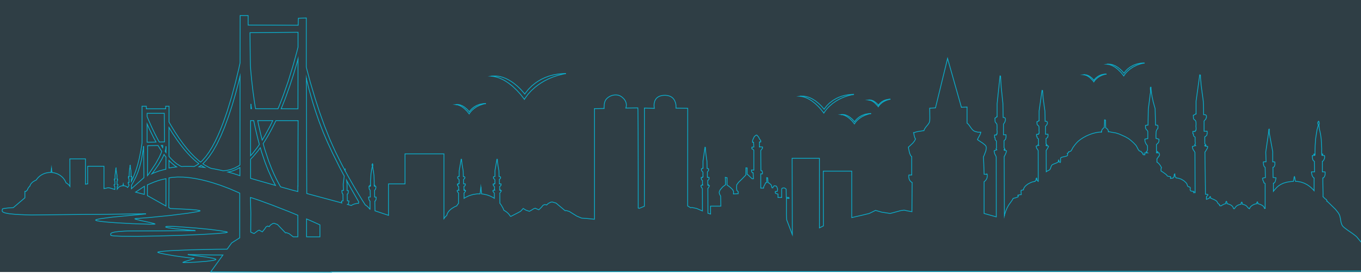
BANKING *and* FINTECH

DEVELOPING A FINTECH ECOSYSTEM IN ISTANBUL

Learning Lessons from London

Melike Belli



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List of Abbreviations

ATM	Automated Teller Machine
B2B	Business-to-Business
B2C	Business-to-Consumer
BN	Billion
BRSA	Banking Regulation and Supervision Agency
CBRT	Central Bank of the Republic of Turkey
CMB	Capital Markets Board of Turkey
FINTECH	Financial Technologies
GFC	Global Financial Crisis
ICT	Information and Communications Technology
IFC-I	Istanbul Financial Centre Initiative
M	Million
NY	New York
P2P	Peer-to-Peer
PR	Public Relations
R&D	Research and Development
SME	Small and Medium-sized Enterprises
STP	Science and Technology Park
UK	United Kingdom
US	United States
VC	Venture Capital

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MELİKE BELLİ

About the Author

Melike Belli graduated from the University of Nottingham in 2014 with an MSc in Banking and Finance. She was awarded the Jean Monnet Scholarship by the Republic of Turkey Ministry for EU Affairs to conduct her studies in United Kingdom. During her Master's studies at the University of Nottingham, Melike Belli wrote a dissertation on the Impact of Financial Technologies on the Banking Sector that has been transformed into this book. She previously graduated from the Middle East Technical University with a BS in Business Administration. As a Chartered Banker, Melike Belli is currently living in London and has worked for a dynamic FinTech start-up, Cybertonica, which is part of the Startupbootcamp FinTech London 2015 cohort. She has always been very interested in innovation, start-ups and women in technology. Melike Belli is very passionate about FinTech and currently involved in projects to develop the FinTech ecosystem in Turkey.

Introduction

After the Global Financial Crisis in 2008, the financial technology (FinTech) sector has become one of the fastest growing entrepreneurial areas in the world for start-ups that aim to disrupt traditional banks. FinTech has been defined as a revolution in the financial services industry and many banks realised that this development is an opportunity for them to integrate innovative solutions quickly into their operations enabling better efficiency and customer service. The objective of this research is to investigate how the FinTech sector disrupts and improves the banking industry by making it more sustainable and efficient. My analysis concerns Turkish banking and the lessons that can be learnt from cross-border knowledge sharing between one of the world's centres of FinTech, London, and the emerging sector in Istanbul. This research considers first and secondary sources that I obtained enabling analysis of the two banking sectors.

As London has successfully embraced and developed a FinTech ecosystem, Istanbul has the opportunity to learn lessons, and therefore enhance its ability in the creation of its own FinTech ecosystem. This of course could significantly contribute to the competitiveness and efficiency of the Turkish banking sector both nationally and also across Europe.

The discussions presented in this research were the results obtained through interviewing 14 individuals from influential financial services organisations in both London and Istanbul. My aim is to significantly contribute to current published analyses of both country specific FinTech sectors and particularly, the creation of an innovative research based development model applicable to the Istanbul FinTech ecosystem. This is undertaken by providing recommendations concerning how the major finance and technology centre of Turkey, Istanbul, can be inspired by London's FinTech culture and management practices enabling development of its own FinTech ecosystem.

I suggest this book to anyone who is interested in FinTech, FinTech ecosystems, and banking industries and technologies in United Kingdom (UK) and Turkey. I hope you will enjoy reading it.

Melike Belli
@MelikeBelli

1

Banking in the 21st Century

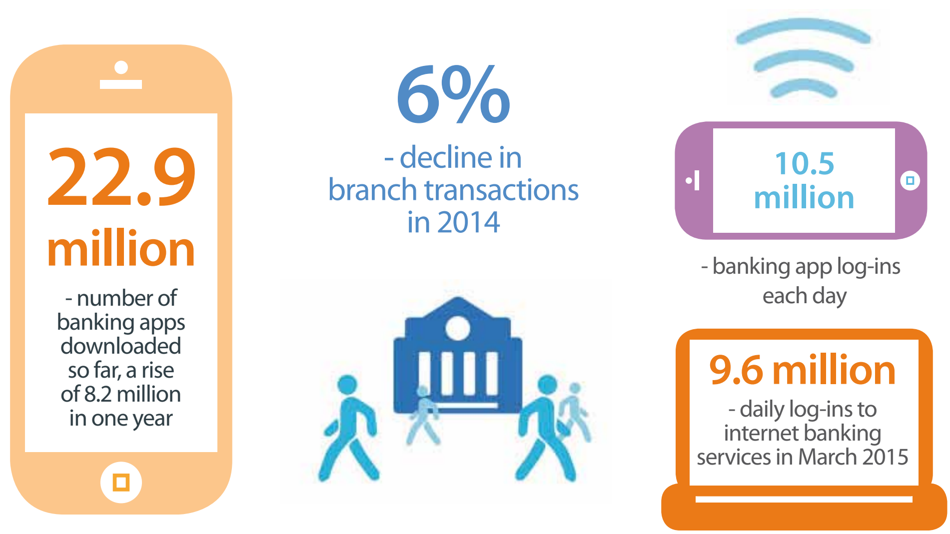
The Changing Needs of the Consumers and The Effect of Technology

Developments in technology have been changing and transforming the way consumers conduct financial transactions. Banks have been investing in and leveraging new technologies in order to provide their customers with better products and services and increase customer satisfaction. Moreover, thanks to the developing technology, banks are minimising their financial and regulatory constraints which helps them gain competitive advantage.

Technology Developments in the UK Banking Sector

Current transformation in the UK banking sector is driven by the developing technology. Banks realised that in order to acquire new customers, they have to develop innovative banking technologies which enable people to conduct financial transactions easier and faster and in a secure environment.[1] In addition, UK banks utilise innovative banking technologies to offer special services to their customers and communicate with them more effectively. On the other hand, UK banking customers have been embracing alternative banking channels, such as mobile and online banking, as these technologies provide them with greater flexibility in spending, moving and managing their money.[2]

Figure 1: Adoption of Banking Technologies by UK Consumers



Source: British Bankers' Association (2015)

Mobile banking usage in the UK has been growing fast. The usage of mobile banking channels by UK customers has increased from 21% to 27% between 2012 and 2014.[3] Furthermore, 77% of people in the UK think that with the help of mobile banking, they manage their money better.[4] On the other hand, 75% of Gen-Y (Generation Y) consumers, who are aged between 25 and 34 and have grown up with the internet, prefer using online banking and mobile banking applications while 13% of these consumers prefer visiting a bank branch to make their transactions.[5]

According to the survey conducted by Avanade, 93% of UK banks believe that mobile is the future while 36% of consumers from all age groups think that they will use their mobile to do all banking transactions by 2020.[6]

The UK banking sector is taking relevant steps to adapt to changing behaviours of consumers. For example, in 2012 Barclays launched its own payment application, *Pingit*, which allows sending and receiving money by using a mobile number and without sharing bank account details. *Pingit* also enables customers to purchase goods and services faster and easier by scanning a QR code or using *Pingit* at the checkout without entering card details. *Pingit* has been downloaded more than 2.5 million (m) times by UK consumers.[7]

On the other hand, NatWest and Lloyds Banking Group took a step to upgrade their existing ATMs (Automated Teller Machine) and in-branch cash and deposit machines. They decided to launch talking cash machines to provide blind or partially sighted people in the UK with independence when they withdraw money from ATMs.[8] At the same time, Barclays collaborates with a charity in order to teach and train the older generation how to benefit from the internet and smart devices to bank easily in their daily lives.[9]

In 2014, Barclays launched a pilot scheme to test the cheque imaging technology with the support from the UK Government which enables banks to verify and clear a cheque from an image, instead of using the original paper copy.[10] With the new technology, customers are able to deposit a cheque by taking its photo with a smartphone and send it to their bank.

Furthermore, Atom Bank, the UK's first "digital only" bank, has obtained a banking license in June 2015 and raised a total of £135m funding. The bank will provide all the products and services any high street bank offers for their retail and business customers.[11]

Developments in banking technology explain the increase in bank branch closures in the UK.[12] For instance, Clydesdale and Yorkshire Banks decided to close 28 branches and invest £20m to boast mobile banking services.[13] On the other hand, frequent information technology (IT) failures related to their alternative banking channels led RBS to cut numbers of jobs in its retail banking side in order to invest more in mobile and online services.[14]

With innovative solutions banks offer to their customers, bank branches have started to become places where customers visit for important decisions requiring personal interaction, such as applying for a mortgage. It is predicted that banking will be a less physical and more virtual operation in the future as UK's younger generation has grown up with the internet and online access.[15]

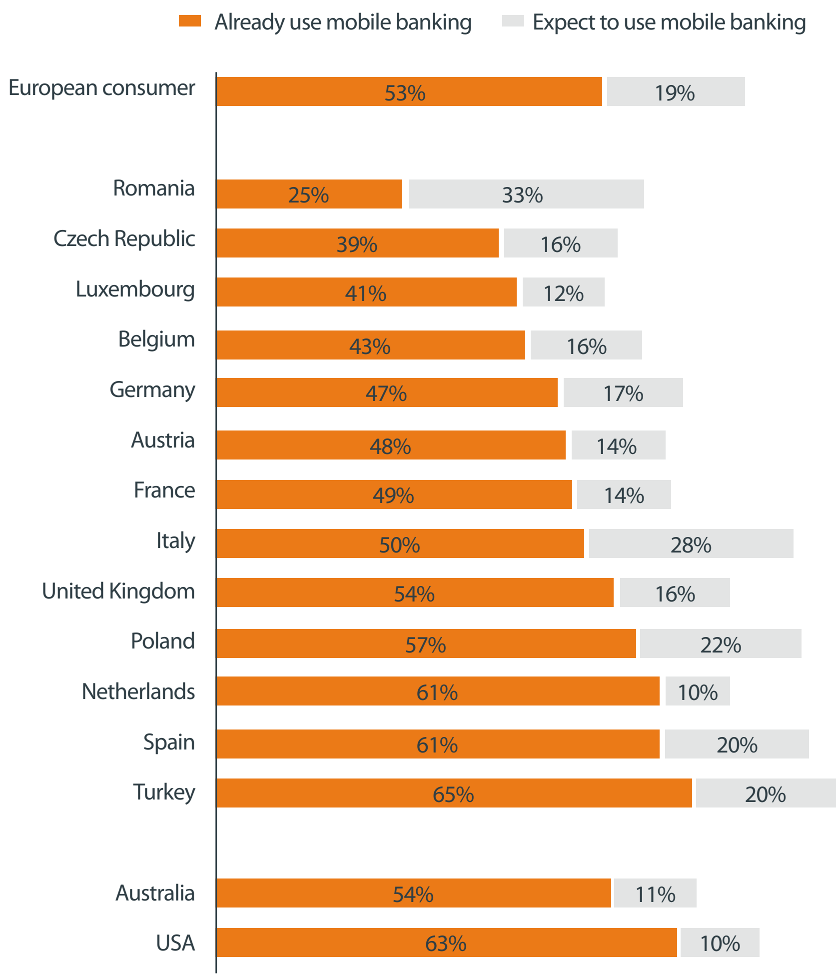
Technology Developments in the Turkish Banking Sector

Turkey has transformed itself into a digital hotspot over the years which enabled banks to innovate more and acquire new customers.[16] The Turkish banking sector has been driven by innovation and customers are provided with some of the most advanced products in the world, such as mobile banking and payments applications.[17]

Banks, payment service providers and vendors believe that Turkey has a great potential for mobile financial services and payments.[18] According to the survey ING International conducted, Turkey is identified as a future "hotspot" for mobile banking as it has the highest share of internet users who use mobile banking.[19] It is suggested that the growth of internet access has been leading to an increase in mobile banking usage in Turkey. As of September 2015, the total number of registered customers that logged in to their account at least once was 17m.[20] Moreover, during the July-September 2015 period, 10.4m of these customers (63% of total customers) used mobile banking services.

Figure 2: Do You Use Mobile Banking?

Percent who answered "yes" and "no, but I expect to use it in the next 12 months".
Question was asked only to people who own a mobile device.



Sample size: 11,814

Source: ING International (2015)

The Turkish banking sector is a great example for innovation clusters where one organisation's innovation leads its competitors not only to adopt it but also to advance it. This situation creates a rapid cycles of innovation within the banking industry.[21]

Banks in Turkey have been highly successful in using new technologies to reach and engage with their customers. They are also very successful in adopting and launching innovative technologies for the first time in the world. For instance, some Turkish banks offer digital wallets which enable consumers to make online and mobile card payments faster and easier. Moreover, some Turkish banks have talking ATMs specially designed for blind or visually impaired people to withdraw money or control their balances while some banks have biometric ATMs. In addition, Turkish banks provide their customers with digital banking services, and mobile applications that enable consumers to send money to any card or mobile number from anywhere. They also utilise wearable technology and provide banking applications on different mobile devices.

2

The Evolution of Financial Technologies

The Rise of FinTech

Definition of FinTech

After the Global Financial Crisis (GFC) in 2008, trust in banks was lost, and consumer experience has become the heart of the banking sector as the decreasing consumer trust in banks led to an increase in the number of consumers looking for alternatives to banks. As a result, an opportunity for FinTech companies has arisen as banks realised that welcoming innovation and creating relations with start-ups can help them increase customer satisfaction and provide them with the competitive advantage they need to minimise their financial and regulatory constraints.[22]

The FinTech sector provides technologies and software for ensuring the smooth operations of banking and financial services industries.[23] These technologies are created by start-ups and technology companies which are looking at disrupting the traditional operations of banks and financial services organisations.

The definition of FinTech, simply the technology innovations supporting financial services companies and their customers, has been changed recently.[24] In the past, only back and middle offices have used and benefited from financial technologies in order to save money while front offices have been labour-intensive and relationship-based.[25] However, nowadays FinTech covers back, middle and front office operations. In addition, customer groups have extended and include asset managers, advisors, hedge funds, big companies and small and medium enterprises (SMEs).

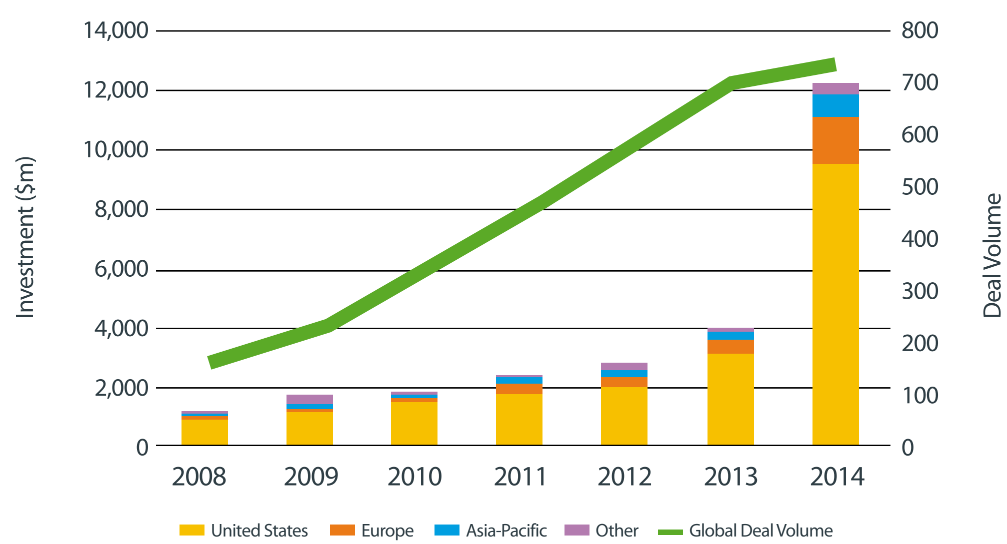
Banks and financial services organisations can utilise financial technologies in payments and transactions, digital wallets, mobile and retail banking, peer-to-peer (P2P) lending, crowd funding, digital and alternative currencies, trading and foreign exchange (FX), commodities markets, risk and compliance, security and privacy, financial advisory services and insurance.[26] Unlike traditional banks which have considerable amount of overheads and commitments, FinTech companies are able to generate savings through innovating and adapting. They are smaller, more agile and quicker than banks. Therefore, FinTech companies can help banks strengthen their competitive advantage by enabling them to reduce costs significantly.[27]

There are 4 main customer groups that FinTech companies have been serving.[28] The first group is identified under business-to-business (B2B) segment. This segment includes the large and long-established financial services institutions, which are governed by regulation and have complex value chains and long sales cycles. The second group is also identified under B2B segment and includes the customers of financial organisations, advisors, brokers, asset managers, corporates and SMEs. The third group is identified under business-to-consumer (B2C) segment. This segment includes small businesses which bank differently and seek for value and alternative capital sources. The last group is identified under B2C segment and includes consumers who prefer online banking over physical branches and who search for the best deal in the market for their financial needs.

Accenture's recent report about the FinTech industry indicates that the global investment made in FinTech companies tripled from $4.05 billion (bn) in 2013 to $12.2bn in 2014.[29] In addition, it is expected that the amount invested in FinTech companies will continue to increase globally. The reasons for that are the new trends and continuous changes happening in financial services, which have been triggered by the developing technology, changing consumer behaviour, regulatory needs and necessity to decrease costs.

The governments and businesses around the world have started to understand that having a city which attracts investment and FinTech investment in particular is crucial for becoming the next big FinTech hub.[30] Many countries around the world have initiated programmes to develop their FinTech ecosystems and be more competitive in this sector. The Silicon Valley, London, New York, Berlin, Hong Kong and Singapore are considered among the world's leading and most successful FinTech hubs.

***Figure 3:* Global FinTech Financing Activity**



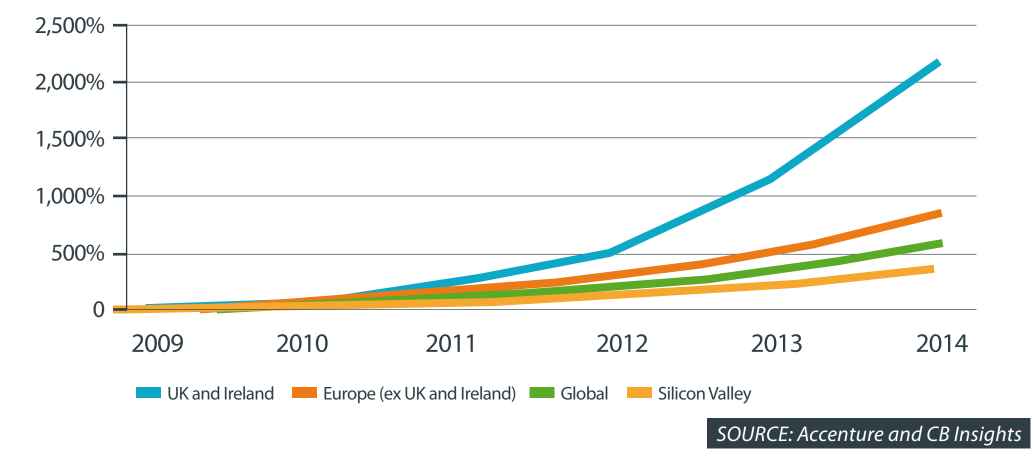
SOURCE: Accenture and CB Insights

Source: Accenture (2015)

Overview of the UK FinTech Sector

Over the years, the FinTech sector in the UK has been growing rapidly. FinTech investment in the UK and Ireland increased from $264m in 2013 to $623m in 2014.[31] Furthermore, the UK and Ireland accounted for more than 42% of the total FinTech investment in Europe, which was $1.48bn in 2014.

***Figure 4:* Five-Year Growth in FinTech Investment ($m)**



Source: Accenture (2015)

There are many successful FinTech start-ups in the UK including funding platforms like Crowdcube and Seedrs, money transfer companies like TransferWise and Azimo and P2P lending companies like Zopa and Funding Circle. According to UK Trade & Investment, the main strengths of the UK in FinTech are having London as a global centre for financial services and a global trading hub, a large and technologically sophisticated customer base, a good availability of business capital, a supportive regulatory framework and an excellent financial services infrastructure.[32]

The UK has been chosen by investors throughout the years as it has a business-friendly environment supporting innovation, highly talented workforce, competitive tax regime, global links and strong information and communications technology (ICT) infrastructure.[33] According to the British Bankers' Association, the UK has a huge potential for further innovation because it has a very well-developed banking industry and high rates of digital penetration among consumers, and is hosting the world's leading FinTech and digital companies.[34]

UK policymakers are aware of the FinTech revolution taking place with FinTech companies which offer alternative methods to traditional finance and develop tailored solutions to meet the changing needs of customers and businesses. Therefore, the development and growth of the FinTech sector is highly supported by the Government as the financial services industry is vitally important to the UK economy.

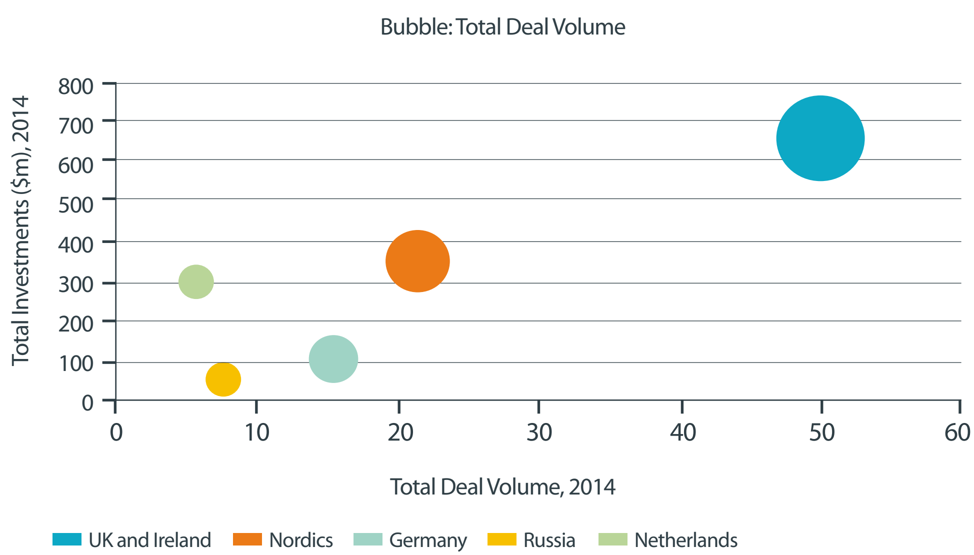
As a reaction to rapid growth in the FinTech sector, the Financial Conduct Authority (FCA) has initiated the *Project Innovate* in order to support start-ups and established businesses to develop innovative solutions for the UK financial services sector.[35] By building an Incubator and an Innovation Hub, *Project Innovate* aims to provide companies innovating new models and products with assistance and advice.

On the other hand, a new trade body *Innovate Finance* has been created with 53 member companies to represent and promote the UK FinTech sector globally.[36] Founding members include FinTech companies, large financial institutions and banks such as Barclays, HSBC, RBS, Santander and Lloyds. One of the main goals of the organisation is to become a single point of access for FinTech firms, financial organisations, customers, investors, talent, finance and international marketplaces.[37]

The FinTech Capital of the UK: London

The UK FinTech sector generates £20bn in revenue annually and has been growing due to the total effect of digital connectivity, customer dissatisfaction with banks, and a lack of innovation and investment by incumbent providers.[38] Recently, the biggest share of Europe's FinTech deals and financing has occurred in the UK, mainly in London.[39]

Figure 5: Top Five European Regions for FinTech Investment Activity



SOURCE: Accenture and CB Insights

Source: Accenture (2015)

London has become one of the global centres for FinTech as it serves as a financial and a technological hub. The location of London and its time zone enable companies to access international markets easily and allow them to conduct their international operations smoothly. There are 251 foreign banks and 588 foreign financial services organisations in London, making the city one of the largest financial centres in the world with a truly international client base.[40] Thanks to these established financial services companies in London, FinTech companies have an access to key resources including talent, customers, suppliers and competition.[41] On the other hand, many banks have realised that having a FinTech cluster in London provides great opportunities and advantages for their businesses.[42]

Besides being a financial centre, London is the technology hub of Europe and actively supports start-ups and fast-growing firms. London is a home for the *Tech City*, which has attracted over 1,300 high tech companies to date and is the fastest growing technology hub in Europe.[43] In addition to the technology industry, the presence of the creative sectors helps London's FinTech companies produce user-friendly, imaginative and sustainable technologies. London's leading players in marketing, design, media and advertising also help FinTech companies promote and market their solutions successfully.[44]

London's FinTech sector is getting stronger as the industry attracts the world's brightest talents, ranging from fresh graduates to senior executives. For example, London has four universities which are listed in the world's top 40 universities ranking.[45] Moreover, there is a growing transfer of knowledge and expertise from the top level financial executives to dynamic FinTech companies in London.[46]

There are 4 main FinTech accelerators helping FinTech start-ups and companies develop and grow in London: Accenture FinTech Innovation Lab, Barclays Accelerator, Level39 and Startupbootcamp FinTech. These accelerators mainly provide funding, office space, mentorship from senior level bank executives, venture capital (VC) and angel investment firms and technology entrepreneurs, networking sessions and workshops. Furthermore, they are supported by the UK Government and major banks and financial services organisations such as Barclays, HSBC and MasterCard.

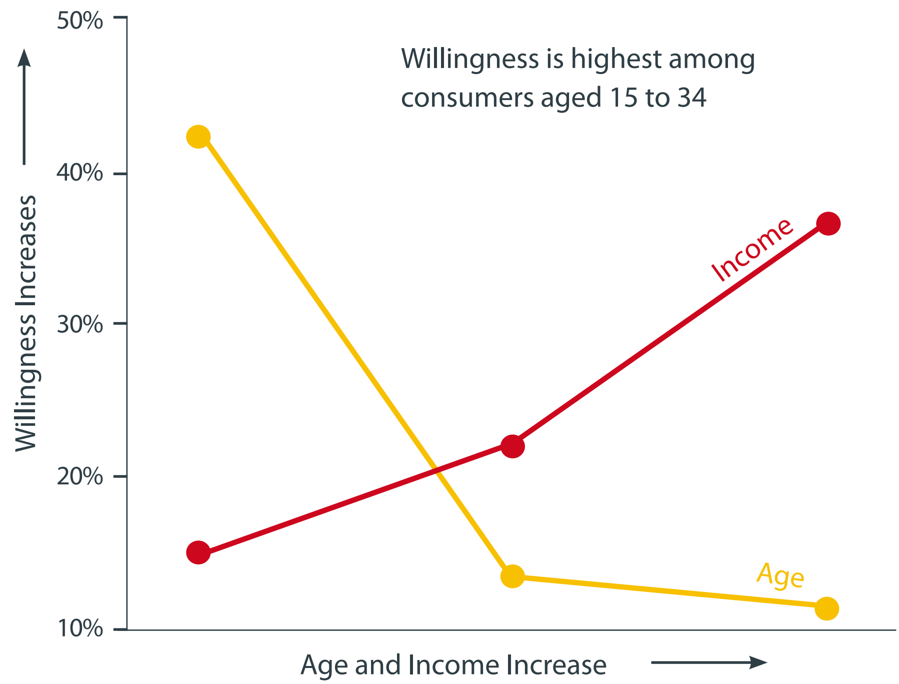
Despite the growing FinTech ecosystem in London, the difficulty to access venture capital and an insufficient number of investors have been creating barriers for FinTech start-ups.

Overview of the Turkish FinTech Sector

The Turkish FinTech sector has been developing and shaped by the growing young population, internet usage and mobile and smartphone penetration across the country.

Turkey is one of the countries that have high percentages of young population. This young population in Turkey is enthusiastic about using internet and mobile technologies. In addition, they use these technologies for meeting their financial needs. According to MasterCard, young population (aged 15 to 34) in Turkey is more willing to use mobile payments.[47]

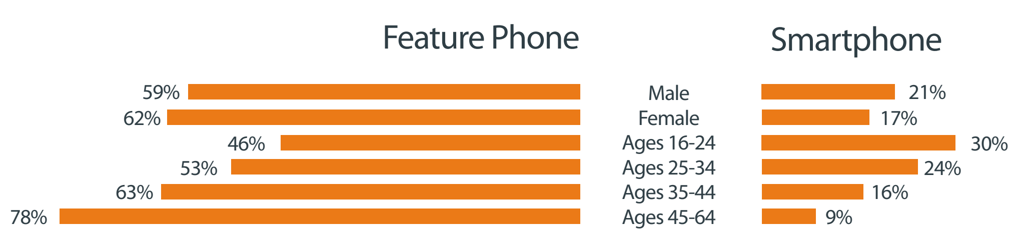
Figure 6: Willingness to Make Mobile Payments



Source: MasterCard

At the end of the third quarter of 2015, there were 73.2m mobile phone subscribers in Turkey, with a penetration rate of 94.3%.[48]

Figure 7: Who Are the Smartphone Users in Turkey?



Source: Nielsen

Current developments in Turkey have also been contributing to the growth of the Turkish FinTech sector. Turkey has the potential to become a regional ICT hub with its growing economy, favourable investment climate, and high-quality business resources and infrastructure.[49] Moreover, Turkey has been attracting start-ups with its strategic location between Europe, Asia and the Middle East. The Government aims to increase the ICT sector spending to 8% of GDP (Gross Domestic Product) with the *Turkish National Technology Foresight Programme, Vision 2023*.[50]

In 2009, the Turkish Government launched the *Istanbul Financial Centre Initiative (IFC-I)* with the objective of making Istanbul a global financial centre by 2023. The relevant steps have currently been taken to transform Istanbul into an international financial centre which will be hosting banks and financial institutions from all parts of the world.

After the Government enacted a law to bring the Turkish financial markets closer to the European Union (EU) and the United States (US) markets and to attract international trading companies, the Istanbul Stock Exchange, Gold Exchange and Turkish Derivatives Exchange were merged in 2013 under one organisation named Borsa Istanbul. Thereafter, Borsa Istanbul created a partnership with Nasdaq OMX in order to build a highly sophisticated technological infrastructure and access to its wide range of trading technologies.[51]

***Figure 8:* Strategic Location of Istanbul**

SOURCE: Istanbul Development Agency

Source: Borsa Istanbul (2014)

On the other hand, the Turkish version of London's *Canary Wharf* financial district has currently been built on the Asian side of the Bosporus.[52] Furthermore, Turkey's first thematic Science and Technology Park (STP), called the *Finance Technopark*, will be created in Istanbul with the partnership of the Borsa Istanbul and Bogazici University.[53] The STP will conduct research and development (R&D) activities and create value-added financial technologies for domestic and international markets. The Turkish Government is also working on moving the Banking Regulation and Supervision Agency (BRSA) and the Capital Markets Board of Turkey (CMB) from Ankara to Istanbul.

By 2023, Turkey aims to become the world's first cashless society and country where all transactions are made with payment systems. In order to achieve this goal, industry players are promoting the usage of alternative payment systems and educate the Turkish society about the features and benefits of these systems over cash payments. As a result, the efforts to make Istanbul a global financial centre and become the world's first cashless society by 2023 have been contributing to the development of the Turkish FinTech ecosystem.

There are successful FinTech companies providing payments, retail and mobile banking, mobile technology and information systems solutions in Turkey. The following map (Figure 9) presents some of these FinTech companies which are mostly specialised in payments.

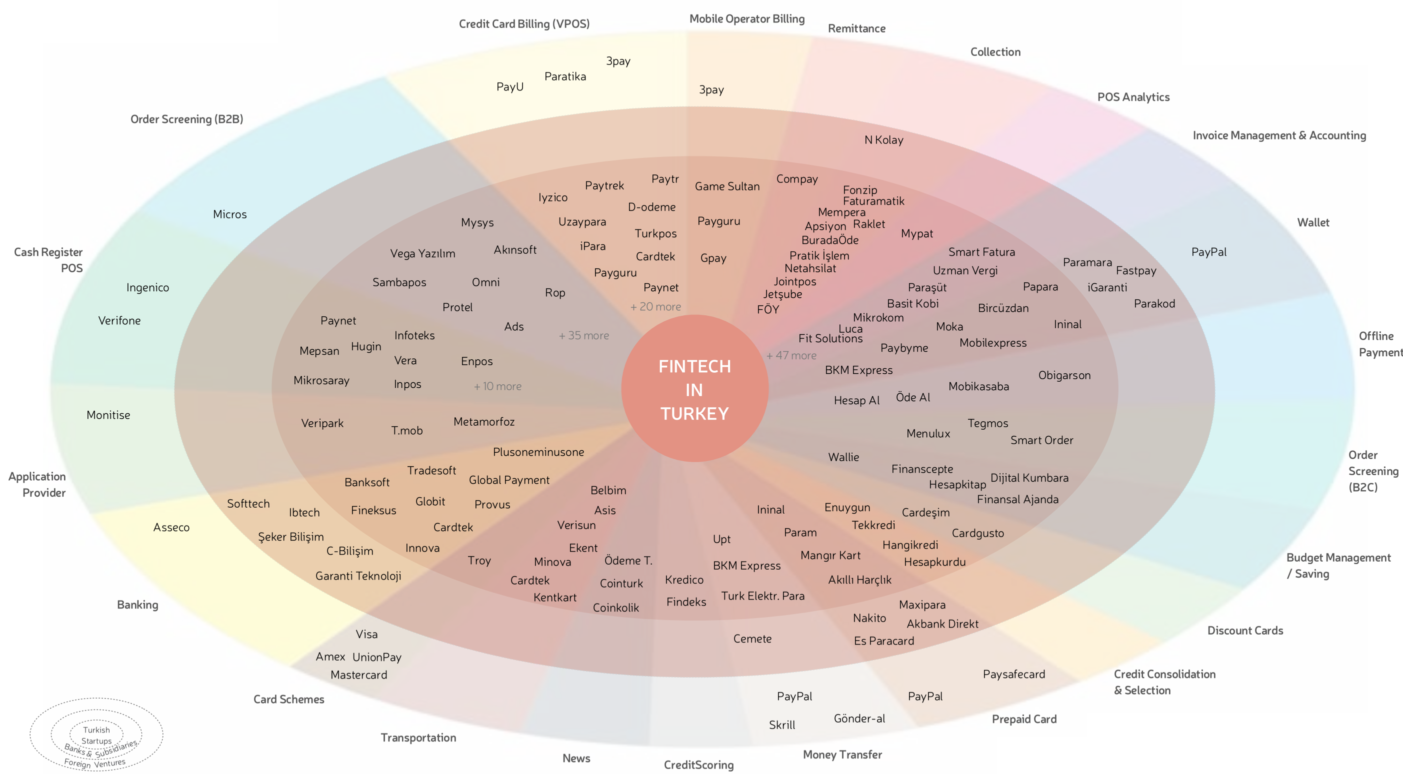
A significant value will be created for the Turkish FinTech ecosystem if the number of firms entering the FinTech sector increases. Competition within sub-sectors and across the whole of FinTech sector will create more awareness and encourage further disruption.[54] Moreover, by growing with and nurturing from a competitive ecosystem, FinTech companies will become more powerful within the financial services industry.

The FinTech Capital of Turkey: Istanbul

Thanks to its strong internet infrastructure and user base, Turkey has been offering many opportunities to innovative technology companies. In addition, Turkey has a diverse, young, well-educated and tech-literate talent pool including people that studied and worked across Europe and the US returning to their home country. As a result, Turkey has been capable of meeting the growing demand for digital media, innovative online ecosystems and new business models.[55]

Istanbul is the start-up hub of Turkey. The start-up sector in Istanbul, which is called *Digital Bosporus*, has continued to grow in 2011 but experienced the challenges of growth and the first failures in 2012. However, these difficulties have helped the sector change its attitude towards failure and encouraged entrepreneurs to embrace failure instead of being afraid of it. On the other hand, VC financing is growing and the start-up scene in Istanbul is attracting young people to achieve entrepreneurial success in a city best known for e-commerce.[56]

Figure 9: FinTech – Payments in Turkey



Source: Startups.watch (2016)

These developments have been helping Turkish FinTech start-ups in Istanbul receive attention from foreign companies and attracting some foreign FinTech players to enter or grow in the Turkish market. Over the last few years, some Turkish start-ups offering payment and mobile solutions to the market were acquired by foreign companies that aim at expanding their operations to Europe, the Middle East and Africa.

The Impact of FinTech on the Banking Sector

The financial services industry is so large for FinTech start-ups to have a viable business. However, the FinTech companies consider this large industry as a big cake, and each of them have been getting a slice of it. By focusing on one thing banks do and making an entire business out of that small slice, FinTech start-ups are slowly getting a share of the banks' businesses with their innovative solutions. Banks and financial institutions, which have understood that disruptive innovations will change their businesses, are collaborating with and investing in the FinTech industry in order to adapt and refresh their core infrastructures.[57]

On the other hand, banks which do not react to the changes in the ecosystem driven by technological developments and partner with FinTech start-ups will experience the failure of their legacy systems and lose their customers in this very competitive environment. As big banks cannot take the same level of risks and move as quick as start-ups can, they should contribute to the development of start-ups and stimulate an innovative ecosystem.[58]

Partnering with or supporting the FinTech sector can have cultural impacts on banks and help them create an innovative culture within their organisations. A lot of things can change within a bank with the mentorship provided to FinTech start-ups by the bank's employees. On the other hand, banks can help improve the products and services of FinTech start-ups by providing feedback about their technologies and assessing customers' needs for these solutions.

Big banks in the UK have recognised the need for disruptive technologies in order to gain strategic advantage over their competitors and recently started to invest in the UK's growing FinTech sector. For example, *Zapp* (a new mobile payments system developed by a FinTech start-up) enables consumers to pay with their smartphone in shops and restaurants by turning their bank accounts into an electronic wallet.[59] Major UK banks including Barclays, HSBC and Santander signed agreements to make *Zapp* available in their mobile banking applications. On the other hand, Santander recently established a $100m VC fund for investing in FinTech companies with the aim of keeping up with a rapidly evolving financial services market.[60] Santander also partnered with P2P lending company, Funding Circle, in order to refer business customers that it rejected to Funding Circle while acquiring technology know-how to serve its customers better with the latest technology. In addition, HSBC has decided to invest up to $200m in FinTech start-ups in order to advance its own technology systems.[61]

Major banks in Turkey have also understood the value of partnering with the FinTech companies in order to be more competitive and innovative. For instance, some FinTech companies have been developing secure online and mobile banking solutions and branchless banking services for major Turkish banks in order to improve their mobile services and increase customer satisfaction by enhancing their accessibility. On the other hand, some Turkish banks organise FinTech hackathons in order to access to innovative solutions which will make banking easier. In these hackathons, banks aim to encourage entrepreneurs, developers, students and also customers to develop creative and user-friendly internet banking, digital banking, mobile payments and FinTech solutions with the mentorship of banking experts. Lastly, some financial services organisations in Turkey provide FinTech companies with funds, which will help them improve their business models and achieve growth.

3

The Analysis of the UK and Turkish FinTech Sectors

Research Findings on London and Istanbul FinTech Sectors

FinTech is very country specific, and depending on a specific country, the needs of the FinTech industry are very different. Therefore, what may suit the UK right now could be different from what suits other countries such as Turkey, Germany or the US.

However, as London has successfully embraced and developed a FinTech ecosystem, Istanbul has the opportunity to learn lessons, and therefore enhance its ability in the creation of its own FinTech ecosystem. This of course could significantly contribute to the competitiveness and efficiency of the Turkish banking sector both nationally and also across Europe.

This part focuses on understanding the impact of financial technology adoption on the banking sectors in the UK and Turkey. By investigating the factors making London a FinTech hub and the technology perceptions in the Turkish banking sector, this part analyses what Turkey needs to accomplish in order to develop its FinTech sector and how Turkish banks can embrace innovative technologies and engage more with FinTech companies for improving their operations and consequently the banking sector as a whole.

In order to identify the dynamics of the FinTech and banking sectors and gain deeper and better industry insights about the development of financial technologies, interviews have been conducted with 14 individuals from influential financial services organisations (banks, payments companies, FinTech start-ups and accelerators, governmental and banking organisations) in the UK and Turkey. The following part presents the findings from these interviews under relevant headings.

Interview Findings: United Kingdom Organisations

The Rise of UK FinTech

The UK's FinTech sector has been catalysed a lot by and developed after the GFC in 2008. One of the reasons why FinTech has emerged as a big opportunity is the decreasing consumer trust in banks after the GFC which led to an increase in the number of consumers looking for alternatives to banks. Before 2008, banks were saying "Well, we do it fine, why do we need this new technology?" when asked. However, as trust in banks was lost during the GFC, banks are now rebuilding trust by demonstrating that they are innovating. In addition, UK banks are interested in meeting smart FinTech companies to win their customers back.

The UK Government's Role in FinTech

A crucial part of the UK Government's plan for the economy relies on technology, innovation and FinTech. In order to maintain the UK's position as a main global financial services centre, the Government aims to make the UK synonymous with FinTech. They are supportive and helping FinTech organisations in the development of FinTech start-ups.

The Government's role in developing the FinTech sector in London is also growing. They are trying to figure out how to develop proactive policies so that FinTech companies can flourish in London. They are asking the right questions, heading to the right direction and more than any other location they are listening to the voice of the FinTech community to understand what they need to do to be more supportive.

The UK's Strengths in FinTech

The UK attracts FinTech companies because it has an access to buyers, funding and talent. The UK spends more per capita over the internet and the adoption of mobile devices is quicker than anywhere else. They have got big banks in the UK and they have also got consumers who are fed up with the banks and looking for something new. Moreover, there is enough capital and VC financing is growing. The UK Government manages to develop an infrastructure for innovation including universities, which are creating programmes to develop skills not just in FinTech but in technology, accelerators and VCs. This creates a great magnet for talent and a network effect as more people are coming to the UK.

On the other hand, the regulatory risks, which are one of the main risks when developing a FinTech company, are being reduced in the UK and investors like risk reduced. In addition, the cost of setting up a business is low, technology is cheap and there are plenty of co-working spaces across the country.

The UK has three main communities which are key to the development of financial services in general and FinTech specifically. These include a financial services cluster which has huge amount of expertise in financial products; a tech community, including the *Tech City*, which has created a lot of technology talent and expertise; and the supportive regulatory authorities (including the Treasury). These three communities are close to one another and can easily interact with and talk to each other for supporting the development of new business models. As being one of the UK cities providing a supportive ecosystem for FinTech companies, London is unique compared to its competitor New York (NY) as the financial services cluster is in NY, the regulator is in Washington and the tech community is mostly in the west coast.

London as a Global FinTech Hub

London is one of the hotspots for start-ups as it is an amazing hub of ideas and right people at the right time. There are VCs and angel investors which make entrepreneurs come to London. The start-up community in London is quite active and VC firms are investing heavily in Europe with London as the hub.

Secondly, London is one of the financial capitals of the world with a good political environment. FinTech is dependent on having links with the financial services industry, and FinTech companies in London have *the City* (London's financial district) just next door. There are a lot of banks, which are easily accessible. London also has European financial centres next door thanks to its geographic position. People can fly all over Europe very easily from London. On the other hand, a lot of FinTech entrepreneurs are ex-bankers or having a background and expertise in the financial services sector, which means that they know the industry they are disrupting very well. Having a good mixture of former entrepreneurs who bring different insights and people possessing fantastic experience in banking, retail and payments sectors in the company helps start-ups to be taken seriously and get the relationships with the people they need to sell to.

Thirdly, having a fun community around FinTech in different co-working spaces and different accelerator programmes that promote the sector by bringing a lot of mentors, investors, policymakers and government decision makers together is one of the advantages London has over other cities. By going to couple of events, FinTech start-ups can easily meet with other people and start to build their network. There is also a collaboration culture among FinTech start-ups in London. For example, companies can introduce each other to potential clients without expecting any incentive; it's a favour and may be a favour back in the future. Moreover, FinTech start-ups can receive mentorship from some other FinTech entrepreneurs who have established their businesses successfully and want to give back and help new generations. Furthermore, FinTech organisations help start-ups grow as they aim to build a real and authentic FinTech community. They do things for the development of FinTech start-ups in collaboration with a wide range community which include banks, mentors, VCs and angel investors. Moreover, they partner with domestic and foreign organisations to contribute to the development and growth of FinTech companies both in and outside the UK. These FinTech organisations welcome competition from similar organisations and are happy that they are in the market. They believe that competition will help the sector receive more attention and grow faster while improving the ecosystem and promoting London as a FinTech brand.

Challenges for the UK FinTech Sector

Despite these favourable conditions, regulation is a big challenge or a huge barrier for FinTech start-ups in the UK. However, the UK regulators are very supportive and keen to engage and understand what they need to do in order to support the development of the sector. They do this to make the UK, and London, an attractive place for FinTech which will help start-ups receive more interest from investors worldwide.

On the other hand, there are three main facts about London which cause difficulties for FinTech companies. Firstly, the fact that London is an expensive city creates an entry barrier for FinTech start-ups from other countries. Secondly, the UK immigration laws might potentially pose a problem for some foreign FinTech companies. Moreover, it's quite hard for start-ups coming from other countries to set up a bank account in the UK. Finally, for FinTech companies, availability of VC is limited in London compared to Silicon Valley.

Banking Technologies in the UK

Increasingly, the UK has been considered among the world leaders in banking technology and UK banks care a lot about what other banks do in this area. For instance, even it is hard to be the first one to innovate, if one player in the market launches an innovative technology, competition leads other banks to introduce the same service for their customers. In addition, banks want to have the best technology they can possibly have. Banks know that they'll lose customers if they don't have the best technology since customers can easily switch banks in the UK.

For a bank, there is always a dilemma over whether to outsource or develop in-house technologies. Major British banks have very competitive in-house development teams. However, the smart players in the financial services industry know that in addition to develop technologies internally, the way to stay ahead is to stay engaged with the start-up scene either through venture plans, accelerator programmes or activities to help growing start-ups.

UK Banks' Attitudes towards FinTech

There is definitely a demand coming from UK banks to engage with FinTech companies in order to benefit from innovative technologies which are core to their business operations. Banks want to have inside information about what innovation is coming up in the market and be the first customers of FinTech companies by acquiring innovative technologies before other banks, with a good price. Moreover, some banks consider further strategic investment opportunities which include the acquisition of successful FinTech companies. These help banks to be more innovative and efficient as an organisation.

UK banks are very interested in making their own internal systems and processes better. By cooperating with FinTech companies banks expect to improve their Know Your Customer (KYC) compliance, B2C applications and branch operations while developing themselves in B2B, compliance and payments areas. Furthermore, cyber security, which takes different forms from authentication to protecting data, is a hugely popular area in which UK banks want to work with FinTech companies.

Challenges in Working with UK Banks

Working with UK banks provides its own challenges for FinTech start-ups. Banks are large organisations which are not flexible and do not move fast or quick enough to embrace any sort of innovation to create a big impact on their bottom line. Moreover, they have a lot of road maps and products they want to deliver while having their own challenges to mitigate risks. UK banks are also dealing with very sensitive information and have security concerns when buying the products and services of FinTech companies. In B2C side, ensuring the security of customers is something that the industry still needs to think about. Therefore, UK banks want to be sure that innovative solutions provided by third parties are as secure and convenient as possible. Furthermore, big banks have different types of customers and they want to make sure that these solutions meet their customers' requirements. However, convincing consumers to use their innovative solutions is challenging for UK FinTech companies as it is hard to change the consumer behaviour. Due to these reasons, a threat for FinTech start-ups which target banks might be the decreasing commitment of banks after they showed interest to start-ups' solutions.

In conclusion, UK FinTech companies are facing an industry which is very defensive and difficult to deal with. However, how the financial services industry is going to integrate with FinTech which is going to change it, regardless whether they want it or not, is just a question of time. It's one of those things that will happen, the same as the music and publishing industry were disrupted by technology. It's now the financial services industry's turn.

Interview Findings: Turkish Organisations

Banking Technologies in Turkey

The banking sector in Turkey has a high growth potential. Turkey's population is 77m and 50% of this population are under the age of 30. Moreover, banking customers are quick adopters of new technologies. As the Turkish population is young and welcoming disruptive technologies faster than other countries, technology adoption in Turkey has accelerated. Turkey is also more advanced than many other western countries in terms of internet speed and smartphone penetration.

Thanks to the growing young population and internet usage in Turkey, the Turkish banking sector is very successful in leveraging new technologies. For example, the increasing usage of mobile banking products in Turkey is a result of banks' efforts to gain young customers. As the internet generation in Turkey, the people born in the 90s, has actually started to graduate from high schools or universities and earn their own money, they will be using payment technologies more often to spend and manage their incomes. It is expected that there will be a significant increase in the mobile and electronic payments usage driven by this generation.

On the other hand, the unbanked and the underbanked population in Turkey are still high. Currently, banks are trying to reach this population, especially the people living in underdeveloped regions, through developing innovative banking technologies.

Therefore, Turkish banks need to create value propositions for the digital natives and the unbanked and underbanked population.

The financial services sector in Turkey is among the most technologically advanced and innovative sectors. Banks are quick to adopt and really keen on developing new technologies. Turkish banks' products, offerings and the usage of technology are surpassing their competitors all around the world. There are some examples where they advance European or US banks in terms of launching online and mobile banking technologies.

Turkish banks consider technology and innovation as competitive differentiators. Thanks to their high profit margins, they have invested heavily in technology and kept their systems at the leading edge of operational and digital excellence for decades. In addition, banks and technology suppliers to the banking sector are constantly trying out new ways to improve the existing solutions and testing new technologies. Banks are open to innovation and spare no expense in investing in new technologies even though there is not enough demand for them. They use the latest technologies mainly to reach their customers through multiple channels and with reduced costs.

Turkey is also one of the most innovative and competitive payment markets in Europe. For instance, it was the first country in Europe to issue contactless cards. The implementation of payments in instalments and loyalty schemes (mile and cash bonus collection practices) triggered the rapid growth of innovative payment technologies and fierce competition in Turkey. Currently, card penetration is very high with 112m debit cards and 58m credit cards, making Turkey the Europe's biggest debit card and credit card market.

Accordingly, the financial technologies sector is also well-established and provides more advanced and innovative solutions compared to their competitors in Europe. Considering the difference between the conservative consumer behaviour in Europe against the tech-savvy consumers in Turkey, this advancement is easy to justify. Also, the volatile business and financial environment push financial institutions to use technology as much as possible for better efficiency, risk management, customer onboarding and public relations (PR) practices.

Banking Regulation in Turkey

Thanks to the BRSA, the Turkish banking sector is regulated in terms of technology and technology related vendors. With the regulation and legislation changes, instead of having separate service level agreements with vendors, banks can use some existing regulations. This protects banks and decreases the risk of partnering with third parties.

Besides, Turkey has a closely regulated card market with some gaps compared to Europe. However, there have been some improvements in the regulation. Recently the Government, the Central Bank of the Republic of Turkey (CBRT) and the BRSA introduced a new legislation which regulates the e-money institutions and payment services. It is Turkey's version of the European Payment Services Directive which was missing in the Turkish legal system. This new legislation is considered as critical for the growth of e-commerce, payment services and electronic money in Turkey.

The Turkish Government's Role in the Financial Services Sector

The nature of the sector and highly regulated financial environment create some difficulties for banks to enjoy the advantages and flexibility that new technologies provide. Sometimes new technologies become invalid for Turkish banks as it is not possible to try new technologies without mitigating risks. However, the banking sector is negotiating with regulatory authorities that can ease regulations in implementing new technologies.

Furthermore, the payments sector has close relations with the Turkish Government. For example, the industry players can easily explain the sector's needs and try to find solutions together with the Government. Similarly, the Government includes payments organisations to their consultation and cooperation process.

The Turkish financial institutions have a vision to create a cashless society by 2023, and all the industry players are very committed to this objective. However, the main challenges for Turkey to become a cashless society are the development of infrastructures, the large unbanked population and the habit of cash usage.

Turkish Banks' Investments in Technology

Turkish banks have invested a lot of money into the payments business to strengthen their value positions and enhance customer loyalty and profitability. As a result, Turkey is in a better position in mobile payment technologies compared to the rest of the world, and all industry players are trying to make these technologies work from different angles. For example, besides payments companies, mobile network operators came up with their own digital wallets and there are also some start-ups supporting this technology.

Turkish banks also invest primarily in mobile applications as these applications reduce their expenses. They have started to give importance to the usage of mobile applications within their organisations as well.

Turkish Banks' Attitudes towards Innovative Technologies

The Turkish banking sector mainly prefers developing technologies in-house as they possess the relevant resources. Most of the banks have technology subsidiaries in which they invest considerable amount of money. However, there is an opinion that Turkish banks shouldn't create technology subsidiaries within their organisations. As they are banks, not technology companies, they do not need to invest to create such technology subsidiaries. Instead, with the help of outsourcing and special agreements with the right vendors, Turkish banks can easily create a technology environment within their organisations and differentiate themselves.

When Turkish banks have their technology subsidiaries, they should hire the best talents in different domains, such as internet banking, mobile banking, core banking etc., which is very difficult. There are many expert companies in Turkey which serve the banking sector for their technology needs. Therefore, working with the experts for each sub-area can be a better solution for banks than creating their own technology subsidiaries.

In addition, customer expectations and behaviours are changing due to new technologies. In order to adapt market conditions, Turkish banks should be open to new models and collaborations with other parties. Otherwise, they might lose their customers or more importantly the customer data.

Most Turkish banks are aware of these changes and take action accordingly. They have started working with disruptive FinTech start-ups as they are more agile and innovative than traditional technology companies. For example, the trend is using in-house resources to develop payment solutions but recently it has been seen that Turkish banks are leveraging third parties to develop these platforms, software and solutions. Moreover, these third parties started to sell their products in other markets, which is very important as they are able to grow their business significantly.

The Start-up Ecosystem in Turkey

The start-up ecosystem in Turkey has been developing rapidly in the last 5 years. Many companies were founded in different sectors thanks to the economic stability, developing internet technologies and increase in the number of VC companies (especially foreign ones), entrepreneurship centres and incubators.

Istanbul is the hotspot for FinTech start-ups in Turkey. The key strengths of Istanbul are having a young talent pool both in development and design areas, having cheaper labour costs compared to other start-up communities around the world and its increasing brand value.

Turkish FinTech start-ups are mostly hiring people from the top universities, and a lot of their employees have studied or worked abroad. There is also a reverse brain drain to Turkey which creates an advantage for these start-ups.

As Turkey is located between Europe and Asia, it is a great gateway for European companies to access the Middle East and Middle Eastern companies to reach Europe. For example, Istanbul-based companies can access London, Paris, Dubai and Cairo with flights taking 3-4 hours. Therefore, Turkey’s strategic location enables FinTech companies in Turkey to do business easily with the companies in Europe and the Middle East. Furthermore, acquiring Turkish FinTech companies can help international companies expand into the growing Middle East market. Also, a FinTech company can be easily recommended to other banks in the Middle East or Europe by Turkish banks and open branches in these regions.

The Turkish Government supports the development of Technoparks by collaborating with universities to help science, technology and business integrate with each other. By being located in STPs, which are governed by a legal framework managed by the Ministry of Science, Industry and Technology, companies can have major tax advantages and incentives and exemptions from the value added tax (VAT), corporate tax and income tax.

The Turkish Government also aims to stimulate entrepreneurship and SMEs creation and boost productivity. For example, FinTech companies can receive support from the Government and multiple public organisations for some of their R&D projects.

Challenges for Start-ups in Turkey

Despite the advantages offered by Turkey, start-ups are facing major challenges.

Turkish start-up ecosystem lacks marketing and brand culture and institutional investors. On the other hand, Turkish entrepreneurs mostly have economic concerns and desire to earn money in a short period of time. Moreover, many entrepreneurs in Turkey have the fear of failure. These are the biggest enemies of Turkish start-ups. However, they shouldn't be afraid of trying to create new technologies. Innovation and disruptive technologies are risky because companies don't know whether these technologies will work or not. Turkish start-ups need to try the new technology, enhance it or maybe scrap it and start again from scratch. This will help them build a company culture and well position their brands.

Challenges for FinTech Start-ups in Turkey

In particular, FinTech companies working with the financial services sector in Turkey have a major weakness which needs to be eliminated: FinTech companies in Turkey have to create their own ecosystems. For instance, a FinTech company providing solutions to different banks has to partner with other vendors who can easily develop some functions on their products or services on behalf of its customers.

Furthermore, existing business standards and managing customer relations are the biggest challenges that FinTech start-ups face. The industry thinks that instead of enhancing the incentives and support to Turkish start-ups, the related procedures and processes should be improved as they are complex and long. Lastly, informing customers about innovative technologies and explaining well their contributions to business processes are the continuous challenges of FinTech start-ups.

Collaboration between Turkish Banks and FinTech Companies

Some Turkish banks have been visited by start-ups and domestic and international technology companies who are interested in doing business with them.

Turkish banks give significant importance to the technical capabilities and previous successes of FinTech companies when choosing to work with them. They access FinTech companies through references, and many banks continue to work with them after the first project. On the other hand, FinTech companies consider passing the procurement process and signing the contract as the most important parts when working with banks. Banks' policies and law departments conduct a detailed assessment to finalise these agreements.

Considering the differences in corporate culture among banks, FinTech start-ups might need to give special focus in communication until finding the best way of working together with Turkish banks. The advantage of working in collaboration with banks' engineers is that they act fast during the service integration process. However, it can be difficult to reach these engineers as technology subsidiaries of Turkish banks are located relatively far from business centres.

Besides mobile banking solutions, Turkish banks demand wallet, Google Glass, beacon and ATM projects from the FinTech companies. Nowadays, m-commerce has been taking the place of e-commerce in Turkey which makes P2P money transfer more and more crucial. Innovations related to P2P money transfer, such as paying through mobiles, watches and Google Glass, are on the way for Turkish consumers.

On the other hand, some Turkish payments companies work very closely with the technology vendors, entrepreneurs and different players within the ecosystem. They are open to work with anyone willing to introduce a new solution and ready to support them with their own experience and know-how. This is very important from a business perspective as they can identify the ideas and companies which may succeed and contribute to their businesses.

Turkish Banks' Attitudes towards FinTech

Turkish banks consider providing mentorship to FinTech companies in order to share knowledge and provide them with network opportunities. On the other hand, some FinTech companies have been mentoring and partially financing young start-ups through contests. They also coordinate with the entrepreneurship centres at universities for encouraging and supporting new start-ups. However, there is a lack of collaboration between banks and FinTech companies in developing the FinTech ecosystem in Turkey.

Some Turkish banks are following the FinTech accelerators in London and open to get involved in similar initiatives in Turkey. Also, established FinTech companies consider creating partnerships with and/or providing mentorship to FinTech accelerator programmes that can be launched in Turkey.

The FinTech sector offers a great opportunity, especially for young developers and young entrepreneurs. Some Turkish banks plan to collaborate with universities in order to create an open platform for young code developers and enable them to build innovative solutions for the banks' business issues. Some Turkish FinTech start-ups have also formed partnerships with universities to attract the top talents in design and engineering.

Summary of the Findings from the Interviews

The interviews have shown that banks in the UK and Turkey have some similarities in terms of the way they perceive and leverage new technologies. However, it has been observed that there are some differences between them in terms of the way they acquire and/or develop innovative technologies.

Both the UK and Turkey are strategically important markets. Their large populations are welcoming disruptive technologies faster than other countries. The internet usage and mobile and smartphone penetration are getting higher, and banking customers are quick adopters of new technologies in both countries.

One of the reasons contributing to the emergence and development of the FinTech sector in the UK is declining consumer trust to banks after the GFC in 2008. As consumers started to look for alternatives to banks after 2008, UK banks realised that they have to innovate in order to win their customers back.

Turkish banking customers are quick adopters of new technologies due to the demographic features of the population. As a result of the growing young population and internet usage, the Turkish banking sector is keen on and very successful in leveraging innovative technologies.

The banking sectors in both countries are advanced and tech-savvy. UK banks want to have the best technology as they know that otherwise they will lose customers. For instance, if a UK bank launches an innovative technology, competition leads other banks to introduce the same service to their customers. On the other hand, the Turkish banking sector is very technologically advanced and innovative, and banks provide better solutions compared to their competitors in Europe. As a result of their high profit margins, Turkish banks can invest in new technologies easily.

UK banks are very interested in making their own internal systems and processes better through innovation while Turkish banks use these technologies for better efficiency, risk management, customer onboarding and PR practices. Besides mobile banking solutions, Turkish banks also demand wallet, Google Glass, beacon and ATM projects from FinTech companies.

Major British banks have very competitive in-house development teams. On the other hand, Turkish banks prefer having technology subsidiaries in which they invest a considerable amount of money. However, as customer expectations and behaviours are changing due to new technologies, Turkish banks are recently leveraging third parties to develop platforms, software and solutions to gain competitive advantage.

FinTech companies have been challenging UK banks and forcing them to engage with the FinTech sector for better efficiency and more sustainability. UK banks are interested in FinTech start-ups and want to engage with them. In addition, some UK banks consider further strategic investment opportunities including the acquisition of successful FinTech companies. On the other hand, the Turkish banking and financial services sectors are interested in providing mentorship to FinTech companies and start-ups. They are open to share their knowledge and cooperate with these companies in order to develop innovative solutions.

UK banks want to be sure that innovative solutions provided by third parties are as secure and convenient as possible. Turkish banks give significant importance to the technical capabilities and previous successes of FinTech companies when choosing to work with them.

The FinTech sector is expected to bring value to the UK's economy and improve the financial services industry by fostering competition. The UK Government aims to make the UK a global FinTech hub, with London as the centre. The financial services cluster, tech community and supportive regulatory authorities and the Treasury are contributing to the development of the UK's FinTech sector. These communities are constantly interacting with each other in order to make the UK financial services industry more efficient and more sustainable. The infrastructure for FinTech innovation, including universities, accelerators and VCs, is very strong in the UK and attracting top talents to come to the country. The UK has an access to buyers, funding and talent. The regulatory risks have been reduced, and it's also cheap to set up a business and access to technology.

The start-up ecosystem in Turkey has been developing rapidly in the last 5 years. Many companies were founded in different sectors thanks to the economic stability, developing internet technologies and increase in the number of VC companies, entrepreneurship centres and incubators. Turkey's location also contributes to the development of a start-up ecosystem as Turkey is a great gateway for European companies to access the Middle East and Middle Eastern companies to reach Europe. Turkish population is well-educated and Istanbul has a young talent pool both in engineering and design areas. The Turkish Government aims to stimulate entrepreneurship and SMEs creation and boost productivity.

Regulation is challenging FinTech companies and start-ups in both countries. However, regulatory authorities and the UK Government are very supportive. They are trying to understand how they can help develop and promote the FinTech sector by listening to the needs of the FinTech community. On the other hand, the Turkish banking sector is negotiating with the regulatory authorities to ease regulations in implementing new technologies.

The SWOT Analyses of the FinTech Sectors in London and Istanbul

The main objectives of this book are to investigate how the FinTech industry can improve and transform the Turkish banking sector by making it more sustainable and efficient, and create a development model for the Turkish FinTech ecosystem. Researching the banking and FinTech sectors and interviewing 14 individuals from influential financial services organisations in the UK and Turkey have significantly contributed to the goals of this book and provided valuable insights on how to develop a FinTech ecosystem in Istanbul.

In order to understand what Istanbul needs to do for developing its FinTech ecosystem, performing SWOT analyses of the FinTech sectors in London and Istanbul is very crucial. Therefore, the following part presents a SWOT analysis of the FinTech sector in London and a SWOT analysis of the FinTech sector in Istanbul, which are generated thanks to the findings from the market research and interviews.

SWOT Analysis of the FinTech Sector in London

Strengths

- The UK Government's plan to make London the global FinTech capital
- Having strong communication and collaboration between banking, financial services, technology and FinTech sectors, the UK Government and regulatory authorities to develop and promote London's FinTech sector
- Having a continuously developing infrastructure for fostering FinTech
  - Industry body (*Innovate Finance*) for the FinTech sector, *Tech City* cluster, FinTech accelerators and university programmes related to technology and FinTech
- Developed and supportive start-up ecosystem
  - Availability of VCs and investors, the low cost of setting up a business, wide networking activities and easy access to financial services and creative industries
- Tech-savvy banking sector and the increasing interest among banks to engage with the FinTech sector
- The increasing competition within the FinTech industry
- Fast adoption of internet, mobile phones and smartphones
- Access to talented and multilingual workforce, ranging from fresh graduates to senior executives
- High brand value of London
- Convenient location to reach Europe and other countries easily

Opportunities

- Consumers' increasing interest toward FinTech solutions
- Banks' and financial services firms' increasing interest towards FinTech solutions
- Attracting more banks to use innovative solutions of FinTech companies
- The ability to attract talented and multilingual workforce, ranging from fresh graduates to senior executives
- Potential partnerships and collaborations between universities, financial services organisations and FinTech companies
  - Creating a FinTech Technopark in London in collaboration with universities
  - Creating partnerships between the universities and FinTech accelerators and incubation programmes
- The increasing number of partnerships with FinTech organisations in other countries to promote London as a global FinTech hub

SWOT

Weaknesses

- Strict regulations for FinTech companies
- Restrictive immigration laws
- Lower availability of VCs compared to Silicon Valley
- High costs of living and operational costs for companies coming from other countries
- The difficulty of opening a bank account in the UK for companies coming from other countries
- The difficulty of ensuring the security of innovative solutions provided to end users and financial institutions by FinTech companies

Threats

- Strict regulations for FinTech companies
- Restrictive immigration laws
- Lower availability of VCs compared to Silicon Valley
- Competitive in-house development teams of major UK banks
- The decreasing commitment from banks to the solutions of FinTech companies
- Security concerns of individuals and businesses towards FinTech solutions
- The low ability to attract talented and multilingual workforce, ranging from fresh graduates to senior executives
- Other cities that attract FinTech companies

SWOT Analysis of the FinTech Sector in Istanbul

Strengths

- Economic stability in the past decade with steady growth
- Strong and highly regulated banking sector since 2001
- Future objectives
  - Making Istanbul a global financial centre, developing the ICT sector and becoming a cashless society by 2023
- Burgeoning infrastructure in Istanbul to increase communication and collaboration between banking, financial services, technology and FinTech sectors, the Turkish Government and regulatory authorities
- Having majority of the leading organisations from banking, financial services, FinTech and technology sectors in Istanbul
- Transformation of Istanbul into a start-up hotspot
  - Increasing brand value of Istanbul in the global start-up scene, promotion of entrepreneurship in Turkey, increasing government support for start-ups (e.g. incentives, tax exemptions and funds), developing and growing start-up ecosystem in Istanbul and the increase in VC investments into Istanbul start-ups
- The increase in the number of entrepreneurship centres, STPs and industry-university collaborations
- Tech-savvy and highly innovative banking sector and (potential) interest among banks to engage with the FinTech sector
- Banks' and financial services firms' interest towards collaborating with or creating (potential) FinTech accelerators in Turkey
- Access to a large, young and educated talent pool that have international study and work experience (e.g. increase in the reverse brain drain to Turkey)
- Having a large tech-savvy young population
- High mobile phone and smartphone penetration rate and the increasing usage of mobile banking services
- Central location between Europe and the Middle East

Opportunities

- Creating an infrastructure to increase communication and collaboration between industries to develop the FinTech sector
- Making Istanbul a global financial centre
- Establishment of *Finance Technopark*, which is the first thematic technopark in Turkey focused on finance
- Developing an infrastructure to foster innovation
- Increasing the number of start-up acceleration and incubation programmes in Istanbul
- Increasing mentorships provided by banks to FinTech companies
- Banks' and financial services firms' interest towards creating or collaborating with start-up accelerators and incubation programmes in Turkey
- Attracting talented and multilingual workforce, ranging from fresh graduates to senior executives
- High unbanked and underbanked population
- Collaborations and partnerships with foreign FinTech organisations
- Central location between Europe and the Middle East with a potential to become a regional FinTech hub

SWOT

Weaknesses

- The existing need for developing infrastructure
- Highly regulated banking sector
- Lack of industry experts for Financial Services and ICT sectors to support and promote these sectors
- Low availability of VCs
- Weak communication and collaboration between technology companies and banks
  - Turkish banks' preference for developing innovative technologies in-house

Threats

- Highly regulated banking sector
- Historically high inflationary economy which has stabilised for a decade
- Turkish banks' preference for developing innovative technologies in-house
- Security concerns of individuals and businesses towards FinTech solutions
- Low ability to attract talented and multilingual workforce, ranging from fresh graduates to senior executives

Conclusion of the SWOT Analyses

It can be clearly seen that the SWOT analysis of the FinTech sector in London and the SWOT analysis of the FinTech sector in Istanbul have provided important elements of healthy FinTech ecosystems.

Based on these SWOT analyses, a development model for the FinTech ecosystem in Istanbul has been created. The following part presents this development model and provides recommendations on how to develop the FinTech ecosystem in Istanbul.

4

Conclusions

A Development Model for the FinTech Ecosystem in Istanbul

The SWOT analysis of the FinTech sector in London and the SWOT analysis of the FinTech sector in Istanbul have showed that there are four essential themes for developing an healthy FinTech ecosystem in Istanbul. These themes are:

1. Collaborative Ecosystem
2. Interaction between the Communities
3. Well-developed Infrastructure for Innovation
4. Supportive Ecosystem for the Development and Growth of the FinTech Sector

Based on this development model, recommendations for developing a FinTech ecosystem in Istanbul are presented in the following part. These recommendations provide guidance about how the major finance and technology centre of Turkey, Istanbul, can be inspired by what London does and develop its own FinTech ecosystem, and attract Turkish banks to integrate with it for making the banking sector, and the financial services sector as a whole, better, more efficient and more sustainable.

Recommendations for Developing the FinTech Ecosystem in Istanbul

Collaborative Ecosystem

- The Turkish Government and regulatory authorities should take the lead in developing the FinTech sector in Turkey.
- The Turkish Government and regulatory authorities should try to understand and identify the needs of the Turkish FinTech sector.
- The Turkish Government and regulatory authorities and financial services, technology and FinTech sectors should work closely together to develop a FinTech ecosystem in Istanbul.
- Banks and financial services organisations should be encouraged to contribute to the development of FinTech start-ups by providing mentorships and partnering with (potential) FinTech accelerators.
- Banks and financial services organisations should interact and collaborate with FinTech companies to develop innovative technologies.
- An industry body for the Turkish FinTech sector which includes policymakers, regulators, banks, financial services and technology companies, investors and universities should be created.
- Turkish banks should be open to do more business with FinTech companies and not damage competition within the FinTech sector by investing heavily in their technology subsidiaries.

Well-developed Infrastructure for Innovation

- FinTech accelerators should be created by banks, financial institutions and FinTech companies.
- Infrastructures should be developed to support the *IFC-I* plan and ICT sector.
- The number of STPs in Istanbul should be increased.
- The number of university programmes related to technology and FinTech should be increased across Turkey.

Interaction between the Communities

- The Turkish Government and regulatory authorities and financial services, technology, and FinTech companies should interact with each other more and develop close relations.
- The Turkish Government's plans to move the BRSA and CMB from Ankara to Istanbul should be accelerated.
- The importance and advantages of contributing to and collaborating or partnering with FinTech companies should be promoted to the Turkish banking sector.

Supportive Ecosystem for the Development and Growth of the FinTech Sector

- The regulation related to the FinTech sector should be improved.
- FinTech companies should create and develop their own ecosystems and collaborate with each other.
- Turkish consumers should be trained more on how to use innovative financial solutions and educated about the advantages of using these solutions.
- Istanbul should be promoted more as a financial centre to attract the leading financial institutions and as a start-up hotspot to attract VCs to invest in technology companies.
- The efforts to develop a supportive ecosystem for start-ups should be accelerated.
- Networking events should be organised for banks, investors, financial services, technology and FinTech companies to build relations.
- In order to access to and attract the talented and multilingual workforce, career events promoting the FinTech sector should be organised with universities.
- Competition in the Turkish FinTech industry should be promoted.
- Established FinTech hubs, such as London, should be taken as an example and observed closely in order to learn lessons from their industry practices.
- FinTech organisations in established FinTech hubs, such as London, which are willing to create partnerships with the Turkish FinTech sector should be identified and contacted for building partnerships.

Conclusion

After the GFC in 2008, the FinTech sector has become one of the fastest growing entrepreneurial areas in the world for start-ups that aim to disrupt traditional banks. While some banks consider FinTech as a threat to their businesses, many others have realised that FinTech is an opportunity for them to gain competitive advantage and integrate innovative solutions quickly into their operations enabling better efficiency and customer service.

The objective of this research is to investigate how the FinTech sector disrupts and improves the banking industry by making it more sustainable and efficient. My analysis concerns Turkish banking and the lessons that can be learnt from cross-border knowledge sharing between one of the world's centres of FinTech, London, and the emerging sector in Istanbul.

The development model presented in this book would help Istanbul foster its own FinTech ecosystem which will contribute to the development of the Turkish banking sector. As the analyses suggest, Istanbul has the important elements to develop a FinTech ecosystem. Therefore, the Turkish Government should put the goal of building a FinTech ecosystem in Istanbul on its agenda. In addition, all the players in Turkey's financial ecosystem, including the Government and regulators, banks, payments organisations, financial institutions and FinTech companies and start-ups, should collaborate with each other and the international players to foster a FinTech ecosystem in Istanbul.

The policymakers in Turkey can benefit from the recommendations that are presented in this book to develop, strengthen and promote the Turkish FinTech ecosystem which will significantly contribute to the objective of making the Turkish banking sector better, more efficient and more sustainable.

The importance of embracing FinTech has been growing all around the world, and it is time for Turkey to jump on the FinTech bandwagon.

Appendix

The Banking Sector in Turkey

The Turkish banking sector is divided into three major periods which are the pre-crisis period (1992–1998), the crisis period (1999–2003) and the post-crisis period (2004–2009).[62]

The pre-crisis period was shaped by financial deregulation which led to an increase in the number of banks and a decrease in market concentration. As a result of weak regulation and discipline, the number of banks in Turkey rose from 66 in 1990 to 81 by the end of 1999. Moreover, macroeconomic instability and global crises during the 1990s damaged the Turkish banking sector.

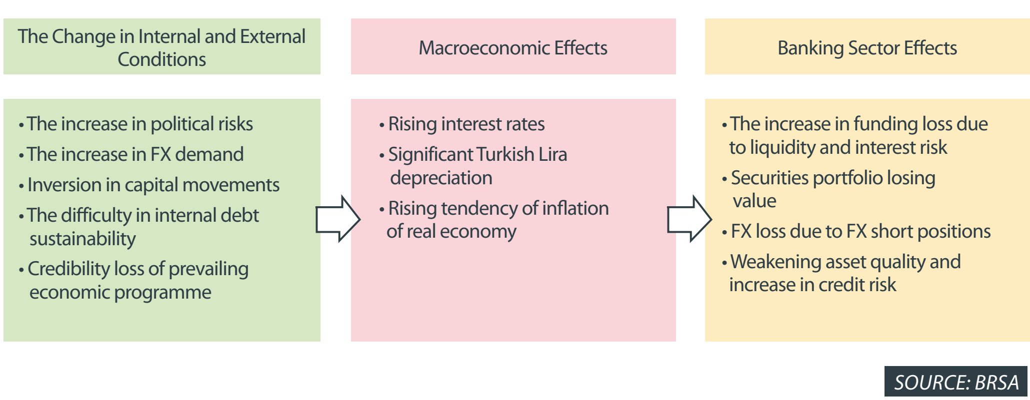
Before the occurrence of the biggest crisis in Turkey's history, the financial system was supervised by the Turkish Treasury, the CBRT, the CMB, Prime Ministry, and Ministry of Finance at the same time. The multiplicity of regulatory and supervisory bodies created a lack of coordination between these bodies. As Turkey's economy became vulnerable and its financial services sector was getting weaker, a significant need for a supervisory and regulatory body arose. In order for one authority to supervise and regulate the entire industry, the BRSA was founded and started its operations in 2000.[63]

As a result of weak economic growth, unsustainable domestic debt, high inflationary environment and uncertainties in current account financing, the biggest twin crises occurred in Turkey's history in November 2000 and February 2001, which later created a systemic crisis in the Turkish banking sector.[64]

Turkish banks were affected by three major shocks: The rise in funding costs due to the increase in interest rates and maturity mismatch, capital losses as a result of mark-to-market decline in the value of government securities holdings, and capital losses caused by the change in foreign exchange rate and open foreign currency position.[65]

During the crisis, the banking industry lost 22.7% of its assets based in USD while the number of banks, branches, and personnel were reduced significantly.[66]

***Figure 10:* February 2001 Crisis Process**

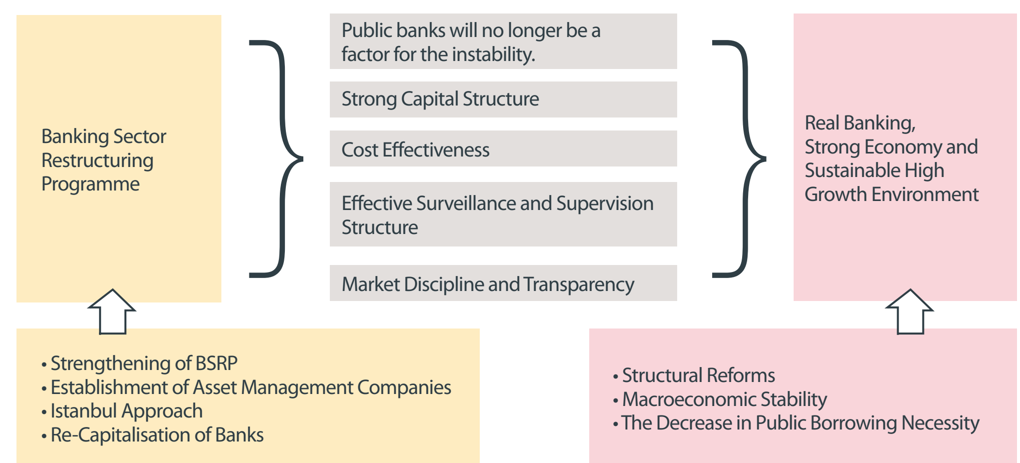


Source: BRSA (2010)

The crisis period was shaped by re-regulation due to the rise in non-performing loans and negative profits. Important structural changes had taken place in the Turkish banking sector in order to create an environment with greater monetary and macroeconomic stability.

The Turkish Government took actions for removing the confidence crisis and financial instability and adopted a new programme called *Transition to a Strong Economy* and based on market-orientation and openness to world economy. Moreover, in order to transform the damaged banking sector into a resilient and competitive one, the *Banking Sector Restructuring Programme (BSRP)* was launched. BSRP focused on restructuring public banks and bringing healthy structure to private banks, strengthening legal and institutional framework of banking supervision and the resolution of banks through sales, mergers, liquidations or transfers.[67]

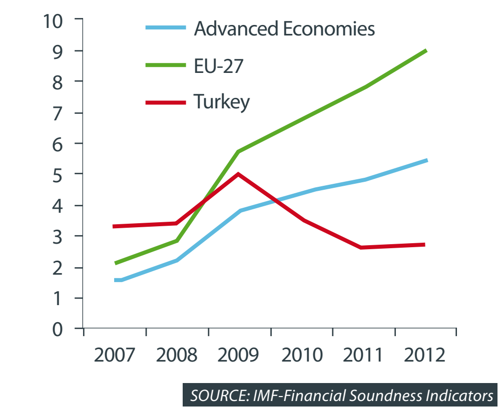
***Figure 11:* Restructuring Programme**



Source: BRSA (2010)

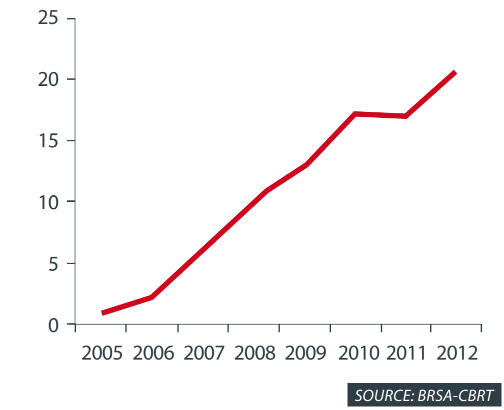
With these new policies, Turkey has achieved macroeconomic stability. In addition, the Turkish banking industry has become very sound due to its regulation and supervision and conservative banking practices. The sector has been constantly growing since 2004 and managed to attract global capital thanks to the positive developments in national and international environment after 2002.[68]

Figure 12: **Nonperforming Loans to Total Loans (percent)**



Source: Aysan and Ermisoglu (2013)

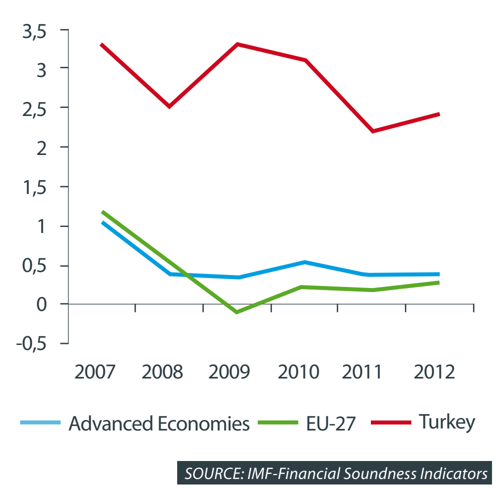
Figure 13: **Foreign Capital in the Banking Sector (TLbn)**



Source: Aysan and Ermisoglu (2013)

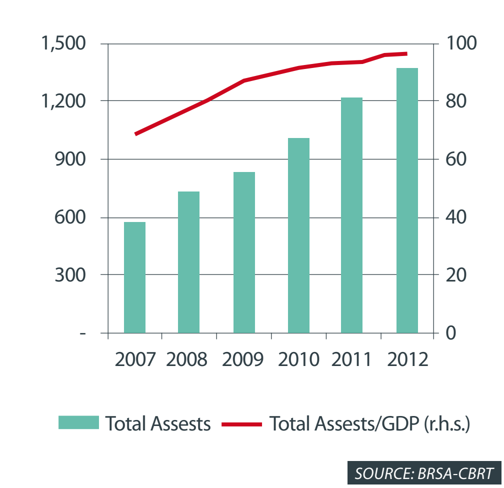
These structural reforms and political stability after the twin crises helped Turkey develop a robust banking system. As a result, Turkey overcame the GFC in 2008 without a major damage and recovered rapidly.[69] During the GFC, none of the banks needed to bailed out. In addition, they maintained their asset quality for a long time without major gaps as Turkish banks are profitable, sound and well-capitalised.[70]

Figure 14: **Return on Assets (percent)**



Source: Aysan and Ermisoglu (2013)

Figure 15: **Total Assets (TLbn, percent)**



Source: Aysan and Ermisoglu (2013)

The Turkish banking sector fully adopted Basel II framework in 2012 and most of the draft regulations related to Basel III have been completed on time by the BRSA.

As of December 2013, asset size of the Turkish banking industry was TL1.732bn while loans were composing 60.5% of total assets with TL1.047bn.[71] Moreover, the sector's profit was TL24.732m while its return on assets and return on equity were respectively 1.6% and 14.2%. Also, the sector's capital adequacy standard ratio was 15.3% and nonperforming loans ratio was 2.7%.

According to the Banks Association of Turkey, as of January 2016, there are 47 banks operating in Turkey.[72]

Table 1: Number of Banks and Branches in the System

	2013		2014	
	Bank	**Branch**	**Bank**	**Branch**
Deposit banks	32	10,981	34	11,182
State-owned	3	3,398	3	3,500
Private	11	5,338	11	5,455
SDIF	1	1	1	1
Foreign	17	2,244	19	2,226
Develop. and invest. banks	13	40	13	41
Total	**45**	**11,021**	**47**	**11,223**

* Including branches in the Turkish Republic of Northern Cyprus and branches abroad.

SOURCE: BAT

Source: Banks Association of Turkey (BAT) (2015)

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The author of this book, Melike Belli, wrote a dissertation on the Impact of Financial Technologies on the Banking Sector during her Master's studies at the University of Nottingham in 2014 which has been transformed into this book. The content of this book is sourced from this dissertation, which is referenced below:

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Over the last few years, FinTech has become one of the most popular concepts for financial institutions all around the world as a result of a massive technological revolution.

As BKM, with the vision of powering the future of digital payments, we aim at providing a convenient environment that enables to build a powerful FinTech ecosystem in Turkey.

Banking and FinTech tells the story of the UK's accomplished FinTech sector and draws a roadmap for building a sustainable Turkish FinTech ecosystem by revealing the key success factors based on the author's FinTech experience, observations and dissertation on the Impact of Financial Technologies on the Banking Sector. We consider this book as a great opportunity for the financial services industry in Turkey and hope it would be beneficial for all parties.

Soner Canko (Ph.D.)
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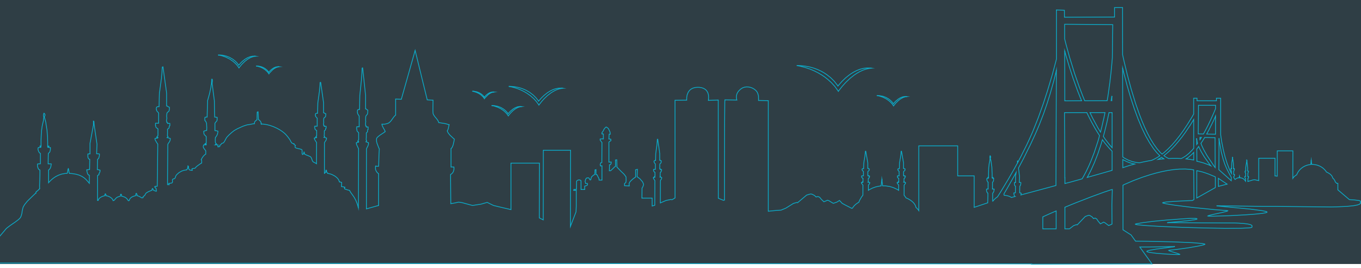

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