

Twenty-three suggestions for the sustainable improvement of the Turkey FinTech ecosystem

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Introduction



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EY Turkey
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Lately, financial technologies have become one of the most popular topics in business. Despite its popularity, we still need to tell all stakeholders in economics that this concept does not only concern financial or technological institutions and that it's not all about the change in how financial services are provided. In this context, it comes into prominence how the different stakeholders in the ecosystem will behave regarding competition and collaboration.

Considering the fact that we're in a period when the FinTech has an impact on a very broad ecosystem and even economic policies directly, an idea came up to study the ecosystem aspect of the topic. As EY Turkey, we brought this idea into action in collaboration with FinTech Istanbul, which has a voice in the FinTech ecosystem.

In this study, it was aimed to investigate the current situation, to gather the views and the expectations of the stakeholders in the ecosystem, and to offer solutions for the topic regarding Turkey. For this purpose, meetings have been held with various stakeholders from the capital, demand, human resources and regulation aspects of the issue. The start-ups, watch data and EY FinTech Adoption Index study, which was carried out by EY in the global scale this year, were also used.

We believe that this report will create an opportunity for the various stakeholders to bring the solution offers in question into action and contribute into the complete comprehension of the FinTech issue. In this context, we hope this study is helpful to everyone who is interested.



Prof. Dr. Selim Yazıcı

FinTech İstanbul
Founding Partner

The rapid transformation in financial services has begun to reach a level that will affect everyone's lives. This transformation process, which began with globalization, has now become more prevalent with technological developments and an indispensable part of daily life with demographic changes. Financial services have become an essential element of human lives as economic theories develop. Nowadays, the number of people who are outside of the financial system is 80% in developing countries, whereas this ratio is 20% in developed countries. While this technological transformation facilitates the access to financial services, it also increases the variety and the quality of the products and services, and decreases their cost.

As a result of using technology to make financial services more efficient and innovative, it's possible to observe the emergence of new companies called FinTech, which are important economic actors. Even though innovative ideas sometimes transform the industry by reaching a level of devastation in financial services, this transformation will continue to be an essential part of our economic and social lives. Nowadays, it's possible to see in many countries that FinTechs are supported by both the private and public sectors, and there are special studies regarding FinTech within the public policies.

This study, which we carried out with EY as FinTech İstanbul, is a multidimensional, methodological study that is conducted with the participation of many stakeholders. The objective was to analyze the current situation of the FinTech ecosystem, which shows rapid improvement in Turkey, and to shed light on the strategies that should be created from now on. The outputs of this study may have an impact on the transformation and investment decisions of the private sector institutions. They may even be used as an input in the strategies that will be created in order to make Turkey a regional center of finance. Also, it will play an important role in attracting investors, and increasing the visibility and the recognition of Turkey's FinTech ecosystem.

I'd like to thank the FinTech İstanbul and EY teams for their meticulous hard work as well as all stakeholders who supported us, and spared time to share their views and knowledge with us while this report was being prepared.



Dr. Soner Cankö

BKM General Manager

The change in the field of financial technologies in the world accelerates every day. Turkey, on the other hand, has the ability and the potential to set an example for the world in this field. We create a unique environment for the FinTech sector since we are community that is open to change; we adopt new technologies rapidly and we have a strong banking infrastructure.

As the Interbank Card Center, we have been playing an important role in the financial transformation for many years now. In this context, we closely follow the FinTech ecosystem and we continue to meet the needs with our products that we provide for the market.

We see FinTech as an important opportunity to shape the future of the financial system due to its multidimensional contribution to the economy, the new products and services it offers, and the additional benefits it provides, such as increasing the financial access. We are working intensively to make sure that Turkey does not miss this opportunity. In this line, we support the growth of the creative ideas and initiatives in the field along with FinTech İstanbul, which was established to bring together the stakeholders for the healthy growth of the ecosystem. We try to meet the needs with our content and publications.

As the institution that brought FinTech into Turkey's agenda, we have initiated or carried out many activities since 2012. This study, which we carried out in collaboration with FinTech İstanbul and EY, is a result of our persistent and dedicated efforts. It was designed to analyze Turkey's current situation in the field of FinTech and to guide the actions to be taken in order to use its potential.

We would like to share with you that every player in the system has a big role to play in order to improve the FinTech ecosystem, and we believe that this report will shed light on these points and help the ecosystem improve with a collective consciousness.



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1

Executive summary

The businesses, the governments and the individuals of today need to respond to the transformations in the FinTech sector, which were even impossible to imagine a few years ago. Artificial intelligence (AI) and robotic automation are reshaping the workforce and working methodologies. Drones and driverless cars are changing the perspective toward the supply chain and logistics. The changing preferences and expectations have an impact on the consumption patterns and demand in everything from vehicles to real estate – especially for the Generation Y.

When we take a look at the root cause of this transformation tendency, we see three prominent powers: technology, globalization and demographic change. Even though these three important powers have been in our lives for many years, they are now evolving with successive waves and this evolution results in new trends.

- 1. Technology:** Even though the impact of IT on this transformation has only recently begun to be evaluated, technological developments have been turning business models upside down for centuries. For instance, the industrial revolution has abolished the unions and caused a change in the mass workforce. Nowadays, the different waves of the IT revolution (PC, online, mobile and social) has democratized data, strengthened the customers and created new industries. The following waves – internet of things (IoT), virtual reality (VR), AI and robotics – promise an even faster transformation in the future.
- 2. Globalization:** Just like technology, globalization also has been turning the status quo upside down for centuries and it goes as back as the 15th century – the beginning of the age of discoveries and colonization. Thanks to the freedom of trade and the growth in the developing markets, globalization has accelerated in the last few years. These trends overturn the current business models by creating new competitors, rearranging the supply chain and dropping the prices down. The following waves – the growth of Africa and a multi-polar world – will increase this complexity and require flexible business models in order to respond to the global changes.
- 3. Demographic change:** Demographic features have sealed the fate of the humankind throughout history. In the upcoming years, it's expected that Africa and India will become the center of economic growth because of high birth rate. It's also expected that the aging population will transform everything, from health to agriculture. The workforce that consists of the Generation Y will reshape the business world. Even though urbanization will force the cities to grow sustainably, it will also increase their political influence. The increasing migration will have a deep impact on the workforce and economic development. All these demographic changes will require new strategies and business models.

The continuing evolution of these primary powers and their interaction will cause game-changing megatrends.

The responses to the powers that will turn the current way of carrying out business upside down are important for the companies in three aspects: change affects everyone, the general tendency is underrating the pace of change, and a good strategy is not enough anymore and the companies should transform themselves.

The pace of the transformation increases every day and affects a larger variety of sectors. The next wave of the digital innovation – by using AI, robotics and VR – will transform the activities that have been considered safe for a very long time. As a matter of fact, these developments began to turn the sectors, such as law and professional services, upside down in a way that was unimaginable a few years ago.

On the other hand, transformation does not only emerge from Silicon Valley anymore. The innovations coming out of developing markets can also turn the current business manners upside down. Sometimes organizations cannot avoid turning upside down not only when they do the wrong thing, but for the thing they consider to be right. Therefore, the list of the companies that succumbed to transformation includes the companies that have dominated their field for decades. Organizations are generally structured to focus on meeting the needs of the existing establishing elements and to become successful in major business fields. These institutions encourage well-known traditional methods that have worked fine until now. As a result, this situation causes companies to hold on to the traditional methods, overlook the transformation opportunities that fail to satisfy their needs in the short-term, and therefore fall behind.

When the interaction between technology, globalization and demographic change is analyzed, eight global megatrends that shape the future arise:

- ▶ **The sectors have been redefined** – is it possible to exist in every sector anymore?
- ▶ **The future of mind** – what kind of intelligence do we need for an intelligent future?
- ▶ **The future of business** – when machines become the workers, what will humans do?
- ▶ **Behavioral revolution** – how will individual behavior affect our common future?
- ▶ **Strengthened customer** – how do we turn the consumers into stakeholders?
- ▶ **Urban world** – can the cities be built with a long-term perspective in a world that changes so quickly?
- ▶ **Redesigned health** – is digital the best cure for the increasing health needs?
- ▶ **Planet full of resources** – can innovation enrich the resources of our planet instead of causing scarcity?

This changing world, game-changing new initiatives and developing technologies created the FinTech sector within the financial services industry. This brought up another important question that needs to be answered: **Are the FinTechs, which will probably turn the financial services industry upside down, a threat to the industry or an opportunity?**

In order to answer this question, we conducted a study that includes all of the stakeholders of the industry. It was carried out with FinTech Istanbul, one of the biggest supporters of the FinTech ecosystem in Turkey. As part of our methodology, we collected data through face-to-face meetings and surveys from Turkey's prominent FinTech initiatives, regulators, investors and senior-level executives that represent the banks. In these meetings, we addressed the fields of demand, regulation, capital and human resources; trying to reveal the future of the FinTech industry in Turkey.

In the field of **demand**, we tried to reveal how the demand will change in the future and affect the current financial services industry by evaluating the need of the consumers, institutions and traditional financial services firms for the services that are provided and could be provided by FinTechs.

In the field of **regulation**, we analyzed the topics of moving the sector forward, expanding the population included in the financial system, and increasing the competition by asking for the opinions of The Central Bank of the Republic of Turkey and Banking Regulation and Supervision Agency (BDDK). We discussed how the regulation in Turkey is established and how it can be expected to change in future by meeting with other stakeholders regarding regulation.

In the field of **capital**, we tried to understand how the financiers including the banks, as well as private equity funds and angel investors approach the FinTech industry, why they do not focus on this industry enough, and why they act with caution regarding investments even though this trend increases every year.

While approaching the issue of **human resources**, which is the building block of the FinTech industry, we addressed the current talent pool and the future expectations regarding this issue. We especially discussed how the appropriate human resources could be educated to serve the FinTech industry and how we can attract the qualified resources in the financial services industry toward the FinTech industry.

The other goals of the study are to define the FinTech ecosystem in Turkey, to understand how the players in the ecosystem view the industry, to compare it with other FinTech ecosystems in the world and to offer suggestions to help the sector grow. In order to do so, we aimed to ask questions to understand the sector better, to acquire better answers and to reveal the requirements to access the FinTech industry.

2

General overview

2.1. The FinTech ecosystem in Turkey

Even though many people think about financial technologies when they think about FinTech, there's actually more to this word. The word FinTech describes the companies which bring together the innovative business model and the technology that will help the financial services industry become more accessible and simple as well as revolutionizing it. This approach by the FinTech companies attracts the attention of the people who wish to make appealing offers to their clients, creating a serious area for investment.

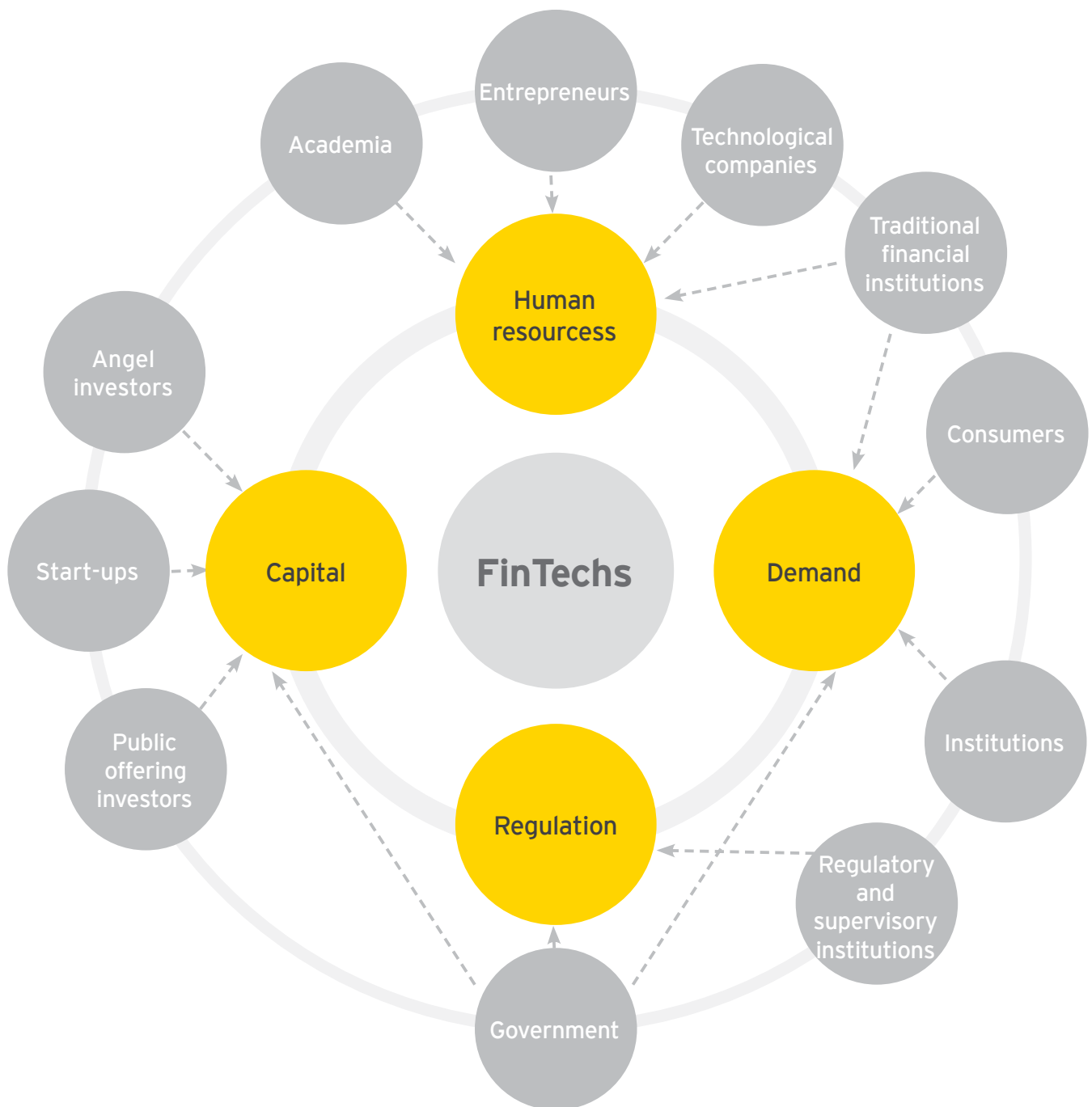


Figure 1: Four main topics of the FinTech ecosystem and their relevant stakeholders

It is possible to express the FinTech ecosystem under four main topics and their relevant stakeholders. The relationship between the stakeholders and topics are explained on the graph below.

Table 1: Four main topics of the FinTech ecosystem and the factors that have an impact

In order to evaluate the situation of the FinTech ecosystem, each topic has been evaluated in light of certain factors. They are summarized on the table below.

| Topic | Factor | Details |
|--|---|--|
|  Demand | Market structure in the country | The structure of the current financial services sector and the place of FinTechs |
| | Competition | The competitive environment within the FinTech industry, as well as between the FinTech industry and other financial institutions |
| | Consumer behavior | The consumers' approach to the FinTech industry |
| | Customer experience | Advantages of FinTechs regarding customer experience |
| | Opportunities and threats | Opportunities and threats that FinTechs face in their fields of operation |
| | New markets | New markets that might emerge in the financial services sector |
|  Regulation | Trust and security | The public trust in the services provided by the FinTechs in terms of data security and finance |
| | New regulations | Designing and implementing new regulations that will organize the financial markets, and have an impact on the FinTechs |
| | Operation permit | Operation permit especially in the fields of payment and e-currency |
| | Limitations and obstacles | Limitations and obstacles faced by FinTechs when providing certain services |
|  Capital | Public funds and government aids | Public-sourced aids and incentives that are or could be provided for FinTechs |
| | Banks | The investments and financial support in FinTechs by banks |
| | Investors | The factors that have an impact on the angel investors, VCs and public offering investors who invest in FinTechs |
| | Business model | New and creative business models brought by FinTechs in order to collect new investment |
|  Human resources | Quality, quantity and costs | The quality and quantity of the human resources in the current market, and the costs of hiring or training new human resources |
| | The role of the financial institutions | The role of the financial services institutions in training human resources |
| | The role of the universities | The ability of universities and other educational institutions in training the human resources that can work in the FinTech sector |
| | Entrepreneurship within the company | The approach of the institutions toward the entrepreneurial ideas under their roof |

2.2. The FinTech industry in Turkey and the world

Even though the FinTech industry has been growing in terms of investments, workforce and the number of companies, it has not completely matured yet. During this developing process, FinTech companies began to get involved with the traditional financial services sector, and reached a certain level of market share with their products and services. In addition, the FinTechs began to receive important investments from VCs and institutional investors; resulting in the risk of a change in the world that the banks, insurance firms and asset management companies are used to.

Since entering the financial services sector is difficult (entrance barriers), banks and insurance firms maintained their market share for many years and used it to their advantage. Primary reasons for that are the complexity of the regulatory environments, high capital efficiency ratios, lack of popular practices to replace certain services, and the trust of the governments and the consumers in branded financial institutions. This protective field was reinforced to a certain level with the inertia of the customers and the inconvenience of opening a new account.

On the other hand, all of these protective shields now began to disappear for banks and other traditional financial institutions. The rule makers began to actively work with the new players entering the market in order to provide the consumers with more options especially in the post-crisis environment where the reputation of the banks was damaged. A part of the new FinTech services offer better, deeper and more unique financial products than the traditional ones and provide a more intuitive experience for the users. Thanks to many FinTech products, opening a new account can be completed within a few minutes.

Lastly, the customers of the traditional banks and insurance firms realized that they can get a hold of the services that they need online, just like traditional retail customers embraced the online channels 10 to 15 years ago.

After FinTechs emerged, the banks and other companies that provide financial services nervously observed their important innovations in the market. Later, the ones that noticed this trend of change began to show interest in FinTechs through partnerships, incubator programs and direct acquisitions. They tried to satisfy their curiosity by asking questions such as "How many consumers use FinTech products?," "What is the profile of the user base?" and "What are the reasons behind using FinTech?."

According to the **EY FinTech Adoption Index 2017**, which was carried out by EY in 20 different countries with 22.000 users of financial services in order to answer such questions. Thirty-three percent of the digitally active consumers stated that they used at least two FinTech products in the last six months. Considering that this ratio is much higher the one in the study that was carried out in 2015 in six countries, which was 16%, it's understood better that the FinTechs are on the rise.

Taking into account these studies that were carried out between the years 2015 and 2017, it's observed that the FinTech services regarding insurance (insurtech) increased in popularity and got the second place; however, the services based on money transfer and payment are still in the leading position.











| 2015 | | | | | 2017 | | | | |
|------|---|-----------------------------|-----|--|------|---|-----------------------------|-----|--|
| 1 |  | Money transfer and payments | 18% | | 1 |  | Money transfer and payments | 50% | |
| 2 |  | Saving and investments | 17% | | 2 |  | Insurance | 24% | |
| 3 |  | Financial planning | 8% | | 3 |  | Saving and investments | 20% | |
| 4 |  | Insurance | 8% | | 4 |  | Financial planning | 10% | |
| 5 |  | Loans | 6% | | 5 |  | Loans | 10% | |

Figure 2: Comparing the FinTech categories according to their adoption percentages in 2015 and 2017

According to the same analysis, it was observed that the participants in the age group of 25 to 34 years were in the leading position with a FinTech Adoption Index of 48% and that this ratio decreased as the age of the participants increased.

Thanks to the technological developments, we are able to list the service trends in the table below, when we elaborate on the services which are currently being provided in the world or will be provided in the future and become more prevalent.



| | Deposit and loans | Investment | Insurance | Payment | Corporate |
|---------------------------------------|--|---|--|--|--|
| Wave 1: Current innovations |  Peer to Peer Lending  Crowd funding  Money management tools |  Integrated investments  Visualization tools |  Socials Security  Wearable devices |  Integrated payments  Contactless payment |  Cybersecurity  Big Data analytics  Adoption watch |
| Wave 2: Future innovations |  Open Data  Identity Management  Financial inclusion |  Robot or smart suggestions |  IoT  Autonomous cars |  P2P or offshore payments  New payment networks |  Blockchain or Bitcoin  Intelligent contracts |

Figure 3: Technological service trends in two waves

Since the FinTech companies make life easier for the customers with the high-tech innovative approaches, it's clear that the traditional financial service providers need to take the necessary steps to provide services with the same level and efficiency for their customers.

According to the **Banking Relevance Index** study, which was also carried out by EY in 2016 by meeting with over 55,000 consumers from 32 countries including Turkey, some banks are having difficulties keeping up with the changes and are falling behind their competitors. The factors that cause the decrease in the level of interest according to the study are given below:

- ▶ Rapidly changing customer preferences and expectations
- ▶ The rise of the easy-to-use FinTech products and the alternatives to traditional banking
- ▶ The difficulties that banks are facing in satisfying the customer demand for digital services, easily accessible information and customized products
- ▶ Scandals that make people lose confidence in banks

Whereas the global average in the Banking Relevance Index is 75.1%; Turkey scored 75.6%, which is very close to the global average. This shows that the banks are holding their ground in the financial services market. However, a risk of decrease in this ratio may arise because of to the increase and the expansion of the products and services provided by the FinTech companies.

In the financial services sector, which was changed by FinTech companies especially with innovation and technology, banks and other financial institutions must identify the customers who have the highest risk of losing in this new competitive environment, and develop new products and services to protect them.

The biggest change that had an impact on the FinTech sector in Turkey was caused by the Payment and Security Agreement Systems, Payment Services and Electronic Currency Institutions Law numbered 6494. According to this law, the institutions that provide the services included in the law should obtain a permit for their operations. This permit helped the FinTech institutions that provide these services become recognized in legal and regulatory aspects.

3

Method

3.1. Working method

As opposed to other studies, the purpose of this study is not to evaluate the importance of the FinTech companies for the country and the sector, which is now an undeniable fact. It is to reveal what should be done in order to move this sector forward according to the meetings with the stakeholders. In other words, this report accepts the reality and the potential of Fintech and aims to plan the steps to be taken for the industry from now on.

In order to understand the FinTech sector in Turkey better, the framework of the aforementioned FinTech ecosystem was created and the stakeholders were divided into four groups.

- ▶ **FinTech companies:** National or international FinTech companies that operate in Turkey
- ▶ **Regulators:** Public institutions that create the laws and the regulations in the financial services industry and audit them
- ▶ **Banks:** The Banks and Interbank Card Center (Bankalararası Kart Merkezi A.Ş. (BKM)) (- that operate in Turkey, and have an important role in the payment services industry)
- ▶ **Investors:** The angel investors investing in the FinTech sector and the venture capitalists

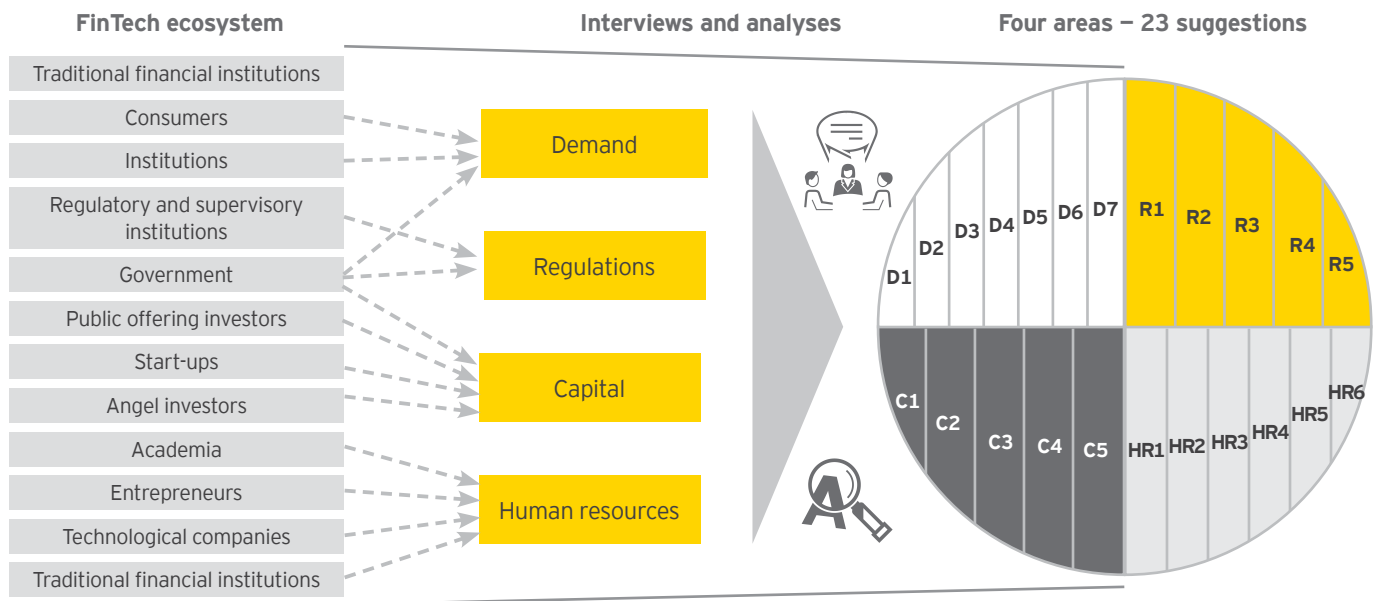


Figure 4: Working method

Within the scope of the study, as a result of the focus group meetings and based on the data of Startups Watch, which is a start-up that monitors the situation of the sector in Turkey, 18 stakeholders in total (eight FinTech, three regulators, four banks and three investors) were identified. Face-to-face meetings were held with these stakeholders with a questionnaire or these questionnaires were sent to them to collect the data. The data was collected in a period of four months between February to June 2017.

When the areas of impact and the stakeholders were matched, the following distribution was revealed:

- ▶ **Demand** – the demands of the end users, institutions and other financial sector players
- ▶ **Regulations** – laws, taxes, public policies that will ensure the improvement of the sector
- ▶ **Capital** – current financial resources for the newly-founded or growing companies
- ▶ **Human resources** – the presence of the entrepreneurial resources or resources with technical know-how and experience in the financial services sector

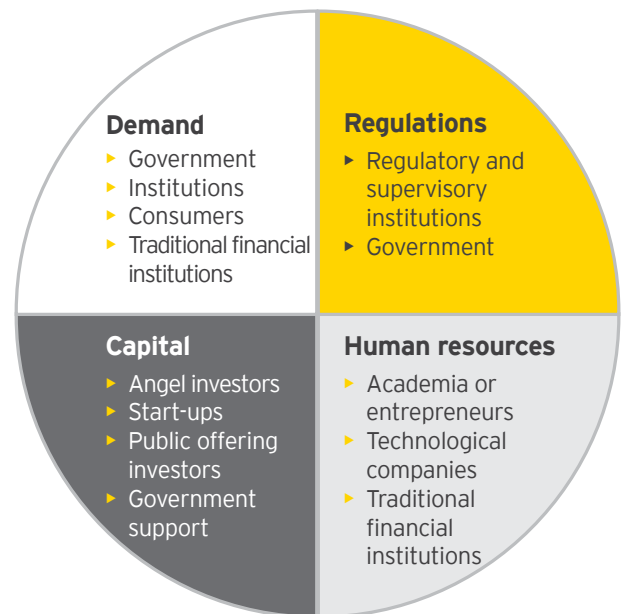


Figure 5: Areas of impact and stakeholders

The focus of the study is to identify how the financial services sector will be affected in the future by the improvement of the FinTech companies. The study aims to do this by revealing the current situation, the difficulties and the opportunities of the Turkish FinTech ecosystem, as well as providing clarity on what could be done for the banks, FinTech companies or the industry in general. The output of this study could also be considered to be used as input for developing a national FinTech strategy regarding the regulatory and supervisory institutions of the state.

4

Views and opinions

4.1. Demand

Country's market structure

The country's market structure is one of the first issues to be addressed in the area of demand. The stakeholders shared directive opinions on this factor, which has an impact on the demand in FinTechs, their business models and their investment opportunities.

During the meetings, one of the issues that have been expressed in the same way by different stakeholders was that the market in Turkey is open to innovations and able to adapt quickly. It's been stated that the most important factors that increased the demand were the customers' interest in new technologies and the tendency to use credit cards instead of cash. The FinTechs can offer solutions to companies in order to overcome the economic difficulties that can't be handled by the current financial system. Especially in this environment where it's difficult to access cash and the number of drawn checks is increasing, FinTechs play an important role in facilitating the money transfer within formal economy.

In Turkey, start-up companies are first noticed, then rejected, then extremely despised, and later accepted and admired. The FinTech companies are now going through the same process and especially the FinTech executives believe that in the future, the contribution that is made by these companies into the financial sector will be recognized and rewarded.

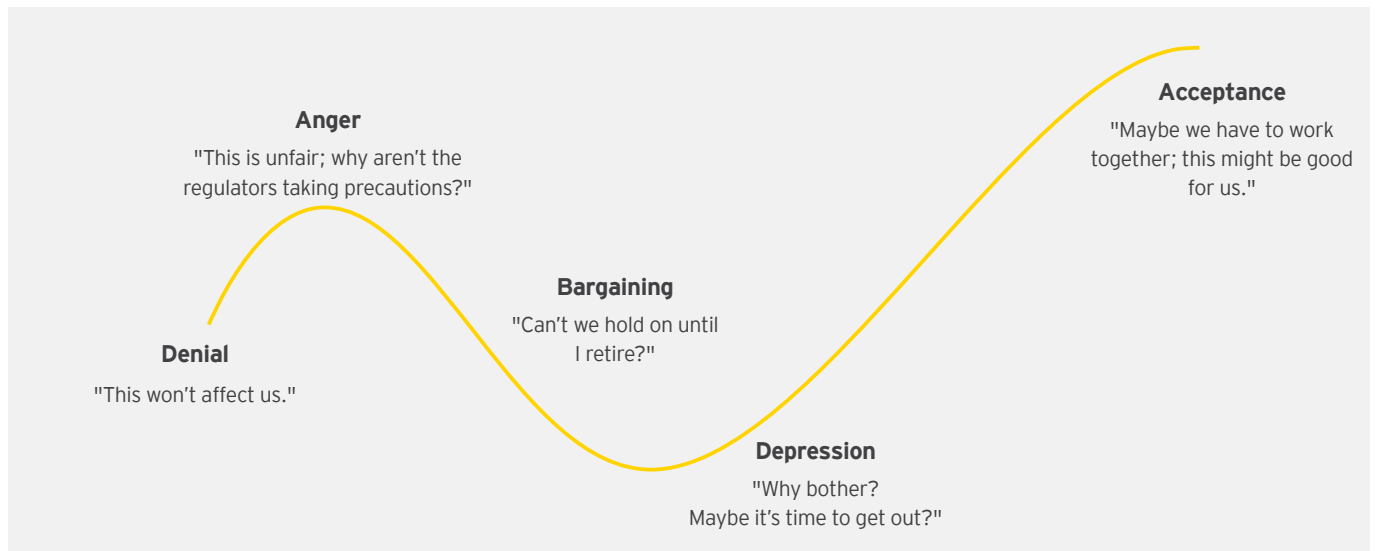


Figure 6 : The FinTech cycle of fate in banking

Similarly, in his 2016 paper, J.P. Nichols stated that the banks are going through the five stages of grief against the FinTechs. This process started with the banks denying the existence of the FinTechs and their contributions in to the society. The banks were later overcome by anger and they tried to take more aggressive precautions. Then, during the bargaining stage, they tried to dodge the problem with temporary solutions. During the depression stage, the banks started to believe that the sector is not profitable anymore and there's no point in dealing with it. And lastly, they accepted the situation and set off on partnerships that were not evitable anymore, which would be beneficial both for them and for the sector. (Nichols, 2016).

Coopetition

One of the factors that separate Turkey from other countries regarding competition in the financial services industry is that Turkish banking industry stayed very strong after the 2001 crisis. Turkish banks are the most integral part of the financial services industry due to their active size, technological abilities and product diversity.

When the views of the banks regarding the FinTechs are taken into account, different perspectives arise. While some banks consider FinTechs as business partners that support the digitalization process, others see them as adventurous players who carry out activities that might harm the trust in the financial services industry.

FinTechs especially achieve success when they focus on the markets and services that are out of the reach of the banks, and provide added value for the market. An example could be that banks could not achieve their goals in the prepaid debit card projects for many years, whereas the FinTechs both became successful themselves and helped the banks become successful with business models that focus on prepaid debit cards.

Given the fact that a significant part of the population is outside of the banking industry and that the citizens need easily accessible financial tools and solutions, the services provided by FinTechs that facilitate our lives become even more important. It's expected that when the FinTechs include the population, which does not have an access to banking, in the financial sector with the products that they have developed or will develop, this will create satisfactory financial policies in Turkey. Just like it has in other countries, regarding the market and formal economy.

Another issue that separates the FinTechs from other players in the financial services industry is that they can quickly adapt to the changes in the sector with their agility. This agility also gives the FinTechs the opportunity to rapidly form partnerships with other companies. Thus, different FinTech companies can merge or they can support the banks with innovative technological solutions, which helps the financial services sector grow and increases the participation into the financial system. Thanks to these partnerships, more extensive services which completely satisfy the needs of the customers can be provided. When banks participate in this dynamic partnership, this will benefit both the FinTechs and the banks.

On the other hand, one of the issues that were emphasized by the stakeholders was that the FinTechs compete with banks rather than competing with each other. However, one of the prominent opinions was that the most intensive competition among the FinTechs occurs in the area of virtual point of sale (POS).

Consumer behavior

The consumer habits are changing in the field of payment, which is the area that the FinTech companies operate most actively in.

In addition to the fact that the access to cash is not always easy, the consumers became more inclined to use electronic payment methods with the vision of cashless society. During the meetings, it has been emphasized that the most important factor that has an impact on the loyalty in a payment method was campaigns, whereas the customer experience came second. Even though the banks are one step ahead with their financial strength regarding the ability to organize campaigns, it's expected that the FinTechs will be able to compete with the banks with the advantage of their innovations in customer experience.

In areas other than payment methods, Turkish customers can adapt quickly to the technological and innovative solutions. When these two factors, which comprise the playing field of the FinTechs, come together with reliability; they create a great advantage for the FinTechs in Turkey.

Customer experience

The FinTechs can provide extensive technological solutions for the consumers and SMEs that the banks cannot. For instance, FinTechs can provide services for the market with integrated solutions such as the payment infrastructure of a retail or service company, analytical services, and accounting system. When the services that are provided directly to the consumers are taken into consideration; FinTechs come to the forefront in areas where the solution is integrated with the services such as Uber, BiTaksi and AirBnB.

It's obvious that almost all of the FinTech products that are successful and make an impact on the customers create a difference in customer experience. It's believed that the FinTechs will grow even faster with the introduction of technological developments and wearable technologies.

Opportunities and threats

Regarding the FinTech players, electronic currencies such as Bitcoin and the Blockchain technology are considered both opportunities and threats. Similarly, this also goes for the FinTechs as well as the rest of the financial services industry.

The companies that use the Blockchain technology effectively will come to the forefront regarding security and efficiency. These companies will be able to work with the banks and help them take advantage of blockchain.

Another element that may be considered as a threat to the FinTechs is that they have hard time seeing the big picture and compete with each other, therefore preventing the market from growing. One of the opinions that came out of the meetings was that FinTechs should focus on growing the financial services market instead of competing with banks or each other.

The first thing that comes to mind regarding threats is that foreign players began to come to Turkey and take part in the financial services market. Even though this threat is somewhat unsettling for the Turkish FinTech companies, the strictness of the regulations in Turkey create a serious entrance barrier. For instance, the large and popular companies in the world lately had to stop their services in Turkey because of adaptation problems.

New markets

For the FinTechs that reach a certain trade volume in Turkey, new markets arise especially in the geographically close countries (Middle East, Balkans, and Central Asia). Also, some Turkish FinTech companies draw the attention with their success in emerging markets such as India.

There are opportunities ahead of the FinTechs in product diversity in addition to the geographical diversity. These opportunities include Blockchain, insurtech, roboadvisory and personal health management. Depending on the regulations that will be developed and changed later, credit scoring and peer-to-peer lending come to the forefront with the examples abroad.

When we take a look at the FinTech Adoption Index 2017 results, it's expected that they greatest percentage increase will occur in the loan tools but the growth in the areas of money transfer and payment will continue.

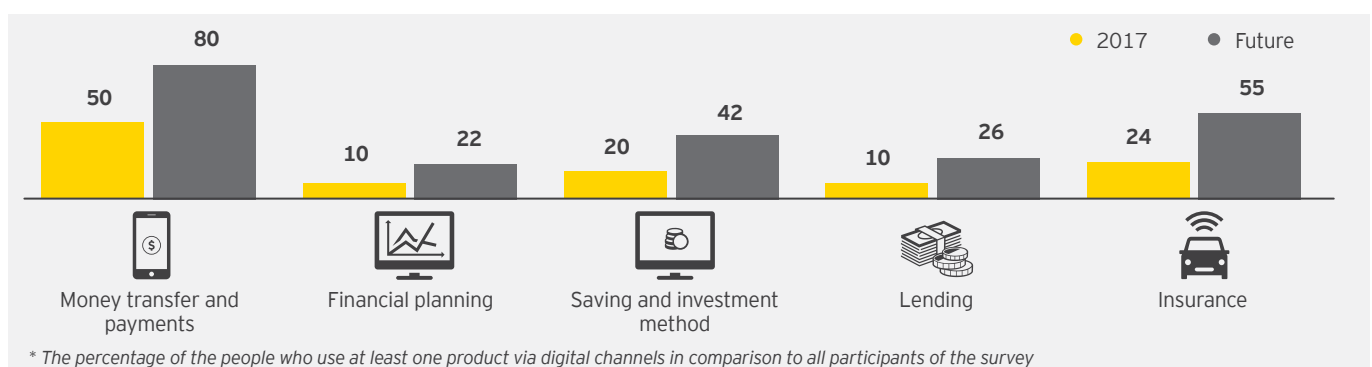


Figure 7: Comparing the current and predicted FinTech use per FinTech category

4.2. Regulation

Trust and safety

Regarding FinTechs, trust can be obtained through two aspects: financial trust and safety of information. It's a common view of all stakeholders that the FinTechs need to be reliable for the banks, corporations and consumers in order to be successful. The customers who use the FinTech services primarily want to be assured that the FinTech companies, which they work with as partners or give their money to, are financially reliable. They believe that they would be more comfortable using FinTech services this way. On the other hand, they also want their personal data which is recorded by the FinTech companies to be safe. Both these issues – financial trust and safety of information – are being regulated by the law numbered 6493 and its sub-clauses for payment services, e-currency services, and system administration in Turkey. However, this seems as the weakpoint of the FinTechs when compared with banks.

According to the views of the FinTech companies, damaging the trust is one of the most alarming issues. One of the greatest threats to such companies is the damage of trust caused by new players who enter the FinTech ecosystem. The restrictions brought by the regulations in this area are considered positive especially by the FinTech companies that have their permit to operate.

New regulations

Payment and e-currency institutions, system administration institutions, regulators and the rest of the sector are still trying to adapt to the changes and regulations that arose from the law numbered 6493. As this process goes on, Europe continues with the preparations for the Payment Systems Directive 2 (PSD2).

While PSD2 changes the rules of the market by introducing many innovations regarding the rules to be obeyed by the payment services, it also increases the impact of regulation by including many different types of services. In addition, companies that transfer money to Europe now have additional obligations with the activation of PSD2.

In addition to PSD2, peer-to-peer (P2P) lending is seen as one of the expected regulations in the future, which is not possible in Turkey due to the current regulations.

The view of the stakeholders in the FinTech market regarding this type of regulations that will follow is that the opinions of the players in the market on these regulations should also be considered.

The transition to open banking with PSD2 will especially provide the FinTechs with many opportunities in the field of payment services. The FinTechs which can claim the right position in the market will be able to manage the accounts of their customers in all banks through a certain area. Therefore, all payment services of the customers will be provided by the FinTechs whereas the banks will have to focus on their main field of activity.

Licensing system

Currently, there aren't any regulations for the FinTechs and their operations in Turkey. However, the law numbered 6493 requires the payment and e-currency institutions, and system administration companies to obtain a permit for operation. This requirement also makes it obligatory to comply with certain financial, procedural and technological criteria.

Whereas these requirements and regulations are supported by all stakeholders in the sector, especially the banks who believe that the FinTechs should be regulated more strictly, on the same level with the banks.

Restrictions and obstacles

Even though the changes that arose with the law numbered 6493 increased the trust in the industry, they also created an obstacle for the relatively small institutions that want to provide payment and e-currency services. These obstacles are expected to increase over time considering PSD2. The view of the stakeholders is that it's critical for the size and the reliability of the sector that these barriers are set to the right level.

While it's commented that the law numbered 6493 and its sub-clauses have benefited the sector, the stakeholders emphasized that the laws should continue without slowing down. On the other hand, the alarming view is that the size and the reliability of the sector will be negatively impacted by the sharp precautions. One such example is the deactivation of the internet shopping feature for all credit cards unless it's not approved by the card holder.

4.3. Capital

Government aids, perspective and public funds

The area where the FinTechs, which are mostly new initiatives, need the biggest support is capital. In the FinTech world, the Scientific and Technological Research Council of Turkey (known as Türkiye Bilimsel ve Teknolojik Araştırma Kurumu (TÜBİTAK) in Turkish) and EU funds come to the forefront as public aids. However, the FinTechs usually act timidly in these issues and rather turn to angel investors, venture capitalists and bank stimuli. At this point, the FinTech executives stated that there are points that need to be cleared up regarding the government stimuli on FinTechs, and that the financing methods should be simplified.

Investors

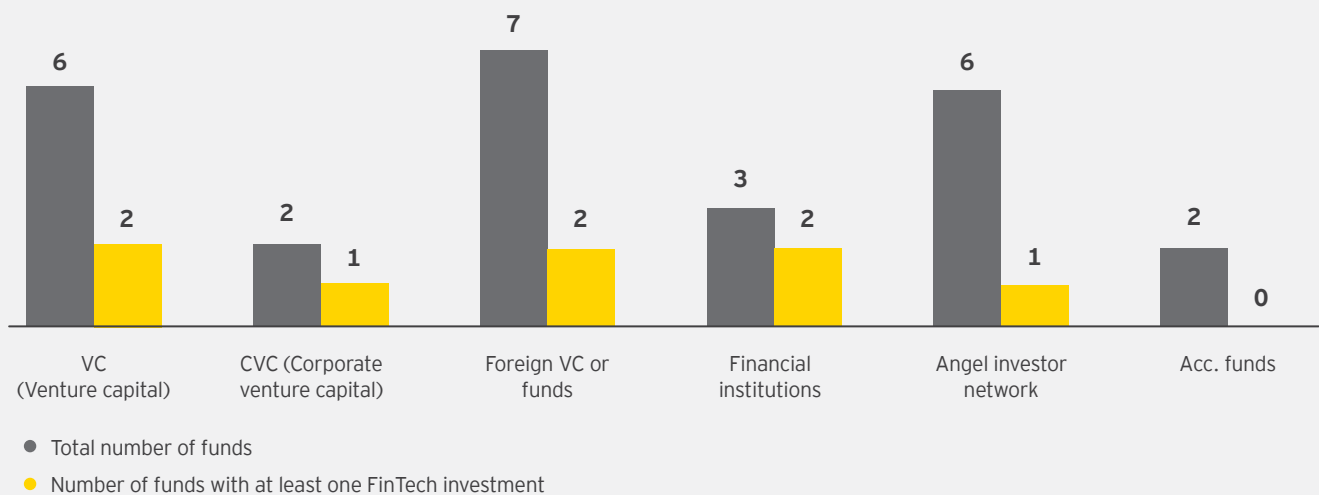
The fact that there are Turkey-based FinTech companies established with Turkish capital but have received investment from abroad at least once, shows that foreign investors are also interested in this rapidly developing sector in Turkey. The FinTech executives state that these companies which receive

these types of investments rapidly resort to institutionalization. Instead of solely remaining as initiatives, they transition into being financial sector players, which are more grounded but still maintain their innovation and enthusiasm.

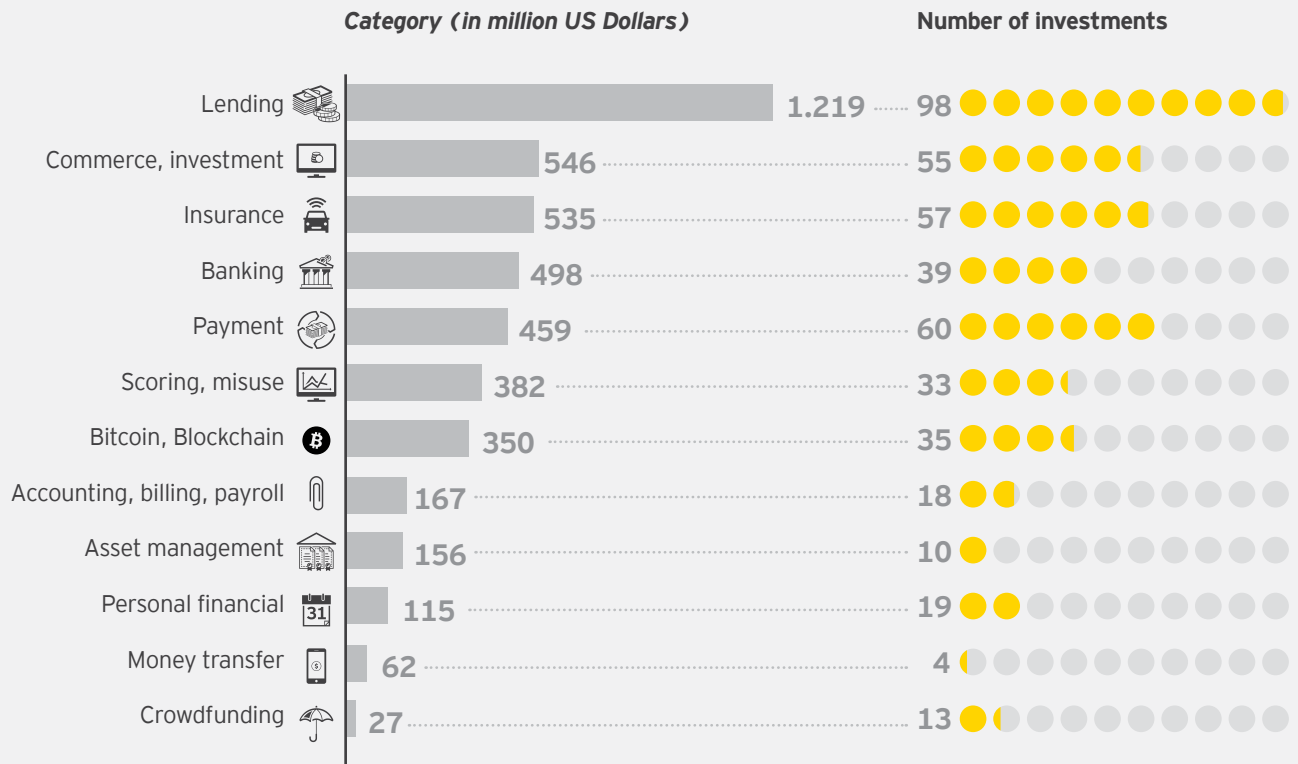
It's emphasized that the elements which makes it harder for FinTechs to receive investments are the lack of sufficient data on the sector and the cautious behavior of the foreign investors regarding the conjuncture Turkey is in. Investing in the FinTech industry will become much more appealing, especially once the data on the sector are gathered independently and transparently, and presented to the investors who are interested in the sector.

The scarcity of investors was also one of the issues that were emphasized by the stakeholders regarding capital. It's pointed out that the investors act more precautious because they don't fully believe in the FinTech industry yet and the banks are dominant in the sector.

The number of FinTech investors in Turkey (startups.watch, 2017)



Total FinTech investments of angel investors and VC funds (16 December-17 May)



In Turkey

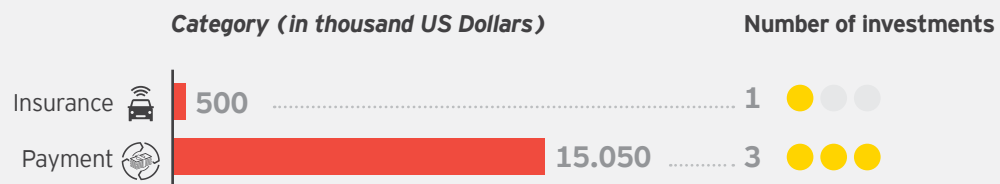


Figure 8: Total FinTech investments of the angel investors and VCs (December 16-May 17)

Banks

While some of the banks, which hold the money that will be transferred to the FinTechs, lean toward investing in FinTechs, others are abstaining and preferring to continue as business partners. This creates the opportunity for coopetition. In both cases, the support of the banks is critical for the FinTechs. However, the banks that believe they can do with their own teams what the FinTechs are doing may harm this coopetition. While the banks provide the capital that the FinTechs need, the FinTechs can support the banks with innovative ideas and methods opening new markets, and providing new opportunities for them.

Business model

The biggest catalyst for the FinTechs to receive investment is primarily having a good business model, and then having a qualified team in the company and the product being compatible with the market. The FinTechs which can combine these components with a rapid growth do not have any problems receiving investments.

The FinTech companies, which have to operate in a much more regulated sector than any other initiative, have a greater need for capital. The FinTechs are forced to find investors especially by the operational costs caused by the regulations. At this point, the need for the right business model comes to the forefront, and it's important to create the revenue streams and come up with a business case for these costs.

4.4. Human resources

Quality, quantity and cost

Since it's a newly emerging sector and most of the companies in the sector are still at the initiative level, it's seen as an important difficulty for the FinTech companies to find qualified human resources. It's especially a common view that the human resources in the sector do not satisfy the needs and therefore some projects are carried out in order to attract a workforce from sectors outside of banking as well. Additionally, the banks may be one step ahead of the FinTechs with the career and salary opportunities that they provide. The search for human resources mostly focuses on universities, foreign countries or other FinTech companies. Most FinTechs carry on without transferring workforce from banks. FinTechs have human resources problems in the fields of sales, marketing and product development rather than technologies.

The role of the financial institutions

When we address the need of human resources from the perspective of the banks, the most important issue is losing their expert human resources in the financial sector to the FinTechs, which they have spent a long time training. Therefore, there's another field of coopetition between the banks and the FinTechs regarding training qualified human resources in the financial services sector.

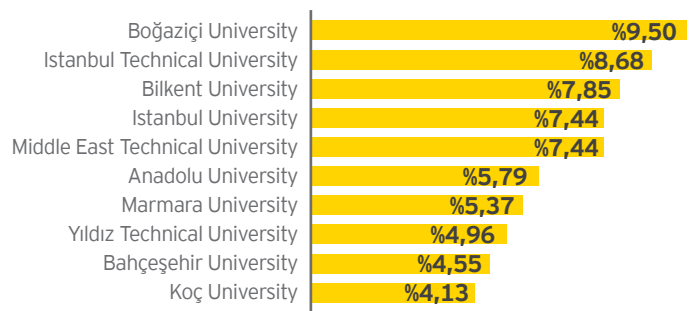
Most of the ideas for initiatives regarding FinTech come from bank employees. Even though the banks in Turkey make time for the creative ideas of their employees as much as possible, the employees with the entrepreneurial spirit can take a step into the FinTech world by founding their own companies after gaining experience in the bank for a while, and noticing the drawbacks and the gaps in the provided services.

The role of the universities

It's a common view of the FinTech executives that the universities still cannot provide the sufficient human resources for FinTechs. It's believed that the universities should invest in this area since this is the only way that professionals with degrees will be included in the sector in addition to the self-educated ones. At this point, it's predicted that it will play a critical role in the improvement of sectors, such as FinTech, if the universities guide the students toward entrepreneurship rather than the corporate life.

Even though the techno cities of the universities are an opportunity to attract young talents, it's stated that the location factor is important here. Since it's difficult to attract qualified human resources to the techno cities which are located far away from the city center, this advantage remains limited.

Among the universities in Turkey, Boğaziçi comes to the forefront with 9.5% participation in the entrepreneurship ecosystem. Boğaziçi University is followed by İTÜ (Istanbul Technical University) with 8.68% and Bilkent University with 7.85%. Figure 9 shows that the participation in the entrepreneurship ecosystem is especially prevalent in the high-end universities of Turkey.



Şekil 9: The participation in the entrepreneurship ecosystem of the university graduates

5

Findings and advice

5.1. Demand

D1 Regulations to increase financial inclusion

In order to create sufficient internal and external demand in the FinTech sector, first of all, the lawmakers need to update the legal regulations in collaboration with the private sector. These regulations should lead to a simple and transparent industry that encourages financial inclusion in the country, supports competition and reduces the costs in financial services. The use of the FinTech products and services that will increase the inclusion in the financial system should be encouraged. The transition to a cashless society over time should be facilitated. An important example for the transition to a cashless society is Sweden, which expects the use of cash to drop down to 0.5% in 2020. The reasons behind this transition can be attributed to the cashless payment of salaries to the employees through banks in 1960, the rapid increase in card transactions in the 1990s due to increasing check commissions, and the Sweden-based “iZettle,” a prominent institution in the Mobile Point of Sale (POS) applications which ensured the acceptance of payment with cards, from small businesses to big ones. Thanks to the regulations, the trade conditions and the early adaptation to the technological changes; Sweden is about to become the first cashless country in the world. The practices such as taking the bills with the lowest values out of circulation in order to accelerate the inclusion in the financial system, and transition to digital financial services in India could be an indicator of the impact of regulations in the transition to a cashless society. Licensed in 2014 in India, the “payment banks” rapidly reached a market share of 9%.

D2 Raising financial awareness and education

Raising the awareness of the financial consumers and educating them about managing their financial transactions will increase the demand in the use of the financial services and products in Turkey. It's critical for the public, the relevant non-governmental organizations (NGOs), and the consumer organizations to educate the financial consumers and raise their awareness. It is also relevant to carry out awareness campaigns in universities and even in primary schools.

D3 Know your customer (KYC) practices and a secure infrastructure

For inclusion in the financial sector, it's very important that the country-wide infrastructure is secure and this is communicated to the consumers. The FinTech companies and current financial institutions need to build a common infrastructure that will ensure the secure sharing of the financial transaction data of the consumers. Also, they need to keep it under strict supervision, as well as create common feedback mechanisms to inform the consumers about the transactions that are carried out through their data. With the emergence of the “Open Application Programming Interface (API) Banking” after PSD2, the data among the financial institutions will be open to the authorized third-party financial institutions. This indicates that these

infrastructures will become more prominent in our lives soon. The technological agency of the Government of Singapore (GovTech) built an e-KYC platform in collaboration with the Monetary Authority of Singapore which will be jointly used by all banks in the country. The financial consumers can submit all their applications for financial transactions digitally, so there's not a need for physically sharing documents any more. With this, it's aimed to increase the demand in the financial services, thanks to the simplicity and the security of transactions.

D4 The public taking advantage of the FinTech services more

When the public institutions in Turkey which operate in the name of the public, or the social organizations and associations, take advantage of the FinTech products and services in their payment, collection and agreement procedures; this will increase the number of the transactions that are carried out through the financial ecosystem, as well as make them faster and cheaper. The use of the technologies that will facilitate the analysis, agreement and the collection of the financial transactions (such as advance analytics, intelligent contracts and blockchain), especially in the public transactions, will provide cost benefit for the public. Also, the decreasing cost of transactions, the transparency, the trackability and increase in security will be valuable for the taxpayers and the citizens. With these advantages, it's expected that the success rate in the collection of the public debt will increase despite .

D5 The organization of the FinTech sector and branding

Even though the efficient use of technologies, the changing customer needs and the new legal regulations ensure the emergence of new initiatives in the field of FinTech, the recognition of the FinTech sector and the companies is insufficient in the eyes of the individuals, corporate clients, public, and classic financial institutions which will create the

demand. The finance industry and the payment services companies in Turkey carried out successful campaigns that will increase the adaptation with new practices that bring trust and technology into the sector, and they made serious contributions into the transition to a cashless society. According to the aforementioned 2016 Banking Relevance Index study of EY, the trust in the banks in Turkey scored higher than the European average. In this context, the banks should get organized and invest in communication just like they have been doing for a while in order to attract the demand that they want. The emergence of the industrial organizations that will increase the recognition of the FinTech industry, increase the trust in the sector to the level of financial institutions, and carry out the publicity that will inform the users about the benefits on the sector's behalf is important for the increase in the demand in FinTech. In this context, the FinTechs have to invest more in branding and reliability.

D6 Joint product development with banks

The largest clients of the FinTech companies are actually the financial institutions that they are currently competing with. The advanced technological know-how and the fast adaptation into new business models of the FinTech companies should be considered as an opportunity for financial institutions. While the use of advanced financial technologies in financial transactions improves the customer experience, it also reduces the costs of the products and services.

The FinTech companies require a smaller workforce, smaller investment and a shorter period of time to produce the innovative financial products, which takes the financial institutions a longer time and a larger team. Therefore, it'll contribute into the increase in the demand in financial products and services if the FinTechs cooperate with the current financial institutions that focus on financial products and services.

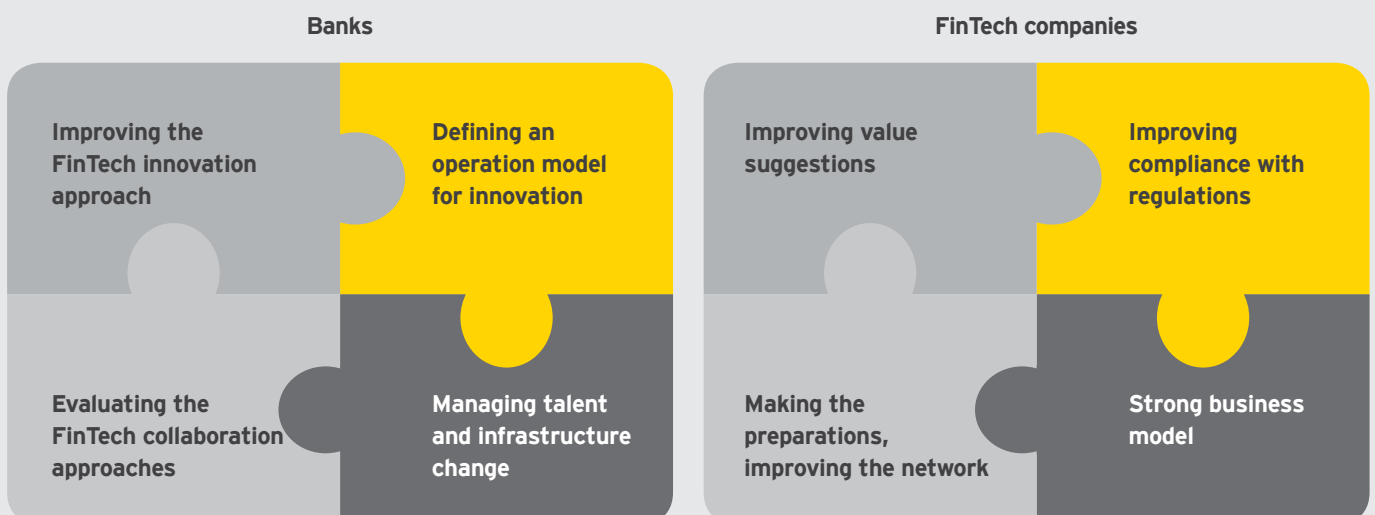


Figure 10: Success criteria for the players in the Banking and FinTech ecosystem

D7 The need for investment in FinTech solutions apart from payment systems

The banking industry in Turkey is very advanced, especially regarding personal banking services. The payment services products, the infrastructure and the technological abilities of the sector are powerful enough to compete with, or even surpass, the payment services products of many countries. When we take a look at the players in the FinTech ecosystem in Turkey, we can see that mostly the banks and the payment services and e-currency institutions that have been founded with the permit regarding the law numbered 6493 come to the forefront. When we take a look at the distribution of the FinTech firms in the world, we see that the payment services institutions only comprise the 35% of the ecosystem, and that different FinTechs that operate in fields other than payment services come to the forefront, such as Blockchain, AI, cognitive transactions, intelligent contracts, advanced analytics and Big Data, cloud services, robo-consultants, biometric solutions, and alternative mass-financing products. In order to increase the demand in the sector, it's important to develop products and services in the new areas and support innovative projects instead of competing with banks in payment services and e-currency services for personal or corporate clients, considering these are the strengths of banks.

5.2. Regulations

R1 FinTech law and cooperation before the legal regulations

It's necessary to have a FinTech law, and to prepare a national FinTech strategy and an action plan for the FinTechs to be recognized in the name of law. Also, it's important to form supreme boards in order to take action. There aren't any current legal infrastructures that regulate the FinTech industry. Moreover, the FinTech area has not been defined clearly in the strategic financial actions of Turkey and the FinTech industry has not been included in the Istanbul Finance Center action plan.

According to the meetings, it's been observed that it's important for the improvement of the industry that the regulations regarding the FinTech sector increase financial inclusion in terms of demand, provide the safe environment needed by the investor, increase employment and support innovation in terms of technology. Current regulations in the financial sector and the consumers have the power to shape the future of the FinTech industry in Turkey. Therefore, the public institutions that carry out the legal regulations need to exchange views with the private sector, entrepreneurs, and international investment and financial service institutions.

It's important that the FinTech ecosystem correctly understands the issues that have been prioritized by the legislators, and

that the legal regulations include the actions that will provide competitive advantage internationally and the practices that will increase financial inclusion. For the views of the sector to be included in the process of lawmaking, the sector needs to be organized under certain associations and should get in contact with the regulatory institution.

In this sense, even though it's a positive sign that the new licensed institutions that have recently entered the financial system in Turkey founded their own NGOs as soon as possible, this is not enough for the FinTech sector which has a broader scope. The legislative efforts would be facilitated if the prominent organizations of the business world, such as TOBB, TÜSİAD and MÜSİAD, guided the developments in this industry which helps the financial inclusion process of Turkey.

R2 Financial innovation

Many financial institutions cannot be active in their enterprises and projects to develop new products due to the possibility of not being able to obtain the license, since obtaining it is a long and costly process in the eye of the law numbered 6493. The process is difficult for the new FinTech companies which need to complete their licensing procedures before developing their models and testing them in the market. In order to overcome this obstacle, the Financial Conduct Authority (FCA) in the UK prepares "express registration" procedures for the new enterprises which are in the application process. From a wider perspective, the UK Government initiated a series of digital services and they are building the ecosystem with the Digital Transformation Project.

On the other hand, the UK Treasury is working to develop an open, standard API approach for the banks. Furthermore, the European Commission initiated the Digital Single Market Strategy in May 2015. It's important that action plans regarding the FinTech sector are included in the e-government transformation strategy, the Istanbul Finance Center strategy, new incentive programs that support innovation and regulations that support entrepreneurship.

R3 Establishing public-exclusive "sandbox"

The "sandbox" environment should be established which can be an innovation center based on legal regulations so that new products and services can emerge in the field of FinTech, the public can use these services, and the public-private collaboration is ensured. However, the goal of this "Sandbox" should not be creating financial end products. The "Sandbox" environment should support innovation in the field of FinTech, monitor the new technological practices, and contribute into the legal regulations in a way that will strengthen the industry. Therefore, these sandbox environments should be structured under the public institutions with the power of regulating the financial ecosystem, which is able to turn new business ideas into demand and put the legal regulations into action.

The bureaucrats and technocrats who will take part in the creation of the sandbox on behalf of the public should be familiar with the dynamics of the FinTech industry. They should also closely follow the international developments, which is necessary both for Turkey to become competitive in the industry, and for the findings and the legal regulation projects of the sandbox environment to ensure the financial inclusion that we aim for. Educational programs should be developed with the bureaucrats and technocrats under the guidance of universities, and collaborations should be established with the sandbox platforms that have been founded by other countries.

A set of reports have been published in the UK that address the obstacles against innovation caused by regulations, put innovation at the center of regulations and address the need for a set of regulatory tools. Most of them focus on regulatory support regarding FinTechs and innovation. By initiating the Project Innovate and urging the institutions to share data, the FCA showed a supportive approach on this issue. Building financial sandboxes in order to test the new financial concepts with the public is included among the ideas of FCA which have been analyzed as part of this study.

Singapore The Money Authority of Singapore (MAS) formed the national sandbox platform and stated their field of activity and conditions with a regulation in 2016. This platform was built in a way that ensures the security of the financial system in the country. It also provides a controlled environment for potential mistakes because of legal regulations which are based on single transactions. The purpose is to test the new technologies efficiently regarding innovation and increase the inclusion in the financial system.

R4 Services Other Than Banking, Payment Services and E-currency Services

As mentioned on the demand section of the report, the FinTech industry provides both the end user and the institutions with services with advanced technology which lowers the costs of financial transactions as well as making them faster and more secure. The legal regulations for the payment services and e-currency services are completed, which are the most important part of the FinTech industry both in Turkey and Europe. However, the remaining services of the FinTech industry are still not subject to legal regulations in Turkey.

It's necessary for the trust in the sector and the regulations that the current projects in the fields of inclusion financing and the FinTech law are completed. If not, the consumers are prevented from gathering information about the content and the limitations of the services, and market conditions that might cause unfair competition with the current financial institutions will arise.

R5 The importance of reporting and data use – open data platform

The legislators need to build reporting and analytical infrastructures that will shed a light on the regulation projects regarding financial sectors and ensure the decision-making by analyzing the sector data. It's observed that "financial policy modeling" centers are founded around the world where the universities use this data to study the potential impact of the upcoming legal regulations on the sector.

An open-source platform for financial regulation may help in building a new relationship between the regulators and the regulated. These platforms, which will work on open-source data, can provide an XML-based system architecture and a database infrastructure in order to send the report data to the regulators. Software companies can provide analytical commercial practices for visualization which can be used by all parties. The importance of using data and analytical abilities in monitoring the risks regarding the financial industry and transactions is revealed by the activities of the Risk Center and the Credit Registration Bureau, which were founded with the legal regulations exclusive to the banking sector. Similar platforms should be established within the FinTech industry in accordance with international standards within the context of legal regulations. Also, the concept of "open API banking," which was introduced with the PSD2 going into effect, revealed the necessity for data sharing between financial institutions and new infrastructure providers that will carry it out. The regulators, financial institutions and technological service providers should already analyze the PSD2 practice and make preparations.

5.3. Capital

S1 Angel investors have a narrow playing field – how can sandbox help?

The investors in Turkey, and especially the angel investors, stated that they're having difficulties in carrying out FinTech projects or transferring capital because of the lack of sufficient data on the market, the newly emerging legal impacts of the regulations not being clear yet, the great need of capital during the founding and the lack of the sandbox environment where the companies can test ideas with lower costs.

The investors stated that the projects that are presented mostly consist of the business models of the companies which provide payment systems and electronic currency services allowed by the current regulations. Other services that constitute the FinTech and insurtech sectors cannot be developed in Turkey as

projects, and therefore their playing field is narrow as investors. It's expressed that the sandbox platforms, which can be accessed by the ecosystem, are required for the entrepreneurs to:

- ▶ Accelerate their access to the market regarding new products and services
- ▶ Test their idea in the best way possible
- ▶ Reduce the need for the initial capital
- ▶ Carry out their pre-assessment of the safe and pre-investment projects with a technological infrastructure

These platforms are required for the investors to minimize the risk as much as possible. These new environments, which will be open for the common use of the sector, will also contribute into developing legal regulations that can allow the development of new products and services and make the FinTech sector become a center of attraction for investors.

S2 New business models and lean start-ups

The VC representatives and fund administrators that we interviewed for the study stated that the companies or the projects that are presented to them do not offer suggestions for value and therefore the percentage of investments is very low. There's actually more financing opportunities in the market than the current investments. When the reason was analyzed, they determined that the players, the investors and the human resources in the ecosystem do not have the sufficient training or experience on the concepts which are the main elements on the journey from the idea to the first product, such as developing new business models, business model innovation, field study on developing value proposition, and simple and agile start-ups. Therefore, most of the companies and projects that are presented to them either do not receive the investment or get a lower valuation than expected. The access to financing could be improved if training programs were organized by the stakeholders of the ecosystem on business model development, the cost-effective testing of the business model, development of the minimum valid product and agile-lean methodologies that will ensure the sustainability of this process in order to raise the awareness of the investors.

S3 Raising the awareness of the financiers regarding the FinTech sector

In terms of the FinTech sector, we need to raise the awareness of the financiers as much as the entrepreneurs. The financiers are yet to be informed about the dynamics of the FinTech ecosystem, the needs of the market, the current legal regulations and the FinTech abilities in Turkey, according to the international markets. During the interviews, the investors stated that they do not feel like they have sufficient information about the industry and therefore they could not reach the desired valuation yet.

S4 The banks becoming FinTech enterprises

During the meetings that are carried out with the prominent financial institutions in Turkey within the scope of the study, it's been detected that it would be efficient if, in addition to the angel investors and venture capitalists, the banks included investment goals in the FinTech industry within their corporate goals. This would help them to become financiers in the FinTech industry as they wish. When it's taken into consideration that the financial institutions will be the most important users of the services of the FinTech industry rather than the real sector, and that the banks are the biggest player in this field, it'd be beneficial for the development of the diversity and the quality of the sector services if the banks entered the sector as investors.

S5 The need for a national FinTech database

The access to corporate information should be facilitated for local and foreign investors to invest in the FinTech sector in Turkey. According to our analysis, one cannot track the financial performance, the customer coverage and the number of customers of the FinTechs in Turkey. Furthermore, there isn't a national FinTech industry database providing data services for investors in Turkey which can be used by industry-oriented global data analysis firms. The interest of the potential investors in Turkey is decreased by the insufficiency of the data in the sector, especially when the world transitions to a data-based economy.

5.4. Human resources

HR1 Lack of qualified workforce

As a result of the meetings with 18 experts from the industry, it's determined that the area that needs to be focused on the most among the four main layers of the ecosystem is the area of human resources. This area has the academia, the entrepreneurs, the tech companies and the traditional financial institutions as stakeholders. It's observed that these stakeholders do not provide the investment in order to reveal the qualified workforce and the entrepreneurs who will contribute into the improvement of the industry, or the investment that are provided are insufficient.

HR2 The lack of attraction of the sector regarding talent

It's observed that the FinTech industry, which can help Turkey's aim of becoming a regional and international finance center and which is currently changing the global finance industry, cannot provide the guarantees that will attract the qualified workforce, in comparison to the financial institutions that they are in a coopeition with.

Turkey to become a regional center of attraction for human resources and entrepreneurs in the field of FinTech, it'll be important to include this sector among the strategic

investments in Turkey's incentive program. This will support the human resources policies of the FinTech institutions. It is also essential to provide the FinTech enterprises with the advantages that are provided for the institutions which have the strategic investment status. Thus, the FinTech industry will attract investments more and Turkey will have an advantageous position against its competitors in the employment of skilled people.

HR3 National FinTech strategy and Istanbul Finance Center

In order to attract the desired investment and human resources, it's necessary for the sector to create a separate strategy for the FinTech industry as part of the Istanbul Finance Center study. Prioritizing FinTechs among the topics of the Istanbul Finance Center would become an important tool to attract global and qualified workforce, and contribute into the competition of Istanbul and Turkey with other finance centers.

HR4 Thematic techno cities and incubators

Regarding FinTechs, the first thematic techno city enterprise in Turkey was launched with the collaboration of Boğaziçi University and Istanbul Stock Exchange, and the applications were opened. If the other universities in Turkey also created thematic techno cities for FinTechs in partnership with the private sector, this would contribute into the education of students with industrial know-how and experience, the collaboration between the university and the industry, new FinTech projects, and the support for the entrepreneurs and entrepreneurship.

The number of the enterprises in the sector would increase and their life span would be expanded if some incubators exclusive to the FinTech sector were established within the incubators at our universities, which make great contributions into supporting the entrepreneurs.

HR5 Supporting the entrepreneurial spirit

It's been stated by the representatives of the sector as part of the study that the entrepreneurs and the culture of entrepreneurship have an important impact on the emergence and the development of the FinTech industry.

It would contribute into the education of individuals with an entrepreneurial approach in Turkey if the culture of entrepreneurship and innovation were prioritized in these evaluation criteria, which consist of five items. We see that in this area, apart from the programs in certain private universities, the programs that will specifically help entrepreneurship become an ability cannot receive the sufficient investment academically, or that the academic platforms are not created in the universities which would provide the coaching or the mentorship to help our entrepreneurs achieve

success on the entrepreneurship journey. Most of the existing entrepreneurship programs were designed to improve the entrepreneurial side of the students or academic who carry out R&D studies for the real sector. However, what we actually need are programs which can support the entrepreneurs who completed their academic life and embarked upon their first enterprise, focusing on concepts such as lean start-ups, business model innovation and financial management.

HR6 Supporting the entrepreneurship within the institution in the financial services industry

Regarding the financial services industry, the banks need to support the entrepreneurship within their companies as well as the employees who have innovative start-up ideas in the field of FinTech. As part of the study, it's especially been understood that the innovative ideas regarding FinTech and payment systems in the banks come from the employees working in the IT and compliance units who follow the technological and legal developments in the sector, as much as the existing payment services units. Therefore, identifying creative ideas and actual customer needs will be facilitated when the entrepreneurship projects and programs within the institution are open to the units other than the relevant departments.



6

Conclusion

In this study, which we carried out in collaboration with FinTech Istanbul and which feels the pulse of the FinTech ecosystem in Turkey, we evaluated the FinTech sector extensively by taking into consideration the views of the stakeholders in the ecosystem in terms of its main components which are demand, regulation, capital and human resources. Our purpose is to provide an input in order to identify the current situation of the required components, assess the possible opportunities and threats, and create strategies for the future regarding the healthy growth of Turkey's FinTech industry.

When the main components of the model – demand, regulation, capital and human resources – are taken into consideration with respect to the improvement of the FinTech sector, it's been observed that the following bullet points come to the forefront as a summary:

- ▶ Instead of considering each other as competitors, financial institutions and the FinTech companies should see each other as strategic business partners and they should develop business models based on cooperation.
- ▶ In the field of FinTech, we need FinTechs and business models that operate in different fields than payment services. The number of the insurtech companies, which will support the insurance sector, will especially increase in the future.
- ▶ Instead of only taking advantage of the current domestic market, projects should be created especially for the market of the Middle East and Gulf countries.
- ▶ Regarding the regulatory and supervisory structures, regulations should be implemented which will support the FinTechs and facilitate the procedures. It's essential for the healthy growth of the sector to establish an environment for information exchange by regularly meeting with regulatory and supervisory institutions, such as the Banking Regulation and Supervision Agency.
- ▶ The sandbox structures, which will be created by the public, are important for the FinTechs to take precautions by foreseeing the difficulties that might face in the future and to have a healthy growth period.
- ▶ Regarding capital, the FinTechs cannot benefit from government aids very much. Instead, they go for the capital opportunities provided by investors. However, the scarcity of investors and the low amount of provided capital are important obstacles.
- ▶ It's observed that in addition to the angel investors and VCs, CVCs are also becoming relevant regarding finding capital, even though there are only few of them.
- ▶ For Turkey to become a financial center, the Government has to prepare the FinTech regulations and focus on the FinTech companies that have been founded as start-ups in order to support financial innovation.
- ▶ In order to attract capital for the FinTech companies, the awareness of the financiers should be raised. It's been observed that the investors, who are not familiar with the field and cannot evaluate the risks and opportunities properly, abstain from investing in FinTech start-ups.
- ▶ It's critically important to create a FinTech database in Turkey in order to evaluate the performances of the FinTech start-ups and to provide the investors with correct and objective data. If investors can access this data, this will both increase the interest in the FinTech field and facilitate the growth of the entrepreneurs by helping them reach the capital they need.
- ▶ Regarding FinTechs, we still don't have a sufficient pool of human resources with adequate knowledge, skills or experience. Educational institutions have to play an important role here. It's important that opportunities are provided for young people not only in universities, but also in high school, to become financially literate and receive the appropriate education to work in the field of FinTech.
- ▶ Our human resources pool in FinTech does not yet have the sufficient know-how, skills or experience. Educational institutions should play a vital role in this area. In order to educate both the entrepreneurs and the young people who will work in the field of FinTech, holistic education programs should be carried out by the Government, financial institutions, incubators and accelerators. The sector can rapidly grow with hackathons, which will be organized along with the thematic incubator and accelerator programs that will be established exclusively for the FinTechs.
- ▶ The entrepreneurship projects, which are especially going to be carried out within the financial institution, are important with respect to supporting the FinTech ideas that might be produced by the qualified individuals at the company and creating opportunities for them to work as entrepreneurs.
- ▶ In order to increase the inclusion in the FinTech activities that are carried out abroad at important financial centers, financial support should be provided. This will not only ensure the exchange of know-how with joint projects, but also increase the visibility of the Turkish FinTech companies.
- ▶ For Turkey to be recognized as a hub in the financial technologies field and become a center of attraction for FinTechs, extensive FinTech policies should be created and adopted immediately. In this respect, joint platforms should be created where all parties who constitute the FinTech ecosystem come together and exchange opinions.

References

"EY FinTech Adoption Index 2017", *Unleashing the potential of FinTech in banking*,
[ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/\\$FILE/ey-fintech-adoption-index-2017.pdf](http://ey.com/Publication/vwLUAssets/ey-fintech-adoption-index-2017/$FILE/ey-fintech-adoption-index-2017.pdf), 2017.

"jpnichols.com", *The Fintech Grief Cycle for Bankers*,
<http://jpnichols.com/2016/07/12/fintech-grief-cycle-bankers/>, 12 July 2017.

"startups.watch", *Year in Review | Turkish Startup Ecosystem 2015*,
<https://app.startups.watch/TR/reports>, 16 February 2016.

"startups.watch", *Reports | startups.watch*,
<https://app.startups.watch/TR/reports>, 2017.



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