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Fintech Disruption: An Introspection*

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Abstract

The actual and modern world is undergoing and facing major changes mainly due to the rapid development of technology. In the century we live in, digitalization is a phenomenon that the whole society is facing, being a factor in the development of human activity. We are contemporaries with major transformations, the revolution we are witnessing being considered the 4th industrial revolution, Industry 4.0, being in fact a revolution of digital or artificial intelligence. The pace at which change is evolving is unimaginably fast and immeasurably faster and on a larger scale than the previous Industrial Revolution of the early 19th century. Like an octopus, we can say that digitalization has spread its tentacles and has taken over the whole society, at all levels, generating the need for new skills, being interconnected with intellectual capital facilitating the creation of complex networks. The emergence and fulminant development of FinTech can be considered a milestone in the modernization of financial services, perhaps the greatest innovation in the last thirty years. According to the National Bank of Romania, FinTech is a technological innovation of financial services being a disruptive factor of the financial industry, competing directly with banks or other institutions in the financial sector or even acting in concert with them to deliver high quality financial services. In addition to the significant revenues generated, estimated to be somewhere at 92 billion in 2018, it is also given by the fact that it ensures the increase of the degree of financial inclusion, given the easier accessibility, flexibility and ease of use of some services. Even if it is difficult to recognize, the future in the financial industry is FinTech's.

Keywords: FinTech, Start-up, Financial Services, Disruption, Industry 4.0, Digitalization.

JEL classification: O33, M13, G23

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FinTech: An introduction

The term FinTech is not something new, its beginnings being rather attributed to the 90s but as a result of the evolution of technologies in an explosive rhythm and their assimilation in the financial industry. New financial technologies change the classic financial system, with a rapid evolution determined by the impressive pace of adoption and use of mobile devices.

The aim of the paper is to define the concept of Fintech, to overview what FinTech represent in the financial industry and their historical evolution from telegraph to mobile or Big Data. At the same time, this paper aims to find the reasons for the rapid expansion of these financial technologies and to highlights what are the benefits of their adoption mainly for the population for which access to financial services is essential to adapt to new realities. In the study we accomplished a theoretical approach by studying the literature, but also qualitative, using a series of resources including publications, specialized studies and statistics.

The main contributions of present study are:

✓ the paper is focusing on a concise overview of the Fintech concept and their importance both in social and economic life especially through the financial resources involved but also because of the impact they have on the financial industry, demonstrated by the growing number of papers about the subject, extracted from the database WebOfScience.

✓ the findings of the study shows that FinTech are expanding rapidly worldwide and the highlighted benefits are undeniable while the financial areas in which Fintech are acting to grow every year from payments to lending or cryptocurrency.

✓ Suggestion of research directions of FinTech deriving from our main findings like Blockchain, Big Data or Internet of Thigs

Going deeply in the analyzed theme, it can be seen from Figure 1 below that starting with 2014-2015 , the term "FinTech" has entered more and more in our lives being assimilated both by consumers of the wide range of services offered, by players in the financial industry, but also attracting the attention of regulators and academia. Currently FinTech is on everyone's lips, being at the height of its global popularity. Hlaciuc et al. (2019) realistically judges that “digitization disturbs the traditional” in all areas, from new CSR practices (Grosu et al., (2018)), to a growing number of intangible assets (Cosmulese et al., (2021)) and all the way to the financial sector, which massively invests in security, internal controlling, and technology (Tulvinschi, (2020)).

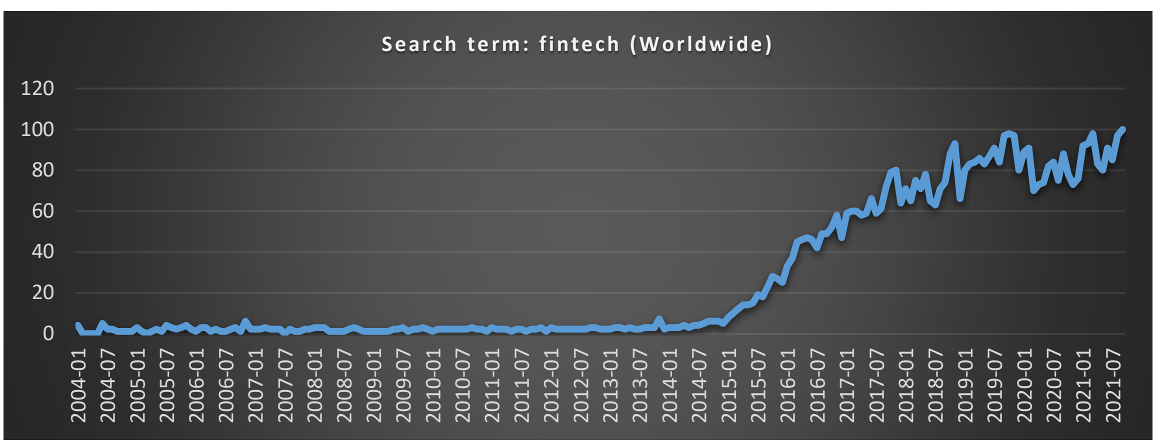

Figure 1. Evolution of trend on Google search for FinTech

Source: Google Trends, https://trends.google.com/trends/

The great interest for FinTech is also generated by the value of the financial resources involved and the profits generated. According to statista.com, the value of investments in FinTech worldwide is $ 33.9 billion, of the big names recognized mentioning only a few, namely Google, Amazon, Facebook, Apple or Alibaba. For example, Ant Group, an affiliate of the Alibaba holding company, is considered the most valuable FinTech, with a market value of $ 150 billion according to the same site. The company has a wide international presence being involved in a multitude of areas of the financial industry including digital payments (Alipay), business finance (Ant Micro Loan), marketplace lending (Ant Check Later), wealth management (Ant Fortune), online banking (Mybank), and insurance and credit reference (Sesame Credit).

At the same time, the pace of setting up companies in the FinTech field has increased exponentially in recent years, an aspect that can be seen in Figure 2 below.

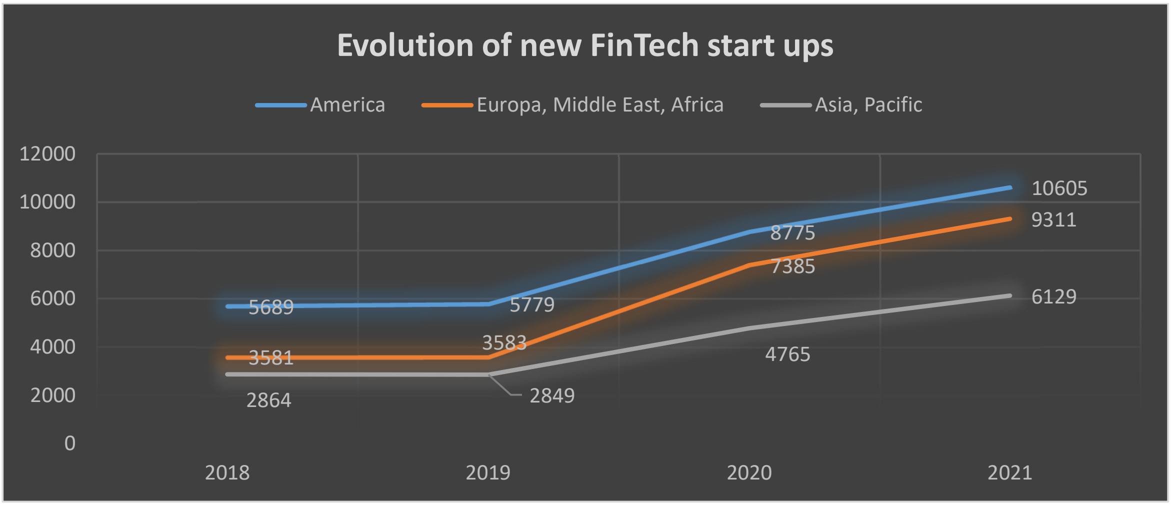

Figure 2: Evolution of start-up of FinTech globally

Source: data processed from www.Statista.com

What is a FinTech. Review of previous research papers

Although the impact of FinTech on social and economic life is unanimously acknowledged, the academic community has not paid the same attention. Analyzing the Web of Science database, searching by the generic term FinTech and selecting the fields of interest Business Finance, Econimics, Business, Management and Computer Science, a number of 1,202 research papers were generated over time. The number of works is in an obvious upward trend but far below research in areas of wider interest such as banks, cryptocurrencies, block-chain. Figure 3 below summarizes the time dynamics of the works forming the FinTech industry.

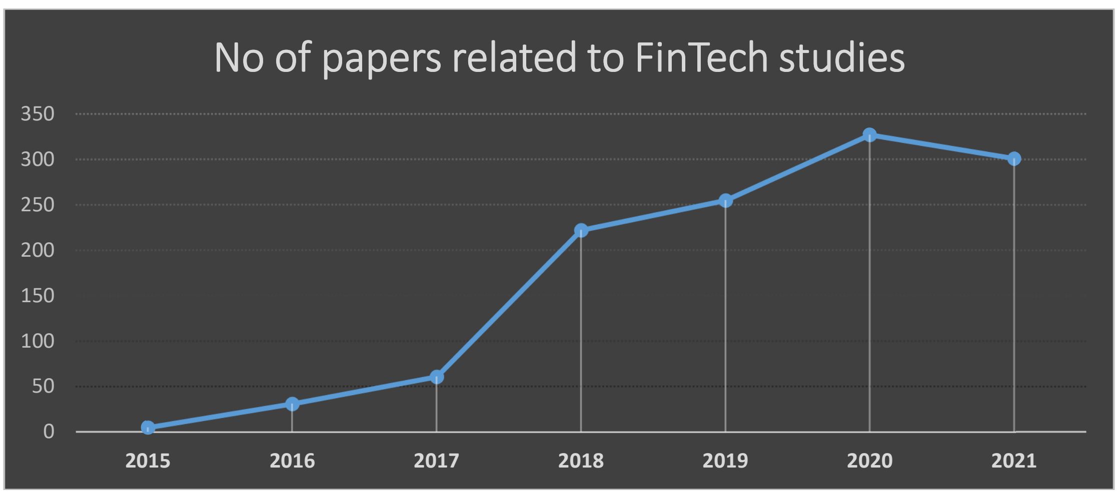

Figure 3. Dynamics of the number of research papers for FinTech

Source: own processing based on data obtained from WebOfScience

Most works, in close correlation with the specifics of the development of FinTech in those areas come from Asia (China, Taiwan, Singapore, Indonesia, India) accounting for about half of 44% of the number of works, USA (19% of the number of papers) but also Europe (England, Germany, Russia, France, etc.) which pays for the rest of the research papers but quite divided by member countries, except England, the percentages are very low in EU member countries.

Given the huge impact on the global economy, FinTech have also attracted the attention of global regulators and financial institutions, so the IMF Executive Board in close collaboration with the World Bank initiated in 2018 a meeting, Bali FinTech Agenda, later finalized with the regulation of a policies IMF Policy Paper which sought to delineate the impact of technology innovation and how it influences regulations in the field of financial services and what is the impact of FinTech on the economy, its stability or global financial inclusion.

The definition given by IMF FinTech is: "The technology-enabled innovation in financial services that could result in new business models, applications, processes, or products with an associated material effect on the provision of financial services" (IMF, 2020). At the same time, the institution identifies three key directions that made possible the rapid development of FinTech, namely the processing and generation of almost unlimited data and the development of computer algorithms, which helped increase internet speed, the emergence of artificial intelligence and of cloud computing, blockchain technology or biometric identification. If until now, banks or banking institutions offered financial services, now FinTech have taken over a part of the market addressing the population with a poorer financial situation or small businesses that were once excluded or being in the hands of non-banking companies or institutions micro-credit. Thus, FinTech have an essential role, namely to ensure access to financial services for all and thus leading to increased financial inclusion.

Two authors summarize the meaning of FinTech, namely the abbreviation for "financial services" and "technology" (Puschmann (2017), Zavolokina et al., (2016)). Some authors consider FinTech to represent "financial services delivered by technology" (Swan, (2017). Arner et al. (2015) define FinTech as "technology-enabled financial solutions". Nicoletti (2017) attributes to FinTech the role of remodeling financial services, offering customer-centered services, ensuring speed and flexibility, and being usually start-ups. Gai (2018) recalls that the term FinTech is in a continuous development meaning "the financial technology sectors in a wide range of operations for enterprises or organizations, which mainly addresses the improvement of service quality by using information technology (IT) applications". Gomber et al. (2018) mentions that "FinTech is a portmanteau of financial technology that describes an emerging financial services sector in the 21st century."

In even more recent studies, Bateman (2020) considers FinTech, the abbreviation for "Financial Technology", to be one of the greatest innovations of the last thirty years. It defines FinTech as "Computer programs and other technology used to support or enable banking and financial services, in its most basic form (which this article focuses on) FinTech involves a greatly enhanced ability to transact financial services via a computer or mobile phone, making it easier, cheaper and quicker to access a loan, make a savings deposit, transfer money, and pay for goods and services."

The evolution of FinTech. Main moments in FinTech history

Fintech is the product of digital economy on one hand but in the same time it boosted the development of new economy or digital economy, as a result from "the interaction between the personal computer, telecommunications, Internet and electronics." (Hlaciuc, 2006). The evolution of FinTech has a fairly long history, the authors of research and studies (Arner et al (2015), Arner et al (2017)) showing three major stages in the development of FinTech, stages presented in the figure below.

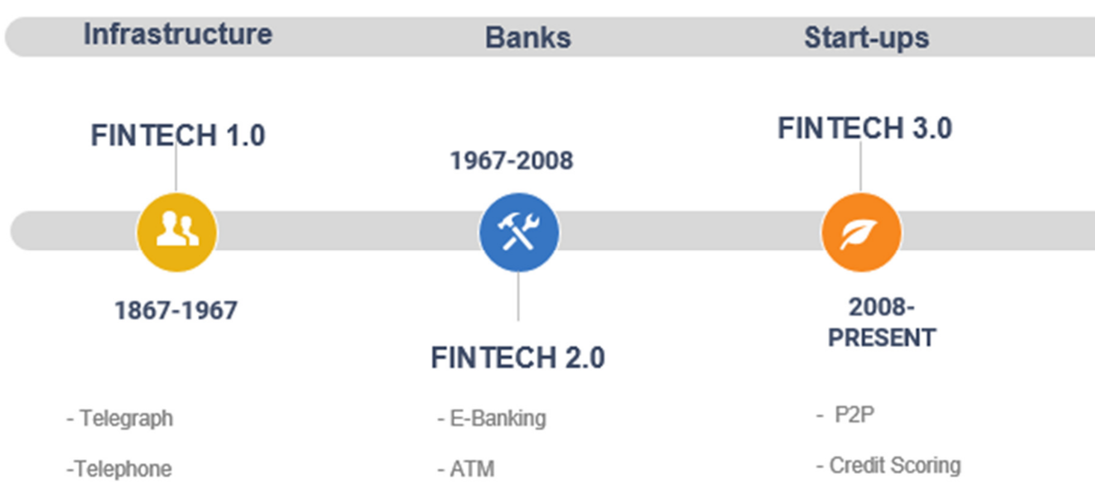

Figure 4. The evolution of FinTech throughout history

Source: own processing

FinTech 1.0 Technology and finance are closely linked and developed together and at the end of the 19th century generated the beginnings of globalization, using the telegraph and other similar machines including the global telex network (developed at the end of this stage), financial information, payments or other financial transactions could be transmitted worldwide. The financial services industry is mainly analogous in this stage of development.

FinTech 2.0 Electronic payment services developed rapidly during this period, driven by the establishment of SWIFT (Society of Worldwide Interbank Financial Communication) which allowed the transmission of financial transactions between banks in a secure, standardized and fast. Also during this period, "Back Monday" took place in 1987 when the financial markets collapsed, which shows that the financial markets were closely interconnected from a technological point of view and the risks generated by technology increased and imposed the need for strict regulations, appearing thus the Single European Act (1986) which regulated the framework of a single European financial market or the Maastricht Treaty (1992), the document that forms the basis of today's European Union.

FinTech 3.0 stage that we live in today, characterized by the rapid development of technology and the emergence and rapid growth of companies that offer technological services in the field of financial industry. These represented a turning point in the evolution of the financial sector today, disrupting the activity of financial institutions by creating the premises for permanent improvement of the services offered and the transition as much as possible to digital. If at first the FinTech were considered "too small to care" they quickly became "too large to ignore" and eventually "too big to fail" which required the imposition of new regulations (Dodd Frank Act, Basel 3) to prevent and mitigate the impact of a potential financial crisis.

FinTech 4.0 will be characterized by data monetization and digital identity initiated by the so-called BaaS (Blockchain-as-a-Service) which will take over outsourced responsibilities including the cloud infrastructure. Terms like Big Data, Artificial Intelligence or IoT (Internet of Things) will be the foundation for the development stage.

As for the life cycle, our opinion is that the life cycle of start-up FinTech is usually short, the failure of the business appearing quite early, even in the initial stages of the life cycle, otherwise the premises being to continue and grow only through strategic alliances, mergers or acquisitions (M&A), investments in the form of Venture Capital (VC). If we connect with the typologies of Argenti (1976), they are included in the type 1 category, newly formed enterprises, start-ups, small companies, which fail in the first 5 years of activity. They fail to generate profit in almost all cases, not overcoming the unsatisfactory or poor performance barrier. The companies in this category are the ones that fail most frequently, so it can be said that most companies fail even before they take off.

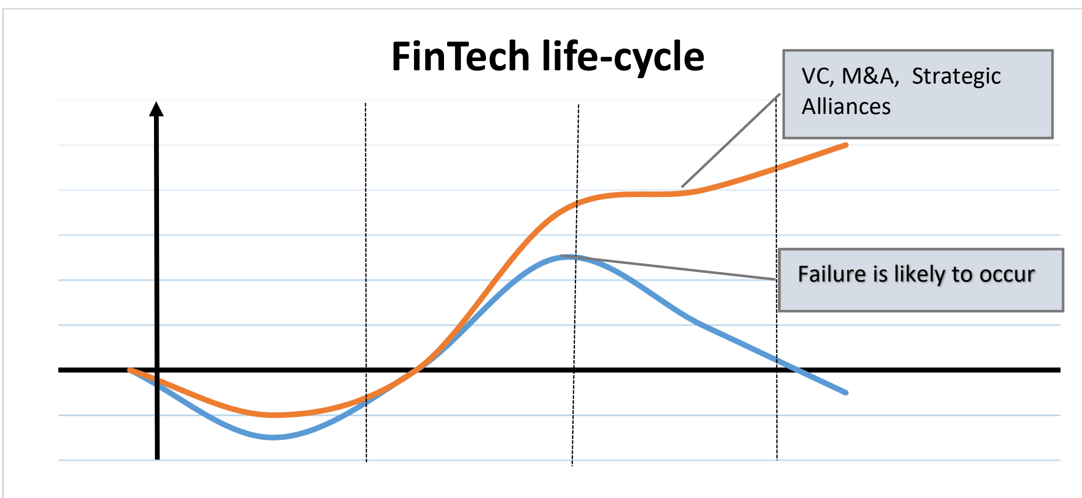

Figure 5. FinTech life cycle

Source: own processing by author

In America, more than 10% of companies fail each year, with more than 10,000 closing each week. However, if you look at it from a different perspective, at the same time the newly created enterprises in one year account for 11% of the total number of companies, which means that in total, the stock of companies is 1% higher in fact (Knott, 2004).

In general, it is estimated that start-ups or newly established companies here being the case of FinTech fail between 80% -90% and the average lifespan is five years. Three years after its establishment, only about 50% of them are still in operation, so most FinTech in life are relatively young. Therefore, we can say that the situation behind the figures is that many companies have disappeared but only a small part has succeeded.

If we are to group FinTech according to the financial services they offer, we can notice several major categories, namely: Digital Lending, Equity financing or crowdfunding, Personal Finance, Digital Payments, Digital Wallets or Digital Custody, Welthtech, Insurtech, Cryptoasset and Blockchain etc. Large FinTech companies have started offering payment services, reaching an impressive market share, for example in China, they process payments representing about 38% of the country's Gross Domestic Product (Crisanto, 2021). Their success and expansion has been felt especially in emerging and developing countries. In some cases, FinTech provide financial services by competing with traditional banks or other times there are partnerships with them and offering common platforms or infrastructure for the highest possible customer experience. The figure below shows the most well-known 5 FinTech globally and the fields in the financial industry they cover.

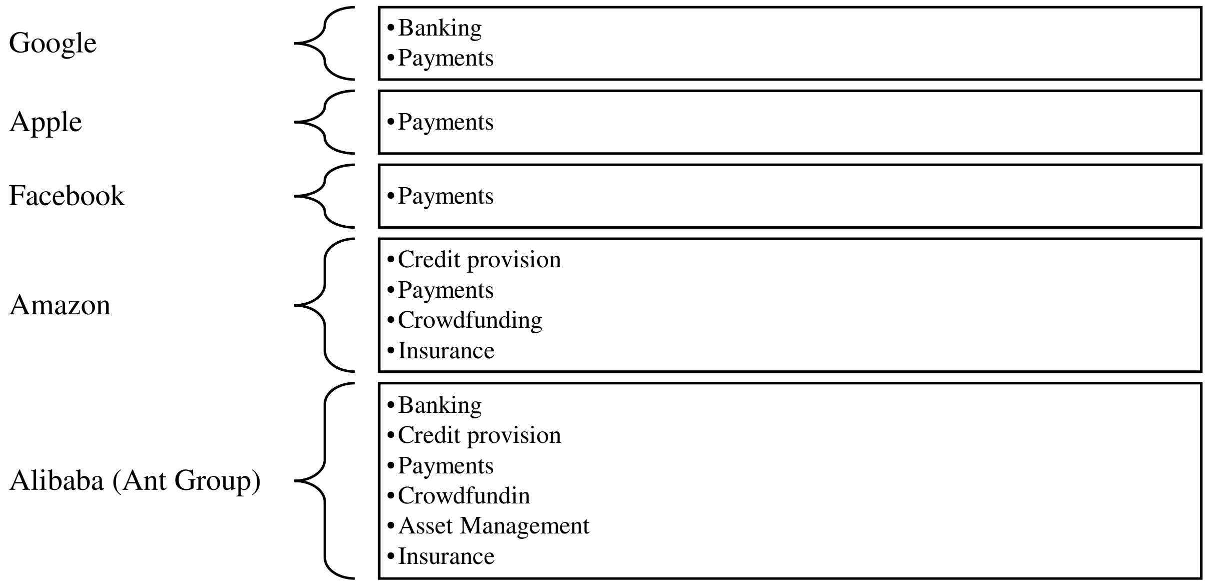

Figure 6. Types of financial services offered by major FinTech

Source: own processing after Crisanto (2021)

According to a Delloite research (2020) in the European Union it is estimated to be somewhere between 3,482 FinTech, most of them in the UK (44%), Germany (8%) and Spain (6%). FinTech that offer payment services as well as accounting and invoicing services represent the densest population among FinTech, those that offer Financial Advisory services are the companies with the longest life, on average being established in 2013. Instead, the main and with the most spectacular growth rate are the FinTech that offer services in the field of Cryptocurrencies or Distributed Ledger.

Romania is on bottom of list, the Global FinTech Index ranking in 2020, being on the 57th place globally. In the top 50 cities in Europe, Bucharest and Cluj are far from the hub cities of London, Berlin or Paris. In our country are identified approximately 40 FinTech reaching all the mentioned fields, most of them being found in Bucharest and Cluj but also Iasi or Oradea. Two of the FinTech operating in the field of Personal Finance, namely Think Out and FinboardX, address the financial management of business, helping to perform financial accounting analysis of income, expenses, assets and liabilities, cash flow management so as to support decisions strategic management for a long-term sustainable business.

Benefits of Fintech adoption

But what are the reasons that led to such a success of FinTech around the world and the degree of acceptance to be so high? Various studies are being undertaken in this regard in order to see what are the factors that contribute to the success of FinTech, how they can disrupt the financial industry and especially traditional banks but especially what are the disruptive factors that could lead to further failure.

A number of essential factors have been identified that make the success of FinTech indisputable, but our opinion is that the drivers that led to the current situation are actually three, namely the rapid pace of technology development, the adoption of technology in a very high pace and the traditionalism of the banks with the old infrastructure and the aging organizational culture. Reviewing the literature, Mirchandani in a study published recently in 2020, nominated 13 factors behind the fulminant success of the FinTech, summarized in the figure below.

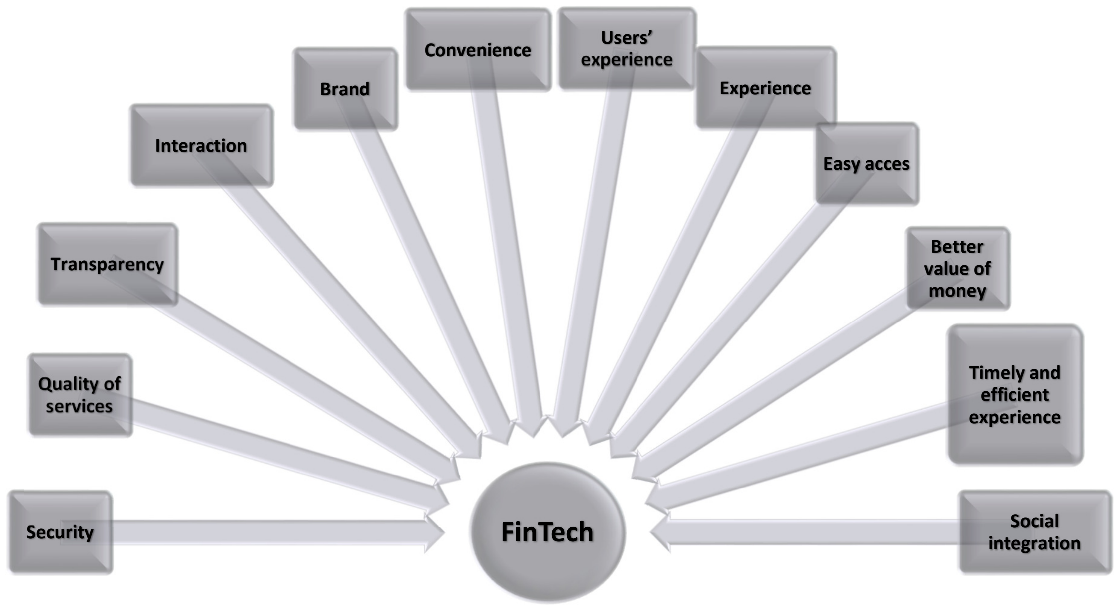

Figure 6. Reasons behind FinTech's success
Source: processed after Mirchandani (2020)

In our opinion, the adoption of FinTech on a large scale can only bring benefits, among the most important benefits we consider a list of few, namely:

- ✓ increasing the degree of financial intermediation, which means that the population that under normal conditions would not have access to financial services, services generally provided by financial institutions or more specifically traditional banks, could open accounts, make payments, place savings and even could access credits.
- ✓ as a consequence of the first benefit, transactions could be initiated that would not otherwise take place, financial resources that are not in the banking circuit will be set in motion, it would stimulate various commercial, sale-purchase, consumption or investments, which would also create great added value and finally the impact will be felt in the economic growth of the states, especially of the developing ones, helping to raise the standard of living and fight poverty.
- ✓ another important benefit is the reduction of bureaucracy in the banking financial system, financial institutions being recognized as having rules and procedures sometimes difficult to understand for a large part of the population and even enterprises, especially newly established or micro-enterprises. In the same time, as a natural consequence, banks and other financial enterprises, part of the banking and financial ecosystem, tried and still try their best to become more slim and flexible, trying to keep up with these FinTech, thus imposing important restructurings in both customer service and customer experience but also related to internal organization and simplification of specific internal procedures. In this way, the benefits felt by consumers of financial services are easily translated into enrollment in the system, subsequent use of financial services, access to new and new products at a click away, thus increasing the customer experience.
- ✓ another benefit that is not to be neglected, can be felt by customers as the main gain of the expansion of Fintechs, is that of reducing costs with banking financial services, a benefit appreciated both by individual consumers and by companies. This benefit translates into lower costs with commissions on transfers made between payers and beneficiaries, in various currencies, exchange rates between different currencies, improved against the classic ones, low interest rates granted for loans mainly for consumer loans and at the same time higher returns for investments in deposits, government securities various investment funds, with investments in shares or bonds.

Conclusion

The paper analyses importance of the FinTech all around the world, the path of evolution from telegraph to mobile or Big Data. The European FinTech market is growing at an accelerated pace but the distribution across countries is uneven, with fragmentation somewhat hindering their global expansion. The use of FinTech technologies could help the emergence of a wider variety of financial products, provide access to low-cost financial services, provide access to faster and easier sources of financing to categories of users who would not otherwise have access, to ensure the increase of the degree of inclusion and financial penetration on a larger scale than at present.

At the same time, their accelerated development has led to the identification of emerging challenges and risks with regard to Anti Money Laundry (AML), cyber security, consumer protection and data privacy issues.

Today FinTech is a global phenomenon aimed to deliver innovations in the financial services industry. The power of FinTech is to disrupt the financial industry, especially through disintermediation in traditional organizations such as financial institutions and insurance companies through various business models.

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