbinsights.com/research-unicorn-companies

champions which used to dominate their industries, till digital disruptors deposed them; just think of Blockbuster's decline given the advent of Netflix.

By the way, despite the common impediments and difficulties to face innovation and even taking into consideration the risks and possible drawbacks that come with the rise of digital disruption, we could say that today there are a large agreed consensus and a rising evidence of the beneficial aspects of such disruptive forces, for the society as a whole; although it may seem paradoxical, such belief is even shared among surveyed executives from industries currently threatened by digital disruption, as more than the majority of them agrees digital disruption is either *"a form of progress"* or *"good for society"* and it even *"improves quality of life"*, etc. (Bradley, Loucks, Macaulay, Noronha, & Wade, 2015).

In a nutshell, many traditional firms know they cannot think to boast a competitive advantage for ever and, in the case of banking, there is an increasing awareness of the need to change. As a matter of fact, regardless how innovation will be put in place, listening to the imperative of change is vital, inevitable and wise at big banks' organizations; in a very simple world, we could claim banks need to *"fintegrate"* (a term coined by Heather Cox, then-CEO of Citi FinTech), namely to adapt to change prompted by Fintech, to digest it and spread it throughout their organizations, and, finally, to learn from disruptors' capabilities (Gandel, 2016).

3.2. How to embrace innovation: organic development and external sourcing of new capabilities

As a consequence of industries' reshaping seen above, banks have been facing the rise of Fintech platforms in recent years and many CEOs and managers within banking industry companies found themselves in front of a very debated decision: how to react to the emergence of innovators and new products and services.

In particular, their options, in face of such changing industry conditions, were either to ignore this phenomenon, or to embrace it and somehow cope with the new-comers and the innovation they brought within Financial Services. Furthermore, in the latter case, banks should decide if:

- adapting to change with *internal initiatives*, relying on their resources and capabilities;
- *buying* already developed *Fintech* platforms in the market, opting for M&A deals;
- *partnering* with active *Fintech* players, forming strategic alliances.

The first possible reaction, namely the one of simply ignoring the noise of innovation, would probably be the "easiest" in traditional banking firms' shoes, but, despite an eventual short-term gain of not needing to implement any organizational change and manage its subsequent complexity and difficulties, this way would end up impairing banks' businesses in the future, actually a not so far one. Indeed, the current threat from newcomers would become more dangerous, and, if banks simply ignored them trying not to retaliate and mitigate their entrance in the industry, the risk of losing customers in face of substitute products and services would become a reality.

By the way, many banks, especially at first, ignored the Fintech phenomenon, either by minimizing its impact, as it usually happens with new digital business models, either by thinking they would not be likely to launch any "Fintech type" of financial services because of, among the others, a fear of cannibalizing their own traditional products and services. Indeed, if banks launch cheaper and more consumer-friendly services, they will probably lose a share of their traditional sales and see some of their customers migrating to the more innovative services.

This possibility led many banks to opt for a "wait and see" approach, in particular in the first phase of Fintech emergence. By the way, even if there actually is the possibility of eroding some traditional sales with the launch of Fintech platforms by banks, the main risk of having such a passive attitude lies in the myopic belief that avoiding to be the one who promotes innovation will inhibit anyone else from doing it: this means that, whenever banks opt not for reacting to Fintech and disruption, they probably avoid being the one who cannibalize their traditional business lines' sales, but there will be someone else ready to do it, as many industry professionals believe (Lopez Moctezuma, 2018) and as it happened in other industries in the recent years.

On this point, Mr. Carlos Lopez Moctezuma, Head of New Digital Businesses at Bancomer and Global Director for Financial Inclusion at BBVA, claims that digital disruption is first of all about *"sacrifice things"*, also citing an example from his own organization which decided to launch a platform, called "Wibe", to buy auto-insurance, at lower prices and higher degrees of customization with respect to the bank's branches' traditional service; he thinks that, probably, a share of the bank traditional sales is lost with some customers opting to buy from the platform than from the branches, but, also, the point is the company is *"acquiring clients from the open market"* and *"stealing those clients from the competitors"* (Lopez Moctezuma, 2018).

The willingness to avoid this risk of sacrificing some traditional sales and, often, the need to satisfy shareholders on shorter time horizons and gains, could have led some banks not to be adequately prepared to innovation: taken to the extreme, failing or refusing to react to changing conditions fueled by the rise of Fintech poses banks to the risk of being substituted in their traditional role. By the way, if not substituted as, for example, Blockbuster was, considering how important banks are within economic systems and also due to the fact that newcomers mainly focus on niches of the whole banking industry's value chain, banks which do not react to Fintech and innovation actually take the risk of "commoditization".

As a matter of fact, while some (Barba Navaretti, Calzolari, & Pozzolo, 2017) firmly sustain that *"FinTechs will not replace banks"* at least in many of their traditional functions, and, as a consequence, they do not see banks' business questioned and threatened as many other already disrupted by digital technology, according to Mead (2016), there currently is the *"utilities risk"* for banks, meaning they risk to end by being perceived as mere back-office suppliers in their industry (since many Fintech services need anyway to rely on banks to offer their service), letting instead all the merit for innovation, in terms of delivery of consumer-friendly services and, in general, in terms of management of the customer relationship, to the disruptors, namely Fintech.

Given the above, thus since the choice to ignore the phenomenon actually appears not to be wise enough, banks need to react to the Fintech revolution and to adapt to the new kind of experience that customers are requiring; the range of possibilities that financial institutions have in order to implement change and face current competitive scenario can be to either "build" innovation organically, adapting by themselves, or to "buy" it via M&A deals, or to "ally" with any from Fintech universe to jointly co-develop something new, or, even, to opt for a mix of the above strategies.

This means traditional major banks are currently facing a crucial corporate strategy decision in terms of what to do organically and what to achieve via M&As or partnerships with Fintech, this means many banks already internalized the "why", namely the reasons behind the current need to change, and they see themselves currently wondering on the "how", thus strategizing on which should be the most appropriate way to produce and distribute competitive products and services similar to Fintech offerings.

3.2.1. How to "build" innovation in banks: rationales, processes and challenges of developing new capabilities in-house

Today's banks fight for success and future prosperity is strictly tied to a bank ability to innovate; as seen above, banks are called to innovate their services and to be competitive with those offered by new-comers in the industry.

Innovation of financial services, by the way, is not an easy process and, in particular, financial services are characterized by a high level of *"intangibility"* and by "*simultaneity of production and consumption"*: the first characteristic implies that innovation for these services should be implemented via high levels of communication within the financial institution, as we are not talking about tangible products whose inner characteristics and also eventually added/changed features are easily visible and touchable; while the second characteristic of financial services has an impact in terms of *"user involvement"* in the innovation process, this indeed should be high in order to develop effective innovations (Vermeulen, 2004).

Taking into consideration the above characteristics of financial services and studying the processes that Financial Services firms usually adopt to manage innovation, Vermeulen (2004) concluded that there usually are four very well-known barriers to innovation in these firms, namely:

- *"Functionally departmentalized structures"*, an organizationally feature which causes many time scarce or weak interactions among different departments, or even tensions among them, as they can feel to have "conflicting priorities" and often enter "battles for resources";
- *"Limited use of New Product Development (NPD) tools"*, as many times financial institutions are not used to those methods, such as inter-functionality, thus, for example, they fail in creating dedicated and very close teams to work on projects, opting instead for dedicating to innovation process some human resources belonging to other departments, and, by doing this, discouraging

innovation which becomes just an extra-task than ordinary ones and which is not well perceived among these people who fail to communicate effectively;

- *"Conservative organizational culture"*, this is a very common barrier, even if many banks and insurance companies started eroding it and understanding the need for change, but, especially for some more technical department, there still is a shared avoidance towards the inherent risks of innovation;
- *"Constraining information technology"*, an impediment which mainly refers to the lack of IT people within banks and even to the existence of legacy structures which could render very difficult a shift towards more innovative products.

These general innovation barriers in banks can render the reliance on internal resources and initiatives not enough to deliver innovation and to face disruption; but, despite the above, and with reference to the recently required change, many players within Financial Services industry opted to "build" innovation internally, with their own capabilities, and, for example, they are trying to build up internal team dedicated to innovation; but, such teams can be truly efficient if their function is just the one to deal with innovation on a daily basis, not to run into the above described difficulties for innovation.

For this reason, many times the *innovation dedicated teams*, created in face of Fintech revolution, are equipped with talented people from the outside of the bank's organization (for example, with young talents coming from most well-known technology Universities and from backgrounds different from the banking and finance ones only) just to avoid the risk of not having in the team the right attitude towards innovation.

Another popular strategy that banks have been adopting in order to launch their own Fintech businesses and to implement change within their organizations, is the creation of dedicated divisions via the model of *innovation labs or hubs*: initiatives run by and within banks to gain ideas from disruptive "makers" and to foster innovation, often fueled by competitive contests.

A popular characteristic of such labs/hubs is, again, the reliance on external talents, especially the youngest and tech-savviest ones that banks try to be able to attract; indeed, the underlying idea is that existing workforce alone could not be able to propose innovative and cutting-edge technological ideas, while talents from the outside of the bank could. Diversity is seen, with this reference, as a competitive advantage for innovation to flourish; many backgrounds and industries of pertinence characterize people hired within innovation labs, as long as, according to Sonea's (2016) considerations on innovation labs, such diversity is actually respected thus searching either for the "nerds" young talents but also for people strictly rooted into banking business, in other words those able to bring "hard", namely technical, skills too.

This strategy, while opening the bank's space to an inflow of innovation, can still allow the traditional organization to maintain the control on the development of the new products and services and also lets banks to retain the produced knowledge and capabilities within the firm's boundaries.

Furthermore, this choice lets banks develop talented people groups able to foster further innovation. Just the centrality of people involved with reference to the pursuit of an effective internal innovation strategy for banks also explains the location choices for such hubs: within their global presence and network, banks often place their innovation labs in the most prominent geographies in terms of talented people concentration (New York, Singapore, etc.).

According to Sonea (2016), *"an innovation lab is a Noah's ark of professions and specialisms"*, a definition which highlights how such labs should be endowed with very different species of professionals, just to lever on this "combination" for an efficient innovation to come out; by the way, such heterogeneity, which characterizes a successful innovation lab, requires adequate management and organization: first of all, in terms of "common language" creation, thus a very hard work must be done to lead all of the diverse profiles towards aligned goals and to create a method via which they can be able to collaborate with each other, since, as said, such figures can and actually should come from very different fields.

As far as dedicated resources to innovation labs are concerned, there can be cases in which these initiatives are run within *"normal business (rooms, technology and processes*)" available resources, but still the majority of traditional financial services' players use to dedicate a new *"remote location"* to them (Sonea, 2016). In the latter case, these places, which many times appear to be much more colored and modern in style with respect to the traditional banks' spaces, have the potential to facilitate the generation of new and creative ideas, but, according to Sonea (2016), given the separation from the rest of the organization, a gap among the innovation division and the others could be created as a result and the necessary interactions among innovation-dedicated employees and those who will be mostly influenced by their innovations could become more complicated.

Failing to grant adequate relationship with the inner organization and legacy of a bank can go at innovation delivery expenses, as people supposed to reinvent the bank processes could not be able to understand the exact functioning of the bank they wish to innovate; also, collaboration with other key employees and functions of the bank serves the purpose of granting innovation team access to data, the huge source of insights within the banking organizations (Sonea, 2016).

In short, innovation within the bank organization does not come by simply encouraging creative and disruptive thinking, as, in the view of Sonea (2016) a good innovation execution should be precisely governed: the author claims it is just by a *"clear definition of what the innovation function needs to do in order to have access to resources and what experts and governing bodies it needs to consult in order to make sure the data is not compromised and large risks are not created through experimentation"* that innovation can be successfully achieved. As a matter of fact, an innovation which really has an impact for the bank should be tied to core issues of its functioning, otherwise remaining focused on the *"tip of the iceberg"*, that is on more visible yet less radical processes or tasks (Sonea, 2016).

Also, an effective internal pursuit of innovation implies a strong commitment of the top management of the company; as highlighted by Lopez Moctezuma (2018) too, if the Head of the bank is not able to catalyze innovation and change, these won't never spread throughout the organization and cannot be implemented by all the employees.

In summary, against this backdrop, the main challenges for banks to be able to launch their own tech-edge products and services organically are: the lack of adequate digital expertise, with the subsequent need to rely on external talents, and the difficulty to effectively manage simultaneously innovative projects on such a diversified and large scope as the one of Fintech universe; these limits to in-house innovation, and further conditions that we will better explain in a few, led many banks to opt for partnering strategies to acquire innovation from Fintech universe.

3.2.2. Discussing the M&A alternative for banks: what does it mean for banks to rely on Fintech acquisitions to innovate

Needed innovation for banks implies, as said, the adoption of methodologies, as agile, used by technology companies and startups, and, also, the shift of the company culture towards a more consumer-centric approach but, most of all, it is about the development of a new bundle of capabilities considered crucial for competitive advantage in the industry, one above all a strong digital expertise. Since the ones who first took to the Financial Services the new characteristics required by customers (such as greater usability, design, convenience, etc.), were just the new participants, many in the sector sustain it is not possible to think of internal innovation only for banks.

Talking about internal innovation, for instance, Lopez Moctezuma (2018) stated *"It is a good first step, and something you must do. But, in my opinion, that is not enough: you have to start interacting with those startups that are emerging and that are offering those specific value-added to the clients"*, introducing us to the need for these capabilities to be found by banks in the ecosystem too and to the need for them to open their process of innovation, which should be not only restricted to build something new, but even to buy it.

In other words, the Head of New Digital Businesses at Bancomer and Global Director for Financial Inclusion at BBVA, claimed it could be "arrogant" and even mistaken to assume that banks can have all of the required skills to offer innovative services and to manage several different innovative projects simultaneously (Lopez Moctezuma, 2018).

But, the traditional financial institutions currently finding themselves to make the decision on how to innovate, have historically been the sole holder of a very regulated business and, for many of their services, the sole owner of the license to offer them. Thus, a possible impediment for banks to opt for external acquisition, seizing the opportunity of being "open" in their approach to innovation and becoming curator of many and different businesses, lies in the "mind-set", in terms of organizational culture, embedded within many banks' structures: they often are *"control freaks"*, this meaning they could reject to trust third parties, because they are used in being the only responsible of complicated and crucial services for consumers (Skinner, 2017).

However, the risk of losing the opportunity of being open is getting stuck into outdated businesses, with potentially enormous negative impact such that the choice of "build or buy" could be, according to Skinner (2017), reformulated as *"build and die"*, highlighting the author's view on how danger can be for banks not to accept to search for third parties in the market, opting instead to develop new products and services in-house at time-consuming conditions and refusing to receive the contribution of skilled and specialized Fintech players.

Furthermore, if banks do not consider the possibility to acquire potential interesting targets from Fintech universe within convenient time, they could also risk to be left out of this possibility due to the fact that, according to Dietz, HV, Lee (2016), as Fintech industry matures, a likely trend it will experience is consolidation: mergers and acquisitions between equals could become a popular way for Fintech to scale and expand their business.

Moving from the acknowledgment of this risky consequences and searching for synergies between their business and the Fintech ones, some banks decided to enter deals with the new participants of the industry: so, looking at the whole ecosystem of Fintech, many deals took place throughout the Fintech categories.

As a matter of fact, according to a recent report by BCG, (Kengelbach et al., 2017), in 2017, an increasing number of companies decided to access the new technologies which are impacting and disrupting their industries by buying tech-companies, rather than by building them on their own; for such organizations in search of tech-targets, the common objectives were to *"boost innovation, streamline operations and processes, shape customer journeys, and personalize products, services, and experiences"*. Kengelbach et al. (2017) claimed that high-tech deals represented about 30% of the value of completed transactions in 2016 (totally worth $2.5 trillion): in a nutshell, this report sustains that *"almost one out of every five transactions involves a tech target today"* (see figure below).

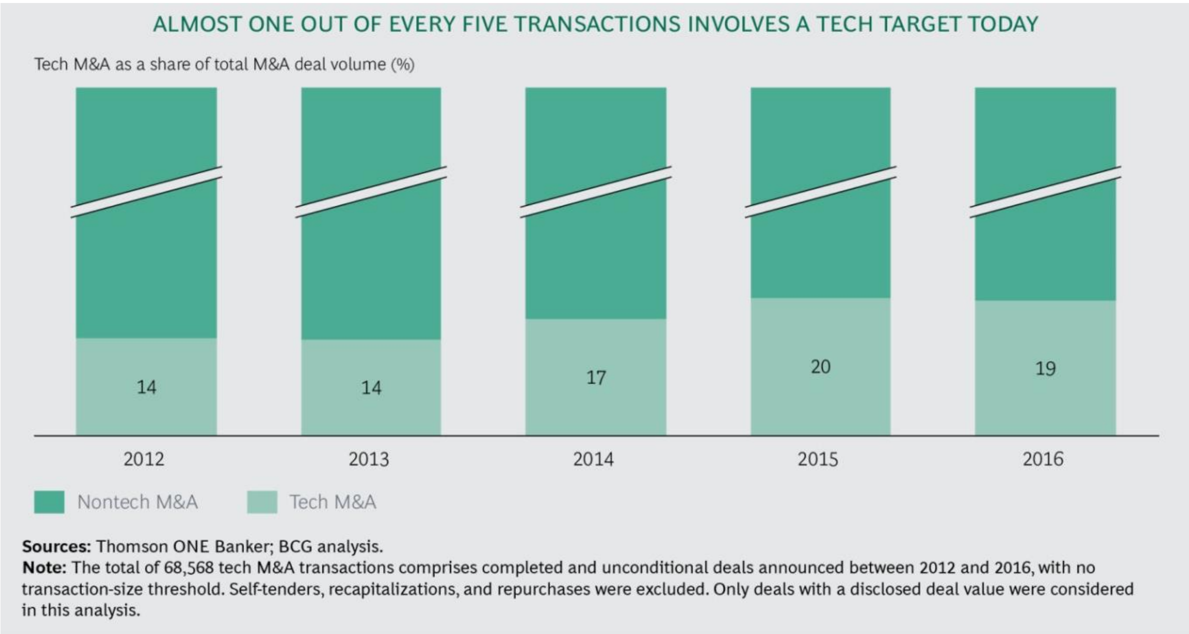


Fig. 34 – "Tech M&A is on the rise"
Source: BCG, 2017

The above report also highlighted some tech trends within the boosting high-tech M&A market and it found nine tech sub-areas particularly significant for the boost of such M&A area, for example "Industry 4.0", "Health care IT", etc.; but, as far as our issue of interest is concerned, it is worthy to know that even Fintech represents a trend within high-tech M&As; according to Kengelbach et al. (2017), within the Fintech space 150 deals were concluded in 2016, with an average size of the deals (for the period 2013-2016) of $96 million.

As said, the most notable driver of this boosting number of tech M&As is that the nature of the buyers of tech companies is changing; not only tech players buy their similar, but also the range of buyers includes an increasing number of buyers from non tech sector because of the lack of talent and adequate time for them to build such technological base on their own; this evidence which is confirmed by Kengelbach et al. (2017) is according to them particularly true in the case of Financial Services, which is the second non-tech industry, after private equity to enter tech M&As. (see figure below).

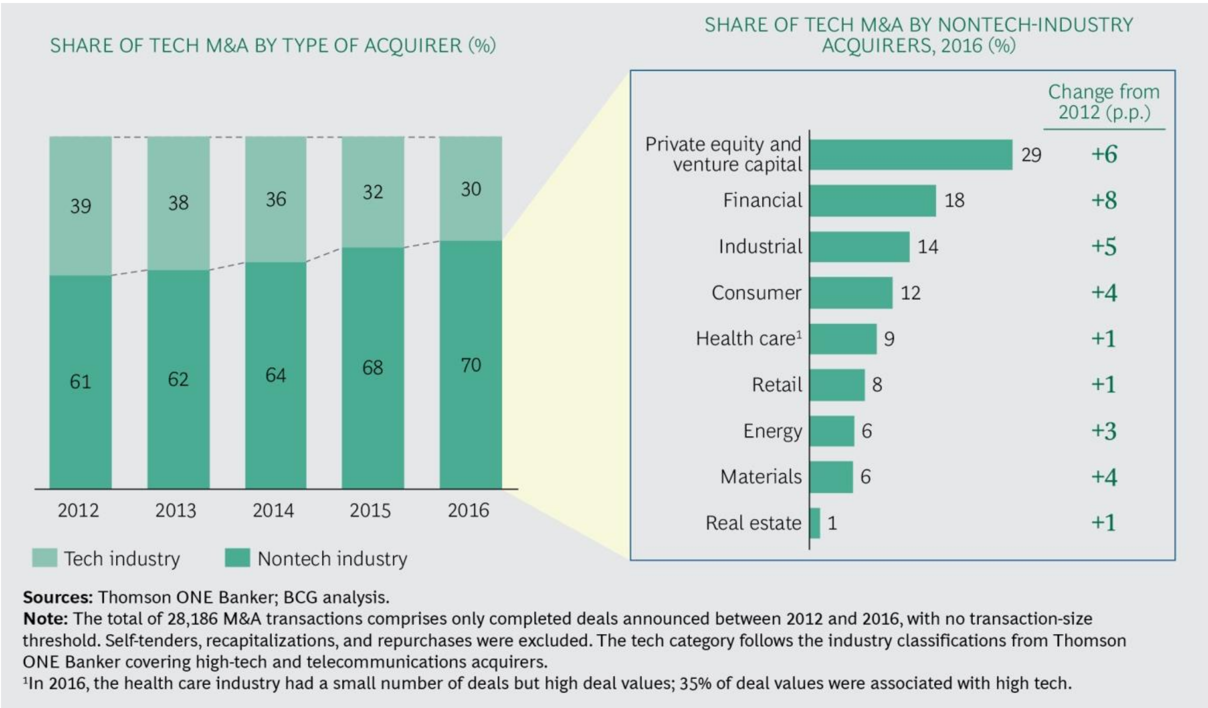


Fig. 35 – "The share of non-tech buyers is rising"
Source: BCG, 2017

Considering all of the above and looking at Financial Services industry, we saw also banks acting as potential Fintech acquirer. These deals were entered with the idea that, in face of Fintech emergence, the banking industry undertook a transformation and, even if banks cannot lose their role within economies, they face the risk, as said, of being commodities and, given stricter competition, they are surely experiencing an evolutionary phase in which only the "best equipped" ones will succeed to survive.

The banks-Fintech M&As deals were also fueled by the idea of a common ground to be possible to find by Fintech and banks, thus from the idea that in Financial Services industry, entering such deals is beneficial for both the disruptors and the traditional players; indeed, as the Fintech phenomenon passed an initial phase of “hype” and the underlying functioning of many new business models within Financial Services became clearer, there has been a change in the initial belief that banks would be simply substituted by digital disruptors, as it happened, for example, for Blockbuster with the advent of Netflix, and many (Barba Navaretti, Calzolari, & Pozzolo, 2017) sustain this fear should be mitigated, in case of banking industry, for many reasons, as:

- Fintech business models are often *not purely unbundled* (for example, among alternative finance platforms, while a pure P2P platform is unbundled, other models, such as the “balance sheet model” or “the notary model” of lending platforms, are not, thus they do not make a direct match between lenders and borrowers);
- many new functions offered by disruptors still need to be backed by banks (here the list includes, for example, many payments systems or even lending activities) thus causing *complementarity* to exist between Fintech and banks;
- going ahead in their growth, many Fintech itself bundle several services thus *converging towards a bank business model*, possibly finding themselves to play in a very regulated field and also, when this convergence happens, Fintech could even end up by losing customers’ trust given their higher inherent risk (e.g. in comparison with heavily regulated banks) while banks already enjoy economies of scope.

Based on the above considerations on banks’ still recognized foundation and on the possibility for them to seize the opportunities Fintech brought within their industry, Barba Navaretti, Calzolari, & Pozzolo (2017) point out a distinction in banking industry disruption, in comparison with what happened elsewhere, just in the reactions (among which we can place also M&As of Fintech) that many banks, especially large ones, implemented, and in the creation of a new model of institution which concurrently offer traditional services and Fintech ones.

The choice to react by acquiring some competitors from Fintech universe can be a viable one for banks, taking into consideration that the new-comers in Financial Services are in search, by entering such deals, for money, namely investments to grow their business, and for customers; but, as far as these two are concerned, the second can be considered of even greater importance, since, as seen above, funding for Fintech flourished by VC funds and can eventually be found by startups with a good product, regardless the involvement of banks;

thus, for the incumbents, the main advantage they boast when entering an M&A with Fintech is just their enormous customer base.

The ownership of huge customers' bases gives banks several advantages, among which the one Barba Navaretti, Calzolari, & Pozzolo (2017) call the *"informational advantage",* namely the control on huge data set, that are crucial for the application on new technologic tools as machine learning and big data, but, also, the possibility to gain *"soft information"* (particularly important when, for example, lending to SMEs) given by the customer relationship held by banks, and on which Fintech cannot rely (especially in their first stages with small customer bases). Fintech players need to access these customers and to gain scale quickly in order to make their business models, especially when based on fees, successfully run.

On the banks' strategic agenda instead, Fintech M&As can be, according to Lopez Moctezuma (2018) mainly divided into two types of bank-Fintech acquisitions:

- the first, focused on the *"people"* the banks buy, is run to endow the acquiring company, namely the bank, with unique competencies it found in the team of a Fintech startup, here the Fintech greatest value is just human talent while not any physical asset;
- the second, much more focused on the *"product"* the banks acquire, is instead driven by the search for an already developed and running platform that the bank needs to innovate its business, but it could not easily build on its own within convenient time.

Thus, since the first type of deals are somehow a "bet" on the human talents of the startup acquired, and, taking into consideration the peculiarity of the first type of acquisitions, it becomes crucial for banks not to lose the unique capabilities of the team, that are often intangible and related to the specific culture of these startups: in order to do this, acquiring banks usually design very effective incentive plans for the people not to leave the company after it has been acquired and also tend (at least in the case of the company subject of our case study) not to integrate the acquired company within the organization of the bank, as this would inhibit its innovative spirit (Lopez Moctezuma, 2018). Such tendency of not to proceed with heavy integration processes is also highlighted by Kengelbach et al. (2017) with regards to tech M&As in general.

In addition to the above reasons to acquire Fintech, banks also have on their strategic vision other underlying rationales to achieve via these deals: for example, they can be a way to enter a new geography where the Fintech is well-known, or to enlarge the bank's customer base; even if it is more a matter of complementary strengths.

Notwithstanding the benefits discussed above, the M&As strategy for banks to adopt Fintech technology does also entail possible risks: the tech targets are usually young companies without long histories to be used by the acquirers to evaluate them carefully (this implies the need to use ad hoc metrics to evaluate them, as, for example, the number of registered users); also, as Kengelbach et al. (2017) suggested, it may happen that, in face of "bidding wars" between potential buyers, the prices for such deals skyrocket. In addition to possible concerns about too high price paid, while managers often consider acquiring a minority stake worthy to stay ahead of a particular technology, investors are more wary in these cases, as there is the possibility not to realize desired synergies, due to a lack of adequate influence within the acquired company (Kengelbach et al., 2017).

Given the above, also Kengelbach et al. (2017) conclude that experience is crucial for *"doing tech deals right"*; as a matter of fact, companies which are used to buy on tech targets at the benefit of their innovation, develop the capability to select, acquire and integrate them well.

The above considerations can be applied also to banks willing to use this strategy for innovation: it is necessary to consider the M&As as part of the ongoing strategy, in a continuous effort to improve the ability of screening and executing valuable deals; furthermore, as Kengelbach et al. (2017), highlighted for tech M&As in general, it is crucial to consider the peculiarity of such deals and to adapt to this the deal structure, in terms of time, which shall be shorter than usual, given the fast pace of technological progress, also in terms of earn-outs and other incentives, that can help to maintain the entrepreneurial culture of the acquired companies, even when they become part of a large organization, and even in terms of post-deal considerations, because, after the acquisition, it is required for the two entities to collaborate strongly in order to achieve the desired synergies.

As far as the screening process is concerned, collaborating with the corporate fund and with other structures of the company, as the banks' innovation lab, can help the teams dedicated to the M&As to gain insights on the emergent trends in technology and to identify notable targets; indeed similar considerations are highlighted by Kengelbach et al. (2017) for tech M&As, together with a reiterated concept of heterogeneity, which is entailed in such processes: in face of the unique primary goal of closing the innovation gap, several sources are needed to identify opportunities, and several resources, again internal and external to the companies, intervene in these deals. This lets us conclude that such deals need the acquirer to be more flexible and agile, in comparison to traditional M&As processes, when it comes to seize opportunities from technological space via acquiring a tech target.

3.2.3. Ally for innovation: strategic partnerships and equity investments

After and despite the initial phase of Fintech development, which many (Juengerkes, 2016) refers to as *"Fintech 1.0"*, in which the mission of new comers was mainly characterized by the idea of disrupting and possibly substituting the most traditional players within Financial Services industry, a different climate started appearing. In particular, many companies, previously meant to be at opposite sides of the cracked financial services' ground, acknowledged the value of ally to jointly deliver innovation: a shift in Financial Services industry happened from the idea of "competition" towards that of "complementarity".

Beyond this renewed strategic objective there were the mutual recognition of each one's strengths (see figure below), and the aim to search for synergies obtainable by strategic alliances, as another possible strategy to be pursued by banks to innovate themselves.

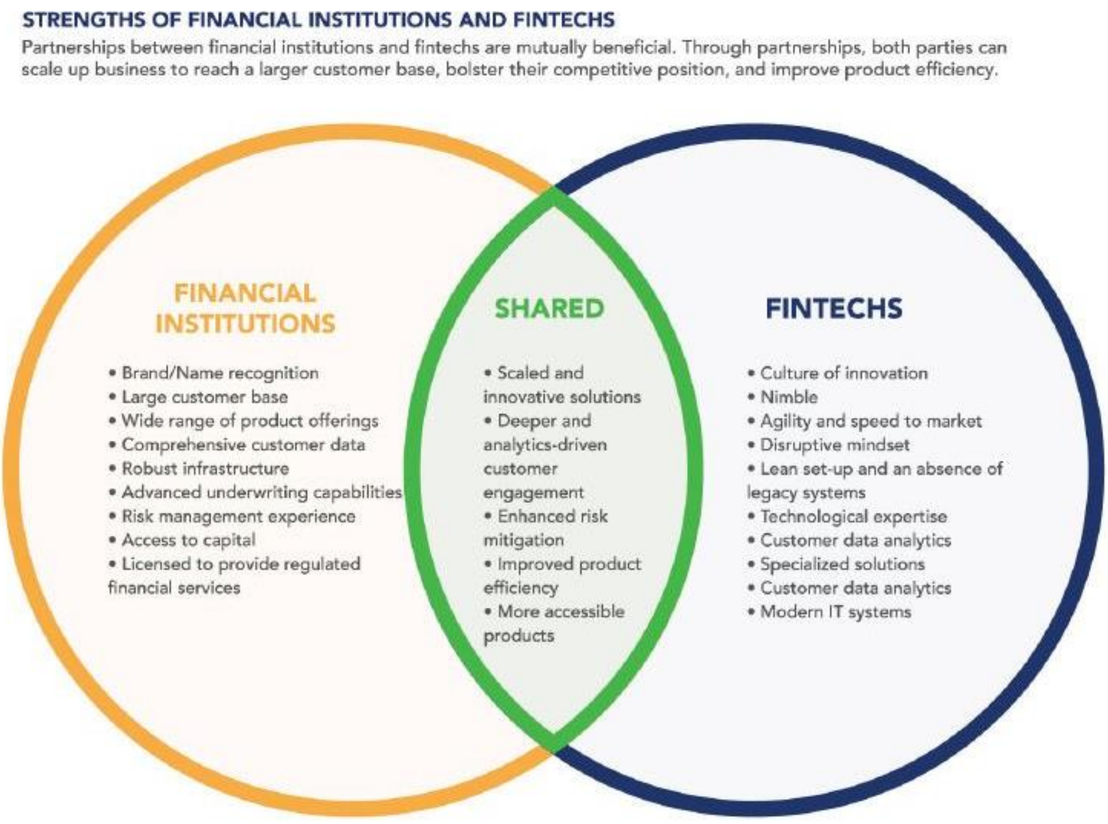


Fig. 36 – Fintech and Financial Institutions joining the strengths
Source: IIF & CFI, 2017

First of all, banks appeared to be more able to manage the complexity beside the provision of financial services, in particular in terms of regulation; as a matter of fact, notwithstanding Fintech's first phase in which regulation was kind of gentle letting room to new-comers, it appeared evident that banking industry would have called for stricter regulation to the new entrants' rival business models; Fintech firms, instead, represented for banks the ones able to deliver the type of experience ever-more required by customers and this capability is one that traditional players are strongly longing for (Meinert, 2017).

Another crucial issue lies in the need to scale on Fintechs' priority agenda; indeed, even if many startup companies are characterized by a very fast acquisition and accumulation of users, this is not obvious in services which people judge to be, as financial ones, of paramount importance and having an economic impact on consumers. For this reason, the already owned customer bases that main banks have are a competitive advantage on traditional players' side, especially enriched when the bank's brand is well trusted and known by customers worldwide; these and similar considerations, according to many (Meinert, 2017; Lopez Moctezuma, 2018; Juengerkes, 2016) prompted a new phase for Fintech development, in which not only these companies' business models are much more designed as B2B and on banks' current needs, but also the willingness of the then-born as disruptors to cooperate and partner with bankers is becoming higher.

The need for an ample customer base to test and validate their products and services is, as said, huge for Fintech, and, relying on banks' one to do it allows the new industry participants to be faster in the delivery of their idea, with respect to how they would be by searching for users on their own; and it also serves the partner, namely the bank, to assess in which state the Fintech finds itself and what eventually renders its service unique.

Also, there are some services which Fintech wish to offer that necessarily need a banking license to be hold by the provider: in these cases, a partnership is not only driven by the above considerations, but also fueled by the choice of some Fintech players to opt to partner with a bank, which already has a license, instead of applying for a new one; in a nutshell, while these partnerships are made *"to run the business"*, the others are mainly formed *"to accelerate and grow the business"* (Juengerkes, 2016).

On the other hand, according to Juengerkes (2016), banks find in their partners, in this case Fintech startups, the willingness to test new products and to deliver tech-edge innovation; these missions, together with the Fintech talents' ability to use a much more customer-centric approach, e.g. making an intense use of social media, and to act in an entrepreneurial and agile way, are just what banks need to bring within their organizations.

The common goal underlying this shift towards collaboration is to serve customers in a more effective way closing the gap they used to feel with financial institutions, indeed as Lopez Moctezuma (2018) declared "*The best part of the Fintech Revolution is not for the banks, is not for the startups: at the end, it is for the final client"*, who can now choose among a vaster array of financial services in order to find the most suitable solution for him. And banks and Fintech decided to lever each other strengths at the advantage of innovation.

Also, partnerships and alliances are often a pre-emptive attempt to collaborate before entering an eventual M&A process; as, via the joint co-development of a product or service, then collaborating side by side with a startup, a bank can analyze the innovative solution its partner is trying to offer, can test the readiness of the founders' team to effectively serve a very large customer base, like the one of the bank, and can assess whether the capability of the people within the Fintech are not replicable; if so, the uniqueness of the inner ability of the people and the readiness to launch a product can trigger a M&A process (Lopez Moctezuma, 2018).

The choice of the right partner is a decision of great importance for the partnership to succeed: banks, given the implied investment costs, risk of failure and need to find the fit, usually evaluate the possible partners carefully, as VC investors would do before offering funds (Juengerkes, 2016).

Arranging for a partnership is often a tricky issue, especially considering the inner different nature of the parties involved when talking about Fintech and banks; in light of this, even if it is not possible to provide a unique and good-for-all model, many industry professionals are trying to draw up useful suggestions' lists for a bank-Fintech partner to succeed. On this matter, for example, Meinert (2017), given on-field professionals' contributions, collected three keys, namely:

- *"adopt the right cultural mindset"*, this suggestion mainly refers to the need for banks to stop viewing Fintech as mere opponents to their models, rather as fresh contributors, and, also, the author stresses the importance for traditional players to accept the idea innovation doesn't come without any risk; enlarging banks' risk-tolerance and nurturing a more entrepreneurial mindset are considered crucial, while still caring for control and security;

- *"do something"*, as said before, it is not convenient to take a wait and see approach when it comes to innovation, as things are moving faster in the competitive field of banks, this should encourage them to start engaging with Fintech, as early as possible, and to try to do it with several partners;
- *"be forward-looking"*, this implies an immediate recognition of most important trends in place in financial services and a subsequent willingness to embrace them, even accepting challenges and uncertainty implied.

In addition to forming strategic alliances, many banks translated their attempt in getting closer to Fintech ecosystem in doing equity investments; this is mainly done via the banks' corporate funds and can be a way followed in conjunction to the partnership with the Fintech, possibly to render it stronger and to signal the bank's commitment, or it can even be a strategy per se which does not imply the bank and the investee to collaborate.

As a matter of fact, the corporate funds owned by banks are usually kept independent from the bank's organization, in order to give managing partners autonomy in decisions and to be able to act in the portfolio companies' interest; also, given the fact that some Fintech startups do not aspire to be acquired by a bank, since they still see them as too much bureaucratic and not innovative firms to disrupt, this independence of the fund is also used to have a greater appeal on target companies in which the fund wish to invest.

Investing by a fund arm also allows the bank to simultaneously bet on several projects, to spread the risk and to avoid the integration troubles which arise with direct investments.

3.3. Emerging models for innovation in banking: strategic alternatives and partnering cases in the industry

In face of similar conditions and even given a shared urgency to change, the several players within banking sector, in particular the biggest ones, have been using different models to pursue innovation; each one is trying its own "recipe" to stay ahead and we want to briefly describe some approaches using representative cases from the industry, which serve as examples of the above described strategies. Also, after providing such benchmark cases, we present an overview of Italian banks' recent strategies to engage with Fintech, in order to asses where our country's players currently find themselves.

- **JPMorgan acquires WePay**

WePay[78] is a *"platform payments company that provides payment, risk and support products and services to software and platform companies"*; this is the mission of the Fintech startup recently bought by JP Morgan Chase, one if US' biggest banks. The payment Fintech was founded in 2008 in Silicon Valley and had already raised $75 million in funding from investors and was valued $220 million.

The deal was announced in October 2017, the terms were not disclosed but the press reported the valuation to be higher from the last one, above mentioned. Today WePay is officially a Chase company; the deal was completed after a year from JP Morgan's first approach to the Fintech; the aim of JP Morgan is to use the ability of this vertical innovator to better serve its 4 million customer base of small and medium businesses, in particular to accelerate the times and ease for them to receive card and digital payments. On the other hand, by joining the financial institution, which boasts a global presence, WePay's objective is to expand its presence.

Also, WePay could become, under the strategic desires of its acquirer, a Silicon Valley payment incubator, namely the bank's point of touch with latest technologies in payments also due to its crucial position in California.

This example suggests us how important is for banks to open their boundaries to innovators, whose expertise in niche areas is high, and who can serve as catalyst of other further innovations for the bank to be projected and developed. Indeed this was the first significant Fintech acquisition of JP Morgan and signaled to the market an even greater commitment of the US bank to Fintech to be embraced.

- **Partnerships for innovation: the case of JP Morgan**

JPMorgan Chase, while entering the field of M&As just recently, has ever been active in Fintech space in terms of investments and partnerships; indeed the bank has formed several strategic alliances, such as the one with InvestCloud, a Californian company providing digital, customizable applications for institutional investors; this partnership was formed in 2016, with the aim of – as revealed

[78] See: https://go.wepay.com/

by the bank - *"coupling the firm's wealth management expertise with InvestCloud's innovative technology solutions"*[79] and it was strengthened by an equity investment by JPMorgan Chase in the young company. Once again, the alliance proves the above discussed mutual benefits for a common ground to be found by banks and Fintech; while the first lack needed expertise, the second are willing to scale thanks to the incumbents' infrastructure and to couple their specific skills to the experience of the traditional institutions.

- **Citi Ventures: accelerate and invest in Fintech**

Citi bank innovation is strongly supported by its *"innovation engine"*, namely Citi Ventures[80]. It is the greatest source of new ideas for the bank and an evidence of a tendency in place in banking sector: many big banks are indeed relying on innovation labs for their inner transformation; by the way, Citi Ventures represent also the funding arm of the bank. It has the mission to analyze new trends and topics, to screen valuable ideas to be eventually adopted at Citi's, to help startups to launch in the market by offering them accelerating programs and funds.

Since the launch, Citi Ventures has marked its 40th investment in 2016 and has developed the Global Lab Network, namely a series of Innovation Labs, each located in strategic and leading geographies for Fintech (Dublin, Tel Aviv, Singapore, New York) and used to experiment in tech-edge areas of interest and to spur fresh knowledge creation, with the aim to validate worthy models to be funded or implemented within the banking business.

The model of Citi innovation is thus a mixed one, indeed the company uses the acceleration program offered by its labs to learn and explore new business models and, as said, some of them are eventually funded and added to the portfolio of Citi Ventures while others could become partners of Citi.

For example, among the many Fintech startups in Citi Venture portfolio we find the followings.

Founded in 2008, *"Betterment is a Fintech from Asset Management class: it is a goal-based online investment company, delivering*

[79] See: https://www.jpmorganchase.com/corporate/news/pr/jpmchase-partners-with-InvestCloud.htm

[80] See: http://www.citi.com/ventures/index.html

personalized financial advice paired with low fees and customer experience". According to Crunchbase, Citi Ventures participated, with other investors, to the SERIES E financing round of Betterment, in 2016, during which the company raised $100 million.

FastPay also is in Citi Ventures portfolio, it is a Fintech belonging to Alternative Finance class. Its vision is being *"The leading financial solutions platform for media"*. Founded in 2009 in Los Angeles; it now has offices in San Francisco, New York, Boston and London too. FastPay offers invoice financing for publishers, agencies or ad-tech innovators. Since launch it has originated $ 2 billion in loans, whose amount goes from $5k to $20M and it is delivered within 48 hours.

- **Co-developed initiatives by banks to support Fintech: the case of Fintech Innovation Lab**

The Fintech Innovation Lab[81] was first established in New York in 2011 (by the Partnership funds for New York city and Accenture, the two main sponsors); and it expanded thereafter to London, Dublin and Hong Kong (see figure below), with the aim to nurture the growth of valuable startups in Fintech and in order to promote collaboration within them and traditional financial institutions.

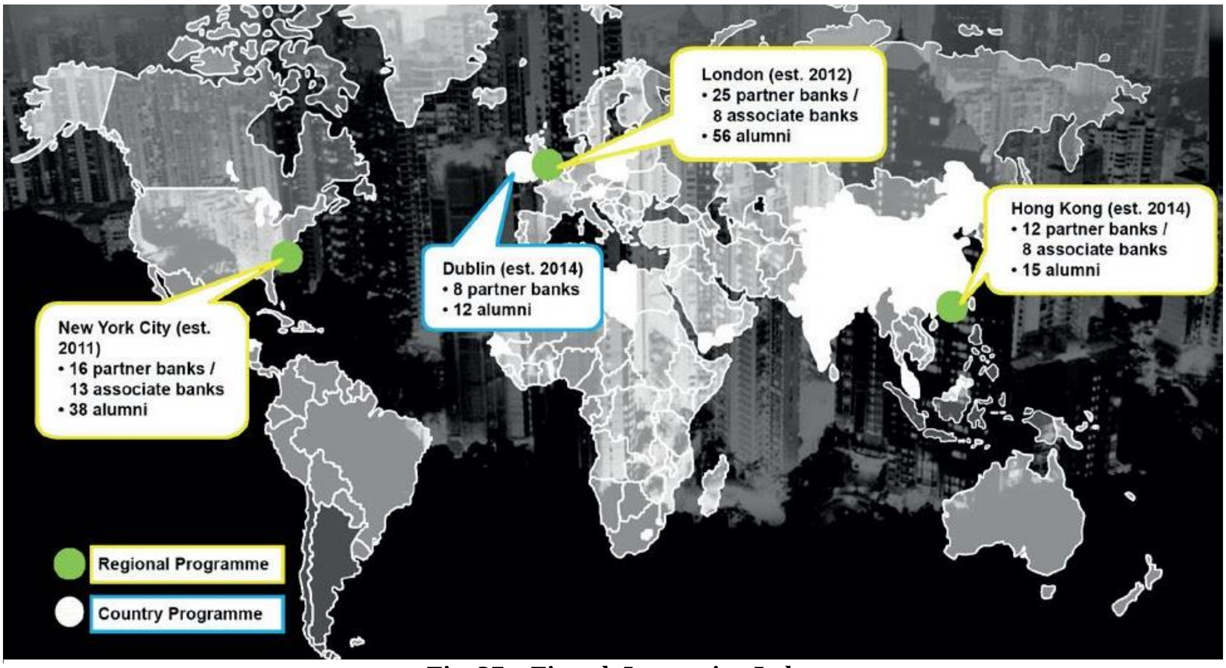


Fig. 37 – Fintech Innovation Lab
Source: http://www.fintechinnovationlab.com , 2018

[81] See: http://www.fintechinnovationlab.com

It offers a an annual accelerator program that lasts 12 weeks; during this period the Fintech startups can test their products with potential customers, validate their business models and get in touch with executives from Financial Services industry to either gain advice or to form relationship to be eventually continued over time. The acceleration program, during which also workshops and events to discuss relevant themes are held, there is a DemoDay for companies to present their business ideas to Financial Services representatives, investors, journalists; and, to date, it has raised $863 million for program's participants.

This initiative is a very clear example of the collaborative climate which has been characterizing Fintech ecosystem with reference to banks; as a matter of fact (as summarized in figure above) there are many partner banks which back the program, such as Bank of America, Citi, CreditSuisse, Goldman Sachs, HSBC, Intesa San Paolo, Santander, UBI Banca, etc.

This program and its recognized success contribute soundness to the idea that Fintech are not only existing to disrupt the banking industry at the expenses of incumbents, rather they offer search for their advice, given their long experience and for their support in many ways.

- **Italian banks: most notable initiatives**

satispay

As far as Italy is concerned, it is interesting to mention the case of Satispay, one of Italian most famous Fintech startups which was also included among the emerging 50 innovators of Fintech in the list provided by H2 Ventures and KPMG (2017); its last financing round – SERIES B in 2017 - hit the press in Italy due to the fact that it saw the participation of previous investors, in particular industrial players, as Iccrea Banca, but together with other financial institutions, namely Banca Etica and Banca Sella (through its arm Sella Ventures). The financing round was also considered an Italian one of a kind investment due to the amount raised: € 18.3 million, mainly justified by Satispay's potential and by its performances, as 175.000 active users and 19.000 merchant partners throughout Italy at the times of the round.

SELLALAB

We had already highlighted the participation of Banca Sella, through its Lab, to the creation of the Fintech District in Milan, contributing to the growth of an

Italian community to participate in the global Fintech ecosystem; indeed this Italian bank is trying to catch the opportunities from Fintech in several ways, since it also has its innovation lab and a venture arm, as seen in the case of Satispay.

The innovation lab is called SellaLab, it is an innovation platform for startups and firms, which aims to help them both in achieving open innovation and digital transformation. It was founded in 2013 by Gruppo Banca Sella, with the idea to make R&D for the bank on trended themes, especially Fintech-related ones. The Lab tries to control the Italian territory via different geographic points, indeed together with Milan it is located in other Italian cities (Torino, Biella, Lecce) and it also participates to other initiatives and networks (see the Fintech District or Magic Wand, below).

UniCredit EVO, Equity Venture Opportunities, is another initiative worthy to mention within Italian landscape. It was launched in 2016 by a joint venture of UniCredit Group and Anthemis Group, a financial services technology venture and advisory firm; it is an initiative born with the aim of investing in valuable Fintech startups.

The stated aim of UniCredit, which committed €200 million for investments in Fintech businesses, is *"to collaborate with emerging players within the FinTech ecosystem and explore, sustain and develop cutting-edge technologies and solutions to deliver next-generation experiences for our customers"*[82] thus using such investment initiatives at the benefit of its digitalization process.

This case once again demonstrates the willingness of banks to support the growth of the Fintech innovative system just to be able to contribute hints and resources to their own organizations.

In particular, UniCredit is mainly using the fund to get in touch with Fintech players (see figure below for an overview on the EVO portfolio of companies) and the underlying opportunities.

[82] See: https://www.unicreditgroup.eu/en/unicredit-at-a-glance/innovation/unicreditevo.html

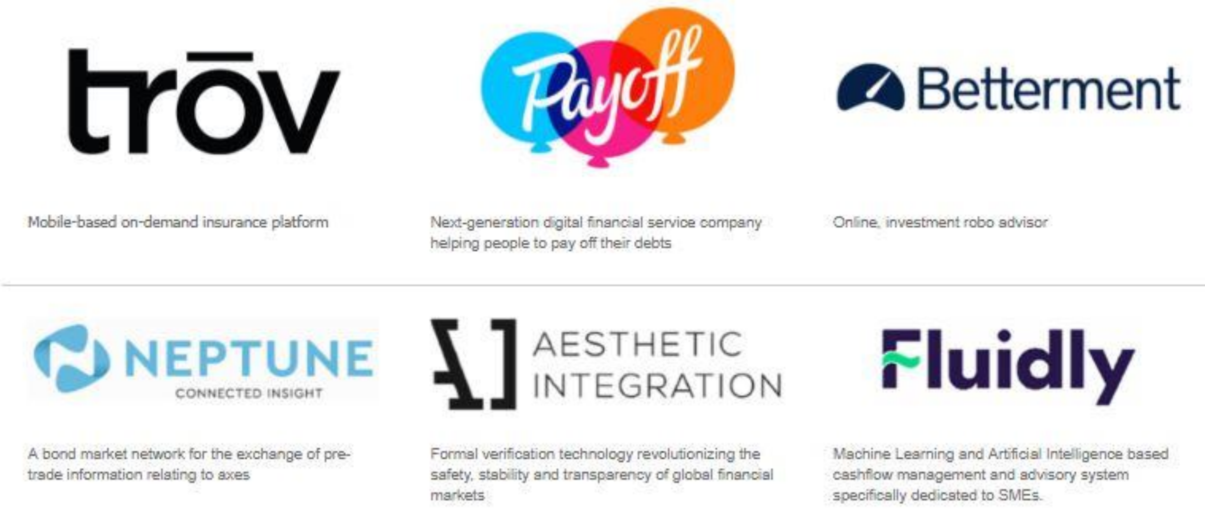


Fig. 38 – Unicredit EVO Portfolio of businesses
Source: www.unicreditgroup.eu

Recent Fintech initiatives which saw the engagement of banks in Italy also include the launch, in 2017, of "Magic Wand[83]" an acceleration program for Fintech and Insurtech; it was launched by Digital Magics, an Italian digital businesses incubator, together with partners from the banking industry such as BNL, Credito Valtellinese, Innovation Center of Banca Intesa San Paolo, SellaLab, UBI Banca; and also other participants, as Poste Italiane.

The program is aimed at growing potential startups, through grants, equity investments from the partners of the project, dedicated services and advisors and also through workshops; the program ends with a Demo Day, its first one will be held in June 2018; the idea of the project is clearly developed on benchmark initiatives borrowed from leading countries in Fitnech (such as the Fintech Innovation Lab) and aims at boosting Italian participation to Fintech ecosystem.

Despite the just described initiatives and even in light of the above participation of some Italian banks to the ecosystem, Banca d'Italia recently published a report where 283 Italian financial institutions' initiatives related to technological innovation were studied and the conclusive assessment of Italian landscape, according to it, was that Fintech investments are still modest in Italy in comparison with other geographies: Financial Services players appear, according to Banca d'Italia (2017), particularly slow in their

[83] See: https://magicwand.digitalmagics.com/

moves mainly due to the fact that investing in Fintech is expensive and, as highlighted in literature, does not grant to the bank an immediate nor a fast realization of synergies and added revenues.

Also, there is a lower number of Fintech established in Italy and, among banks, there is a shared sense of uncertainty as far as future outcomes of Fintech are concerned; finally, Italian banks seem to be much more traditional in their business models, with a still significant role of the branches and the presence of smaller banks which consider investing on Fintech particularly difficult (Banca d'Italia, 2017).

According to Banca D'Italia (2017), the surveyed financial institutions are likely to launch an initiative related to technological innovation in the short-run or have already launched it (37% of total financial institutions surveyed) and only a smaller share of them (26%) does not want to take any (see figure below); in particular the banks, either the larger (first column in figure below), either the smaller ones (second column in figure below), are apparently very actively engaged with Fintech.

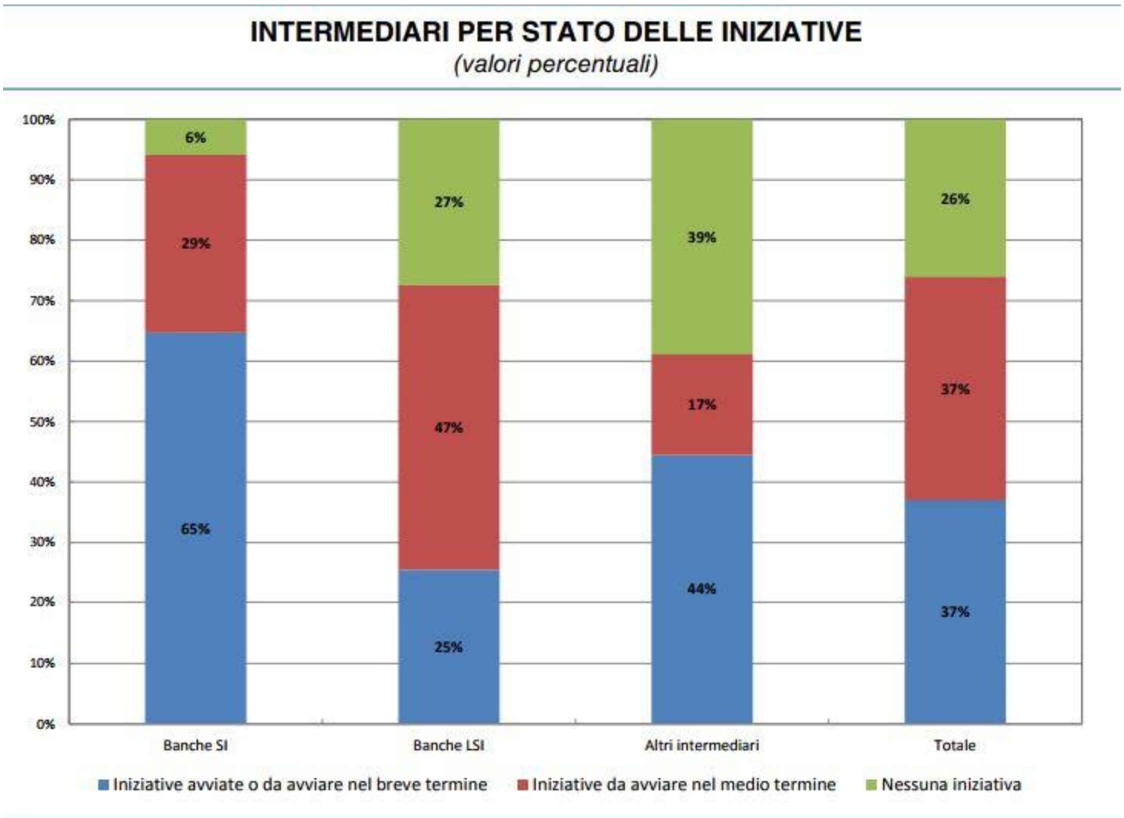


Fig. 39 – Italian Financial Institutions' initiatives with reference to technological innovation
Source: Banca d'Italia, 2017

But, such apparently high level of initiatives to foster technological advance is not adequately funded by Italian banks, which still commit too little resources to them and do the majority of such projects (39%) in-house, with still low reliance on accelerators/incubators and on partnering strategies.

CHAPTER 4 - ANALYSIS OF A REMARKABLE CASE STUDY: BBVA'S ROAD TO INNOVATION

This chapter presents an analysis of a case study from the banking industry, namely BBVA Group, as it appears to be a very active bank as far as Fintech revolution opportunities are concerned and also in terms of digital transformation.

Having selected the above as benchmark case study to describe a multiple-strategies approach to innovation in banking industry, we first present a brief overview of the company and of its main facts and performances, then moving to the description of all the innovation related initiatives implemented by BBVA.

The description of the strategies for innovation implemented by BBVA serves the purpose of gaining useful insights on what can be effective ways for banks to pursue required innovation and to cope with Fintech, it also leads us to gain evidence of discussed literature and to offer an overview on how each initiative was run by the company, analyzing its underlying characteristics, challenges and rationales.

4.1. Introducing the case study analysis: rationale and methodology

The objective of this dissertation was to analyze in depth the different strategies that a large international bank can implement in order to succeed in today's environment of fierce competition and of rapid changes. In particular, we wanted to describe the strategies implemented within incumbent banks when they pursue innovation and the dynamic of partnerships/alliances between them and Fintech players eventually put in place; our research focus was analyzing: "*How can banks seize eventual opportunities coming from the emergence of Fintech?"; "Why do these opportunities arise for banks?"; "How do banks react internally to the changing environment?"; "Why should banks and Fintech eventually partner?"*.

Given this purpose, we decided to analyze a single case study of a large international bank more in-depth, after having described all of the possible strategies in the previous chapter, reviewing current available literature, and after having there briefly mentioned some examples of initiatives undertook in the banking sector.

The decision led us to describe BBVA's main strategic actions for its "digital transformation", collecting any available piece of information to give a complete picture of this organization's model of innovation, which started to be implemented about a decade ago.

The choice of the bank to analyze in this case study was done among the ones most often found in recent literature to be actively adapting their business models to changing environment; among these "brave" players, BBVA was chosen due to the fact that the company opted for different strategies simultaneously in order to pursue innovation, namely organically launching some new services and also buying Fintech companies or forming partnerships with them in the meanwhile. This multiple approach to innovation was considered useful by the author to investigate links between a specific strategic objective to be pursued and the approach used by the bank, and also to make comparisons between the different alternatives possible and finally to try to gain as much evidence as possible on the whole scope of literature reviewed.

Furthermore, the choice of BBVA Group transformation over the last decade as unit of analysis allowed us to collect many data on which to base our analysis: as a matter of fact, the company has, beside the annual reports for the period of interest, which are all available online, a large series of contents on its websites, which were very useful to understand the rationale of the strategies and moves implemented.

In order to implement a complete data collection and with the aim of building a rich data set on the case study, we relied on the following data:

- an interview personally conducted by the author via Skype with a person from BBVA (see Appendix A, where the interview is reported), in order to be able to understand the point of view and the strategic aims of key people from within the Company and also with the aim to confirm reviewed literature insights in the previous chapter;
- secondary data available on BBVA Group's main steps and strategies (see Appendix B, where a table with most representative data reviewed is reported), collected from several sources (online journals, websites, Youtube channels) trying to search for different types of data (articles, company news, video interviews, case studies, etc.).

The above searched heterogeneity in data served the author purposes of enriching the meaningfulness of the information developed and of providing an overview on BBVA's journey towards innovation as much complete as possible.

However, in illustrating the case study, our research lacks available financial data on some of BBVA's and its fund's investments; this data were not disclosed by the company to the public neither they were possible to find through the interview conducted by the author. Similar limits on financial data availability were found as far as some Fintech performances are concerned; indeed, these are often young startups in their early stages of business records.

Although such constraints, once available data were collected, the main information on BBVA's journey towards innovation were developed; further in this chapter we will present it distinguishing BBVA's initiatives into in-house and external ones: according to this reasoning, the first encompass all of the internally developed and launched innovative services, together with the supportive initiatives to the development of Fintech ecosystem run at BBVA; the latter are instead information about BBVA's investments or alliances with the new participants to Financial Services.

By describing all of the innovation strategies of BBVA, we tried to highlight the drivers of each initiative and to comment on the results that the company achieved at each of its steps towards innovation. The eventual merits are given to the successful moves and the possible downsides are identified for the most questionable ones. Finally, the objective of drawing our conclusions on BBVA multi-strategies approach to innovation is achieved, even if many aspects of such approach are still evolving and will probably unfold their potential and their permanent outcomes only in the next future.

4.2. The company: history, strategy and most important facts of BBVA Group

- *History and expansion of the Group*

In 1857, Banco de Bilbao was founded and there lies the origins of the whole Group which has been evolving since there till becoming an international reality. In 1901, Banco de Vizcaya was created and started operating, from Bilbao first to the whole Spain. The two contributed a lot to the development of the industrial sector of their geographic area and when, in 1920, the Banco de Crédito Industrial (BCI) was formed they were both part of it, and in the meanwhile, Banco de Bilbao had also merged with Banco del Comercio. The BCI was a consortium created by bankers and manufacturers in order to fuel the industrial growth by lending.

As a matter of fact, years of economic expansion followed and during the '60s Banco de Bilbao acquired greater importance too, especially via other mergers, thus creating a financial group; the same happened for Banco de Vizcaya. Then, in 1988, as a result of the merger of Banco de Bilbao and Banco de Vizcaya, BBV was created.

Some years later, in 1999, BBV and Argentaria, which was the result of several important mergers happened in Spain in the previous years, announced their merger into a new entity: BBVA, Banco Bilbao Vizcaya Argentaria; this would have been a large, highly capitalized bank with significant diversification in scope (either in terms of products and in terms of geographic presence).

Further on, the integration phase kept on and, also, the creation of a single brand name and identity for the Group. In 2007, BBVA was the second largest bank in Spain and it acquired Compass Bancshares, a bank which had opened its first branch in Alabama, in 1964, and had expanded throughout US thereafter. It became a fully owned subsidiary of the Group and it was renamed BBVA Compass.

Today the Group has a significant international presence, as, according to 2017 Q3 results, it is present in more than 30 countries (see figure below) characterized by varying level of economic development; Spain is the country of origin and also the geographic place where the Group has its parent company; there BBVA is among the country's top banks, together with competitors like Santander. Mexico represents a very important market too, since BBVA is the largest financial institution there; by the way, the geographic scope of BBVA is largely diversified as the Group main geographies also include Turkey (through its investment in Garanti Bank) and US.

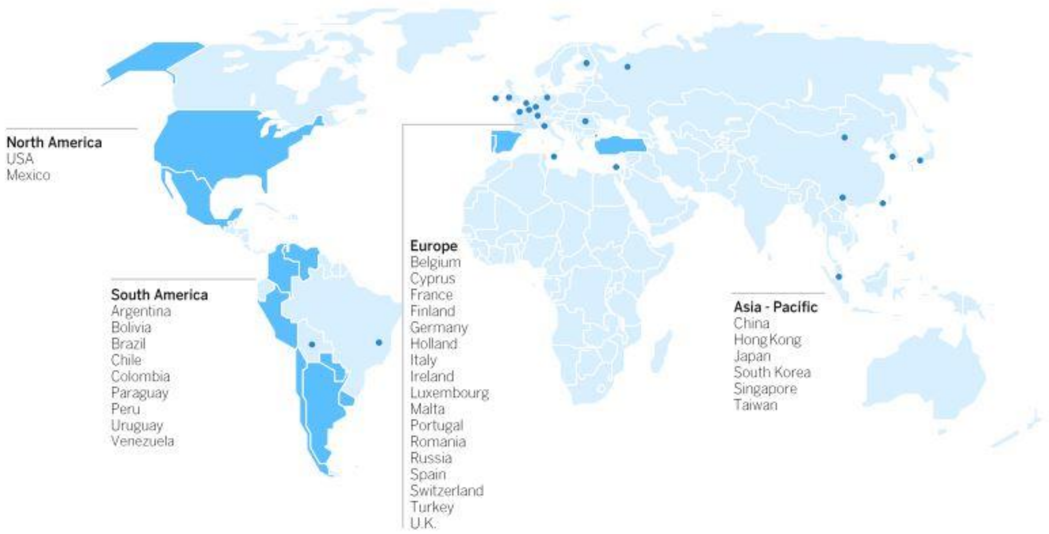


Fig. 40 - BBVA's global presence
Source: BBVA corporate presentations, 2017

- *Key Indicators*

As the company annual reports and public information highlight, the Group achieved positive performances over the last years. In the figures below we summarized the most important results for the period 2007-2017 (as by the end of 3rd quarter), since this is the period in which the Group implemented its transformation strategy, which we will describe in-depth in the following paragraphs, and since these decade mainly represents the one of great challenges and changes for the banking industry as a whole.

Today, the Group (as by the end of 3rd quarter 2017) has € 690.797 million of total assets (amounting to € 731.856 million at the end of 2016) and € 416.240 million of gross loans and advances to customers (which amounted to € 430.474 million at the end of 2016); the two items (whose trend over the decade can be observed in figure below) both grew from the beginning of the "transformation journey" undertaken by the Group.

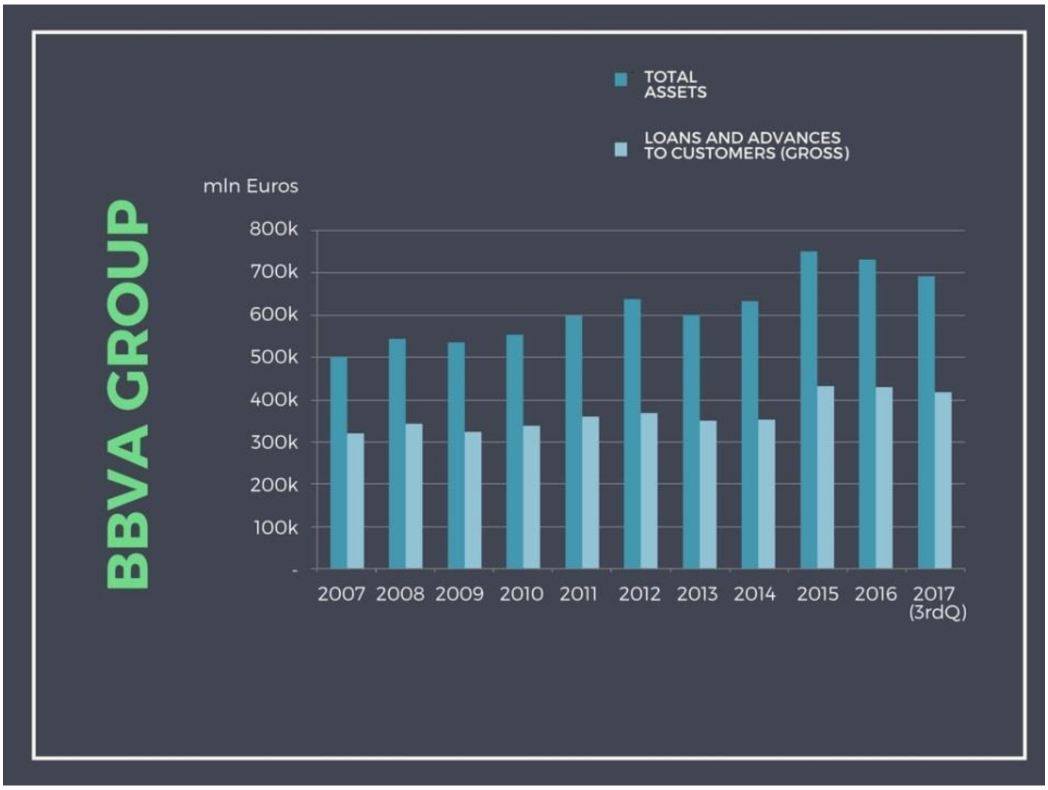


Fig. 418 – BBVA Group Total Assets and Loans to customers (2007-2017)
Source: author analysis (BBVA annual reports)

As far as the economic results are concerned, the Group Net interest income and Net attributable profit are reported in figure below for the period taken into consideration; in 2017 (at the end of 3rd quarter) they respectively amounted to:

- Net interest Income of € 13.202 million (in comparison with € 12.674 million, as by 30th of September 2016, and with € 17.059 million at the end of the same year);
- Net attributable Profit of € 3.449 million (compared to € 2.797 million at the end of same quarter for 2016 and to € 3.475 million at 2016's year-end), thus the highest result since 2010.

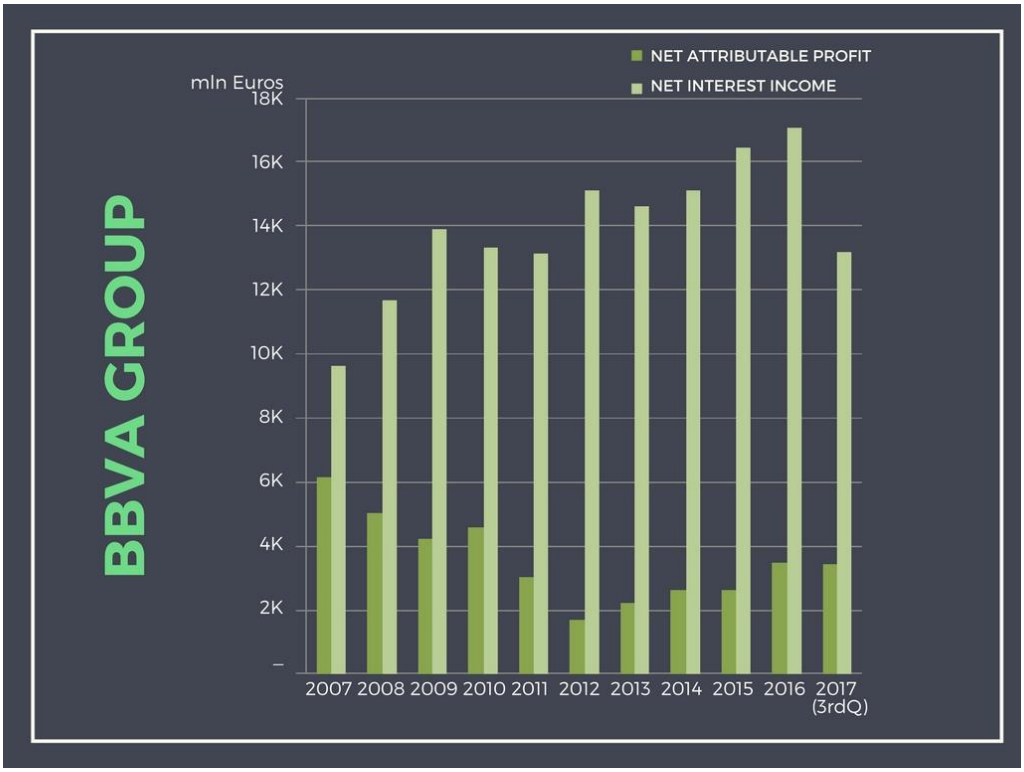


Fig. 42 – BBVA Group Net Attributable Profit and Net Interest Income (2007-2017)
Source: author analysis (BBVA annual reports)

The geographical breakdown of the Net attributable Profit for Q3 of 2017 (see figure below) highlights the greatest contribution comes from Mexico (39%) followed by Spain (19%) and the other geographies (Turkey, 14%; South America, 15%, USA, 10%; Rest of Eurasia, 2%).

Mexico	39 %	Turkey	14 %
Spain(2)	19 %	USA	10 %
South America	15 %	Rest of Eurasia	2 %
Chile	3 %		
Colombia	3 %		
Argentina	4 %		
Peru	3 %		
Other	2 %		

(1) Figures excluding the Corporate Centre
(2) Includes the areas Banking activity in Spain and Non Core Real Estate

Fig. 43 – Q3 2017 Net Attributable Profit geographical breakdown
Source: Shareholders and Investors Website BBVA, 2017

During the decade 2007-2017, the capital adequacy ratios also saw an overall improvement (see figure below) and, at the end of 3rd quarter of 2017, they were respectively equal to:

- Total Capital Ratio: 15.7% , (15.1%, at the end of 2016);
- Total Tier 1 Ratio: 13.1%, (12.9%, at the end of 2016);
- Core Capital Ratio: 11.9%, (2.2%, at the end of 2016).

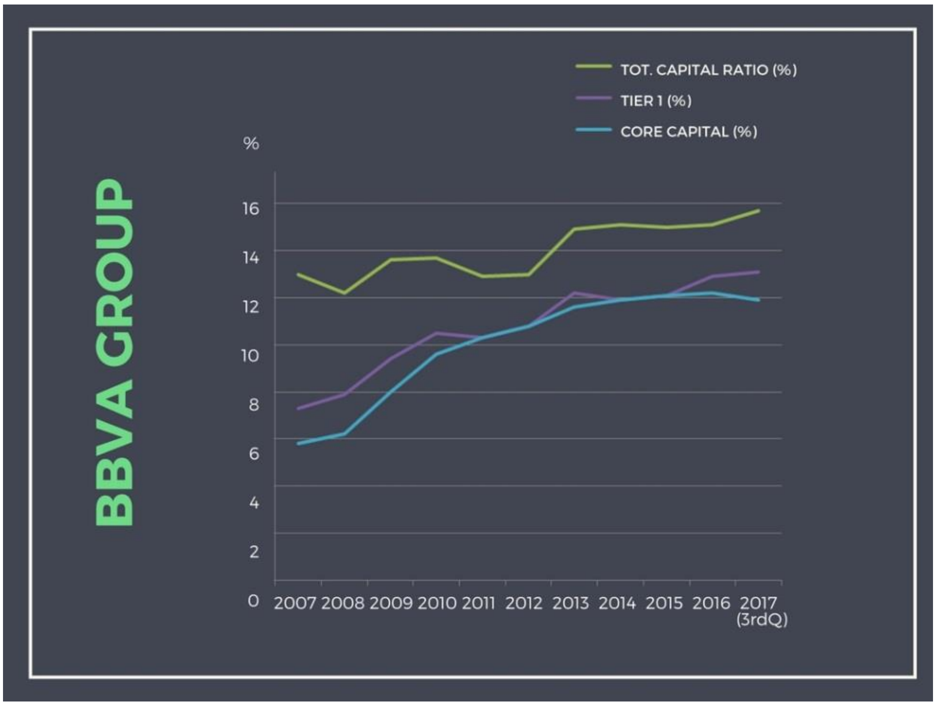


Fig. 44 - BBVA Group Capital Adequacy Ratios (2007-2017)
Source: author analysis (BBVA annual reports)

Throughout the period (see figure below), the Group's branches have been initially slightly reduced (with 2010 being the year of minimum number of branches), but, overall, the number of branches did not see a significant reduction; indeed, as by 2017 (end of 3rdQ) the Group relies on 8.374 branches internationally. This can highlight the Group willingness not to deny the role of branches' network in the new business model of the bank; as a matter of fact, within the Group transformation strategy, the branches are used just to educate the customers of all ages to the use of new and digital channels and to maintain the relationship with customers: the aim is to offer customers the possibility to bank when and where they suit better, thus also via traditional branches channel.

The number of employees of the Group was instead significantly grown in the period of digital transformation, and the latest results of the Group report a number of employees of about 132k internationally (as by 2017, 30th September), while the amount of people within the Group amounted about to 111k in 2007 (see figure below). This uptrend persuades us to think how great is people and human talent contribution for the success of the desired transformation.

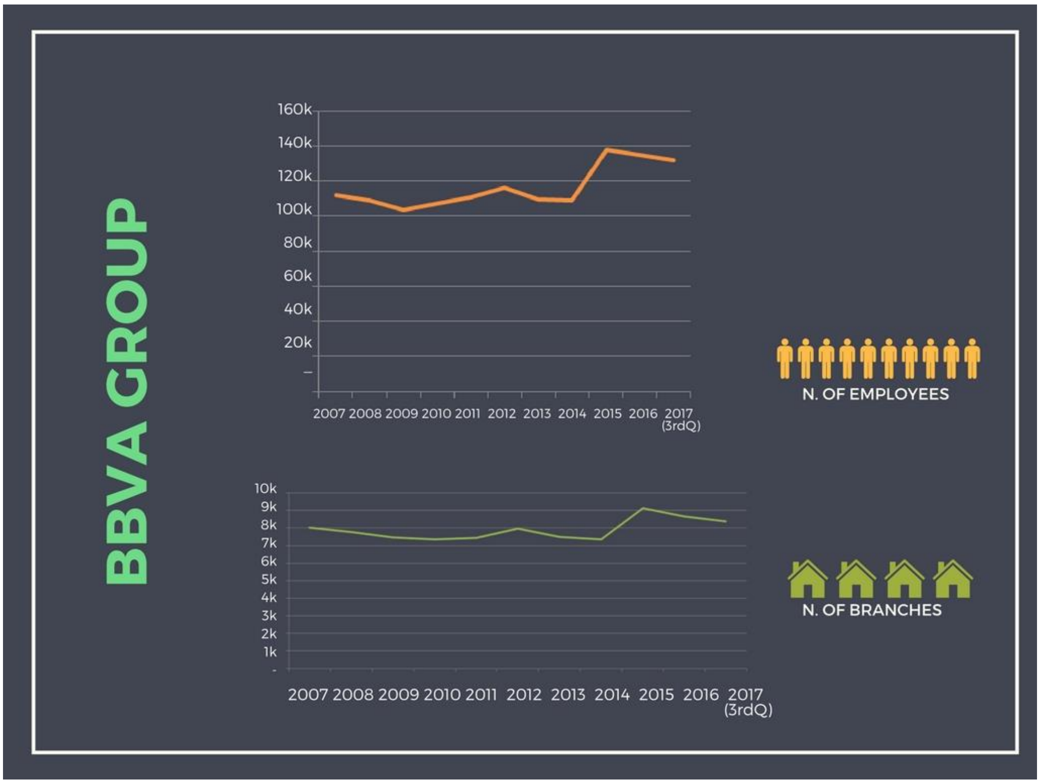


Fig. 45 – BBVA Group: n. of employees and branches over time (2007-2017)
Source: author analysis (BBVA annual reports)

Coherent with this view can be judged, for example, some training initiatives that the Group undertook just to render the branches' employees "technology facilitators", shaping this role, according to the Company news, on that of Apple Stores' Genius Bar personnel; a tendency, that of willing to be "phygital" and of learning an effective digital and physical integration from big technology players like Apple, which was highlighted in the reviewed recent literature seen above and which seems necessary for incumbent banks.

This vision about branches, then the idea they have a significant role for digital transformation, even if they do not constitute the sole and principal means of growth and investment priority for the bank, was also supported at BBVA Group by a BBVA Compass' study which found the existence of a positive correlation between digital sales and the proximity of branches, such that more products are sold digitally when branches are located in proximity; this is interpreted by BBVA's managers as a need for customers to feel they are somehow backed by the local physical branch, when they purchase digitally; in particular, given a trust issue, they tend to buy more digitally, if they feel the products and service are eventually obtainable via branch interaction too.

Finally, as far as clients are concerned, the Group experienced a significant growth in customers' base during the decade analyzed: the amount of total customers grew by a rate of 50%, reaching a total of 72 million in 2017 (in comparison with 2007's 47 million customers and in constant uptrend throughout the period of interest). Of the total customer base a share of 30%, namely about 20 million are digital customers.

4.3. BBVA's structure: organigram and people

In recent years, the Group has been evolving on the organizational side too and it has adapted its structure to the aimed transformation; one among the most crucial organizational changes at BBVA, in terms of people, was, in 2015, appointing Mr. Carlos Torres Vila as Chief Executive Officer. In 2008, he had already joined the company in the role of Head of Strategy & Corporate Development first and of Head of the Global Digital Banking Area later.

This change represented a significant acknowledgment by BBVA of a banks' new identity, one which is ever more rooted in technology and which needs the contribution of less traditionally bank-associated kind of talents. As a matter of fact, many highlighted Mr. Torres Vila background boasts a BS in Electrical Engineering from the Massachusetts Institute of Technology (MIT), and his professional background was interpreted as a signal to the company's commitment to change in terms of digital disruption, since the then-Head of Digital Banking was assumed to be the CEO of the whole Group.

The bank has also recently designed its whole organizational structure just on the purpose of, while boosting the performance and results of its business, adding *"the critical competencies and global talent to build a sustainable competitive advantage in the long term and accelerate results growth in the mid-term".* As a matter of fact, as highlighted in BBVA's website section dedicated to its organigram, the structure is divided into four functions, three of which are under the CEO, Carlos Torres Vila, responsibility while the Group Executive Chairman, Francisco González Rodríguez, is appointed as directly responsible of the last one.

The four functions are:

- *Execution & Performance,*

- *New Core Competencies,*
- *Risk & Finance*
- *Strategy & Control.*

The "Execution & Performance" function manages the Geographies (either directly CEO-reporting countries either those controlled through Country Monitoring function) and Corporate & Investment Banking (global area for the bank's investment banking, market, loans and transactional services for international corporate clients and institutional investors).

The second function, namely "New Core Competencies" was created just to respond to emerging conditions by *"building critical skills and attracting global talent"*; within the function, which is worthy a more in depth analysis with reference to our issue of interest, we find four areas, namely:

- *Customer Solutions,*
- *Talent & Culture*
- *Engineering*
- *Data.*

The area of Customer Solutions is divided again into five units: *"Operating; Capabilities; Products and Experiences; Strategy; Enabler".* These units manage a recently emerged set of new activities, as, for example, Business Development, New Digital Businesses. The last is just the one responsible for the launch of Fintech services internally developed or co-created with partners and acquired companies. In the units under Customer Solutions we find new crucial skills, such as Design & Marketing, Data & Open Innovation or Customer Solutions Engineering, needed to face current competition.

The Customer Solutions area can be thought as the executive arm for customer-centric strategy making; but, to support the transformation of the bank, there are also the areas wholly dedicated to the spread of a new culture and to the strategic use of data, that is "Talent & Culture" and "Data" respectively. Along them there is also "Engineering", an area assigned to software development.

Going back to the functions level, there is the one of "Risk & Finance", under which the key activities of global risk management, balance sheet accounting and capital adequacy monitoring are done via the areas of "Finance" and "Global Risk Management".

Finally, the "Strategy & Control" function drafts the Group's strategy and sets BBVA frameworks and control models; the areas here within comprised are "Global Economics Regulation & Public Affairs", "Legal & Compliance", "Strategy & M&A", "Accounting & Supervisors", "Communications", "General Secretary", "Internal Audit" (see figure below where the organizational chart of the Group is drawn).

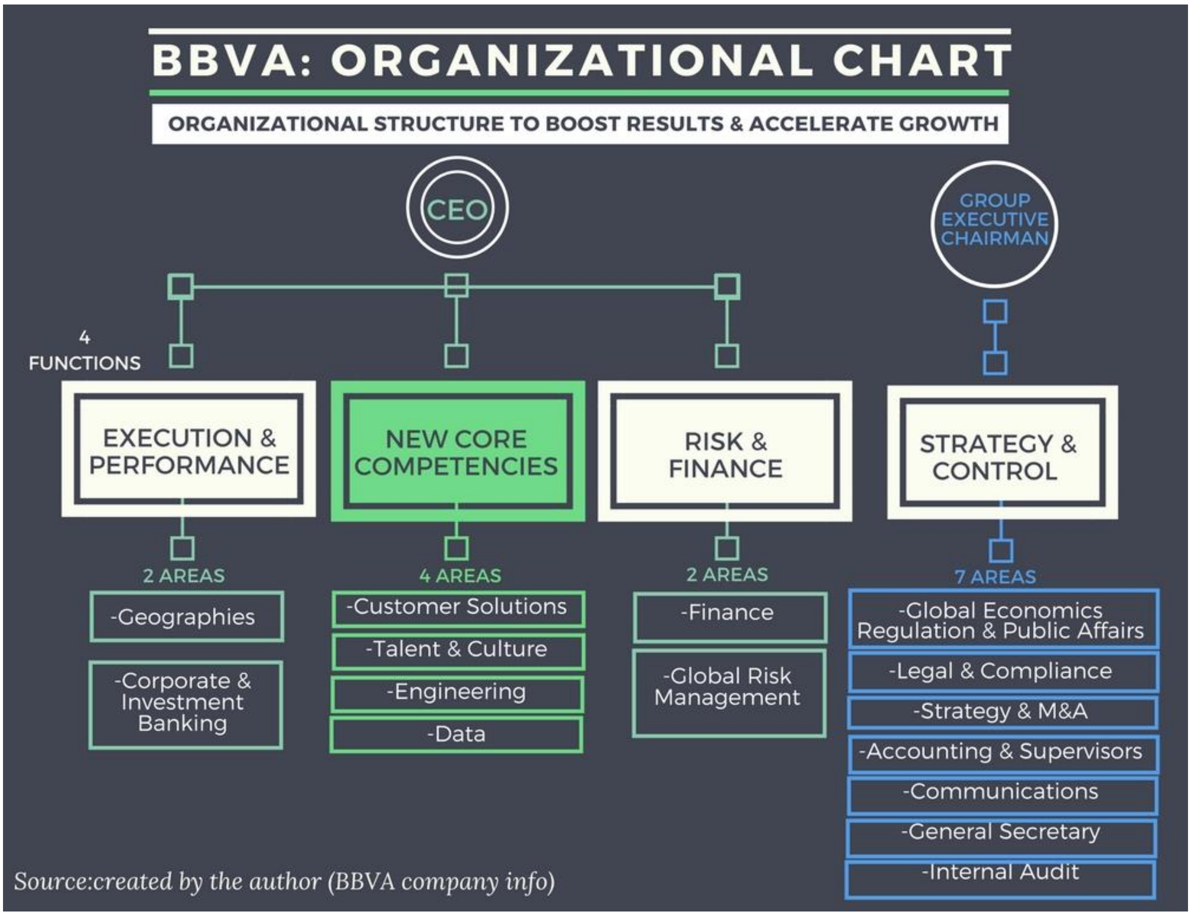


Fig. 46 – BBVA: organizational chart
Source: created by the author (BBVA company info)

4.4. BBVA's digital transformation: a multi-faceted model for innovation

"In 2016, we continued to make progress in our transformation process. We began this process some years ago and are ahead of the rest of the industry, with a ***multi-dimensional vision*** *that includes: new platforms and processes, new capacities and talent, a new corporate culture, new work spaces and ways of working, a new organizational structure, new products and businesses and active participation in the digital ecosystem."* This quote by the Group Executive Chairman's letter to shareholders in 2016 annual report of BBVA clearly summarizes the vision on which BBVA has been working since 2007 to transform itself. Led

by the new purpose coined in 2016 that is *“to bring the age of opportunity to everyone”*, the approach of BBVA to innovation is overtly a mix of internal and external initiatives, since, as stated above, it implies the need to participate to the “digital ecosystem”.

With such “multi-faceted” model the company decided to put in place many initiatives simultaneously to innovate itself. Not limiting itself neither to in-house innovation nor to external sources of innovation only for the launch of Fintech services, the bank ended up creating a benchmark case of “open innovation” in its industry, namely a company which allows innovative ideas to flow from the outside of the firm (especially from the Fintech disruptive ecosystem) to be adopted by its big organization and which, in the meanwhile, also produces innovation internally.

As explained by BBVA’s CEO Torres Vila at “Money 20/20” first edition, in order to implement this multi-dimensional model, the Group focuses on five main areas:

- *Internal incubator;*
- *Strategic partnerships with Fintech players;*
- *Digital M&A and direct investments;*
- *Venture capital;*
- *Open platform.*

The new vision based on the willingness to seize new opportunities was coined in face of acknowledged changes in place in the environment surrounding the firm; and BBVA’s effort to signal its commitment to the achievement of its new long-term aspiration is often communicated by marketing initiatives too, such as the adoption, starting from February 2017, of a new tagline thereafter always associated with the brand name and showed in the logo: “BBVA - Creating Opportunities”.

Fig. 47 – BBVA’s new tagline: focus on a new vision
Source: BBVA website, 2017

The new purpose was also immediately translated in what the companies defined as its six strategic priorities (see figure below):

1. *New standard in customer experience;*
2. *Digital sales;*
3. *New business models;*
4. *Optimize capital allocation;*
5. *Unrivaled efficiency;*
6. *A first class workforce.*

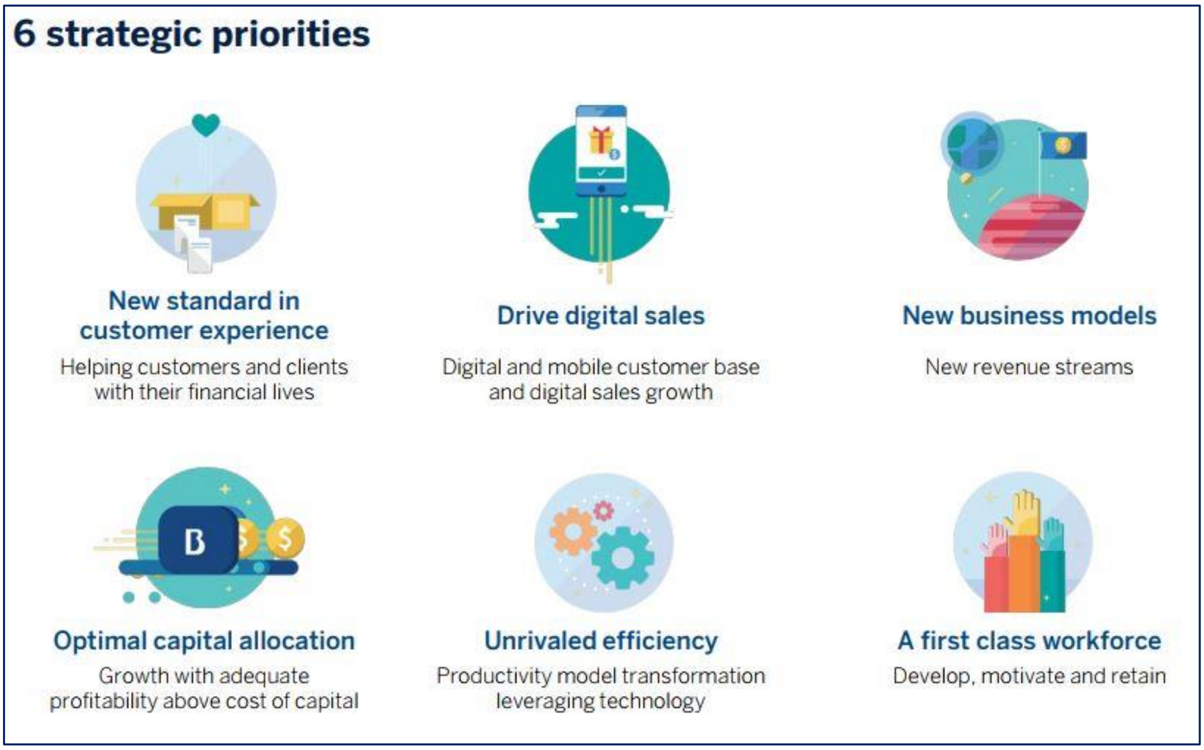


Fig. 48– Six Strategic Priorities: BBVA objectives
Source: BBVA Investors Presentation, 2017

Thus, prompted by the digital disruption and due to the changes in customers' needs, much more focused on "immediacy and customization", BBVA chose to develop digital sales and, to do this, the company developed a new *ad hoc value proposition* at the core its business, whose three keys are:

- *Convenience,* mainly achieved via huge reliance on mobile as relationship channel;
- *Simplicity,* it refers to the offering of very simple services and to the effort of crafting streamlined buying processes and customer journeys, but also to the bank's ability and willingness to stay trustworthy and transparent;

- *Advice,* this is mainly related to the hard functions, provided via a wider range of tools.

The new value proposition is very much focused on the pillars of Fintech disruptors and it appears aligned with those of tech companies too; it clearly shows the bank's shift in priority towards a closer relationship with customers and to the placement of their experience at the center of strategy.

As a result of this multi-strategies model for innovation, BBVA reached significant targets and key figures by which the company measures its *"digital banking capabilities"*, such as (as after Q3 results' announcement, by November 2017):

- *"DIY milestone", about 90% of BBVA's products offered as "do-it-yourself digital services":* the bank is able to offer almost its complete range of services via computers, tablets, ATMs and mobile apps, at a Group average of 87.3%, but with intra-countries differences, thus meaning some geographies, as Turkey or Spain, can do even better in terms of "DIY capability";
- *Growing mobile banking, BBVA has a mobile customer base close to 16 million;*
- *Digital channel increasing impact, 25% of total sales are digital,* with consumer loans being leading digitally sold service, and deposits and investment funds following the rank.

Even in face of these targets achieved, as the "DIY milestone", the company does not abandon the more traditional approach to customers, since the CEO vision of the banking industry for the long-term is to bet on a *"hybrid model – a combination of technology and personalized advice"*, thus the aim is not a substitution of traditional channels, rather the provision of a where-and-when-you-want banking service, as seen by the branches' importance discussed above.

4.4.1. In-house innovation: tech-edge products built within BBVA's organization and initiatives launched to promote innovation

In order to deliver the innovative services that customers require today, one of BBVA's focus has been to develop internally the ability to design and launch innovations which were somehow similar to those often brought to the market by Fintech players, thus the focus of in-house innovation at BBVA has been mainly to learn from the disruptors. As a matter of fact, this ability to innovate is ever improved and codified just as a result and thanks to the points of contact which BBVA has established with the Fintech ecosystem.

As suggested by many in recent literature, participating to Fintech ecosystem has brought to banks Fintech's methodologies, talents, skills. In BBVA, this led to the adoption of "agile" methodology, which it applies for its "scrum" teams dedicated to development of new digital solutions, and, also, many talents crucial to succeed in innovation came from the Fintech ecosystem, after the bank participated in it. Closing the talent gap recently suffered by many banks, these human resources who moved from the Fintech industry, were able to somehow realize that the change they were advocating for out of the banks' world, was a priority within the Spanish Group too.

However, learning from Fintech and applying these principles beyond a mere overtly declared commitment to innovation, has led BBVA to transform some internal processes and structures of the bank and to commit adequate resources to innovation, giving evidence to what highlighted by many authors in literature. For example, BBVA Bancomer grew the teams dedicated to prototyping and testing of innovative ideas, in Mexico, from 14 in 2014 to 50 teams, working the way a "Digital factory" (as the bank subsidiary actually calls its department) does: projects are iteratively tested with the aim to launch a novelty in the market in few months only. This means also ensuring that human resources working on Business Development within BBVA have an adequate level of "diversity", since, as said, this is seen as one of critical factors literature identifies for effective in-house innovation in banks.

In a nutshell, the in-house innovation requires more than internal resources and capabilities and, again, it can be considered strongly supported and, as expected, necessarily paired with a series of initiatives to support and engage with external disruptors. So, in order to engage with disruptors, BBVA has its own hub, a reality which shows a tendency highlighted in literature, as many banks trying to navigate innovation are launching one. The one of BBVA is "Open Space"[84], in Madrid; there the bank holds, among others, "Open Talent", an yearly competition for Fintech startup projects, organized since 2009, or the "Fintech University", an event to discuss the hottest themes and research fields in banking innovation, etc.

The hub is a core source of innovation for BBVA; the choice of its location is worth a comment, since it seems countertrend with literature's highlighted tendency of big banks to

[84] See: https://openspace.bbva.com/en/

place their innovation labs within the Fintech hottest geographies, especially in order to better supply the needed external talent; by the way, even if this tendency is not confirmed by BBVA's choice to place the hub in Madrid, it could allow the bank to overcome the possible risks noted by literature of dedicating to an innovation hub a "remote location", impairing to an excessive extent the necessary communication and collaboration with the bank's core people and functions.

All of these efforts in terms of in-house innovation led BBVA to launch many tech-edge vertical services in addition to the banks' most traditional ones, but also to implement a constant improvement of the core services for its clients. This improvement and the willingness to constantly adopt new features on traditional products and services took BBVA to many achievements, summarized, for example, in what the company advertised (via a video advertisement on Youtube which was saw by more than 2 million users) as *"The revolution of the small things"*. The strategy is to render the mobile app and the online channel of the international bank as much nimble and user-friendly as possible and to always perfect them. For example, the above mentioned advertising campaign shows some of the features added to the bank's mobile app in 2015, such as the possibility to pay without the physical cards needed, the possibility to sign contracts remotely, or even the app's function for always having a direct contact with an advisor, the opportunity to use the bank in the Apple Watch, etc.

Indeed the BBVA Wallet App is considered a success and its online tools for digital banking were ranked as "World number 1" in mobile banking according to the Forrester consultancy; as said, the web and mobile represent crucial channels to the Group, which is expanding the digital and the mobile users on a constant yearly base.

As digital bank BBVA is able to offer a very large range of its services, with many features which were deemed to be a prerogative of "neo-banks" and substitutes from Fintech space only, such as: "My day-to-day", an asset management tool launched in 2016, which lets users to record and predict income and expenses by categories, to save for "savings targets" and to manage their financial lives easily. Also the tools accessible online include "Mobile Cash", a service via which customers can go online and send money to a BBVA ATM, where withdrawal does not need a card, or "Cash Up", the function for p2p transfers.

In addition to the additional technological features added to BBVA's core products and services, in-house innovation efforts have led also to the launch of alternative financial services, brought to the market under the bank's own control. In this cases, the bank developed vertical/niche focused business models with the aim to enlarge its revenue streams via additional sources; this happened, for example, with “Trust-u” or “Tuyyo”, Fintech platforms launched by BBVA.

Trust-u is an alternative finance platform which offers loans to startups if they gain their teams’ families’ and friends’ support. Basically, Trust-u does an initial rough assessment of the trust index of the applicant entity (which shall be formed by less than 30 months), using both financial available data and alternative ones; this serves as first element to proceed and as yardstick to calculate the further conditions of the funding. After that, once the closest supporters commit a certain amount to a project, the digital platform provides the rest, in form of a loan, with the aim of “sharing trust”.

The strategic aim of BBVA’s in supporting such a service, which was developed inside the incubator in Madrid, is to fuel alternative funding with the aim of supporting the growth of what one day could be an additional share of its customer base.

Tuyyo[85] is another app recently introduced by BBVA; its function is international remittances from mobile phone between US and Mexico. It was launched in 2017 by BBVA to focus on one of the world’s hottest corridors for international remittances; money can be send on another bank account, to cash-up locations or to a BBVA ATM. The bank also has the aim to target Mexico’s unbanked people situation, thus it will offer to them the possibility to eventually store the cash received into a virtual account even if they are not yet clients of BBVA (a feature that is going to be added in a few to the app). Clearly, such app, especially the last feature, is a way to target the unbanked market, turning one of Mexico’s pain points into an opportunity for BBVA.

This service is a good example of how BBVA learnt from disruptors: indeed, many from Fintech universe had previously recognized such opportunity and they had developed their entire business models on international remittances; this service adds to the ones launched by BBVA with the long-run objective to get closer to the unbanked. The choice of Mexico is strategic, either for the potential of this country in terms of unbanked population, as we have seen based on recent studies’ perception, and also because BBVA is strong there and can lever on its well-known brand.

All things considered, BBVA’s in-house innovation efforts appear to be significant, adequately organized and they also seem to be leading the company measurable results; but

[85] See: https://www.tuyyo.love/

still it is evident that such innovation must have external contributions from Fintech ecosystem, as we highlighted in recent literature, and, in order to be effective, it needs to be communicated at every line of the whole bank organization. This hint is confirmed by BBVA's conduct, since the bank, in addition to the constant external signaling of commitment by the Head of the company, communicates it even through internal initiatives: for example, in 2017, BBVA held a new edition of an in-company event, "Live@BBVA", which serves the bank to communicate its employees the functioning of new business models and the support for the innovation ecosystem that the bank provides; partnerships are explained and employees learn what it is going on in the innovative areas of the banking sector.

4.4.2. Investing in Fintech: BBVA Ventures and Propel Venture Partners

Despite in-house new digital business development, innovation in Fintech has been strongly supported by BBVA by acting as an investor to prompt innovative entrepreneurship. This strategy began in 2013, when the Group established BBVA Ventures, a VC fund to invest in Fintech, committing $ 100 million to it; the main objective to have a fund subsidiary was to invest in valuable ideas and, by supporting innovators in growth, having a deeper understanding of changes in the industry.

The fund operated in San Francisco and in the first years of activity it invested also in Ribbit Capital, a very well-known VC fund focused on Fintech, and also on 500 Startup, which provides seed-capital and incubator programs to disruptors.

In 2016, the first fund was shut down and a new VC fund was created: becoming a limited partner of Propel Venture Partners[86], BBVA allocated $ 250 million to be invested in US' and Europe's best Fintech startups.

The two main reasons for BBVA to being partner of a new separate VC were:

- the idea of distinguish the fund from the bank entity in order, according to BBVA management, *to have a greater appeal for Fintech* than it would have

[86] See: http://propel.vc/

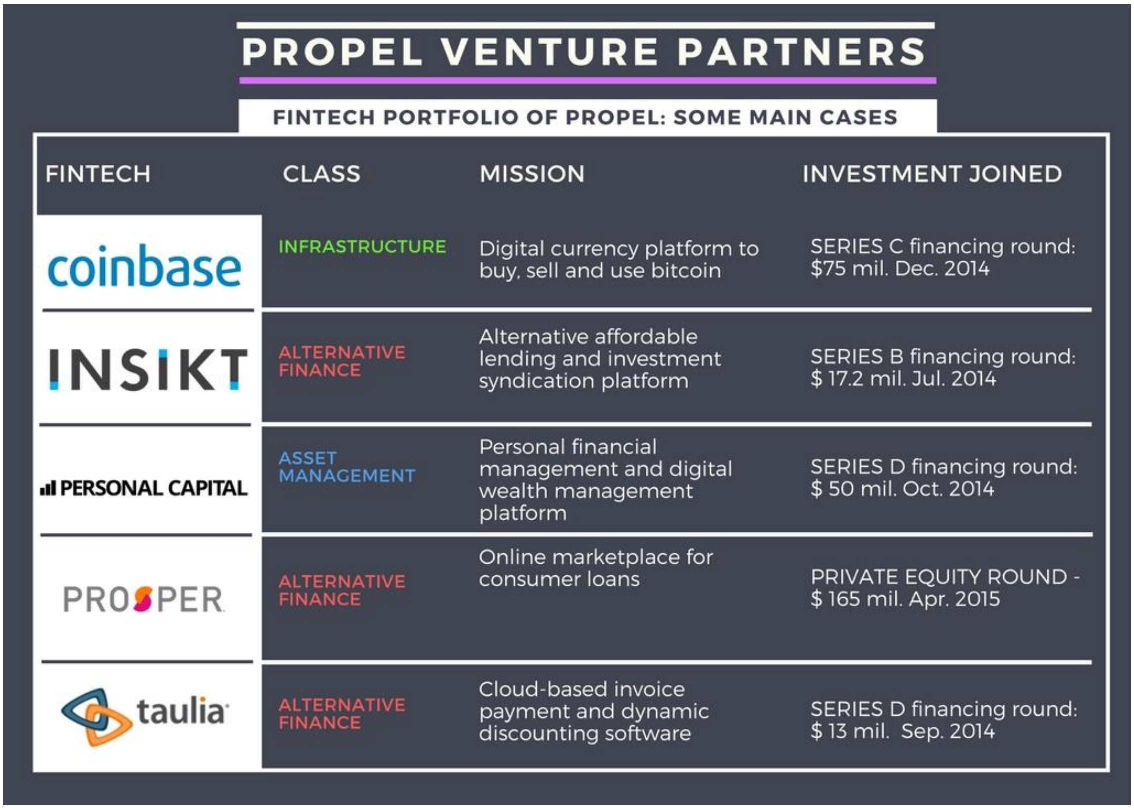
happened by being much more associated with the BBVA Group (as it was with BBVA Ventures);

- the willingness to *overcome BBVA's previous fund limit* in structure, as it was often only allowed to invest up to 5% in any financing round.

Given these objectives, also different structures were given to the funds used to finance Fintech; while BBVA Ventures was a corporate fund, the new established fund is a SBIC, Small Business Investment Company, namely an independent structure from BBVA, which renders participating to the financing rounds worthy due to not having restriction in the stake size.

As identified by Peachey (2016) there are "seven keys" that explain Propel and BBVA Fintech investment strategy; some of these explain the main advantages of such a structured fund:

- *"The Managing Partners have significant fintech experience"*; in particular, BBVA maintained two of the previous managing partner of BBVA Ventures to the new fund (Jay Reinemann and Tom Whiteaker) and they both come from VISA and from other VC funds;
- *"There will be two Propel funds"*; it is highlighted the advantage of having a presence both in US and in Europe, where the managing partners recognized huge rising opportunities and decided to set a dedicated office when establishing Propel;
- *"Propel is already managing a number of investments"*; in particular, those of BBVA Ventures portfolio;
- *"$250m of BBVA's money will be under Propel's management"*;
- *"Propel's new independent structure will make it more competitive"*; as said, the idea of independence was crucial either to fight startups reluctance in being invested by a bank organization either to make more competitive investment decisions;
- *"Propel's U.S. fund is set up as an Small Business Investment Company (SBIC)"*;
- *"Propel will have an office in London"*; as BBVA recognized UK is a vibrant Fintech market and London is considered by many the first hub for Fintech, given these facts the strategy to invest more massively in Fintech included the location of Propel offices both in San Francisco and London.



PROPEL VENTURE PARTNERS

FINTECH PORTFOLIO OF PROPEL: SOME MAIN CASES

FINTECH	CLASS	MISSION	INVESTMENT JOINED
coinbase	INFRASTRUCTURE	Digital currency platform to buy, sell and use bitcoin	SERIES C financing round: $75 mil. Dec. 2014
INSIKT	ALTERNATIVE FINANCE	Alternative affordable lending and investment syndication platform	SERIES B financing round: $ 17.2 mil. Jul. 2014
PERSONAL CAPITAL	ASSET MANAGEMENT	Personal financial management and digital wealth management platform	SERIES D financing round: $ 50 mil. Oct. 2014
PROSPER	ALTERNATIVE FINANCE	Online marketplace for consumer loans	PRIVATE EQUITY ROUND - $ 165 mil. Apr. 2015
taulia	ALTERNATIVE FINANCE	Cloud-based invoice payment and dynamic discounting software	SERIES D financing round: $ 13 mil. Sep. 2014

Fig. 49 – Propel Venture Partner: some investments by BBVA's fund
Source: created by the author (Crunchbase & Propel data)

Among some of Propel's notable investments, according to Crunchbase, there are the ones shown in the figure below, such as Coinbase, Insikt, Personal Capital, Prosper, Taulia.

Despite we only have few available data on the above investments, and even if they were joined by Propel Venture Partner in conjunction with other investors who led the financing rounds, these investments represent an important strategy via with BBVA supported innovation and, in particular, they are useful for the bank to explore some very innovative and tech-edge areas of the Fintech universe, as it happened with Coinbase.

Coinbase[87], founded in 2012 in California, is a platform to buy and sell digital currencies, like bitcoin, ethereum, and litecoin, and a digital wallet to store them; in 2015, BBVA Ventures announced it had invested in the platform, which is among the world most popular in its Fintech class.

By the year of the round, Coinbase had 2.1 million consumer wallets, 38 thousands merchants linked to its platform and 56 employees with a number of countries for service availability equal to 19. Now, the platform has reached 10 million users in 32 countries; it

[87] See: https://www.coinbase.com/

recorded $1billion in revenues, according to Pymnts, and its valuation at August 2017 was of $1.6 billion, a value which made Coinbase join the list of "unicorns" companies.

The round of financing in which BBVA participated in, together with existing investors and other new entries, like the New York Stock Exchange, was the Series C financing round, led by DFJ Draper Fisher Jurvetson Venture Capital: Coinbase raised $75 million and reached this way $106 million of total capital raised. The deal was, according to Coinbase blog, the largest financing round ever made yet to a Bitcoin company and the first which saw the participation of traditional financial institutions.

The managing partner of BBVA Ventures, Reinemann, was quoted to say *"We're making these investments to learn, to start the engagement, and we think that through these investments, the bank can do a better job of learning than just sitting on the sidelines, than trying to read about it. It's about trying to actively participate"*, thus explaining the reason for BBVA to participate was mainly to test the bitcoin opportunities by observing a running business.

In Propel Ventures Partners' portfolio we also find Insikt[88]; it was founded in 2012, it offers lending to the underbanked and the possibility to invest in loans; the most famous business of Insikt, which has distinguished this business model from many rival Fintech, is a white label B2B digital lending platform, called LENDIFY, with the mission to offer "Lending as a Service". The company serves more than 30 brands and thus allows third parties, "from supermarket chains to money transfer stores", to be alternative lenders to the banks. To date Insikt has offered 125.000 loans, and, starting from California, it has spread to Texas, Illinois and Arizona.

Propel Ventures continues investing in Fintech with the aim to support their growth and thanks to its new added geographic presence in Europe, in particular in London, is perfectly placed to become an active stakeholder of such ecosystem; also BBVA's main Spanish competitor, namely Santander, has a corporate fund based in London, suggesting how important is for banks to stay at the forefront of emerging opportunities. It is Santander InnoVentures[89], launched in 2014 with a commitment of $100 million, it received further $100 million from the bank in 2016; also the rival's fund vision is supportive for the "Fintech 2.0" era, namely one which, as we saw in literature, does not see a competition between banks and Fintech, rather it builds the future of banking on collaboration and partnerships. The main

[88] See: https://www.insikt.com/#/

[89] See: http://santanderinnoventures.com/

difference between the two funds lies in the decision of BBVA to run its fund as a separate entity from the bank to eventually broaden the willingness of Fintech to receive investments and due to the other reasons seen above.

4.4.3. Strategic partnerships and alliances

Strategic partnerships represent another crucial pillar of the business model innovation fueled by the digital disruption, as seen above; indeed BBVA has formed several to achieve aimed transformation: as the CEO of BBVA has stated: *"The goal is to explore new business opportunities, technologies and share knowledge"*.

The partnership strategy is favored at BBVA giving evidence of above discussed benefits which it brings either for banks and innovators; Mr. Lopez Moctezuma with respect to this has also confirmed that many services launched by Fintech are not competing with the bank's business model, rather they are complementary. As a consequence, partnerships are needed for both parties and have mutual advantages.

The main partnerships of BBVA can be identified in the ones formed with Dwolla, OnDeck and Das-Nano.

- *BBVA and Dwolla partnership: the value of being an open platform*

Many partnerships, run with the idea to integrate the partner's product's features into the bank's ones imply the reliance and the acceptance of the bank of "open APIs" (open application program interface[90]), this means that the institution willing to add to its own service the characteristics and functioning of a Fintech one agrees to open its technology, in terms of coding, to the third party so that the two products can be integrated. This strategy, above identified by BBVA's CEO as "open platform" was followed, for example, in the case of partnership with Dwolla.

[90] APIs were meant to combine different parties offerings; some are publicly available for free, while others, especially in cases they contain more sensitive information, are only provided after a strategic partnership is arranged by the two parties. In many cases, when users find themselves using a service which is a combination of different parties' ones, they are not aware of this openness in technology which allows their streamlined convenient experience.

Dwolla[91] is a B2B Fintech, founded in 2010, with the mission of “Building the ideal platform to move money”; it provides payments platform for money transfer and accounts’ verification.

In October 2014, BBVA Compass and Dwolla announced their partnership, made in order to make the real-time payment systems of Dwolla available for BBVA Compass’ and Simple’s customers. Thanks to the alliance, BBVA was able to avoid the period from two to five days of typical wait to transfer funds, making transfer funds instantly available to any other BBVA Compass account holder and also to any from the Dwolla network.

The bank decision to form the alliance was strongly pushed by the fact that many of its current clients, especially enterprises and small businesses, were already users of the Dwolla platform and they proved to be very interested to this service; indeed, without the participation of the bank users needed to deposit money to a Dwolla account to transfer it.

At the times of the alliance with Dwolla (late 2014), the traditional US payment network was far from being real-time focused; it had to be changed but that would have needed long time to transit towards more modern standards; also, the fees for payments transactions and money transfers within US were higher than those offered by Dwolla; indeed the Fintech allowed transactions of more than \$10 to cost a flat fee of \$0.25, while lower value transactions were given for free. Dwolla was a leading player within US as far as streamlined payments is concerned; indeed it even joined, in 2015, the Federal Reserve’s Faster Payments Task Force, a committee created just with the purpose of drafting and moving towards the creation of a new payment system.

The partnership lets us understand the forward-looking vision of BBVA: the bank was the largest bank to partner with Dwolla in times in which the use of APIs was not so common by banks yet, giving evidence of the benefits coming from *open innovation*. Thanks to the alliance, customers of BBVA were able to make real-time transfer of funds and to access the other services offered by Dwolla, (in terms of APIs) to build their own payment platform within the network of this Fintech.

The alliance represents a representative case in which the Fintech company was born as a B2B provider of a vertical service, in the payment class of Fintech, and in which the two parties, either the bank and the Fintech, found complementarity and reasons to ally:

[91] See: https://www.dwolla.com/

- subsequently to the agreement and thanks to the bank's opening of its API to the partner, Dwolla and BBVA co-developed FiSync, the protocol of Dwolla to work with financial institutions, and made it run on a larger scale, thus allowing the first to validate its innovation and the latter to satisfy the ease and safety requirements for payments coming from its customers;
- Dwolla streamlined its process for clients too, because, without the partnership in place, customers willing to use its platform needed to open an account at the Fintech, and this used to complicate their experience;
- the customer base of BBVA became a source of potential users of other B2B services offered by Dwolla;
- the two contributed to push forward the standard required in the industry, giving further popularity to Dwolla as pioneer innovator and also giving voice to the need for change coming from customers.

- *BBVA and OnDeck partnership: online lender's credit scoring*

In 2014, BBVA Compass also announced a partnership with OnDeck, focused on providing capital to SMEs via alternative credit scoring and in a fast digital way; the alliance was entered by the bank to be able to serve customers which would have been otherwise out of the bank's client base.

OnDeck[92] was launched in 2007 in New York; in 2014 it went public in NYSE and today it is often labeled as the leader in online small business lending in US, where the service is available, together with Australia and Canada; indeed it has issued to date more than $8 billion to 80.000 customers; it offers financing options as short and longer-term loans and lines of credit.

The Fintech especially targets clients requesting loans which usually are too small in the amount to be worthy in terms of profit for a large bank with a completely different cost structure: entering the partnership, instead, OnDeck offered BBVA its technology, "OnDeck Score"(see figure below), an advanced proprietary analytics tool via which the Fintech is able to process thousands of data from small businesses (from public data to social media data) and to assess their credit worthiness.

[92] See: https://www.ondeck.com

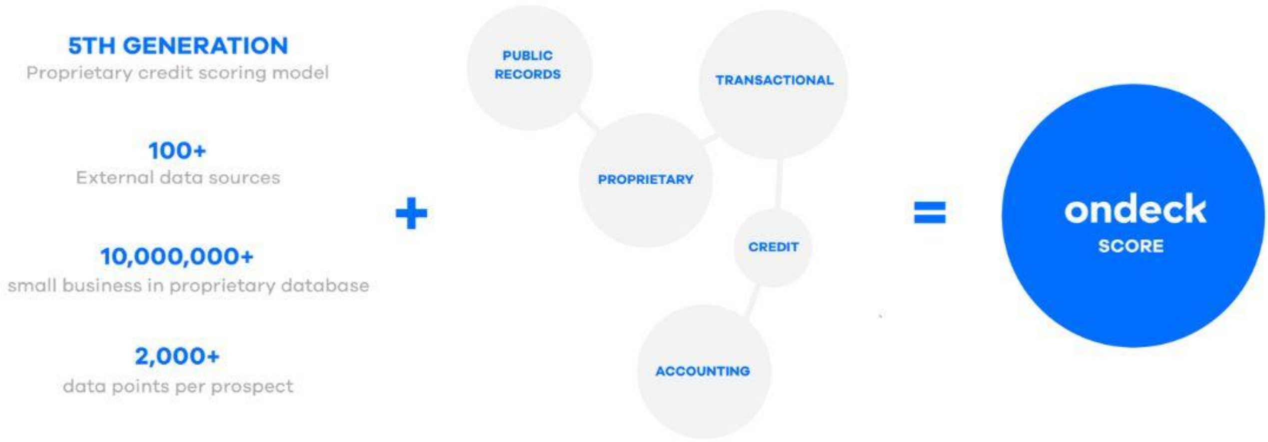


Fig. 50 – OnDeck proprietary credit score algorithm
Source: https://www.ondeck.com/partner/enterprise

OnDeck and BBVA Compass chose the *"Enterprise Platform"*, a partnership type that OnDeck offers to large companies and banks, among those available at the Fintech's platform (the other partnership programs are *"Referral Program"*, best suited for advisors of SMEs, and *"Affiliate Program"*, for website owners to promote OnDeck and earn from sponsorship). Through the first kind of partnership, a company collaborating with OnDeck offers its customer base the Fintech's technology to be able to enlarge the funding solutions for small business clients.

OnDeck represents an example of Fintech whose business model is strongly levering on partnerships to grow; so, within the *"Enterprise Platform"* partnership program it mentions, together with BBVA Compass, also partners coming from the Fintech universe, such as Prosper, a lending marketplace. The main underlying objective for OnDeck to form such partnerships is clearly the need to accumulate users of its proprietary model, first of all to perfect it ever more and also to try to turn into clients the greatest possible share of such users. Even other banks followed BBVA's decision to team with OnDeck, in particular JPMorgan Chase developed its digital loan service for SMEs through the partnership, namely Chase Business Quick Capital.

OnDeck decided to base its business model on *"Diversified Distribution Channels"*, to build the adequate brand awareness and to reach many customers; in 2015, OnDeck channels included direct marketing, strategic partnerships and funding advisors; in particular, the strategic partnerships, as stated by the Fintech in its annual report, were a way to gain partners' *"small business customers and data that can be used to enhance our targeting* *capabilities*". The partnerships' functioning, in general, is the following: if the partner refers a customer to OnDeck which then serves him with its loan solutions, OnDeck pays that partner a fee; if, instead, the partner uses OnDeck's technology and platform just to assess a customer's credit worthiness and then it serves him, the partner pays a fee for the metrics generated.

The OnDeck and BBVA alliance gives evidence of BBVA's need to access the Fintech's already developed technology to eventually serve customers otherwise lost in face of the bank's higher costs and longer times to process their request; on the other hand, OnDeck could gain fees instead of providing funds and this goes at the Fintech's benefit, coherently with the view of an initial need for startups to generate volumes even at low margins revenue formula and with the eventual longer term view to be stronger and able to originate more loans, as the company eventually did.

Furthermore, thanks to the alliance, OnDeck was able to scale and to perfect its algorithm which represents its valuable asset to use in other partnerships such as the one just seen above and, finally, OnDeck needed to work on brand awareness, as we have seen how crucial is to acquire trust when it comes to digital financial services, and by partnering with recognized brands it could do it faster.

- *BBVA and Das-Nano: jointly developing Veridas*

In 2015, BBVA and Das-Nano[93] had started collaborating; Das-Nano was founded in 2012 and it provides nanotechnology, biometric and document verification solutions; its business thus can be placed within Fintech innovations in the class we defined "infrastructure", namely one of technological innovations with great potential to be applied in banking and to contribute to its progress.

In 2017, BBVA and Das-Nano announced they had created a new technology company, namely "Veridas", specialized in biometrics to research and develop on identification and authentication systems for the bank, through the use of facial recognition, voice recognition, use of customers' fingerprints, etc. sharing the risk, knowledge and resources for doing it.

The partnership was crucial for BBVA to gain the specific skills and the expertise of the scientists from Das-Nano used to form and run Veridas, while the group of scientists from

[93] See: http://www.das-nano.com

Das-Nano needed most of all the possibility to test and validate their knowledge on a large customer base; a pattern which, as seen in the literature review, is very common for Fintech-banks alliances.

4.4.4. Innovation through M&As

In addition to the partnerships, among the strategies available to face the emergence of new players within the industry, banks are also focusing on the opportunity to acquire a Fintech; literature has highlighted the benefits underlying entering M&As, being this a way to have a product or a specific technology already developed by the target available for the parent, or seeing in these deals a way to acquire capabilities, especially skills the team of the Fintech owns and which prove to be not easily replicable by a bank. This strategy has been aggressively adopted by BBVA, which in recent years completed several deals (see figure below).

These Fintech M&As have different target companies and were prompted by specific objectives; in particular:

- as far as Atom deal is concerned, it represents the *acquisition of a stake into a neo-bank*, mainly related to the willingness of BBVA to target the UK market;
- other deals, namely Simple and Holvi ones, represent *acquisitions of technological non-bank companies*;
- still other deals, the acquisitions of SpringStudio, Madiva and OpenPay, are focused on the *acquisition of vertical services*, in order to endow the bank with needed crucial competencies or developed technologies.

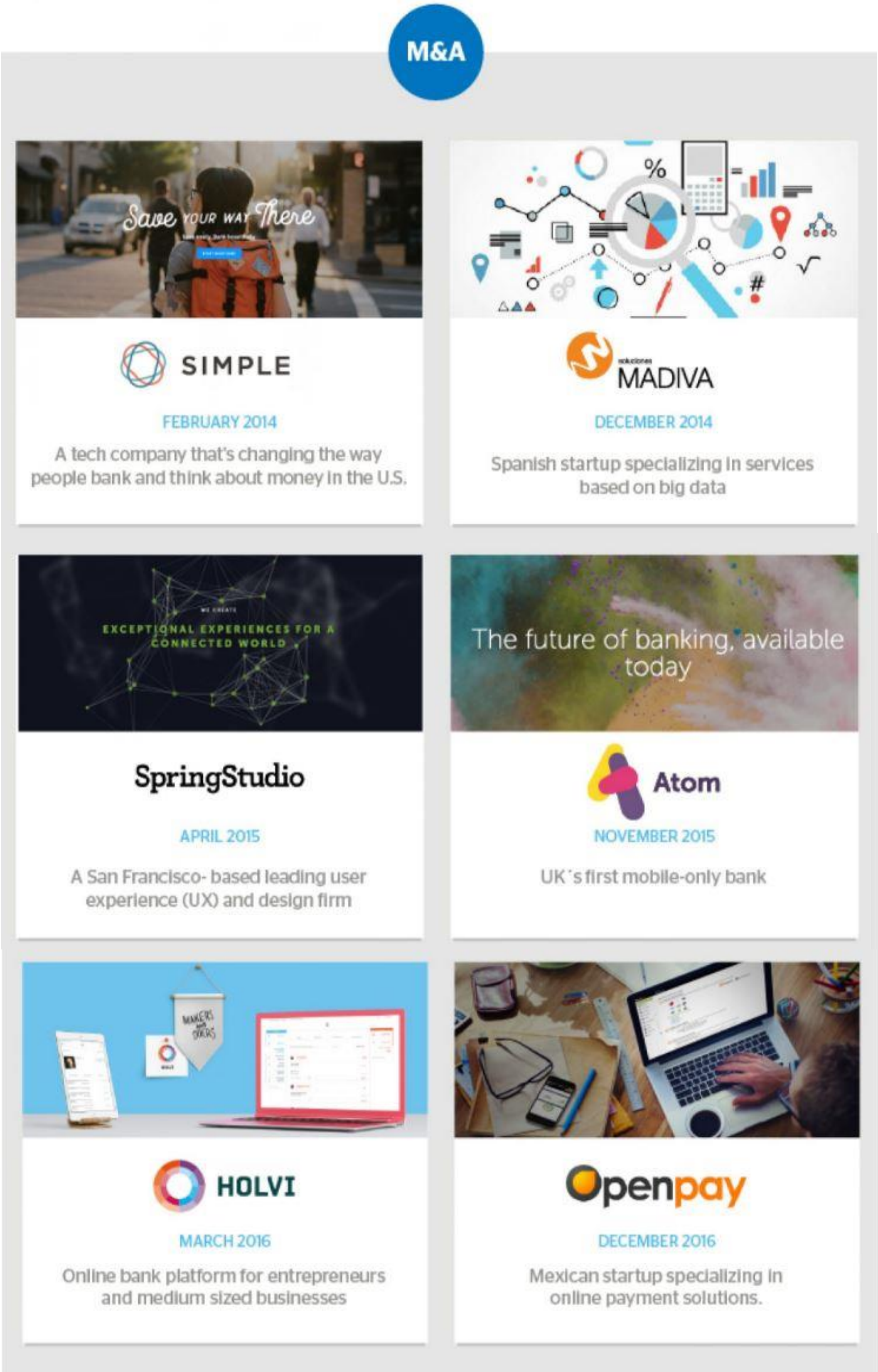


Fig. 51 – BBVA main acquisitions towards digital transformation

Source: company website (www.BBVA.com)

- *BBVA and Atom Bank: acquiring a stake into one of UK's leading neo-banks*

Atom[94] is a neo-bank, namely a Fintech from the "digital banking" class, it was founded in 2014 in England to offer mobile banking and, in June 2015, it obtained the banking license.

The acquisition of a 29.5% stake in Atom by BBVA came in 2015 (before the Fintech services launch which arrived in 2016) for £45 million, its assigned total value of about £150 million before even launching was mainly seen by BBVA in two reasons: Atom bank's great potential to succeed in digital banking, due to its team and the decision to apply for a license, and Atom's geographic positioning, since UK represents a core geography for the Fintech ecosystem and one which BBVA was very committed to target.

The team of Atom was indeed formed by many professionals coming from the banking industry (in particular from Metro Bank and HSBC) and adequately hard-skilled. In 2016, Atom launched its app and its first product was a fixed term savings account, at a very competitive interest rate, achievable thanks to the light cost structure of the neo-bank. In the year of the launch, thanks to the investments received, Atom also bought Grasp, a design agency which it had previously collaborated with; the strategic aim was to create a best in class mobile app, being this the Fintech principal channel, and also to incorporate in it gamification and other digital features to enrich the users' experience.

Atom is located in UK, where many neo-banks have challenged the traditional banking industry status quo in recent years, Atom's rival with this reference include Monzo, Tandem, Starling, etc. BBVA Group had been interested in entering UK for many years, and the deal represented a good opportunity most of all because of the country good attitude towards digital, with a population, as we have seen, eager to adopt new tech solutions for financial services, and also because of the very competitive landscape in terms of digital banking.

The acquisition of the 29.5% stake in Atom was a possibility for the neo-bank to, first of all, obtaining money to fund its growth plan; but, giving evidence of what highlighted in literature, the most important strategic reasons underlying the deal were identified by Atom CEO in others, such as BBVA's well-known banking experience and its significant resources; furthermore Muller (CEO of Atom) recognized its Fintech and BBVA had similar aims and visions about digital banking, which represented a priority for both, thus he found reasonable

[94] See: http://www.atombank.com/

to collaborate and join forces to become two champions in this field, indeed he stated: *"We feel that we share a vision with BBVA. One that says the power of technology can be used to transform people's lives for the better and if we can use it that way, we can change banks and banking for good. We also feel that we share a culture and although culture covers many areas, for me at least it's mostly about people. We have found the people at BBVA to be direct, straightforward, consistent, open and optimistic. There's lots more nice things I could add but that'll do for now. We felt that we could learn from them and vice versa, they could learn from us. In short, we felt that we could be proper partners."* Such statement triggers many considerations in light of the literature review made in previous chapter: first of all, it stresses the existence of achievable mutual benefits for Fintech and banks when collaborating, also it gives evidence of the importance of a cultural fit and of a shared vision between parties for banks-Fintech M&As deals to be entered and to succeed.

This deal suggests the above even if Atom represents a real disruptor, namely it is not a matter of needed complementarity (e.g. because of the banking license, since Atom owns its own) rather the objectives and the reasons to collaborate were still found by the two companies, in particular in the possibility to join the two entities' expertise and visions and also because the two had very different target customers which did not overlap.

The financing round of November 2015 was led by BBVA, which, as said, contributed £45 million, and totally amounted £82 million, with other participants including previous investors Woodford and Toscafund, and also Marathon and Polar Capital. Subsequently to the financing round, BBVA became part of the Fintech board and it had the possibility to participate in further rounds, as it happened in 2017, when BBVA led another financing round of £83 million raised by Atom contributing £29.4 million to maintain its stake in the company and to remain Atom's main strategic investor.

- *Simple and Holvi acquisitions: BBVA buys the "non-banks"*

SIMPLE

Simple[95] was founded in 2009 in Brooklyn by Josh Reich, who often tells he was really upset with existing banking experiences and sent to his friend and future co-founder, Shamir Karkal, an e-mail which afterwards became very popular, in which the object was an informal friendly request to *"found a retail bank"*. By the way, in 2011, the

[95] See: https://www.simple.com/

headquarter was moved to Portland and, in July 2012, the company officially served its first customer.

The main popular feature of the service just after the launch to customers, and also one of the most popular characteristic it ever maintained, was aimed to offer, in addition to a free-fees account, a tool, called “Goal”, to automatically save money and to help clients in their personal finance management, thus showing their assets compared to set targets and planned expenses. Thus the competitive key of Simple is to combine in a single app the budget tools and the banking function, all delivered via a very user-friendly application.

In 2013, Simple processed about $1.7 billion worth of transactions through a staff of 72 people and, in 2014, year of the acquisition, it had about 100.000 customers, from 28 to 29 years old, on average, and 92 employees. Thanks to the Goal feature and the characteristics of the app, Simple, in 2014, also boasted a 30% customers’ saving rate (versus a 5% average in the industry). During 2015, the company saw its customer base grow at a monthly rate of 10% and, in 2016, at its seventh year from birth, Simple had 300 employees.

After the acquisition (which was in 2014), the two companies worked together in order to render BBVA Compass (US’s army of BBVA Group) the backend provider of Simple accounts. Prior to the deal, the Fintech relied on another partner, namely The Bancorp Bank, for deposits; they had formed a partnership in late 2011.

After the acquisition, Simple continued to serve customers with its brand (as it ever did, regardless the partner bank), but, while just some accounts stayed backed by the old partner, the majority and the new opened ones relied on BBVA. Also, Simple became able to offer some others BBVA Compass’ features, still maintaining the control on the design of the experience, but, following the acquisition, all of the new launched Simple’s features were added to the BBVA-backed accounts only; indeed the deal gave Simple the possibility to enlarge its product range, for example, in 2017, Simple launched “Simple Shared”, a saving account for couples in a relationship (and only BBVA-backed customers could access it).

Simple maintained the same management team and, apparently, the core of the online bank did not change. This was just one of many cases in which the original idea of the Fintech to disrupt banking was actually reshaped over the years towards the mission of offering an easy and “beautiful” way of banking, but without denying traditional banks’ role and reason to exist: indeed the startup always relied on banks as partners, instead of having a license. Even if some saw this as a limit for the Fintech, it represented instead an opportunity for

BBVA, just because Simple's business model was complementary to its own in needing a bank back-end provider.

As a matter of fact, the choice not to opt for having its own bank license, which is something that distinguishes Simple from a neo-bank like Atom, offered an opportunity for the two parties to collaborate and join respective strengths. Although rendering evident this opportunity, this deal also led us to consider a potential risk of bank-Fintech M&As entered with such objective: for the startup acquired there could be the risk to lose its customers' approval and to see them leave the Fintech, due to the choice to marry what they had ever figured out as a "user-enemy" and, in turn, for the acquiring bank potential risks could arise in seeing a downsizing in the Fintech's customer base it paid for.

Simple was bought by BBVA in 2014 for $117 million, thus at about "$1k/customer"; the most valuable assets of the firm, for BBVA, were its digital capabilities and the young customer base in US.

Notwithstanding the risk to erode the customer base subsequently to the acquisition seems sound in this deal, it could not be a challenge for the deal to succeed taking into consideration that Simple's customers could already be aware of the Fintech business model and could realize that Simple had already been serving them as an intermediary, relying on partner bank. Just to maintain its customer relationship, Simple struggled not to give up its brand name and design and to keep communicating the same old vision to customers, appreciating BBVA's integration approach since it was not heavy and left it the needed autonomy.

Despite this, many concerns about the deal have arisen from customers and industry practitioners, as the first did not see very trustable the choice to sell to a large bank, while the latter added it was not clear what was the real valuable asset of Simple to bring to BBVA; being its proposition to much focused on the "design" side of the service rather than a real value-added technology. The acquisition by BBVA was entered by the bank due to Simple's US digital and young customer base, which was probably the most valuable asset, and, also, given the recognized notoriety of the Fintech brand among the innovation ecosystem. As a matter of fact, BBVA was trying, especially some years ago, to render its brand more recognized in US, where the Group had arrived by acquiring Compass, in 2007, and Simple was a popular brand which had experienced a significant word of mouth such that the Fintech did not rely on marketing to attract customers.

Simple's founder reported to the press: *"Joining with BBVA gives Simple the resources, autonomy, and global footprint we need"*, thus focusing on his Fintech strategic purpose to enter the deal: to find a bank with the right infrastructure (e.g. banking license) able to let the brand the needed autonomy and also to try to scale internationally; finally, Simple also found more compatible the approach of BBVA as a strategic investor, with respect to the one of a VC, much more focused on shorter time horizon.

HOLVI

Holvi[96] was founded in 2011 in Finland, to address self-employed, free-lancers, small businesses and entrepreneurs concerns with more traditional banks, thus prompted by a similar mission of Simple; but, beside some similarities, the Finnish Fintech business model is based on offering a digital account for clients together with the business tools (e.g. accounting tools) they need and that are usually offered by other parties.

The account helps *"makers and doers"* (as the Fintech labels its customers) to monitor expenses and income, while the business tools are meant to generate and send invoices and monitor their payments, to make financial reports easily and analyze cash flows, to implement bookkeeping, etc. In the aim to push entrepreneurship in a digital and paperless way, Holvi also allows users to open a store from its website; on the sales made via this e-commerce Holvi charges a fee as revenue stream. The online store can be set up in minutes, easily customized, digitally marketed via Facebook or Google with no efforts or expertise from the owners and it allows the sellers to automatically generate paperless bookkeeping for their sales.

In March 2016, BBVA acquired Holvi, the details of the deal were not disclosed, but many compared the deal to the one previously made by BBVA with Simple; the main difference however lies in the two challengers of traditional banks' business models; indeed, in comparison with Simple, Holvi boasts an apparently grater advantage given by its strategy to offer SMEs a bundle of additional services in addition to the account and also has a more effective revenue model. While giving evidence of what could be the potential seen in Holvi by BBVA, such features also give reasons to think that post-acquisition retention of the customers' base could be much easier for the Finnish startup than it was for Simple.

[96] See: https://about.holvi.com/

Holvi’s services are available in Germany, Finland and Austria and the deal was strongly based on enlarging the range of countries served; according to CEO of Holvi, BBVA constituted the *“ideal owner”*; this concept was mainly related to the Group’s ability to offer to the acquired Fintech the possibility to scale and grow its business, being backed by a solid structure. As usually done by BBVA, the decision was to run Holvi as a stand-alone, while the main objective of the bank in completing the acquisition could be seen in the aim of adding to its core ones’ additional revenue streams in European countries like those where Holvi is present.

- *Madiva, SpringStudio, OpenPay: integrating vertical innovators*

The acquisition strategy of BBVA in order to pursue innovation and launch digital services has also focused on other niche focused services, in classes of the Fintech services’ spectrum ranging from infrastructure (Madiva and SpringStudio) to payments (OpenPay).

In these cases the most valuable assets were either the targets’ people and capabilities (as in the case of Madiva or SpringStudio), or the target’s technology which BBVA wished to integrate (as with OpenPay). These deals are different from the ones above in the character of the acquired companies, as these were much more complementary services rather than rival or substitutes for BBVA; indeed, all of these targets are B2B providers.

So, BBVA’s strategic aim to enter the M&As deals with such vertical innovators was not to horizontally expand the banks’ customer base, rather to integrate the uniqueness of the acquired companies at the benefit of the bank’s core business and in order to have the needed skills or technologies within convenient time.

soluciones MADIVA

BBVA first acquired Madiva Soluciones, a Spanish startup founded in 2008 and specialized on big data and analytics; the CEO of BBVA commented on the deal, which is unknown in the amount, saying it strengthened the bank’s capabilities; the target’s skills were used indeed by BBVA to launch new products, such as BBVA Valora.

BBVA Valora is an app for its digital customers that allows them to track how much a house is worthy, estimating the current sale or rental price of an owned or desired building; it also offers insights on the neighborhood and it allows owners of a house to collect all of their expenses related to the building in a place.

The platform also allows mortgages simulation for potential buyers; all of the insights it generates (house prices, neighborhood value, etc.) are based on information from the registry office (geolocation, surface area, year of construction, and other characteristics of the property) plus information on offers made for similar buildings nearby; the app relies on Madiva Solucciones' ability to analyze these data. This service is an evident case in which BBVA needed the integrated resources and capabilities of the acquired company to be matched with its own ones, in order to deliver the desired innovation.

In addition to Madiva's BBVA entered SpringStudio's acquisition; it is a 38 employees team of user-experience designers founded in 2001 in San Francisco; after the acquisition, both the young companies were not integrated in an aggressive way into BBVA, which aimed leaving them both the possibility to serve other clients too, since, as highlighted in literature, not doing this could even destroy the companies' innovative capabilities.

The key assets within these companies are indeed intangibles, related to the talent of their people; so the main integration challenge is to ensure these talents are locked in their companies, through incentives created prior to acquiring them and thanks to an adequate level of autonomy which they can benefit after the deal.

Similar considerations, in terms of acquiring new core competencies and resources through M&As, led to the deal with OpenPay[97]: founded in 2013, it is a startup from Mexico which delivers payment solutions, for B2B target, focused on offering businesses streamlined and frictionless services.

It was acquired by BBVA in December 2016, for an undisclosed amount; the aim of the deal was to lever on mutual strengths in favor to the delivery of new digital efficient solutions and in order to improve customer experience; *"With this operation,* – BBVA reported - *BBVA Bancomer, which is already collaborating with Openpay, increases its range of online*

[97] See: https://www.openpay.mx

payments solutions, while allowing Openpay to strengthen its commercial firepower by joining forces with Mexico's largest bank".

In this case, the capability needed was the Fintech ability to design payment solutions; OpenPay had attracted the company's attention as it was a finalist in Open Talent 2015. As seen, this kind of events are an opportunity for scouting potential partners or even target.

According to Carlos López Moctezuma - Head of New Digital Business at BBVA - the main priorities implied by the deal were:

- *"working with Openpay to strengthen the functionalities of a payment platform in the bank";*
- *"integrate new anti-fraud models";*
- *"market the Openpay product among the institution's corporate customers";*
- *"build marketing synergies that complement both parties' product offering".*

4.5. Seizing opportunities from Fintech: insights and conclusions on BBVA strategy

Despite the journey towards the innovation targets set by BBVA's strategic plan is not ended yet and even if there are some limits for a thorough assessment to be done via this case study analysis, in terms of results achieved by each of the company's implemented strategy (especially because some data are not disclosed or some results are to be seen and measured yet), we can draw some conclusions on what we described above.

The case study analysis was useful to understand how this company reacted to the recent challenges posed to banking industry by the emergence of Fintech: first of all BBVA recognized early the huge changes in place in its sector, denying to have a "passive" approach, suggesting us once again how important is for banks to gain such awareness in order to react and embrace innovation somehow. Thanks to this understanding BBVA has developed a technological approach to banking which allowed it to adopt innovations at a constant greater extent and to be able to sense opportunities.

All of BBVA's strategies appear to be a clear attempt to learn from the beneficial aspects that the disruption brought in, rather than fighting it as some of its rivals used to do, especially in the first times of Fintech emergence. BBVA appears to be wise on this point and not to deny the need for some traditionally suffered limits of the banks' business models to be worked out in order for services offered to fit with customers' current needs; its strategies give reasons to claim the climate between banks and Fintech today is, as highlighted by reviewed literature, much more focused on collaboration, rather than competition, at the benefit of mutual objectives for Fintech and banks and, most of all, at the benefit of final users.

Learning from Fintech and its disrupting models has meant for the bank:

- fueling innovation, instead of trying to fight the advance of novel models, the bank has prompted their emergence, through initiatives like the Open Talent and by giving innovators support through its incubator and its investments;
- emulating best practices, this translates in adopting many features that were previously introduced by Fintech, adding them to the services offered by BBVA, through partnerships, matching events or investments made to have many touch points with Fintech;
- participating in the ecosystem, BBVA's commitment to this is evident and the company highlights this as a "win-win" opportunity for either new participants and incumbents in financial services;
- opening the boundaries of the firm, since the focus has shifted towards the adoption of open APIs to be able in integrating other parties' technology and also towards several attempts to bring in new services from the digital ecosystem, confirming the trend of open banking that practitioners are seeing to dominate the industry in future years; also, this strategy has rendered BBVA ready to adopt regulatory attempts to stimulate cooperation, such as the PSD2, and has proved the company's ability to anticipate such direction of the Fintech phenomenon.

The collaboration and learning attempt to embrace Fintech was done by investing in new participants in financial services, directly via M&As and partnerships, and, indirectly, via the bank's funding arm. By these moves, we could notice that: as far as M&As are concerned, the greatest and most evident opportunity is represented by the possibility to integrate many vertical services to the banks' core, to lever on these third parties' resources and capabilities at the advantage of BBVA's traditional services; see for example the use of Madiva's analytics for the launch of BBVA's Valora. Indeed, as we were noticing in the literature review, B2B Fintech are emerging just to bring value to the traditional institutions and the latter are integrating to their business model many of them simultaneously.

By the way, within the field of M&As, some challenges were and still are to be faced by incumbents: first of all, still time is needed for the expected synergies to be realized and this implies, as seen in the literature review, post integration focus and collaboration between parties; but also, in some cases, acquiring a Fintech represents a bet for the bank, since these companies are young, do not have historical performances and can sometimes be overpaid or difficult to integrate. This, in our opinion, becomes particularly evident when the bank-Fintech acquisition poses the challenge of eventually losing the most valuable asset after the deal, when this is the Fintech's customer base.

In particular, Simple's acquisition by BBVA has rendered clear to us what such potential risk mean. In that acquisition, the strategic aim of buying the company in order to enlarge the customer base was difficult to be achieved and it is still a challenge for BBVA, in particular because the Fintech did not have its own banking license, as Atom, nor it had a value proposition designed to offer customers many value-added services in addition to the deposit, as for example Holvi does. In light of such risk to lose the target customer base, just as a consequence of the acquisition, because customers leave the Fintech proving to be "annoyed" by such bank-Fintech association, one could suggest that the two companies would have better to form a partnership, as an attempt to satisfy their needed complementarity.

Also, Simple's acquisition, which was not followed by an impressive growth of the Fintech acquired, stresses the importance of a careful evaluation to be done by the acquiring banks with reference to the Fintech targets. Despite the possible challenges, the M&As strategy has been kept on by BBVA and this also goes at the bank's benefit in terms of experience, a factor which is deemed crucial for "doing tech M&As right".

In order to assess the existence of a significant competitive advantage of the Fintech target, a bank could, for example, collaborate or partner before entering the deal. This has been confirmed, among others, by BBVA's acquisition of OpenPay, that followed a period in which the two could get in touch.

By the way, BBVA's deals also give evidence of the acquisitions' benefits for banks: the deals brought to the parent the resources and competencies which were needed to pursue innovation, even human talent resources in many cases.

Still other opportunities exist for banks entering a strategy similar to the one of BBVA; in particular, funding Fintech firms via a VC gives banks the possibility to explore new fields of technology applied to financial services, by doing many deals simultaneously (due to the lower prices of investments) and avoiding the risk of Fintech's or its customers' reluctance to fall within the bank universe, which they perceive to inhibit innovation. Still, investments can be a way to eventually learn best practices or even be at the forefront of disruption which will impact the banking industry.

Also partnerships proved to be a smart opportunity for banks, first of all to test collaboration and as a means to assess if a Fintech has a very unique model and competitive advantage, but also to launch initiatives by reducing both parties' risk, such as the R&D company on biometrics launched by BBVA with a partner.

Finally, all of the above considerations developed through the analysis of BBVA's case study, gave us reasons to better understand the role and the characters of in-house innovation for banks: we saw how deep is the contribution it borrows from third parties, from external contributors; in a nutshell, it appears to be necessarily "open" and supported by the engagement with Fintech, either because banks cannot have a specialized expertise in all of the fields of Fintech, as instead focused Fintech people can for their class of pertinence, either because having internal teams dedicated to the development of new digital services does not ensure the banks that they will be able to realize all of the projects tested.

Furthermore, we saw that, to be actually delivering the aimed innovation, banks have to reorganize themselves in terms of structures, to be ready to welcome the new activities and the new kinds of talents and also they should commit adequate resources before harvesting the results.

Analyzing the case of BBVA has provided several examples of Fintech point of views and it rendered evident that these companies need to collaborate with the banks and to be supported in many aspects, from money to banking expertise, till regulation, etc.

CONCLUSIONS

In light of the above analysis, we have been able to discover what is currently happening in Financial Services: as we had seen in other industries, boundaries are blurring and there has been the entrance of *new participants* to a traditional sector; a disruptive wave has arrived there either prompted by the ability of new talented entrepreneurs to lever on *new technologies*, either fueled by the emergence of *customers' new needs and habits* to be satisfied. As a matter of fact, these two factors, have had a huge impact in almost every industry in recent years and have forced firms to transform and reinvent themselves, while also accustomed clients to a different experience in almost every aspect of their daily life, one much more based on *convenience, usability, engagement, full time availability and closer relationship offered by companies.*

However, if compared to other disruptive movements and innovations came at other industries, the one of Fintech in Financial Services can mainly be seen as an *opportunity*, rather than a threat for banks: this is particularly true because banks' systemic importance is much greater than other companies' within economic system, thus *it is not easy to simply substitute them*, and also due to the fact that, notwithstanding an initial phase of the Fintech phenomenon in which this seemed not to be true, the advent of Fintech business models does not come at the expense of banks' ones, rather it is often characterized by the emergence of *complementary models for traditional institutions*.

In summary, analyzing either banks' and Fintech's strengths and weaknesses, it has become clear that the two business models are not alternative rather, in many cases, they give to both parties *reasons to get in touch and collaborate, at the benefit of final customers' experience.* In terms of *capabilities*, while Fintech can be the skilled digital experts focused on vertical niche services for the bank to be added at its core business and able to talk the customers' new language, banks can be the hard-skilled ones, in particular as far as regulatory issues and compliance are concerned; in terms of *resources*, while Fintech often boast the support of young customers and the ownership of technological platforms or algorithms which the bank can integrate, banks serve large customers base and often have an international presence and a robust structure.

Similar considerations, together with the assessment of how banks have been reacting to the Fintech phenomenon and on how have they embraced the need to innovate, also led us to conclude that not only a collaboration is often convenient for banks and Fintech, it is also sometimes mandatory as the bank can be the back-end provider of a Fintech-designed experience.

That said, *the development of Fintech is not trivial* and will not be a temporary trend without any impact in Financial Services: first of all because some Fintech have been able to bypass the need for banks to back themselves and, even if many of the Fintech players are young companies whose profitability remains to be known in the future, some became very well-known brands with appealing key performance indicators. Given this, and due to the rising ability of other participants to the industry, so-called Bigtech, to erode the banks' traditional revenue streams, banks have to react and to seize the opportunities coming from the advent of this technological revolution; otherwise, *they risk if not to be death at least to become "commodities"*.

So, first of all, we have seen they are attempting to change internally and to streamline their processes; many have learnt from the disruptors' ability *to be agile, nimble and flexible*, and still many are trying to do it; there are several signals of greater commitment to change coming from banking industry, as the case of BBVA has showed us.

But probably the greatest evidence in light of this study is that banks cannot think to do it alone; thus, for several reasons, *if they want to go further, they have to join hands with Fintech firms*: indeed we have seen that the development of in-house innovation is not easy for a complex and large organization, nor it comes without the risk for projects to fail; time and resources constraints force banks not to be able to explore on their own all of the Fintech fields; also, internal innovation flourishes and becomes eventually more effective just if it benefits from external contributions and from a combination of diverse talents. As a matter of fact, many innovative initiatives in banks need external talents to be projected and implemented, and a common way to do this on an ongoing base is establishing an innovation lab within the bank's structure.

This strategy is just one of the examples of how banks are trying to engage with the Fintech ecosystem; indeed, by analyzing some initiatives in place in Fintech which had involved the participation of banks (as the Fintech Innovation Lab) we can conclude that not only banks are willing to collaborate with disruptors but also they are often the ones which support their growth, through mentorship programs, investments, matching events, etc. They probably do this because they wish to learn from Fintech and because they recognize the underlying mutual opportunities.

Fostering the growth of innovation within Financial Services at the end comes at the banks' benefit, if they are subsequently able to adopt the best practices introduced by the disruptors, by eventually imitating them or by forming partnerships and alliances with Fintech they have get in touch with.

The supply of innovation in banks comes also with the pursuit of M&As deals with Fintech firms; in our analysis, these represent a still nascent but viable way for banks to adopt the needed innovation; in many cases banks are becoming buyers of tech-companies, following a trend common in many other industries. However, as seen in our dissertation, the M&As entail a greater level of risk and can also be more expensive than other strategies, such as establishing an innovation lab.

To conclude, we can claim that *banks need to be open in their approach to innovation* and, as they wish to proactively navigate this disruption wave without being beaten, they have to move to the other side, if there eventually is a separation, namely the one of disruptors: engaging with the Fintech ecosystem is crucial for banks as it is supporting the growth of such new business models, in order for them to flourish within regulated and controlled fields and in a collaborative and complementary view with banks' traditional activities.

Finally, looking at the state of the art of the Fintech development, we have tried to highlight which factors render a geography particularly favorable for innovation to grow there; such environments, of which UK is a leading example, are characterized by a competitive banking industry, by the presence of needed talents (spurred by the participation of Universities) and stakeholders (such as investors) and by the attempt of regulators to support the ecosystem; unfortunately we still do not see our country as part of them, even if Europe as a whole is moving ahead in financial services innovation.

By the way, the exploration of some noteworthy initiatives that have been recently launched in Italy, with the participation of our country's banks, led us to claim that Fintech opportunities could still unfold their potential in Italy in coming years. Indeed they could represent a way for banks to close efficiency and innovation gaps they suffered in the past and to stay ahead in this *rise of opportunities offered by technology*, if and only if they force themselves to commit more resources to the phenomenon, to imitate and adopt other countries' benchmark initiatives and if they could benefit from a greater governmental support to Fintech development and to entrepreneurial projects to be established in Italy.

APPENDICES

A. Personal Interview with Carlos Lopez Moctezuma - Head of New Digital Businesses at Bancomer and Global Director for Financial Inclusion at BBVA, (11th January 2018)

1.A: Considering the current state of Financial Services what do you think is the role of Fintech within it? How much "strategic importance/centrality" would you attach, and why, to being able, as a bank, to expand in Fintech and to react to disruption?

1.B: *I think the Fintech ecosystem is pretty new, compared with other innovation or disruption in other industries. I think disruption in financial services, at least in retail financial services, is pretty new; we are not talking about the airlines or the travel agencies businesses, that changed a lot with internet. Now, nobody goes to a physical travel agency to buy anything, or there are just a few that are for niche markets, very specific ones; but, the rest disappeared: a huge disruption came there many years ago, and maybe there is a second wave of disruption now, with AirBnb. All the travel industry has changed a lot and maybe this is the second wave we are seeing now.*

In financial services, I think there are some disruption factors in there: one is the adoption of mobile technology for the majority of the people. Even in emerging markets, the majority of the people now is using the smartphones; that's a huge change in the way that you interact with different industries. That's one important disruptor and, maybe, another reason why until now the Financial Services is starting to change is because the Financial Services industry is extremely regulated and regulation is not easy to accomplish. Many financial services are reserved for traditional financial institutions, because you have to accomplish many things in order to get a license to offer some services: deposit taking is an activity that is reserved, in many countries, to banks.

And having said that, that regulatory frontier has been huge in many countries and now very vertical financial services are starting being offered by other participants and not by banks and those participants are offering vertical solutions trying to solve a specific need of specific people then offering value-added compared with traditional financial services in different parts or in different kinds of businesses: some are doing staff in payments, others are doing staff in lending, others are doing staff in personal finance management, and they are offering really added-value.

Also, not only smaller startups are starting to emerge, but also technology companies are being participants in the disruption: Google, Facebook, etc.; or, in a much more *aggressive way, you can see the Chinese market where you have Alipay and WeChat Pay, that have completely changed the way in which finance has been seen: there is a change happening there.*

Then, how, being a bank, can you react to those changes? I think, first, you have to change the way in which you build the future, you have to internalize some core capabilities that actually you don't have; and you can do it by yourself, like doing internal innovation, that's something you can do and that's something you should have started doing, by changing the way in which you design products, using agile methodologies, namely the same that startups are using and technology companies are using. You cannot continue building the future based on your brick-and-mortar branches; you have to start digitizing the offer of financial services.

It is a good first step, and something you must do. But, in my opinion, that is not enough: you have to start interacting with those startups that are emerging and that are offering those specific value-added to the clients. Maybe some people could think that the startups are only competing with banks, that is not true; as many of them offer services that are complements to the services offered by banks, and that is something important, because maybe in some businesses, very specific businesses, you can compete with them, but in others, it is more about the value they can provide you and the many advantages you can provide them with your client base and with the services, the infrastructure you have already built.

2.A: Talking about cooperation rather than competition between Fintech and banks is something becoming more common today. How do you see this interaction among the two? What are the main approaches used by banks to get in touch with disruptors?

2.B: You should go into the ecosystem to talk with startups; startups are looking for two things: one is money, investments to grow their businesses and to validate their business models, and the other is clients and services and tools to validate the business model they have. And I think banks should participate in both, but the second one is more important than the first one; because money they will get it, if they have a good product, coming from Venture Capital Funds that are investing a lot in this kind of companies. But, a client base where they can really test their business model is not easy to get: if you want to do it organically, just with your business model, it will take them a lot of time; then, maybe, a catalyzer for testing faster and with real clients their products is in association with the banks.

That's one thing that at least we in BBVA have been doing, like really testing things in conjunction with the startups and that's something that, in my opinion, is a really good decision, you can test if the startup is really in a state where they have the systems and the capabilities to serve a huge client base, as the one that we have, or not, if the value they have is really something that you cannot replicate and you need to acquire from a third part.

Then after testing things with them, you can decide if you invest as a strategic partnering, if they become your regular provider of services, or, maybe the most aggressive thing, is to acquire one of these startups, doing an acquisition. I think, it's depending the startup, depending the size of the startup, depending if they are really providing a core capability that you won't be able to build in the short run.

Some investments have been happening with different banks investing in startups, and that is something good, because you are providing an exit, for some VC investors, you are monetizing part of the investment for the founders of these companies and you are acquiring these core capabilities: and, in my opinion, it is good for everybody.

And BBVA has been maybe one of the most active banks, participating in the ecosystem with the startups, testing their business models and investing in them and that's a good way to approach the Fintech ecosystem, being a bank.

3.A: After acquiring a startup like these, how do you manage the integration between you and these very different companies? Do you use to leave them some autonomy, or should they instead come within the boundaries of the bank?

3.B: *I think it depends on the bank. If you are talking specifically of BBVA, the philosophy here is not to integrate the companies, at least at the beginning, because if not, you will be internalizing a core capability into a "huge elephant", then maybe you can inhibit the innovation that they are creating.*

Then we think it is better to allow them to be part of the Board, sharing the Board of the company, but allowing them to continue doing what they know to do and to continue innovating, not internalizing them, because that can create bureaucracy and inhibit innovation.

4.A: As far as screening and scouting of startups are concerned, do you rely on contests and similar initiatives you run or do you prefer to form strategic partnerships first, before entering an acquisition process?

4.B: *We have had both. The one that I liked the most is: first, try to do something with them, then testing them, because that really shows you if they have something real for the bank. And, having that, you have to do traditional M&A analysis of the company.*

5.A: When you decide to proceed with the acquisition, what is the typical strategic reasoning that prompts the Group and who are the typical target you search for? And, as regards the process, what are the most important aspects of it (e.g. due diligence aspects)? What are the most valuable assets of Fintech for you, as a bank?

5.B: *There are different types of acquisitions, some acquisitions are more like "who you hire", it is like acquiring a company for hiring the people. For example, we acquired a design studio for UX, that is based in California, in San Francisco. That company has nothing physical that you are buying, you are not buying a product; they are offering also services to other industries, maybe even to other financial institutions. The present value is the culture of those companies; if you acquire them only for you, you are losing those characteristics from the company. But you are acquiring a specific capability that you don't have, it is more like hiring the whole team in the company, because the rest really has not value, if you bought it.*

That's more an acquisition for hiring the talents. You are acquiring people, you should have very strong incentive plan for they to stay in the company; if not, you are paying just for everything, but then they will have the incentive to leave and to start a new startup. You should create a good incentive scheme for them to stay.

Then there are other kinds of acquisitions, that are more traditional; they are not for hiring people, it's more for buying a running business, for example here in Mexico we bought an e-commerce company, a payment gateway company. We didn't have that capability at the bank and they are very good and very fast in developing solutions for e-commerce. Then we bought the company, and they have a running business, they continue acquiring clients for the business, we are providing them additional value-added to their business they were developing, and they are providing us some capabilities that we didn't have in the past.

Then for the analysis for analyzing if you are going to acquire or not a company, you should take into account those things:

- *the value-added that you can provide to the company, only because it is yours, you are really increasing the value of the company;*
- *and what they are providing to you in terms of your business;*
- *and how you can continue growing in the future.*

As I said, it is a very different approach than the first one that I mentioned before.

6.A: If we talk, for example, about the acquisition of the design UX Studio by BBVA, what do you think were the synergies underlying the project? In particular, what could you, as a big bank, bring to this very creative startup, and what do they gave to you instead?

6.B: *We were very weak in terms of UX-design in the group, then acquiring them is providing experts in UX-design we didn't have, that is helping us to running faster in terms of creating products and launching them into the market. They got good money from the transaction and a good incentive plan for staying in the company, for at least five years; then, they continue working there, all the founders, and it is an opportunity for them to participate in interesting projects, without being very worried about getting clients or more clients, because the bank is providing them all the flow of products and deals.*

7.A: Moving from market activities to in-house initiatives, how do you manage the change internally in terms of organizational structure and culture? What are some important steps made by and within BBVA? What are the main challenges of internal innovation process?

7.B: *Beside the ecosystem, talking about the digital transformation of the bank, for this transformation you should really have the head of the company committed to do it. Because it is not something natural for a company that has been doing a different business, a more traditional one. Then, if you don't have the commitment of the top management, it will be really difficult to scale all the changes inside the organization, and it'll take a lot of time.*

I think the appointment of Carlos Torres was really a sign that the President was committed to this: putting the Head of Digital Banking as a CEO of the bank, because he used to be, prior of being the CEO, the Digital Banking Head. That was a signal to show everybody outside and inside that the change to us was real and that we had to transform ourselves.

And, of course, to make that change real in the rest of the organization takes a lot of time, I think we have been in these for some years and we have good results now, but then the transformation continues. There are some units that have not transformed yet, and continue doing the same, but then there are others which are really much more digital and are working faster creating the future.

I think the most difficult part of a digital transformation here is that you have to sacrifice the current business and the current income, to build the future. Because you face scarcity in the resources you have and you have to allocate all your resources in the best way *you can. And if you just think in terms of present income, maybe you should be assigning all of the investment to current business and to branches, because from there you are getting your income. But here we took the decision of not allocating the whole of the resources into the network and the branches, because we are really convinced that only if you sacrifice part of that income investing and creating the future in a different way, maybe you are creating a path that today is not giving as much money as it would if you invested in the traditional business, but if you didn't do that in the future you would be disrupted by other participants. And, that decision of stop doing things to invest in new things is the most difficult part for the business; if you don't do that, it would very difficult to be digitally transformed.*

8.A: If you had to suggest a "recipe" for innovation to big banks, would you suggest to opt for in-house building of innovative services or not? What are the main risk and drawbacks of not being open to third parties for delivering innovation?

8.B: *I think that wouldn't be very smart. Banks have been very arrogant, thinking that they can develop everything that the clients need and that's not true: you have, as I said, limited resources, and, even, when you want to innovate in many things you have many projects inside and you are not able to manage everything, you don't have the scope to develop everything that the clients need. Then it'd better if you take advantage in what others are creating, having this mind of open innovation; in this global world where everything is connected, you have to be connected to the rest, if not you will be isolated and being isolated diminishes your capability for really serving your clients as they would like to be served.*

The best part of the Fintech Revolution is not for the banks, is not for the startups: at the end, it is for the final client, because, in the end, as a client, you will have much more products and much more different experiences that will allow you to live your financial life in a better way and being much more productive. Then I think it is all useful for the consumer.

9.A: When we talk about lacking of resources, should we consider also the often-cited "gap" that banks suffered with youngest generation, in terms of talent acquisition? Is it so difficult for banks to attract young and tech-savvy talents, who often prefer to work for technology companies?

9.B: *That's true, maybe banks for Millennials and for the next generation are not seen as "sexy" to work for. But, that is changing, at least here. Here [BBVA] half of the employees are Millennials and that's a good statistic. That means there are young people working within the bank and the attraction team, which is working with Universities and with developers and with young people, is trying to show the different way in which Bancomer and BBVA in* *general is working, trying to empower people and having a more horizontal organization, letting people being leaders and really having the responsibility of a own project.*

For some kind of profiles, maybe, they won't see bank "sexy" anymore, and they would like better working for Facebook or Google. But I think is changes and disruption are there, so maybe is not bad to consider a bank for them now, but it takes time to change the perception: only showing good products and that these banks are really changing the way in which they do things is a good way to convince people to come for working in a bank.

10.A: As far as the different categories of Fintech are concerned, do you prefer to focus on any particular kind of Fintech only or to look at the broad spectrum of innovators, instead?

10.B: *I think there are many categories where you should pay attention and that are being trends: there are many things in payments, there are many things in block-chain, too, e.g. these are new technologies very interesting in terms of how they can changes the process of moving money… But I think all the different Fintech verticals are important and you should be aware of the new things that are arising, because maybe you think "that is not so important now!" but then, there, it will arise a new innovation and then you should be looking to what is happening in the whole ecosystem. I think this is important, then you should be really with your eyes open for catching all the new things that are arising.*

11.A: When you build or buy or ally and, in any case, launch a Fintech service, such as a platform for alternative finance, are not you scared, somehow, that the new product could cannibalize your traditional business/products?

11.B: *Yes, but that's part of what I was mentioning before: "you have to sacrifice things". For example, we have a platform that is called "Wibe", it is a website and an app to buy auto-insurance, where you can like of personalizing the kind of insurance you want and the prices there are, maybe, in some cases better than the traditional prices of the other insurance we sell: is Wibe cannibalizing part of the BBVA's business, here in Mexico? Maybe, yes; some clients could decide to buy there instead of buying in branches, and maybe we are cannibalizing the product with a cheaper product. But, we are also acquiring clients from the other insurance companies. The positive value of acquiring clients from the open market and of stealing those clients from the competitors is the incentive to continue the project, even when you know that you are cannibalizing the products. It's like being blind to think that if you are not doing that, no one will do it. If you don't come with that innovation somebody else will come and you will be losing market share in the future; then it would like not cannibalizing yourself, but waiting for others to cannibalize your business.*

B. Secondary data collection for the case study analysis: main sources of information

Date	Author	Title	Content	Type of data	Source
2014, 20th Feb.	Alden, W.	*BBVA Buys Banking Start-Up Simple for $117 Million*	Deal to acquire Simple	Article	Dealbook [https://dealbook.nytimes.com/2014/02/20/bbva-buys-banking-start-up-simple-for-117-million/?_php=true&_type=blogs&_r=0]
2014, 20th Feb.	BBVA Compass	*BBVA acquires digital banking service pioneer Simple*	BBVA Compass announces the deal to acquire Simple	Company news	BBVA Compass website [http://newsroom.bbvacompass.com/BBVA-acquires-digital-banking-service-pioneer-Simple]
2014, 21st Feb	Wisniewski, M.	*BBVA Buys Simple in Path to Digital Transformation*	BBVA's acquisition of Simple	Article	American Banker [https://www.americanbanker.com/news/bbva-buys-simple-in-path-to-digital-transformation]
2014, 21st Feb.	Crosman, P.	*BBVA's Simple Purchase Reflects Mobile Banking's Sizzle*	Consideration about BBVA's deal with Simple	Article	American Banker [https://www.americanbanker.com/news/bbvas-simple-purchase-reflects-mobile-bankings-sizzle]
2014, 26th Feb.	Wolman, D.	*The Bank and the Anti-Bank*	Drawbacks and customers' concerns about Simple acquisition by BBVA	Article	The NewYorker[https://www.newyorker.com/business/currency/the-bank-and-the-anti-bank]
2014, 06th May	BBVA Compass	*BBVA Compass teams with OnDeck to bolster bank's small business offerings*	OnDeck and BBVA partnership	Company news	BBVA Compass website [http://newsroom.bbvacompass.com/2014-05-06-BBVA-Compass-teams-with-OnDeck-to-bolster-banks-

					small-business-offerings]
2014, 07th May	n.a.	*BBVA Compass partners OnDeck on small biz loans*	OnDeck and BBVA partnership	Article	Finextra [https://www.finextra.com/newsarticle/26044/bbva-compass-partners-ondeck-on-small-biz-loans]
2014, 08th May	Wisniewski, M.	*Why BBVA Compass Is Sending Customers to an Online Rival*	Strategic partnership between OnDeck and BBVA	Article	American Banker [https://www.americanbanker.com/news/why-bbva-compass-is-sending-customers-to-an-online-rival]
2014, 04th Sept.	Sharf, S.	*Simple CEO On How A Bank Can Be A Brand You Love.*	Simple Fintech's CEO and CFO explain their startup mission and performances	Article	Forbes.com [https://www.forbes.com/sites/samanthasharf/2014/09/04/under-30-summit-simple-ceo-on-how-a-bank-can-be-a-brand-you-love/#2c14d0a67367]
2014, 30th Oct.	BBVA	*BBVA, Dwolla team up to offer real-time payment innovation to U.S.*	Describes the aim of the partnership entered and the mutual openness of APIs between BBVA Compass and Dwolla	Company News	BBVA website [https://www.bbva.com/en/bbva-dwolla-team-up-to-offer-real-time-payment-innovation-to-u-s/]
2014, 09th Dec.	BBVA	*BBVA acquires big data startup Madiva*	Purchase of Madiva by BBVA	Company news	BBVA website [https://www.bbva.com/en/bbva-acquires-big-data-startup-madiva/]
2015, 20th Jan.	Coinbase	*Coinbase Raises $75M from DFJ Growth, USAA, NYSE, and More*	Coinbase announces the series C financing	Company news	Coinbase Blog [https://blog.coinbase.com/coinbase-raises-75m-from-dfj-growth-usaa-nyse-and-more-4fd3ac701646]
2015,	Cutler, K.	*Coinbase*	Coinbase	Article	TechCrunch

20th Jan.		*Confirms $75M Raise From DFJ, NYSE, Strategic Banking Partners*	raise funds from a group which boasts many financial institutions		[https://techcrunch.com/2015/01/20/coinbase-confirms-75m-raise-from-dfj-nyse-strategic-banking-partners/]
2015, 21st Jan.	Rizzo, P.	*BBVA: We Wanted to Better Understand the Bitcoin Opportunity*	Financing of Coinbase by BBVA as a "learning experience"	Article	Coindesk [https://www.coindesk.com/bbva-bitcoin-disrupt-financial-services/]
2015, 04th Feb.	n.a.	*Half of the world's banks set to fall by the digital wayside – BBVA*	BBVA CEO F. Gonzalez on digital disruption	Article	Finextra [https://www.finextra.com/news/fullstory.aspx?newsitemid=26965]
2015, 20th Feb.	Ferreiro, C.	*BBVA Ventures Invests in Leading Bitcoin Platform Coinbase*	BBVA Ventures participates in Series C financing round of Coinbase	Article	BBVA website [https://www.bbva.com/en/bbva-ventures-invests-in-leading-bitcoin-platform-coinbase/]
2015, 08th Apr.	BBVA Compass	*BBVA Compass, Dwolla begin rollout of real-time bank transfers*	How the partnership with Dwolla works and what is it aimed to	Company News	BBVA Compass website [http://newsroom.bbvacompass.com/2015-04-08-BBVA-Compass-Dwolla-begin-rollout-of-real-time-bank-transfers#assets_17606_132769-129:21366]
2015, 08th Apr.	Roberts, D.	*Dwolla scores first big-bank partner for real-time payments*	Dwolla and BBVA partnership	Article	Fortune [http://fortune.com/2015/04/08/dwolla-bbva-compass-real-time-transfers/]
2015, 10th Apr.	Groenfeldt, T.	*Why Wait For The Fed? BBVA Compass And Dwolla Do Real-Time Payments*	Dwolla and BBVA Compass partnership	Article	Forbes.com [https://www.forbes.com/sites/tomgroenfeldt/2015/04/10/why-wait-for-the-fed-bbva-compass-and-dwolla-do-real-time-

					payments/#7900ded3d896]
2015, 15th Apr.	BBVA	*BBVA acquires leading user experience firm Spring Studio*	Purchase of SpringStudio	Company news	BBVA website [https://www.bbva.com/en/bbva-acquires-leading-user-experience-firm-spring-studio/]
2015, 28th April	González, F.	*Reinventing the Company for the Digital Age*	The company collected in a book different representative authors' perspectives on companies in current and digitally-disrupted era	Book	www.bbvaopenmind.com
2015, 04th May	n.a.	*BBVA Appoints Carlos Torres New President & COO*	Organizational changes in BBVA's structure to pursue digital transformation	Article	Fund Society [http://www.fundssociety.com/en/news/appointments/bbva-appoints-carlos-torres-new-president-coo]
2015, 23th Oct.	n.a.	*Banks need to develop new core competencies to survive - BBVA COO*	Torres Vila on BBVA's internal pursuit for new capabilities	Article	Finextra [https://www.finextra.com/newsarticle/28021/banks-need-to-develop-new-core-competencies-to-survive---bbva-coo]
2015, 16th Nov.	BBVA España	*La revolución de las pequeñas cosas*	It enhances convenience for mobile bankers offered by BBVA	Adv. Campaign (2.287.974 views on YouTube)	YouTube [https://www.youtube.com/watch?v=Ao5S3UWqkgU]
2015, 24th Nov.	Lunden, I.	*UK Mobile-Only Atom Bank Picks Up $128M Led By BBVA, Owner Of Simple In The U.S.*	BBVA and Atom strategic aims underlying their deal	Article	TechCrunch [https://techcrunch.com/2015/11/24/uk-mobile-only-atom-bank-picks-up-128m-led-by-bbva-owner-of-simple-in-the-u-s/]
2015,	Mullen, M.	*Atom and*	Atom's CEO	Company	Atom website

24th Nov.		*BBVA*	explains BBVA-Atom deal	news	[https://www.atombank.co.uk/blog/2015/11/bbva]
2016	Buvat, J., Khadikar, A.	*BBVA: Rebooting Banking for a Digital Economy*	Capgemini Consulting analysis of BBVA's choices for digital transformation	Case study	Capgemini Consulting
2016, 11th Feb.	BBVA	*BBVA increases fintech fund to $250M*	BBVA explains its equity investments strategy to fund Fintech	Company news	BBVA website [https://www.bbva.com/en/bbva-increases-fintech-fund-250m/]
2016, 11th Feb.	Lunden, I.	*BBVA Shuts In-House Venture Arm, Pours $250M Into New Fintech VC Propel Venture Partners*	Main reasons why BBVA created Propel Venture Partners	Article	Techcrunch.com [https://techcrunch.com/2016/02/11/bbva-shuts-in-house-venture-arm-pours-250m-into-new-fintech-vc-propel-venture-partners/]
2016, 15th Feb.	Barba, R.	*What's Behind Restructuring of BBVA's Fintech Venture Fund*	Comparison between Propel Venture Partners (BBVA) and InnoVentures (Santander)	Article	American Banker [https://www.americanbanker.com/news/whats-behind-restructuring-of-bbvas-fintech-venture-fund]
2016, 15th Feb.	Peachey, D.	*Seven keys to understanding Propel and BBVA fintech investment*	Objectives and strategy beyond BBVA and Propel investment in Fintech	Article	BBVA website [https://www.bbva.com/en/seven-keys-understanding-propel-bbva-fintech-investment/]
2016, 07th Mar.	BBVA	*BBVA acquires Finnish banking startup Holvi*	Announcement of Holvi acquisition	Company news	BBVA website [https://www.bbva.com/en/bbva-acquires-finnish-banking-start-holvi/]
2016, 7th Mar.	Bergan, B.	*Echoes of Simple Deal Found in*	Comparison between Simple and	Article	Bank Innovation [https://bankinnovation.net/2016/03/

		BBVA's Acquisition of Holvi	Holvi acquisitions from BBVA		echos-of-simple-deal-found-in-bbvas-acquisition-of-holvi/]
2016, 7th Mar.	Lunden, I.	*BBVA continues its fintech acquisition run, buys Holvi, an online-only business bank*	Acquisition of Holvi by BBVA	Article	TechCrunch [https://techcrunch.com/2016/03/07/bbva-continues-its-fintech-acquisition-run-buys-holvi-an-online-only-business-bank/]
2016, 16th Mar.	Räsänen, E.	*Holvi joins BBVA family of businesses*	Holvi joins BBVA family of businesses	Company news	Holvi website [https://blog.holvi.com/2016/03/07/holvi-joins-bbva-family-of-businesses]
2016, 23rd Mar.	Fernández Espinosa, L.	*Holvi, the "neobank" for the self-employed that challenges the traditional banks*	Holvi business model and competitive advantage	Article	BBVA website [https://www.bbva.com/en/holvi-the-neobank-for-the-self-employed-that-challenges-the-traditional-banks/]
2016, 28th Apr.	Reich, J.	*Simple + BBVA Compass: We're Moving!*	Simple CEO explains launch of the products which result by BBVA acquisition of the company	Company news	Simple website [https://www.simple.com/company/simple-bbva-compass-we-re-moving]
2016, 13th Jun.	BBVA	*How traditional banking learns from fintechs*	Holvi's CEO about how the deal with BBVA changed their vision	Video interview	https://www.bbva.com/en/traditional-banking-learns-fintechs/
2016, 20th Jun.	Tena, M.	*Fintech University: Technology meets finance at BBVA Innovation Center*	Event held by BBVA to support innovation in banking	Article	BBVA website [https://www.bbva.com/en/fintech-university-biggest-event-technology-financial-experts/]
2016, 15th	Canto, C., Niembro,	*BBVA Bancomer's*	BBVA describes	Article	BBVA website [https://www.bbva.

Sep.	M.	*digital factory, disruption in the way of working*	how dedicated teams apply agile methodologies to boost innovation		com/en/bbva-bancomers-digital-factory-disruption-way-working/]
2016, 30th Nov.	BBVA	*Francisco González: "The years ahead are going to be incredible for BBVA"*	BBVA Global Executive Chairman Francisco González analyzes the state of the art of banking and the impact of technology on society	Video Interview / Company news	BBVA website [https://www.bbva.com/en/francisco-gonzalez-years-ahead-going-incredible-bbva/]
2016, 23rd Dec.	BBVA	*BBVA buys Openpay, a Mexican online payments startup*	Company announces signing for OpenPay startup acquisition	Company news	BBVA website [https://www.bbva.com/en/bbva-buys-openpay-mexican-online-payments-startup/]
2017, 10th Jan.	BBVA	*BBVA's new tagline: 'Creating Opportunities'*	Brand's new strategy: tagline and new purpose/vision	Company news	BBVA website [https://www.bbva.com/en/bbvas-new-slogan-creating-opportunities/]
2017, 03th Mar.	BBVA	*BBVA strengthens its commitment to U.K.'s Atom Bank*	BBVA joins another financing round in Atom	Company news	BBVA website [https://www.bbva.com/en/bbva-strengthens-commitment-u-k-s-atom-bank/]
2017, 03th Mar.	Lunden, I.	*Atom Bank raises $102M at $320M valuation for a mobile-only bank for millennials*	BBVA joins another financing round in Atom	Article	TechCrunch [https://techcrunch.com/2017/03/03/atom-bank-102-million/]
2017, 24th Apr.	Peña Álvarez, M.	*BBVA advances its fintech strategy with the*	Synergies behind BBV's acquisition of OpenPay	Company news	BBVA website [https://www.bbva.com/en/bbva-advances-fintech-strategy-

		acquisition of Openpay			acquisition-openpay/]
2017, 25th Apr.	n.a.	*BBVA steps up fintech acquisition strategy with purchase of Openpay*	What is OpenPay and why BBVA bought it	Article	Finextra [https://www.finextra.com/newsarticle/30478/bbva-steps-up-fintech-acquisition-strategy-with-purchase-of-openpay?via=indexdotco]
2017, 13th Jun.	BBVA	*Trust·u, funding with a little help from your friends*	About alternative funding platform launched by BBVA	Company news	BBVA website [https://www.bbva.com/en/trustu-funding-little-help-friends/]
2017, 26th Jun.	n.a.	*Veridas, the new biometrics company of BBVA and Das-Nano*	Das-Nano and BBVA launch a biometric company	Company news	Das-Nano website [http://www.das-nano.com/2017/06/26/veridas-the-new-biometrics-company-of-bbva-and-das-nano/]
2017, 13th Jul.	BBVA	*BBVA, the best mobile banking service in the world*	BBVA mobile banking app ranked first in global mobile banking apps' competition: comment on the result and underlying strategy	Company news	BBVA website [https://www.bbva.com/en/bbva-best-mobile-banking-world/]
2017, 07th Aug.	n.a.	*Chase extends relationship with OnDeck*	BBVA's competitor JPMorgan partners with OnDeck	Article	Finextra [https://www.finextra.com/pressarticle/70308/chase-extends-relationship-with-ondeck]
2017, 16th Aug.	Rado Quirós, M.	*BBVA Open Talent: creating opportunities since 2009*	BBVA's initiative to fuel entrepreneurship	Article	BBVA website [https://www.bbva.com/en/bbva-open-talent-creating-opportunities-2009/]

2017, 14th Oct.	n.a.	*BBVA, a Spanish bank, reinvents itself as a digital business*	BBVA's vision to learn from Fintech "nimbleness"	Article	The Economist
2017, 15th Oct.	Tuyyo	*Introducing Tuyyo: Send money, stay connected*	Tuyyo service is explained	Video	Youtube "Tuyyo - Provided By BBVA Transfer Services" channel [https://www.youtube.com/watch?v=pBZ7WpiCYSo&feature=youtu.be]
2017, 18th Oct.	BBVA	*BBVA aims to shake up the global remittance market with launch of Tuyyo*	Launch of a Fintech service for international remittances by BBVA	Company news	BBVA website [https://www.bbva.com/en/bbva-aims-shake-global-remittance-market-launch-tuyyo/]
2017, 19th Oct.	Semple, C.	*"We must innovate to survive"*	Carlos Torres Vila's view on need to innovate	Article	BBVA website [https://www.bbva.com/en/bbvas-ceo-says-must-innovate-survive/]
2017, 25th Oct.	BBVA	*Transformation with disruption: BBVA's formula for digital success*	Live@BBVA event's evidences: BBVA takes its employees on the field of digital transformation	Company news	BBVA website [https://www.bbva.com/en/transforming-disruption-bbvas-digital-recipe/]
2017, 16th Nov.	Semple, C.	*BBVA closing in on another critical digital banking target*	BBVA's milestones and significant KPI in terms of transformation completion	Article	BBVA website [https://www.bbva.com/en/bbva-closing-another-critical-digital-banking-target/]
2017, 17th Nov.	BBVA	*BBVA Open Summit 2017 - Why Open Innovation? Meet BBVA's CEO and*	CEO and Head of Customer Solutions describe importance and modes of open	Video interview	Youtube "BBVA Open Innovation" channel [https://www.youtube.com/watch?v=uFrw71AZcE4&feature=youtu.be]

		Head of CS	innovation at BBVA		
2017, 18th Dec.	Fernández Espinosa, L.	*BBVA wins award for its support for European startups*	The SEP awards BBVA open innovation strategy, the bank explains benefits of collaboration	Article	BBVA website [https://www.bbva.com/en/bbva-wins-award-its-support-european-startups/]
2017, 22nd Dec.	Anderson, C.	*The important role branches play in digital transformation*	How BBVA is giving branches a new leading role	Article	BBVA website [https://www.bbva.com/en/important-role-branches-play-digital-transformation/]
2018, 23rd Jan.	n.a.	*Coinbase Reportedly Tops $1B In Revenue*	Coinbase performances attract many investors' interest	Article	Pymnts.com [https://www.pymnts.com/blockchain/bitcoin/2018/coinbase-investors-funding-bitcoin-crypto-exchange/]
2018, 09th Feb.	BBVA	*Understanding BBVA's digital deliveries in 2017*	BBVA communicate its main digital deliveries of 2017, such as the launch of Tuyyo or Trust-u, etc.	Company news	BBVA website [https://www.bbva.com/en/understanding-bbvas-digital-deliveries-2017/]
n.a.	OnDeck	*OnDeck 2015 Annual Report*	OnDeck reports 2015 results and its business model functioning	Annual Report	OnDeck website
n.a.	n.a.	*Organizational structure*	BBVA describes its inner organizational structure in terms of key divisions	Company Info	BBVA website [https://www.bbva.com/en/corporate-information/organigram/]
n.a.	Solodkiy, V.	*Money of the Future – Results of 2016 Trends for*	Analysis of the Fintech ecosystem and news on cases	Report	Life SREDA Venture Capital [http://sreda.vc/wp-content/uploads/2017/11/MOTF_engl

		2017	(BBVA, Atom, Holvi, Simple)		ish.pdf]

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