REPUBLIC OF TURKEY
BAHCESEHIR UNIVERSITY

FINTECH STARTUPS IN TURKEY - HOW WILL FINTECH STARTUPS CHANGE TRADITIONAL APPROVAL AND LENDING PROCESSES OF BANKS IN TURKISH FINANCIAL MARKETS?

Master's Thesis

SERKAN GÖKTEPE

İSTANBUL, 2018

REPUBLIC OF TURKEY
BAHCESEHIR UNIVERSITY

THE GRADUATE SCHOOL OF SOCIAL SCIENCES
MASTER OF ENTREPRENEURSHIP AND INNOVATION MANAGEMENT

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Supervisor: Prof. Dr. Lütfihak ALPKAN

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İstanbul, 2017 Serkan Göktepe

ÖZET

TÜRKIYE’DEKI FINTECH GIRIŞIMLERI –
FINTECH GIRIŞIMLERI BANKALARIN GELENEKSEL KREDI ONAY VE KREDI VERME SÜREÇLERINI NASIL DEĞIŞTIRECEK?

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Thesis Supervisor: Prof. Dr. Lütfihak Alpkan

Mayıs, 2018, 86 Sayfa

Dijitalleşme son yıllarda birçok sektörde ana akımdır. Özellikle servis sektörü dijitalleşme trendinden büyük ölçüde etkilenmektedir. Bankacılık sektöründe servis modeli ilk ATM’nin (otomatik gişe makinesi) 1960 yılındaki icadından beri değişmektedir. Gelişmiş bilgisayarlar ile bankalar, kâğıt ortamındaki hesap tutma işlemlerini dijital formlara taşıyabilmiştir. 1990'ların sonunda internet müşterilerinin hayatına girdiğinde, internet bankacılığı uygulamaları ile basit finansal işlemler online olarak yapılmaya başlanmıştır. Ancak, internet bankacılığı için kullanılabilir müşteri sayısı 2000'lerin sonuna kadar sınırlı kalmıştır. Akıllı telefonun icadı oyunun kurallarını değiştirmiştir. Potansiyel müşterilerin çoğu akıllı telefonlar kullanmaya başlamış (ilk iPhone 2007 de tanıtıldı) ve tam zamanlı ve hızlı internet erişimi mümkün hale gelmiştir. Aynı zamanda 2008 krizinin olumsuz etkileri ile birlikte bankalar ödenmeyen krediler ile uğraşmak zorunda kalmıştır. Bu dönemde, birkaç girişim finansal hizmetler ve teknolojiyi birleştirerek maliyetleri ve fiyatları azaltarak piyasaya girmişlerdir. Bu çalışmada hızla ilerleyen teknoloji karşısında, global ve lokal finansal piyasaların gelişimi ile kredi verme süreçlerindeki olası değişimler değerlendirilerek, bahsedilen girişimlerin mevcut finans kurumlarına rakip olup olmayacağı analiz edilecektir.

Anahtar kelimeler: FinTech, KOBİ Finansmanı, Elektronik Bankacılık, Mobil Bankacılık, Finansal Okur Yazarlık

ABSTRACT

FINTECH STARTUPS IN TURKEY - HOW FINTECH STARTUPS WILL CHANGE TRADITIONAL APPROVAL AND LENDING PROCESSES OF BANKS IN TURKISH FINANCIAL MARKETS?

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In recent years, digitization is the main stream in many industries. Especially service business is affected heavily from the digitization trend. Service model of banking sector has been changing since the first ATM (Automated Teller Machine) invented in 1960's. With improved computers, banks have turned their account keeping processes from paper to digital forms. At the end of 1990's, when internet came into customers' life, they started to do their simple financial operations over internet banking web pages. However, the number of available customers for internet banking was limited until the end of 2000's. The invention of Smart Phones changed the rules of the game. Majority of the potential customers started to use smart phones (1st iPhone announced at 2007) with full time fast internet connection. This was also the time of the 2008 crisis, when banks had to deal with bad credits. During this period, several startups –called FinTech's- have emerged combining financial services and technology to reduce the costs and prices consequently. In this study, the development of global and local financial markets will be discussed. The possible improvements in lending processes will be evaluated. The rivalry among FinTech's and banks will be analyzed.

Keywords: FinTech, SME Finance, Digital Banking, Mobile Banking, Financial Literacy

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ABBREVIATIONS

API	:	Application Programming Interface
ATM	:	Automated Teller Machine
BIS	:	Bank for International Settlements
BKM	:	Interbank Card Center
BRSA	:	Banking Regulation and Supervision Agency
EU	:	European Union
GDDS	:	Government Domestic Debt Security
KGF	:	Credit Guarantee Fund
KKB	:	Credit Bureau of Turkey
KOSGEB	:	Small and Medium Enterprises Development Organization
SME	:	Small and Medium Enterprises
SMS	:	Short Message Service
TBB	:	The Bank Association of Turkey
TCMB	:	Turkish Central Bank

1. INTRODUCTION

The purpose of this study will be explained in this part.

There is no debate that functioning of financial system is crucial for the economy. If the financial system is healthy, it can be asserted that the overall economy is also healthy. As known, financial sector players are mainly banks. There are also financial institutions that are specialized on specific financial products like leasing, factoring, credit institutions etc.

Each economic crisis in the history has affected the financial system. The last crisis that was witnessed at 2008 changed the financial industry because the reason behind the crisis was the industry itself. At the period of 2008 crisis, the level of technology increased rapidly and most of the processes migrated from traditional ways to innovative technological ones. Financial industry could keep the entry barrier high by investing technology processes against new entrants. Because there was high setup cost to enter the market. Technology disrupted this fact and customers embraced the new companies -FinTech's- services. There are mainly two reasons. These services are cheaper and easier to access via web or mobile devices. Turkey is also affected from this trend and new FinTech companies have been established in the last decade.

The aim of this study is finding out how FinTech trend will change the local financial system. Also, the differences between global and local FinTech industries are analyzed. It is commonly believed that the financial industry is going to be one of the most affected industries from digitization. For that reason, there will be new FinTech companies to take advantage of this change in the market. Another topic of this study is 'will FinTech companies be rivals or complementary companies for incumbent financial institutions?' This study is important for anticipating the future of the financial business and especially the future of SME lending process.

To answer the questions above, assessing the financial literacy is important. Financial literacy level of customers is also important issue to see whether there is an opportunity

in the market or not. For that reason, financial literacy reports were evaluated for SME owners and explained in the study.
The most of studies in the literature about SMEs have addressed their financing problems. There is one specific study about the platform economy in financial sector and how it is going to change the industry.

In this study, survey and interview methodologies are chosen. In the surveys there are two questionnaires for bankers and SME owners to understand their perspective and expectations for the future. Interviews were made with one SME owner and one banker who is responsible for digitization projects in one of the biggest banks in Turkey.

In the first part of the study, the financial sector and FinTech terms are defined. Then types of the FinTech startups are investigated to analyze the difference between local and global FinTech environment. Small and Medium Enterprises (SME) are also defined since this study focuses on SME credit processes.

In the second part, survey results are discussed. Also, interview results are presented from a SME owner and a bank officer. By using literature review and survey findings, a FinTech startup application is introduced for local and European market.

It is commonly accepted that digitization is not a temporary trend for financial system. There are severe changes in the financial industry and this change is affecting most people’s lives. 9.190 people lost their jobs in banks last two years. From this study it can be understood that the financial sector has embraced the digitization to increase their profitability. This has caused unemployment increase since 2016 in the sector. The transformation of the sector will serve new opportunities for entrepreneurs and unemployed people.

2. LITERATURE REVIEW

In this section, main definitions regarding this study are presented; importance of SMEs and their problems are investigated.

2.1 FINANCIAL BUSINESS ENVIRONMENT

Financial operations can be categorized into two main products as deposit and credit. In general terms, financial institutions collect deposits and lend money.

Deposit is a saving account that customers entrust to the financial institutions for a period. Customers ask interest on deposits or just want to save their money in a safe place. Credit is lending money to someone to payback later in certain circumstances or giving guarantee to a service to be done in specific conditions (Oral 2014).

Banks are institutions that transfers excess funds from persons to who needs. From this aspect, banks help to match savings and investments at the most optimal way (Yetgin 2017, p. 1).

In Turkish Law, 'credit' is defined with the 5411 Banking Law. According to law[1] credit types are;

a. Cash Credits,
b. Letter of Guarantees, counter-guarantees, bail and similar commitments,
c. Bonds or purchased capital market instruments,
d. Any kind of loans,
e. Receivables aroused from selling assets,
f. Overdue cash credits,
g. Uncollected Accrued interests,
h. Cash provisions of letter of guarantees,
i. Receivables form reverse repo transactions,

[1]https://www.bddk.org.tr/WebSitesi/turkce/Mevzuat/Bankacilik_Kanunu/15405411_sayili_bankacilik_kanunu.pdf

j. Risks undertaken from derivative products,
k. Shares of partnerships,
l. Transactions that is defined as credits by BRSA (Banking Regulation and Supervision Agency).

Credits that are offered to the customers by commercial banks can be classified with many dimensions. Loans can be categorized according to the attributes of the contract, cash and non-cash, collateral and unsecured (without collateral), short term, medium, long-term, purpose of use, consumption, investment, business etc. (Demirci 2014, p. 45).

The main classification for the credits is customer segment. Consumer credits are mortgage, car loans, personal finance and overdrafts. On the other hand, there are many different types of business loans. Most common variables of the commercial credits are defined in Table 2.1.

Table 2.1 : Main Types of Commercial Credits

Payback Type	Currency	Tenor	Collateral	Purpose
Line of Credit	Local	Short	General Credit Agreement	Working Capital
Installment Loan	Foreign	Medium	Mortgage	Investment
Balloon Loan		Long	Vehicle	
Credit Card			Cash	
Letter of Credit			Surety etc.	

Source: Akbank, Garanti Bankası, Barclays Bank web sites.

Banks are economic units that are working for every kind of transactions about capital, money and credit, and serving to satisfy all these needs of consumers, legal entities and governments (Kocaman 2015, p. 137). On the other hand, financial institutions like leasing or factoring have operations on credit side only.

All financial institutions are organized by the customer segments. Main customer segments are;

a. Retail,
b. SME,
c. Commercial,
d. Corporate

Segments.

The first step of the credit process is the approval of the credit line. Approval process differs by customer segment. In recent years, the evaluation process of consumers relies on statistical output which is derived from the collected data. Since reachable verified data has increased, the decision process of consumer credits has turned into automated in most cases. Consumers have been able to use credits by sending a simple SMS to the banks since 2005[2]. Most of the banks uses KKB (Credit Bureau of Turkey) information which is an organization established by banks in Turkey to share data. Ing Bank Turkey uses KKB score for pricing consumer credits differently[3].

For commercial credits, the approval process is not as automated as consumer credits. There are two main reasons. First, the retail credit products are simple. It is easier to decide the type of the credit. Second, the data collection process for commercial customers is costly and harder.

Although there are many similarities, every bank has a special approval process for their commercial credits. Credit analysts prepare credit evaluation reports. Credit analysis report that is prepared after collecting all necessary information and documents plays the most important role in the approval process (Kocaman 2015, p. 139)

There are alternative financing options for businesses other than bank credits as listed below (Özyiğit 2015, p. 78);

a. Leasing,
b. Factoring,
c. Forfaiting,

---

[2] http://www.hurriyet.com.tr/ekonomi/akbanktan-cep-telefonu-ile-kredi-3643008
[3] https://www.ingbank.com.tr/tr/ihtiyac-kredisi

d. Franchising,
e. Barter,
f. Mergers & Acquisitions,
g. Venture Capital,
h. Angel Investment

These financial tools are rarely used by SMEs. According to a study carried out by Ozer (2016) , almost fifty-four percent of SMEs uses bank credits for financing. Leasing and Factoring are the next financing alternatives for SMEs. Nevertheless, their contribution is quite low.

Measuring the credibility of their customers is very important for banks. Unconscious financing decisions of their customer can cause a severe damage and even make customers bankrupt. Enterprises may take responsibilities more than they can deal with because of lack of financial analysis (Özyiğit 2015, p. 111). Therefore, banks must make careful and detailed credit evaluation for the quality of their credit assets.

2.1.1 The History of Financial Business

Banking started during 15th century by development of jewelry stores in the world. At the 18th century, banks could issue banknotes in return of commercial promissory notes and became intermediaries for stocks and bonds. Also, they started to lend the money that was deposited by their customers. These operations made banks undeniable central keystone for economies of the countries by years (Demirel 2017, p. 11).

The banking as we know came along at 19th century. Over the years, they started specializing on certain customer segments. Retail, Business, Corporate and Commercial Banking are the main types of banking appeared later.

Starting from 1980's, derivatives of the financial institutions have emerged. The financial markets could go deeper in volume with these derivative instruments. These financial products increased the risk of instruments and the system made a correction in 2008. The 2008 crisis made the reputation of financial institutions like central banks, banks, IMF worse (Kahveci 2012, p. 122).

In recent decades, increased capacity of hardware, cloud computing, big data, broadband and mobile internet improved most of the operations in financial business (Skinner 2014, p. 196). These improvements in the technology helped other companies to give financial service to end customers. Financial institutions established Application Programming Interfaces(API) for serving these finance-oriented companies that are called FinTech.

After the latest crisis, mandatory mergers and acquisitions decreased the number of banks and increased their size. That's why it became harder for banks to keep up technological changes. Most banks are trying to create new services by working with FinTech companies in recent years.

2.1.2 Turkish Financial Sector

During the Ottoman Empire period, there were organizations for supporting small businesses with the name of "lonca". These small businesses could not live long because of the Industrial Revolution in the 18th and 19th century (Taşçı 2017, p. 25). Turkish Banking System can be analyzed in periods as follows;

a. 1847-1922: Ottoman Period
b. 1923-1932: National Banking
c. 1933-1944: Statist and Establishment of State Banks
d. 1945-1960: Private Banks
e. 1961-1979: Planned Period
f. 1980-1990: Liberalization in Banking
g. 1990-2000: Holding Banking and Financing Turkish Treasury
h. 2002-2007: Restructuring (Keskin, et al. 2008, pp. 1-20)

The remaining years can be categorized as;

a. 2008-2014: Retail Banking
b. 2015-…...: Digitization and FinTech Integration

During the Ottoman banking period Istanbul Bank was established in 1847 as the first Turkish bank. Given the short activity period of Istanbul Bank and the very limited area of activity, it is widely accepted that the banking started with the Ottoman Bank which was established in 1856.

After the establishment of Republic of Turkey, İş Bankası (1924) and Turkish Central Bank(TCMB,1930) were founded in the national banking period. İş Bankası has carried out the role of a conventional bank that is serving all financial products. TCMB became responsible for issuing banknotes, saving the value of the money, balancing the liquidity of the economy and lending to the other banks as an emission bank.

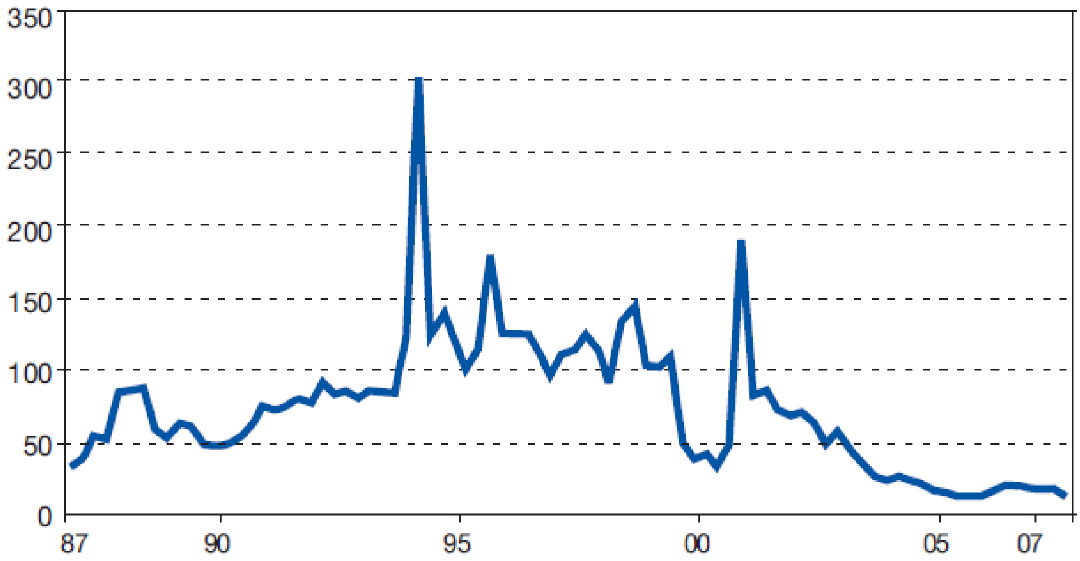
Until the end of World War II, many special purpose state banks were established like Sumerbank (1933) for textile, Etibank (1935) for mining, Denizbank (1937) for marine trade. These banks were founded as a part of Industrial Plans. There was a need for the government to carry out and control big investments because Turkey was a young republic and capital was limited.

After the World War II private banks were founded by rich merchants such as Yapı Kredi Bankası (1944), Garanti Bankası (1946), Akbank (1948), Pamukbank (1955) etc. At this time all the prices in banking was determined by the government authorities. Also, foreign exchange transaction could only be done by TCMB. For that reason, banking over branches and collecting deposits became more important for players in the industry.

Because of the instabilities in the economy, mixed-economic model was adopted at late 50s. During this period 'state' gave direction to the financial business. It was not allowed to establish a commercial bank. Instead, Industrial and Development Bank (1963) was established for the financial needs. Since every rule in the financial business was defined, the level of rivalry was low. Deposit banking was common as the previous period.

At 1980's, the liberalization and free market policies helped banks to perform many transactions because of export oriented development plan. Deposit rate controls were ended. As a result, the competition on deposit rates increased. New foreign banks came into the local market.
After liberalization, 1990's became the decade of high interest rates. Majority of the banks collected deposits and lent that money to the treasury with good profit margin.

Figure 2.1 :Government Domestic Debt Security interest rates (Yearly, %)



Source: Banking System in Turkey at 50th anniversary of The Banks Association of Turkey

At that period, banks' transaction commissions were almost zero because the main goal was collecting money at low cost. At 1994, after April 5 Economic Decisions, TYT Bank, Marmara Bank and Impexbank went bankrupt because of corporate governance issues[4].

As it is seen from the figure 2.1 Government Domestic Debt Security (GDDS) interest rates were more than 50% between 1990-2000 years. The easiest and the riskless money generation method for financial institutions was collecting deposits and buying GDDS. At that decade, banks were competing on the number of branches and branch coverage. The level of service quality was low. 1994 crisis helped trustable banks to collect more deposits with less cost. Economical instabilities continued until the end of 90s. At 1999 BRSA was founded and started its operations in 2000 to regulate financial institutions.

Since the inflation rate was high for years, an economical program was initiated to apply structural reforms for financial system in 1999. However, a major financial crisis was triggered because of slowing down of the structural reforms, decreasing domestic demand,

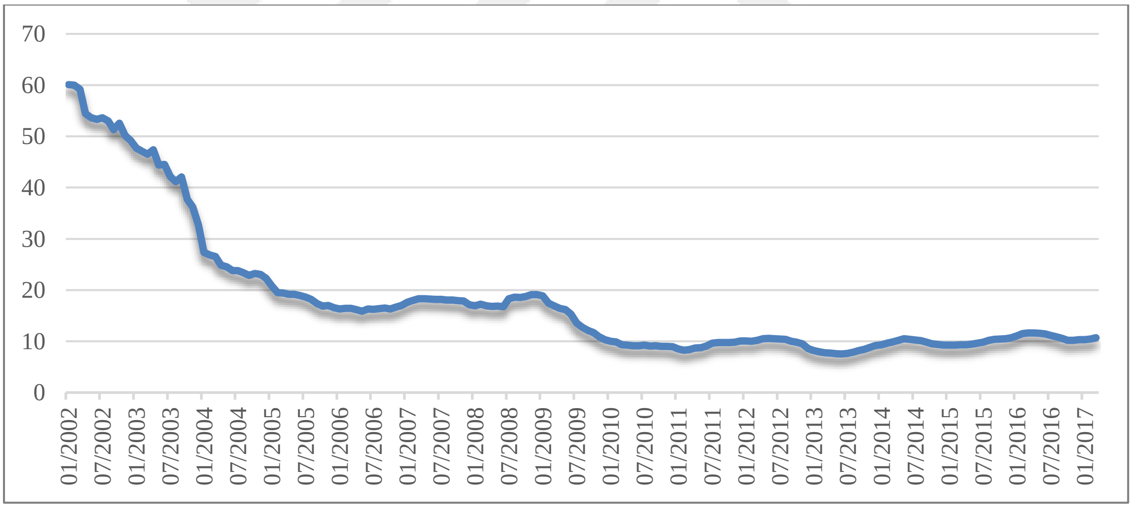
[4] http://www.milliyet.com.tr/2000/11/10/ekonomi/eko02.html

increasing foreign trade deficit and foreign exchange rates at 2001, February 19. This crisis has spanned to real sector later.

"Transition to Strong Economy" program has been launched in April 2001. As of the beginning of May 2001, the implementation of BRSA's banking sector restructuring program has been effective. In this way, the banking system has been protected in a healthier structure by controlling capital adequacy ratios, open foreign exchange positions and liquidity.

Transition to Strong Economy program became successful and decreased the inflation rate. Foreign exchange rates were stabilized, and financial system went better year by year. The program has caused to decrease deposit rates.

Figure 2.2: Average Deposit Interest Rates (%)- Up to 1 Year



Source: Central Bank of the Republic of Turkey

During 1990s customers were not paying any commission for their transactions because banks were earning good profit from GDDS. However, collecting deposits and buying GDDS strategy was challenged because of the decreasing interest rates.

Banks had to change their business model and increase the transaction commissions to keep their profits high as before. The percentage of commission income in total profit has been increasing since 2001.

In 2016, total banking sector generated income from commissions that was twice as much as their human resources costs. This rate was **73%** at 2003[5]. This output shows that banks have increased commission rates regularly since 2000's. For that reason, customers have been complaining about the high commission rates for years.

Consolidation of the banks after 2001 crisis decreased the number of active financial service providers from 79(2000) to 54(2002). Foreign investments came into the sector in the form of direct investment to the incumbent Turkish banks instead of establishing new ones. Entry barrier of the Turkish Banking Sector is still too high in terms of Porters' diamond framework. To be able to offer financial service, corporations need to invest heavily on human resources, IT infrastructure, offices, branches etc. So, foreign banks preferred to invest in Turkish banks. HSBC (Demirbank), General Electric (Garanti), Citibank (Akbank), Unicredit (Yapı Kredi) have entered to the market by buying stocks of the Turkish banks. That's why the competition level in the market stayed the same.

Meanwhile some of the global players in the sector decided to exit from Turkish market because of the negative effects of the 2008 crisis. Citibank sold its shares back in 2015 and quit the partnership with Akbank. HSBC decided to shut down its operations in Turkey at the same year. HSBC could not make an agreement to sell operations to incumbent banks. At the end, they decided to cut their branch and employee numbers and stay in the market in low volume[6]. At 2015 HSBC had 289 branches and 5.659 employees. In the following 2 years they closed 200 branches and laid off 2.917 employees according to The Banks Association of Turkey statistics[7].

In the 2002-2014 period Turkish Banks focused on retail banking, especially mortgage credits. Since the monthly interest rates decreased below one percent, the demand for mortgage credit exploded. In this period, retail banking products also grew with the wind of mortgage growth.

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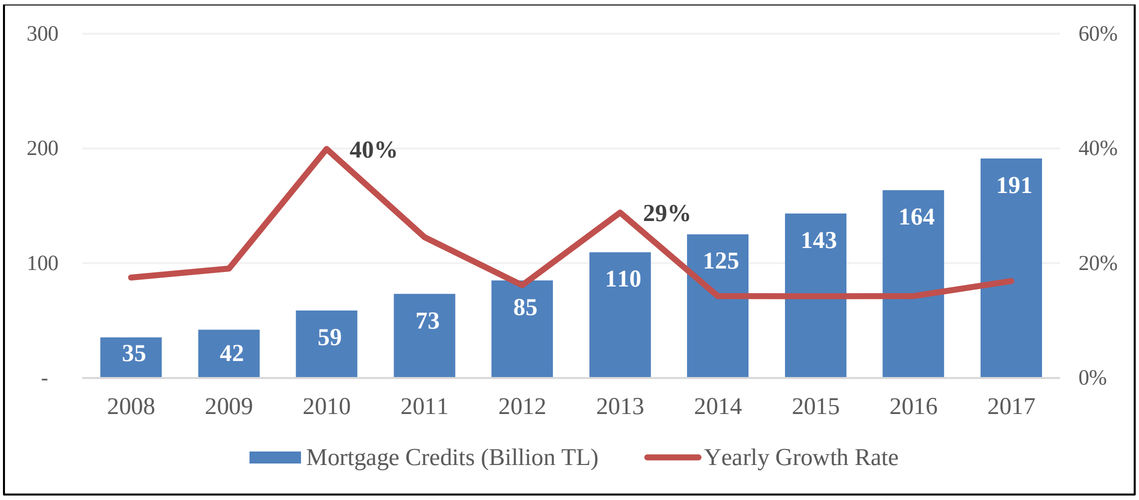
[5] Banking Regulation and Supervision Agency interactive statistics

[6] http://www.bbc.com/turkce/ekonomi/2015/06/150609_hsbc_turkiye_cikis

[7] http://www.tbb.org.tr

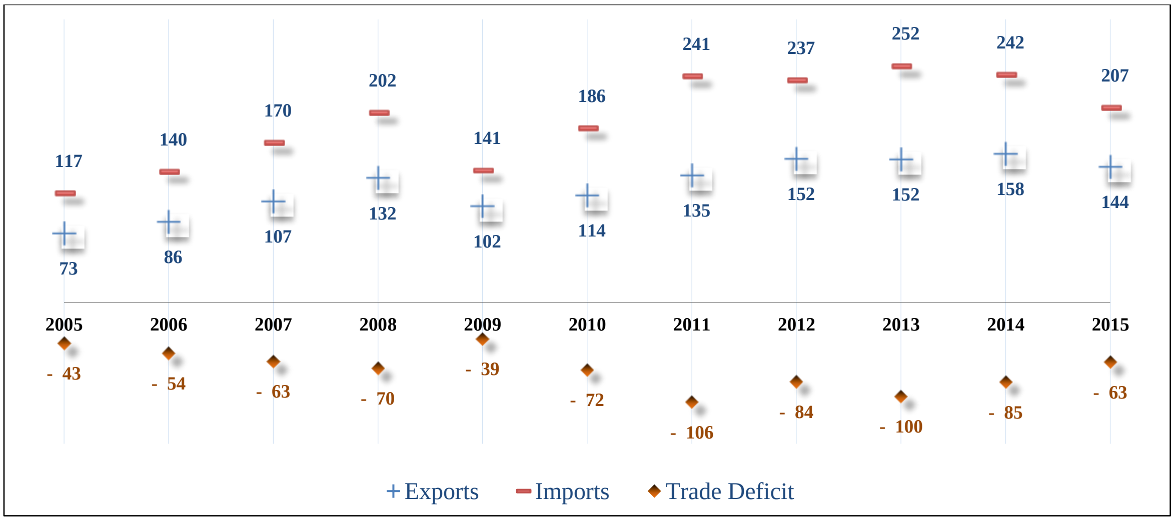
Figure 2.3: Mortgage Credits in Turkey (in Million TL)



Source: Banking Regulation and Supervision Agency

Increasing in retail credits boosted the imports of Turkey for two reasons. Construction (Mortgage credits) and automotive (vehicle credits) industries rely on imports. So, until 2014, trade deficit of Turkey increased rapidly[8]. As a result, the government changed the legislation about consumer financial products to reduce import related consumption. As it is seen from the graphic below this policy worked and trade deficit decreased by 37% starting from 2014.

Figure 2.4: Turkish Foreign Trade (Billion $)

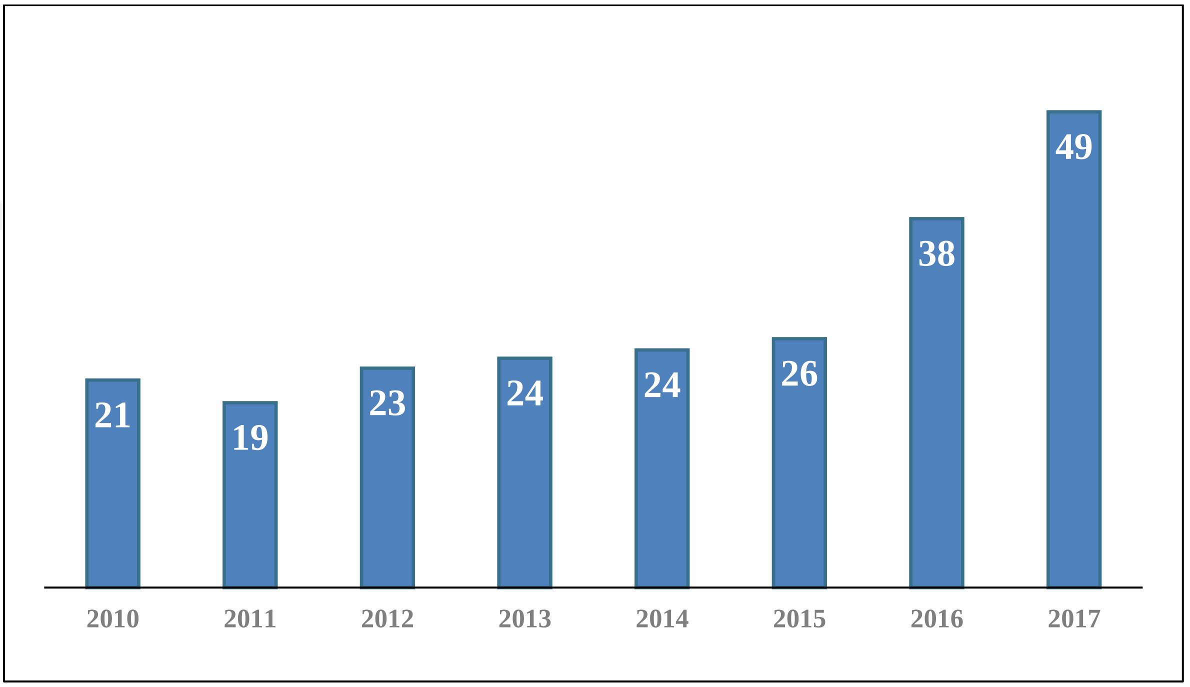


Source: Turkish Statistical Institute

[8] http://www.tuik.gov.tr/UstMenu.do?metod=temelist

For example, automotive market volume reduced by 10% at 2014[9]. Also, the import of passenger cars decreased by 17% in the same year[10]. The total banking sector profit did not increase significantly until 2016. Banks have started to suffer from low profit margins for retail products because of the heavy BRSA regulations at 2014[11].

Figure 2.5: Total Turkish banking sector income (Billion TL)

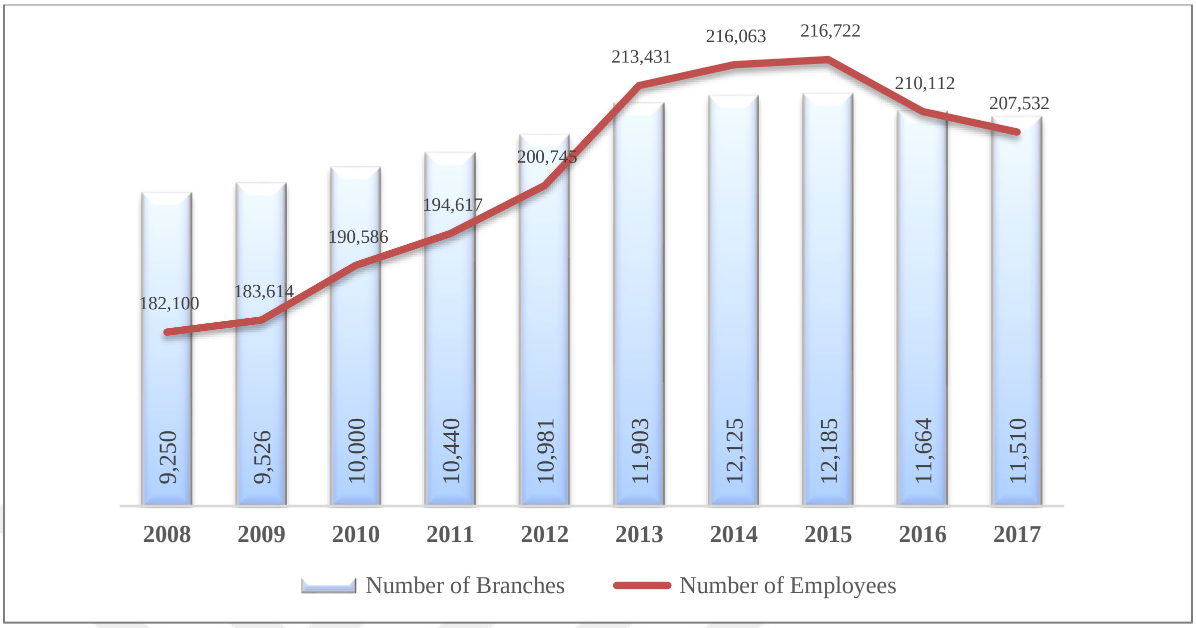


Source: Banking Regulation and Supervision Agency

In this period banks have decided to invest more on IT infrastructure to reduce the operational costs. To do that, they digitized the standard processes, closed many branches and decreased the number of employees at the same time. At 2016 and 2017 number of branches started to decrease for the first time after 8 years of continues increase.

[9] http://www.odd.org.tr/folders/2837/categorial1docs/1051/BASINBULTENI7OCAK2015.pdf
[10] https://www.taysad.org.tr/tr/de/Otomotiv-Raporlari#
[11] http://www.fortuneturkey.com/bankalarin-komisyon-ve-masraf-ucretlerine-kisitlama-geliyor-801#popup

Figure 2.6: Turkish banking sector – number of branches and employees



Source: Banking Regulation and Supervision Agency

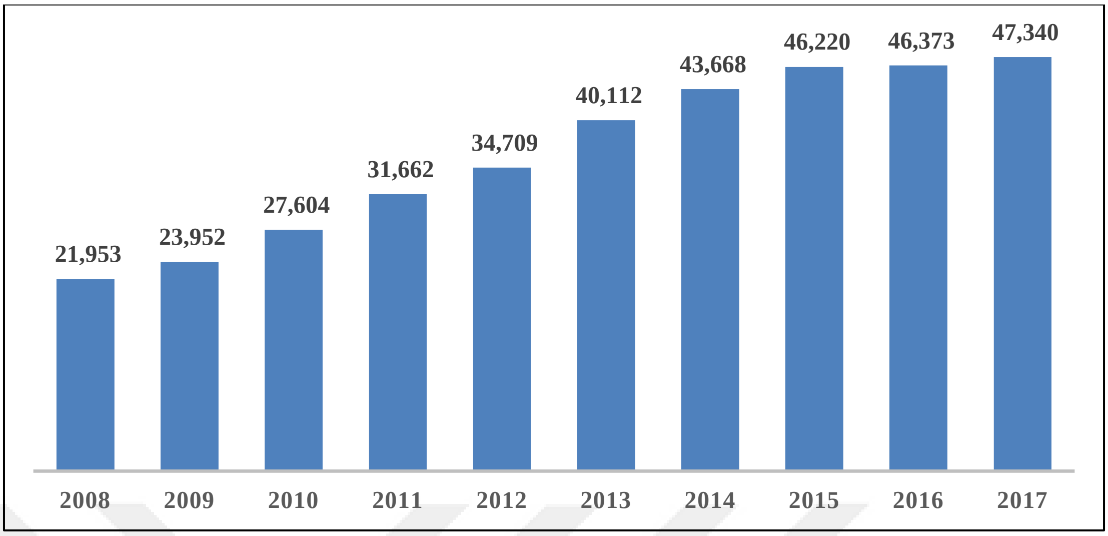
The productivity improvement due to the digitization in the sector increased the total sector profit by 46% according to 2016 results. This trend continued in 2017 and total sector profit increased by 11 Billion TL.

Most of the banks are working on digitization projects for several years and they are planning to change their service model. Akbank and Garanti Bankası made the announcements of their digital oriented branches for retail customers[12].

The development of total number of ATMs is totally opposite to the number of branches and employees in the sector. The number ATMs have been increasing for 10 years regularly.

[12] https://www.cnnturk.com/ekonomi/turkiye/garanti-bankasi-vezneleri-kaldiriyor
https://www.cnnturk.com/ekonomi/turkiye/akbank-yeni-projesini-tanitti

Figure 2.7: Turkish Banking Sector – Number of ATMs



Source: Banking Regulation and Supervision Agency

From these signals, it can be predicted that banks will continue digitization strategy to reduce their operational costs. Decreasing operational costs means the number of branches and employees will decrease in time.

As a parallel trend, banks have begun to develop APIs. Banks aim to open general operations to third parties for creating a cross platform for their customers. These changes may lead disruptive products.

2.1.3 Basel Applications for Banks

International Basel standards named after a (Bank for International Settlements) BIS committee "Basel" issues standards to;

a. improve resilience of the global banking system,
b. promote confidence in prudential ratios,
c. encourage a predictable and transparent regulatory environment for internationally active banks[13].

According to Basel there are 3 important risks that are needed to be considered;

1. Credit Risk,

[13] https://www.bis.org/bcbs/implementation.htm

2. Market Risk,
3. Operational Risk

2.1.3.1 Credit risk

Credit risk is the probability that the credit cannot be paid back fully or partially. The possible reasons as follows;

a. The future may not be predicted in a healthy way,
b. Demand against the goods and services that are produced by the credit source may change,
c. Because of technological changes and developments in the production and distribution methods, the competitiveness of the business area may increase,
d. The developments in general economic life, the global and local economic crisis may impact sales and profits of enterprises negatively,
e. Sectoral problems can affect operational outputs of enterprises,
f. Basic management failures of enterprises may cause loss,
g. Credit customer specific factors can be effective.
h.

The measure of risk is based on two main elements in Basel. These elements are the risk level of the company and the risk level of the credit process. The risk of credit is determined by the evaluation of the company's financial data (balance sheet, income statement etc.) and its qualitative factors (the history of managers and partners, management and organizational structure, product/service development, market share, etc.) (Arısoy 2014, p. 79). While the rating of the companies decreases, they pay more interest for their credits. The price of the approved loans and the credit limit is determined by the customer’s credit score.

The possible mistakes made by banks in the lending process can adversely affect economic stability, as it leads to resource extravagance. Because of this, the allocated loan may become "problematic" and banks may start the liquidation process due to "credit defaults" which is an unfavorable situation for banks (Kocaman 2015, p. 141).

2.1.3.2 Market risk

Market risk is the risk of loss that can occur in the value of assets affected by interest rate, exchange rate, commodity, service and stock price in the best market conditions.

2.1.3.3 Operational risk

Operational risk is expressed as a direct and indirect risk of loss because of external events as well as the internal processes that fail to be done by human beings and systems.

2.1.3.4 Basel and SMEs

Since BIS is an international organization, all banks are subject to Basel principles in Turkey. It is important for SMEs to have knowledge about the rating and credit pricing processes.
The risk level of the company and credit directly affects the cost of credit. As the company's rating decreases, the bank will take more risks, and with that, will have to find more capital. Due to the cost of this opportunity, the price of the loan will also rise.

The Basel principle has two fundamental outcomes;

1. The banking sector's risk-weighted loan awareness,
2. The use of loans in different prices and conditions according to the risk level of the transaction.

SMEs must give more importance on transparency of information about their business, declare the information on time, accurate, reliable and understandable. Because the banks will behave more precisely on risk assessment and ratings, SMEs need to consider their ratings. SMEs can get loans costlier because of low level rating calculated by the banks (Yetgin 2017, p. 36).

2.2 FINTECH

2.2.1 What is FinTech?

The acronym arrived on the tech scene sometime in early 2013. A combination of the words “financial” and “technology,” the term broadly describes innovation in financial services through software and innovative uses of technology (Akkizidis & Stagars 2016, p. 2).

In financial literature there are a couple of different definitions of FinTech firms. According to (Yen 2014, p. 472) ‘The FinTech phenomenon is the delivery of financial products and services via the marriage of technological platforms and innovative business models.

On the other hand, (Buckley & Webster, 2016) states that since the established financial institutions have fallen short of embracing the customer journey, FinTech firms found that niche in the market and provided better financial service by leveraging their understanding of the customer journey and creating superior, streamlined experiences.

Financial technology initiatives are encountered in mobile payment systems, online saving tools, daily budget practices, personal financial consolidation, financial solutions for small and new businesses and accounting solutions, robot investment consultants and crowd funding in many different areas. FinTech companies can be a replacement for financial advisors to do simple transactions of people who are in medium and high-level income customer segments (Şahan 2017, p. 34) .

Before 2008, FinTech companies were positioned as technological supporters of big financial corporations. At that time banks were perceived solid as concrete. They were famous with their reliability. As well known, 2008 crisis was global and Lehman Brothers from USA, Dexia Bank from Belgium and some other banks went bankrupt. The remaining financial institutions having strong relationship with these banks who went bankrupt had tough time to recover their loss. US Government had to help those banks with taxpayers’ money to keep financial system going on. (Collins) asserted that the total

US Government cost of the crisis is $16,5 Trillion[14]. This crisis triggered acquisitions like Bank of America's acquisition of Merrill Lynch and JPMorgan Chase's acquisition of Bear Stearns.

Entrepreneurs observing the loss of trust towards banks, used this opportunity to create a new business model where they combined technology with financial services. This milestone has changed the financial industry and FinTech companies were born.

Most of the services that FinTech startups provide already exist in one form or another. The only problem is that these existing services have been relatively expensive, inefficient, or exclusive. FinTech promises to democratize financial services by making them more efficient, transparent, fair, profitable, and robust.

2.2.2 Types of FinTech Startups

When the market situation is evaluated in terms of the approach to existing players in the financial services area, these new initiatives appear in two ways: competitive or cooperative. In the competitive structure, the initiatives try to get market share, customer and revenue from existing players in the market by serving similar products and services. On the other hand, collaborators are aiming to provide solutions for the development of existing players in the market (Şahan 2017, p. 40).

Most of these competitive and cooperative FinTech companies are in platform business. In digital world, market place startups have become successful for years. Ebay was one of the first examples of market place solutions. The idea is the same with Grand Bazaar which is a physical market place that was established at 15th century in the era of Mehmet II (Baş 2008, p. 1).

When location of FinTech companies evaluated, it is seen that majority of the FinTechs are in the USA. This is the 'Tech' effect because of Silicon Valley. Many technology

[14] https://www.forbes.com/sites/mikecollins/2015/07/14/the-big-bank-bailout/#757d5bc52d83

companies are seeking new customer journeys. They aim to increase customer satisfaction by using new technology.

World’s second largest FinTech market is in London. London has the best business environment and infrastructure for FinTech companies. London uses the advantage of being financial (‘Fin’ part) center in the world. Legislations encourage investors for establishing FinTechs.

The other categorization according to (Haddad & Hornuf, 2016) article there are four different types of startups: those that engage in financing, payment, asset management, and other business activities. This categorization is also suitable for analyzing the Turkish FinTech Environment.

2.2.2.1 Financing

Financing FinTechs focus on searching financial sources for the end customers. Majority of them match deposits(supply) and credits(demand) as a platform. These platforms show company is invested online. They give rating service to differentiate risk and return. For example, the investor can analyze a company or group of companies in terms of their ratings. The platforms show that high risk level companies bring more interest return but may cause loss of their money. On the other hand, low risk level companies bring less interest. These platforms are called as ‘credit platforms’. The biggest ones are Lending Club and Finding Circle. These crowdfunding financing options target the low-level credit rating companies. Most of the SMEs chooses these platforms since they cannot get credits from traditional banks. Since their ratings are low, the default rate is also high for these SMEs. The value proposition of these platforms is bringing deposit customers and credit searcher SMEs together. Individual users of the platform can invest companies or a group of company to get interest more than the banks rates. They are aware of the risk and they can choose the risk level online when they decide on the platform.

Another type of financing FinTech companies is lead generation-based platforms. These companies collect prices from lenders and show them together to compare and helping customers to choose best alternative among the offers. These companies bring banks and customers together like many other platform businesses.

Lead generation credit platforms provide credit service as a complementary process to financial institutions. Unlike the crowd funding FinTech solutions, lead generation platforms do not lend directly to the customers.

Like these lead generation companies many financial service organizations benefit greatly from intermediaries such as insurance agencies and financial advisors to provide their services. Bank branches are not fully independent but can be assessed as intermediaries. (Şahan 2017, p. 33).

2.2.2.2 Payment and money transfer

Payment is the most common activity in financial business world. It's the activity that everyone is dealing with every day. So, most entrepreneurs have invested in this area of business. Payment systems are evolving day by day because of the online shopping effect. Online shopping share in total retail business was 3,5% in 2016 and doubled from the previous year in Turkey according to the TUSIAD 2017 E-trade Report[15].

Most of the FinTech firms are serving solutions for online payment systems. There are also some firms specialized on prepaid cards and money transfer. "ininal" is an example of prepaid cards in Turkey.

In Turkey one of the most well-known payment focused FinTech is Iyzco. They are dealing with e-trade payments. They make special agreements with every bank in different commission rates to accept credit card. Since they have collective power of all SME transactions, they can negotiate and get better prices from the banks. They charge simple and same rate to SMEs for every credit card brand. They bring solution to SMEs for making agreements with every bank one by one and keep track of the tariffs of them

[15] http://www.eticaretraporu.org/wp-content/uploads/infografik.pdf

for right pricing. Instead, SMEs deal with Iyzco only for integrating their e-trade business web sites.

FinTechs are focusing on pain points of customers that incumbent institutions ignore to earn more money. One of the global money transfer company examples is Transferwise. Transferwise concentrates on international money transfers. Today when you send money over bank accounts, your bank charges commission and reminds you that receivers bank may also charge extra commission. Most of the time the sender does not know how much commission is going to be charged by the other bank. Additionally, there are so many ways to send cash but all of them are very expensive solutions. The value proposition of Transferwise is sending money with low cost and customers being aware of the exact commissions.

There is a new way for transferring money in financial world. Blockchain technology is new and will have disruptive effect on money transfers. But for now, it is not a generally accepted transaction type yet because of the volatility of crypto currencies. Also, the technology behind blockchain is not developed enough to realize all the transactions in the financial business environment. However, it is developing fast and have great potential to change the business.

2.2.2.3 Asset management

One of the important part of the financial services is Asset Management. Customers ask smart advices to the highly professional bankers for earning more money from their current assets. Since there are so many investment options the advisor must think all the variables according to customers' preferences. Although the products are getting more complex, the set of rules are becoming standard day by day. Therefore, some FinTech companies started to invest in robo-advisors that gives decisions by developed and learning algorithms.

2.2.2.4 Other business activities

All other technology focused firms dealing with financial services are listed under this title. FinTech firms that serve corporate finance solution are in this group. They are trying to find digital solutions to their customers for managing financial operations and account keeping in a better and easier way. They also pay attention on integration of banks and customers systems so that customers can easily manage their cash flow and record keeping activities. Paraşüt -an Enterprise Resource Planning application- is a local example for this category.

Another detailed categorization (Akkizidis & Stagars 2016, p. 16) is as follows in the table 2.2.

Table 2.2: FinTech types in terms of sector and business model

Sector	Description	Business model
Online lending	Lending to borrowers outside the established credit system, either for small businesses or consumers; Includes several approaches to lending, such as balance sheet lending, P2P/marketplace lending, or lender-agnostic marketplaces	Credit against interest, lead generation, fees and commissions
Crowdfunding and crowd investing	Raising funds from backers in exchange for rewards, debt, convertible debt or equity	Capital or debt against equity, fees and commissions
Transactions and payments	Cashless payment processing, involving credit cards or proprietary systems; Store of value on the cell phone or smartphone, either in official currency or credits (phone credits)	Credit against interest, service against fees
Personal finance management	Allows users to consolidate their financial statements, net worth, banking relationships, credit cards, and so on	Annual subscription fee, cross-selling
Digital currency and	Alternative stores of value to established	Bitcoin mining, trading

cryptocurrency	currencies, many of them encrypted, so transfers are without a trace and anonymous	exchanges
Mobile point of sale(mPOS)	The ability to process payments with credit cards or contactless with a smartphone and a credit/debit card reader	Service against fees, credit against interest
Online financial advisory	Automated portfolio management and optimization according to a client mandate, also called “robo-advisory”	Service against fees
Mobile-first banks	Branchless banks that process all client interactions and services through a software storefront	Service against fees, credit against interest

Source: Marketplace Lending, 2016

This categorization is useful for understanding the all business models of FinTechs. Mobile first banks are developed by current banks most of the time. An example of mobile-first banks is Atom Bank. They give all services on mobile devices.

2.2.3 Who are the Founders and Customers?

(Buckley & Webster)’s article asserts that FinTechs are often developed by urban, well-educated and financially literate men of means. Additionally, the customer profile of FinTechs are similar to their founders. They also argue that the founders should understand the needs of the customers who live in developing countries. Since all FinTech services are new, they need first users in the market. If those new users become brand representatives, then the company’s number of customers increases rapidly. To gain more customers FinTech firms must offer lower prices and better services. Most successful FinTech companies usually have these attributes.

FinTech solutions are very important for unbanked population who have a low level of financially literacy. For instance, a money transfer solution M-Pesa has been developed in Africa and launched in 2007 by Safaricom Telecom Operator (Vodafone group company). M-Pesa has made a huge positive difference for unbanked population in Africa.

Because of security issues and long distances between districts transferring cash was a big problem.

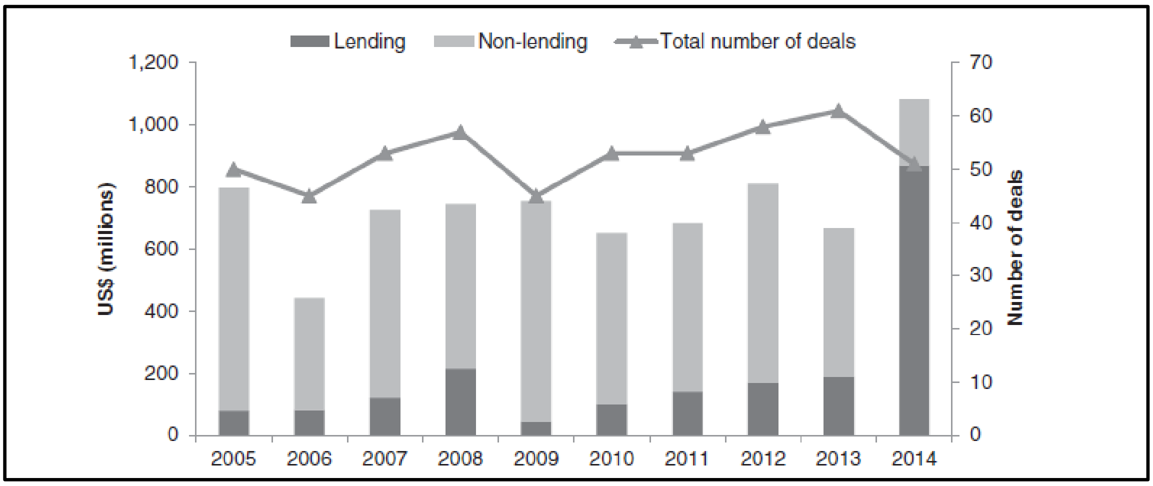
M-Pesa came up with a simple solution to send and receive money between mobile service users by using SMS. In the first month of the service they gained 20.000 users immediately. After 10 years, M-Pesa is still successful in Africa. They have reached 18 Million customers only in Kenya by the end of 2016. With the solution they have developed, they entered into 10 different countries in 10 years.[16]

2.2.4 Turkish vs. Global FinTech Market

(Haddad & Hornuf 2016) article compares the composition of FinTech companies among countries. When Turkish FinTech companies are categorized, a significant difference can be observed from more developed FinTech markets.

According to the outcomes of the study, the biggest FinTech market is in US and the second is in Europe -especially United Kingdom- in terms of raised amount of capital from investors and the number of companies. 51% of the FinTech companies perform in Financing in year 2014. On the other hand, 27% of them are performing in the payment area. Also, in recent years Lending FinTechs are getting more capital from the investors in US (Figure 2.8).

Figure 2.8: U.S. venture capital deal volume (US$), number of deals in financial companies



Source: CB Insights

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[16] https://edition.cnn.com/2017/02/21/africa/mpesa-10th-anniversary/index.html

This composition is reverse in Turkish FinTech market. Fintechistanbul.org website publishes Turkish FinTech Ecosystem Map[17]. When the Start Up Watch results are analyzed, it can be observed that 40% of them are in ‘Payment’, while 8% is in ‘Financing’ in 2017.

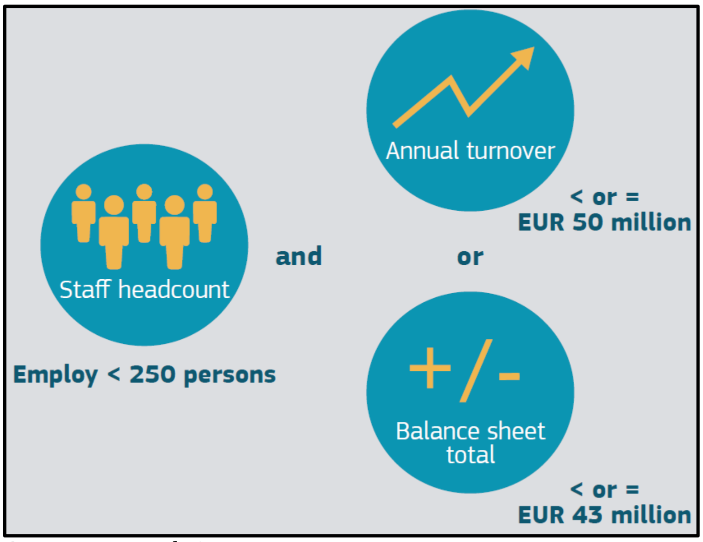
2.2 SMALL AND MEDIUM ENTERPRISES

According to generic customer segmentation there are 4 main segments. Corporate, Commercial, SME and Retail. Corporate and Commercial segments stand for big scale companies. These companies have professional staff for all strategic business units including financial operations. Small and Medium Enterprises operate with limited sources. Their activities are more local as opposed to corporates. Retail segment usually refers to consumers and professionals.

2.2.3 The Definition of SME

There are different SME definitions for several organizations. According to European Union[18] the definition depends on number of staff, turnover and balance sheet total.

Figure 2.9: EU SME Definition



Source: EU Website

[17] www.fintechistanbul.org
[18] http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

SMEs are also categorized into 3 subgroups. Micro category is the smallest one. Their turnover or total asset is less than €2 Million and they employ less than 10 employees.

Small businesses are more professional as opposed to micro firms. They have more than 9 and less than 50 employees. Also, their turnover and balance sheet total are less than €10 Million. Medium sized companies are close to corporations. their maximum employee number is 250 and they have less than €50 Million turnover or €43 Million assets.

Table 2.3: EU SME Definition

Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	<250	≤ € 50 m		≤ € 43 m
Small	<50	≤ € 10 m		≤ € 10 m
Micro	<10	≤ € 2 m		≤ € 2 m

Source: EU web site

In Turkey, the rules for SME definition has been set by regulation like EU classification.[19] According to the Turkish regulation SMEs are classified as follows;

Table 2.4: Turkish SME Definition

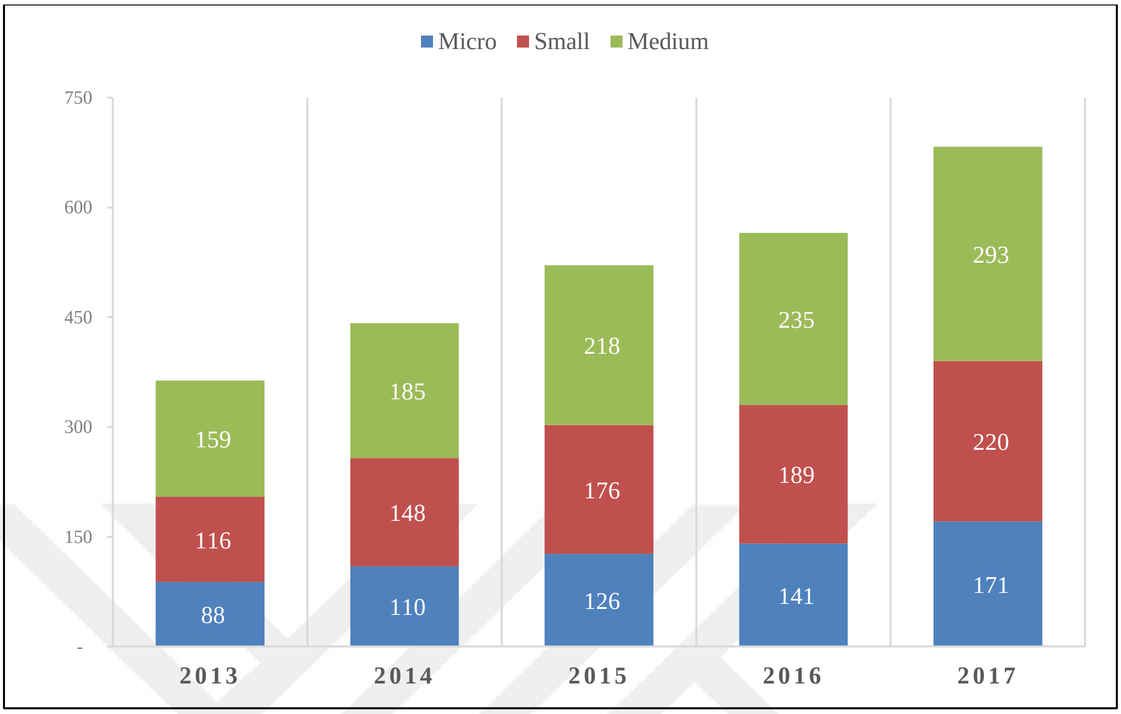
Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤ ₺40 m		≤ ₺40 m
Small	< 50	≤ ₺ 8 m		≤ ₺8 m
Micro	< 10	≤ ₺1 m		≤ ₺1 m

Source: The Official Gazette of Turkey

Credit volume allocated to SMEs has grown gradually during 2013-2017. Although the growth rate decreased to 7% at 2016, it increased to 21% at 2017[20].

[19] http://www.resmigazete.gov.tr/eskiler/2012/11/20121104-11.htm
[20] ebulten.bddk.org.tr

Figure 2.10: SME credits in Turkey (Billion TL)



Source: Banking Regulation and Supervision Agency

In Turkey, SMEs' mostly entail trade. According to the statistics of 2014, SMEs function in the following areas;

a. 39,2% Wholesale and Retail sales,
b. 15,4% Transportation and Storage,
c. 12,4% Manufacturing.
d.

When initiatives in the small and medium-sized manufacturing industry are classified according to technology levels, while 59,7% was working with low technology, these initiatives created 54% of the national employment and 43,4% of the value added by factor cost. SME business account for 55,1% of exports and 37,7% of imports in 2015[21]

In EU, unlike Turkey SMEs mostly working on Energy - Water Resources, Mineral Processing and Chemical Industries.

[21] http://www.tuik.gov.tr/PreHaberBultenleri.do?id=21540

Table 2.5: Shares of SMEs in Sectors in EU Countries

Industry	Share %
Energy and Water Resources	27,00
Mineral Processing, Chemical Industry	15,05
Metalworking, Metal Ware, Machinery Manufacturing Industry	17,92
Other Manufacturing Industry	16,45
Construction Sector	5,96
Trade, Distribution, Tourism	5,24
Transportation, Communication	5,30
Bank, Finance, Insurance	3,02
Other Services	4,06

Source: (Yavuz & Cahit, 2012)

The general characteristics of SMEs can be defined as follows (Odyakmaz 2017, pp. 7-8);

a. They are often established as an individual or personal partnership,
b. Owners and managers in enterprises are usually the same person and only some of them employ professional executives,
c. Business owners who are in the executive state make independent decisions,
d. Low level of specialization due to the lack of business units.
e. They commonly face financing problems during the operations because they are established with low capital,
f. They generate generally small and local sales volume and their market shares are limited.
g. Bargaining power in procurement and marketing is low as they are experiencing capital problems.
h. They have dynamic structures. They can show easy adaptation to demand changes.
i. They provide employment opportunities with small investment costs.
j. Contribute to balanced development and income distribution stability between regions.
k. Provide employment and revenue growth in the regions where they reside.

l. Encourage individual savings.

m. They are the supporters and complementary of large enterprises.

Despite the economic significance of the SMEs, they did not see enough importance until the 1970s. Until the economic crisis in 1970, the market was dominated by larger enterprises. 70s crisis enabled small businesses to become more important because they were agile as opposed to corporations. Over the years, small enterprises have become more flexible and competitive. Their contribution to the economy has evolved. These features of SMEs also provide minimal damage to their crisis periods.

2.2.4 Importance of SMEs for The Economy

SMEs in emerging markets numerically account for an overwhelming proportion of all business firms, generate 40-50% of each country's GDP, and employ 70-85% of the total workforce in each economy (Ozer 2016, p. 1).

Small and medium sized enterprises constitute a major part of the economies of both developed and developing countries. They contribute to economic growth by creating new job opportunities and supporting balanced economic and social development. Due to these important contributions, many countries are developing and implementing new policies that encourage establishing, expanding, developing and protecting SMEs.

SMEs play a very important role in the Turkish economy as well. According to TUİK statistics they are 91.9 percent of all enterprises, provide 78 percent of all employment and constitute 55 percent of GDP and 50 percent of total investment. Therefore, for Turkey, developing and implementing new policies targeting SMEs are critical.

Studies show that in emerging countries where there is economic stability and high economic growth, banks tend to have greater exposure to SME lending. (Jenkins & Hussein 2017, p. 90).

SMEs need credits for improving their business. The evaluation of credit request is very important to all actors in the economy. An effective lending activity will increase the country's economic activities and ensure their growth by financing the firms’ investments (Kocaman 2015, p. 141).

In recent years, especially developed countries are building up policies for SMEs’ formation and growth. They also aim to increase their efficiency and protect their competitiveness because of their contributions to economic growth and improvement. Increasing the importance of the world economy in the globalization process, SMEs contribute to the economy with investment, production, exports, employment and taxes. They also contribute to regional development because they are geographically dispersed to all regions.

SMEs have some advantages in comparison to large enterprises. They help to create a competitive environment and contribute to the increase in productivity. Close relationships with staff and customers, flexible structures for customer demands, providing diversity of products and services in the crisis environment, encouraging entrepreneurship, increasing employment, lowering investment costs, supporting and complementing of large enterprises and contributing to economic viability are the other advantages that SMEs presents (Odyakmaz 2017, p. 9).

SMEs ' contributions to the country's economy can be sorted in the following headings way (Yetgin 2017, p. 22).

a. They provide a diversification of the economic structure.
b. They help for balanced income distribution.
c. Create new ideas and inventions.
d. They have fewer management and operational expenses due to their quick decision-making capabilities.
e. They are effective in creating employment.
f. They are the suppliers for large enterprises.
g. They increase the level of prosperity in the country.
h. They ensure that family savings are directed directly to the economy.
i. They ensure technological developments reach rural areas.
j. They support regional development.

k. Social unrest is not very common because the relationship of the employer in the business is tighter.

2.2.5 The Main Problems of SMEs

Because SMEs are often established with insufficient equity in the establishment phase, they resolve financing requirements with high risk premium commercial loans. One of the most important problems of small and medium-sized enterprises is insufficient capital and reaching a variety of financing options. Financing problems can be summarized as follows (Demirci 2014, p. 14);

a. Issues related to credit supply,
b. Problems with the amount, cost and due of credit,
c. Collateral problem in ensuring credit,
d. Problems with the loan-free period.

In Turkey, founder of the business carries out all functions relating to the business including financial management. Therefore, the success of the business solely depends on the experience of the owner and his or her knowledge about financial management. Insufficient financial planning is a main obstacle for SMEs to benefit from a variety of funding sources (Demirci 2014, p. 42). The financial decisions are made by the business owner most of the time. According to (Demirci 2014) study, only 2 percent of SMEs have financial managers to give financial decisions.

Table 2.6: Distribution financial decision makers in SMEs

Position	**Share (%)**
Finance Manager	2
Shareholders	26
Board of Directors	10
Business Owner	59
General Manager	3
Total	**100**

Source: Demirci,2014

The financial products for SMEs are more complex as opposed to retail products. Also, there are so many specific advantages for SMEs like state aids or European funds. Because of the complexity of products, many of these financial sources cannot be distributed to SMEs effectively.

A survey research is conducted to determine using rate of alternative financial sources in İkitelli Organized Industrial Zone at 2012. Approximately 418 firm accepted to answer survey research (Ozer 2016, p. 2). According to the survey 53 percent of SMEs use bank credits as their main financing source.

Table 2.7: SME Research – usage of alternative financing sources

Financing source	**%**
Bank Credits	53.6
State Aids	20.1
Leasing	19.6
Factoring	17.9
Barter	13.4
Venture Capital	7.7
Credit Guarantee Fund	2.9
Outsourced Project Supports	2.9
Forfaiting	1.2
Others	0.2

Source: Ozer,2016

Making strategic financial decisions and dealing with daily financial transactions, require technical financial knowledge, which is usually not possessed by the entrepreneurs. Lack of general managerial skills and a strategic outlook are closely related to financial management problems that SME owner/managers face in running their businesses (Karadağ 2014, p. 31).

As most SME owners/managers come from a technical or engineering background, their knowledge about finance and accounting is mostly inadequate. SME owners avoid hiring professional finance managers in order not to delegate their managerial responsibilities which causes their financial problems to grow and even threaten the survival of their enterprises (Karadağ 2014, p. 47).

The financial disadvantages of SMEs are as follows (Arısoy 2014, p. 62);

a. Insufficient financing expertise,

b. Inability to monitor modern financing techniques,
c. Inability to enter the capital markets,
d. Hesitation for new partner acquisitions,
e. Limited auto financing possibilities,
f. Presenting collaterals for loans in general,
g. Keeping the business owner responsible with their personal assets for any loss,
h. Low credit volume, high credit cost.

There is a small number of SMEs in Turkey having a separate financing department. The lack of financing knowledge of SME managers and the inability to employ qualified personnel in these matters increase the financial risks.

Due to lack of financial info, SMEs cannot sufficiently benefit from technology development zones, technology centers, innovation-oriented support, European Union programs, patent databases, European network centers, etc. (Çalık 2016, p. 2).

When SMEs need to enter the financial system; they are faced with public barriers, short term loans that do not match the return of the investment, high interest rates, difficult terms of payment, difficulties in collateral (Özyiğit 2015, p. 19).

2.2.6 Financial Literacy

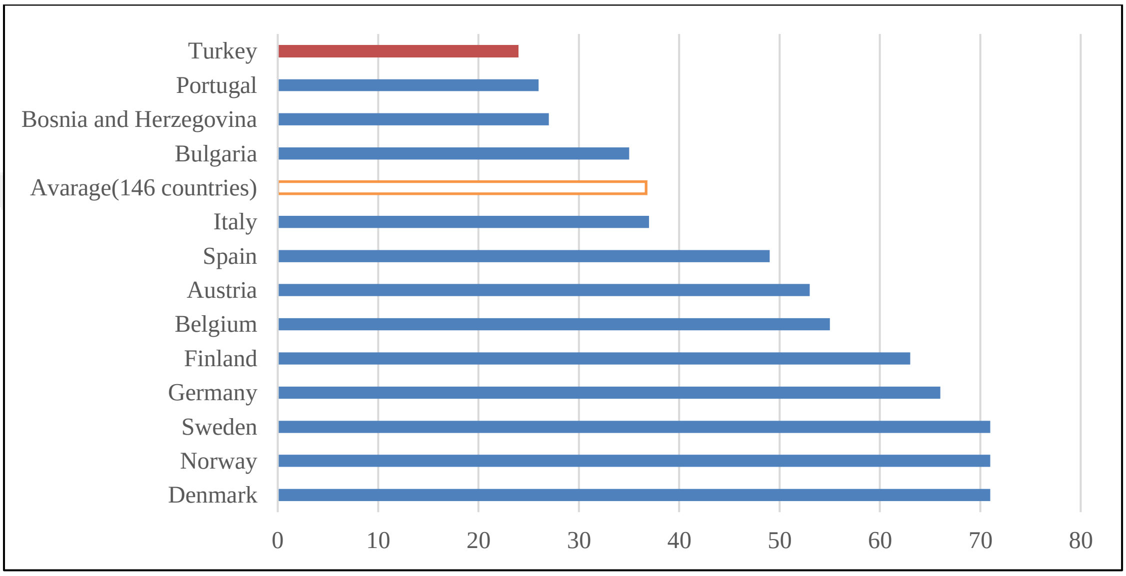
SME owners do not have adequate knowledge of finance, the feasibility study required to obtain credits, financial plans, and the ability to do such transactions. They cannot employ professionals for these operations due to their limited budgets (Özyiğit 2015, p. 20).

Financial literacy is measured by many institutions. The most well-known and useful ones are S&P and OECD surveys. In S&P's Financial Literacy Around the World[22] report it is stated that, financial ignorance carries significant costs. Consumers who fail to understand the concept of interest compounding spend more on transaction fees, run up bigger debts, and incur higher interest rates on loans. In S&P report a survey conducted

[22] http://gflec.org/initiatives/sp-global-finlit-survey/

to the citizens of many countries to measure the financial literacy level. The level ranges from 13 -the worst- to 73. The survey covers 142 countries and the average financial literacy score is 36,6. Turkey is at 116th place with 24 literacy score. Bolivia, Burundi, Jordan and Vietnam have the same result. Nordic countries like Denmark, Norway and Sweden have the best scores among 142 countries.

Figure 2.11:Financial Literacy – Adults who are financially literate (%)



Source: S&P Financial Literacy Report, 2016

In Europe, especially new European Union countries have lover scores. Although the overall average rate of European countries is around 50, Romania’s score is 22 and Bulgaria’s is 35. Surprisingly Portugal has the second worst rate of financial literacy among European Union countries.

The report emphasizes that financial institutions must ensure that customers are treated in a fair, prudent, and responsible way. However, banks are profit oriented corporations and their first aim is increasing their overall profitability. The short-term goals of the banks may direct account officers to suggest products which are not suitable for their customers.

Government regulations protect consumers from unwanted and unfair implementations. It is easier to regulate consumer products since the products are structured and well defined. On the other hand, commercial financial products which are offered to SMEs are intricate. Therefore, it is hard to apply standard procedures for all those financial instruments.

Because of well-defined processes and accessible data sources, individuals can reach funding options from many channels easily. So that they can compare prices and chose the best alternative for themselves.

Public data for big corporations make them understandable and every bank chases those companies to lend more for low risk interest earnings. Their bargaining power help them to find best price offers.

Regulated retail banking market and high bargaining power of big corporations decreased the profit margins for those customer segments in banking sector. That's why banks headed to SME segment to keep their profitability as high as before. Since the financial literacy is low, banks take the risk of credit defaults (unpaid debts) of SMEs. According to "OECD Financing SMEs and Entrepreneurs 2017 Report[23], non-performing loans (NPL) rate of all business loans is 2,74 by the end of 2015 in Turkey. Same rate is 4,08 for SME loans.

[23] http://www.oecd.org/cfe/smes/

3. DATA AND METHODOLOGY

In this section the objective of the research, the methodology, sample design and data collection methodologies are explained.

3.1 OBJECTIVE OF THE RESEARCH

In this research the main purpose is understanding the new FinTech market conditions. The questions in the survey were prepared to find out the expectations of SME owners and financial sector managers.

3.2 METHODOLOGY

Four surveys were held for this study. This research is conducted by using “qualitative methodology” since the data gathered via questionnaires and interviews. To collect general understandings of audience two surveys were conducted. For a deeper insight, two face-to-face interviews performed with a banker and a SME owner.

3.2.1 Online Surveys

The first survey was prepared for bankers. An online survey tool -Survey Monkey- was used for collecting answers. The answers were collected from 9 different banks from Turkey. Six questions were prepared for the banker survey. One of the questions was open ended because the aim was to measure the knowledge level of the bankers. Experience level was an important variable for this study. Therefore, one of the questions was the experience level of the bankers.

The second survey was organized for SME owners. “Google Forms” tool was used to reach SME owners. 9 questions were asked. Four questions were for classification of the companies. Other questions were about the financing product usage tendency and the financial literacy level.

3.2.2 SME Owner and Banker Interviews

The interviews were applied face-to-face. Online survey questions were used during the interviews. Additionally, their general ideas about the financial business were asked for getting their perspectives and expectations.

3.2.3 Data Gathering

Survey links were sent to contacts to reach targeted bankers and SME owners. They filled the forms online and outcomes were collected from the online tools. Since there were unstructured questions some of the answers were classified manually. All the surveys were performed during June-July 2017.

The interviews were organized as semi-structured method to get more insight about the topics. Each interview duration was almost one hour.

3.2.4 Sample Selection

Banker survey was sent to 62 respondents from 9 different banks (Akbank, İş Bankası, Garanti, Yapı Kredi, TEB, Denizbank, ING Bank, Odeabank, Fibabanka). These banks are all active in SME banking and they have dedicated teams for SME customer segment. Also, every respondent was chosen from mid or higher level experienced managers.
Banker Interview was conducted with Zeynep Orman Demirel who is responsible from digitization projects at Akbank.

51 SME owners responded to the survey from 7 different regions. Data collections from different regions was important for the study.

SME interview was made with a medium sized SME owner. The company was established in 2013 in İstanbul. It is specialized on lightening. They manage projects for luxury buildings and any other high-end places like yachts.

4. FINDINGS

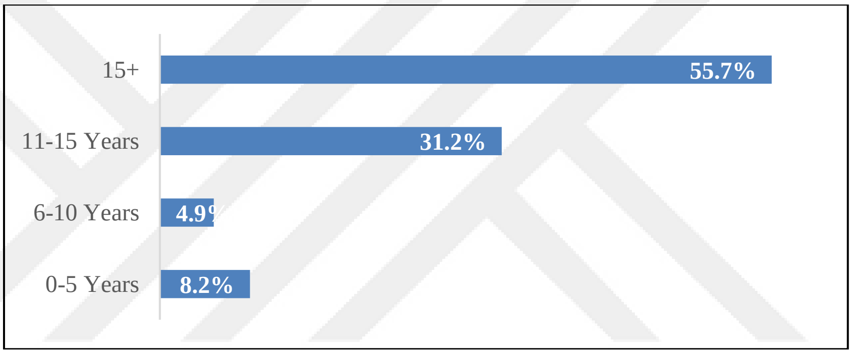
The outputs of the surveys are classified and analyzed in this section of the study.

4.1 SURVEY FOR BANKERS

Q1 - Banking experience level

Almost 89 percent of the bankers had more than 10 years' experience. Therefore, the targeted banker experience level was reached in the study.

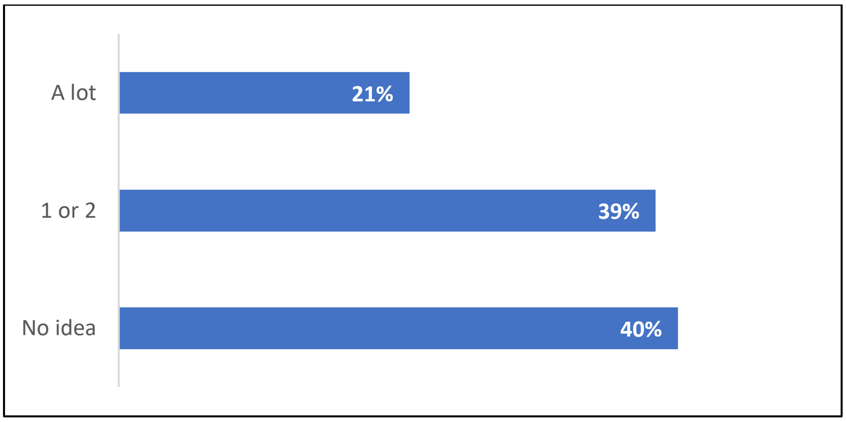
Figure 4.1: Banker survey - experience level of bankers in the survey



Q2- Collaboration of banks and FinTech

60 percent of bankers responded that their banks have relationship with FinTech companies.

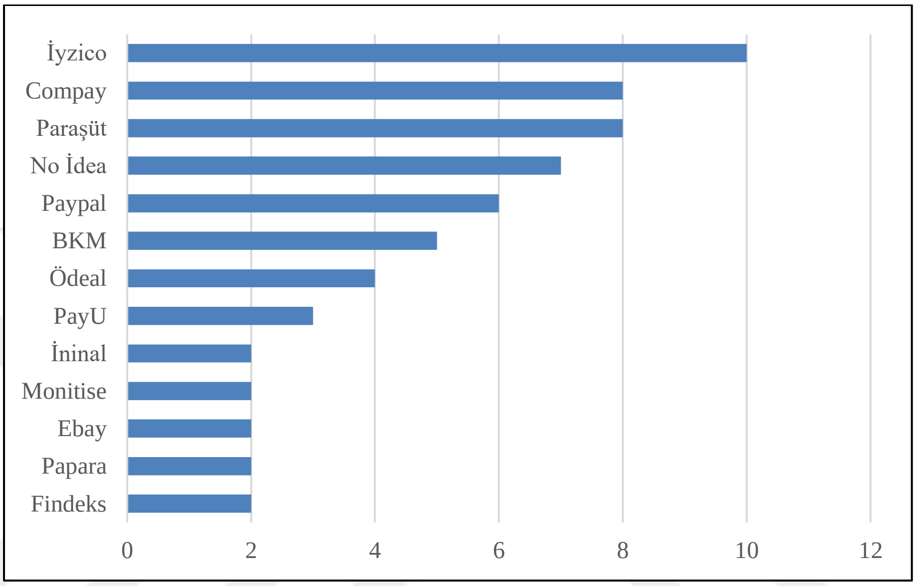
Figure 4.2: Banker survey - Collaboration of banks and FinTechs



Q3- Three most well-known Turkish FinTech companies

88 different FinTech company names were mentioned by the respondents. 16,6 percent of bankers know İyzico as the most well-known FinTech. 11,7 percent of bankers had no idea about Turkish FinTech companies.

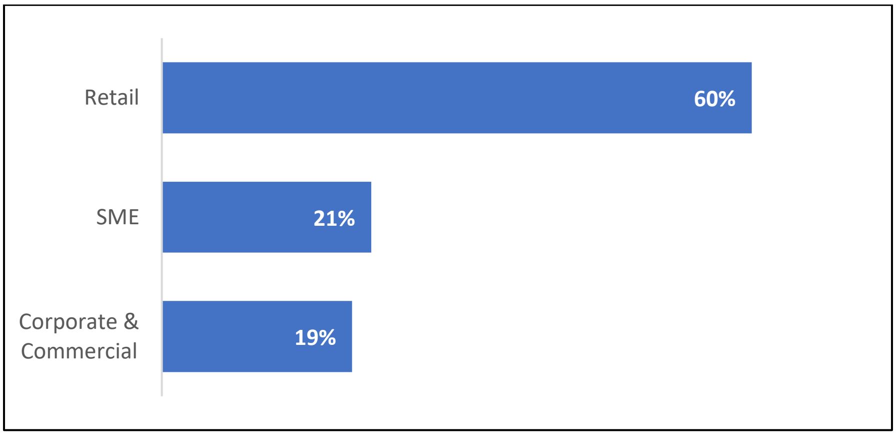
Figure 4.3: Banker Survey - Well-known FinTech Companies in Turkey



Q4- Which segment is targeted by Turkish FinTech companies?

60 percent of the bankers stated that Turkish FinTech companies mainly target retail customers. Twenty-one percent of bankers replied SME segment is prioritized.

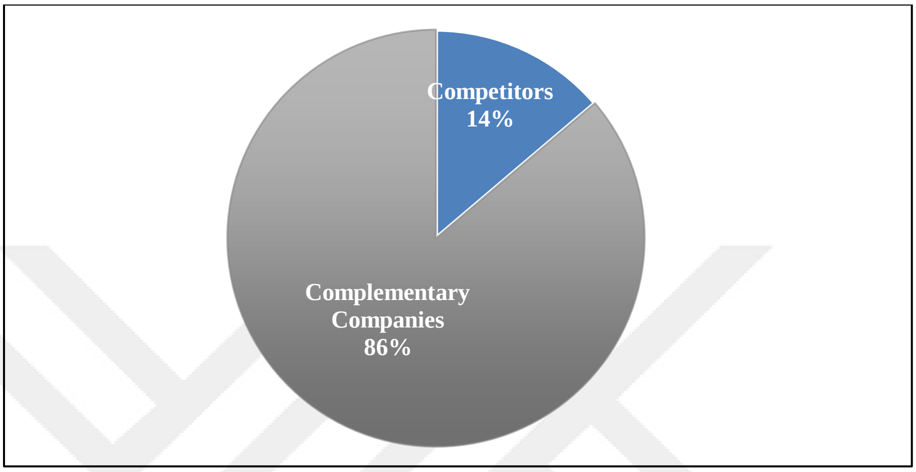
Figure 4.4: Banker Survey - Targeted customer segments by Turkish FinTech companies



Q5- The relationship between banks and FinTech companies in Turkey

Eighty-six percent of bankers believes that Turkish FinTech companies work in line with banks.

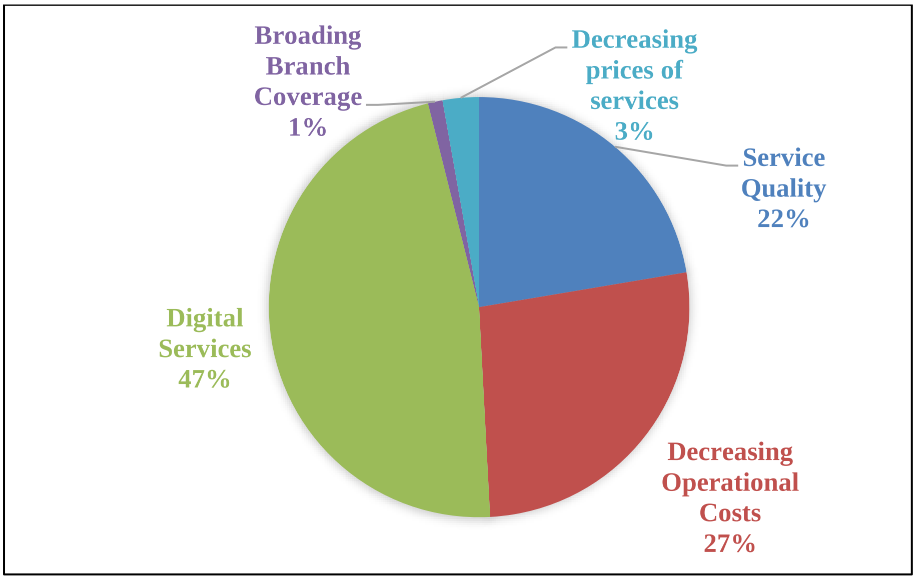
Figure 4.5: Banker Survey - The relationship type between banks and FinTech companies



Q6-Which subject will be the competition area for banks in next 3 years?

Forty- seven percent of 62 bankers predicted that the competition field for banks will be on “digital services” in three years. Twenty seven percent of them answered “decreasing operational costs”. Only one percent said that the “branch coverage” will be important.

Figure 4.6: Banker Survey - Competition among banks in three years

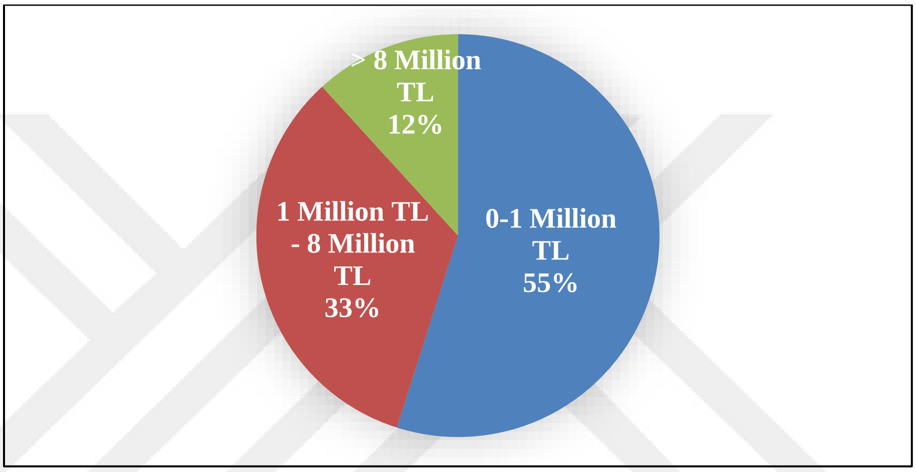


4.2 SURVEY FOR SMES

Q1 – How much your yearly net sales in Turkish Lira?

Fifty five percent of SMEs yearly net sales amount is less than 1 Million TL. This group of SMEs is called Micro in Turkish SME standards. Thirty-three percent of the respondents are small sized, and twelve percent of the respondents are medium sized SMEs.

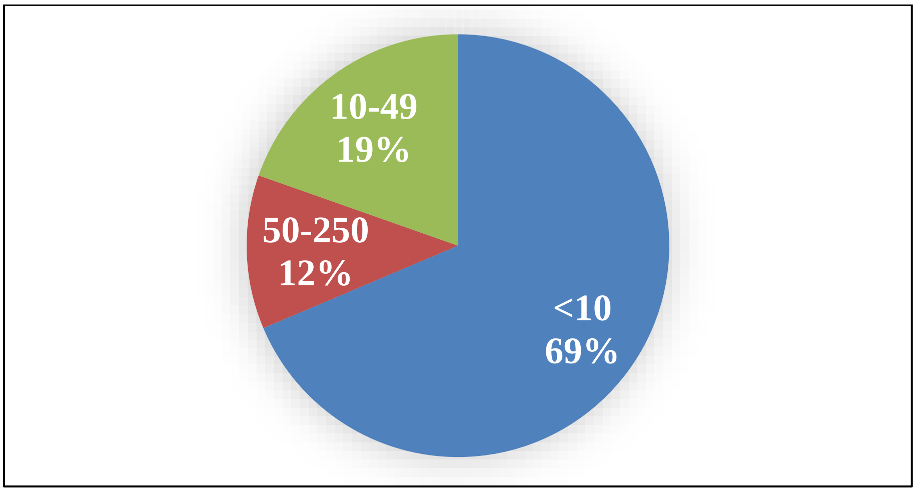
Figure 4.7: SME Survey – yearly net sales of SMEs



Q2- How many employees do you have?

Sixty-nine percent of SMEs have less than 10 employees. Nineteen percent of them have between ten to forty-nine workforces. Twelve percent of them have more than fifty workers.

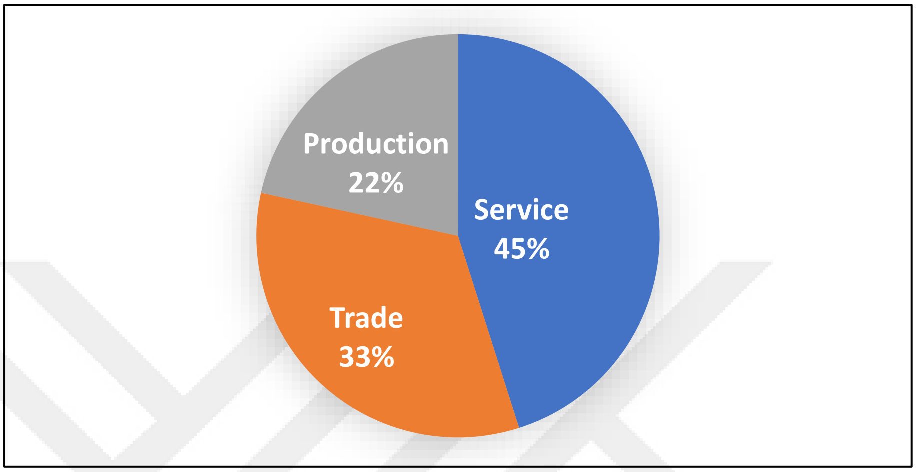
Figure 4.8: SME Survey - The number of employees working for SMEs



Q3- What is the activity area of your company?

According to the results of the study forty five percent of SMEs have operations on service business. Thirty-three percent of the respondents are in trade business whereas twenty-two percent of the respondents are in production.

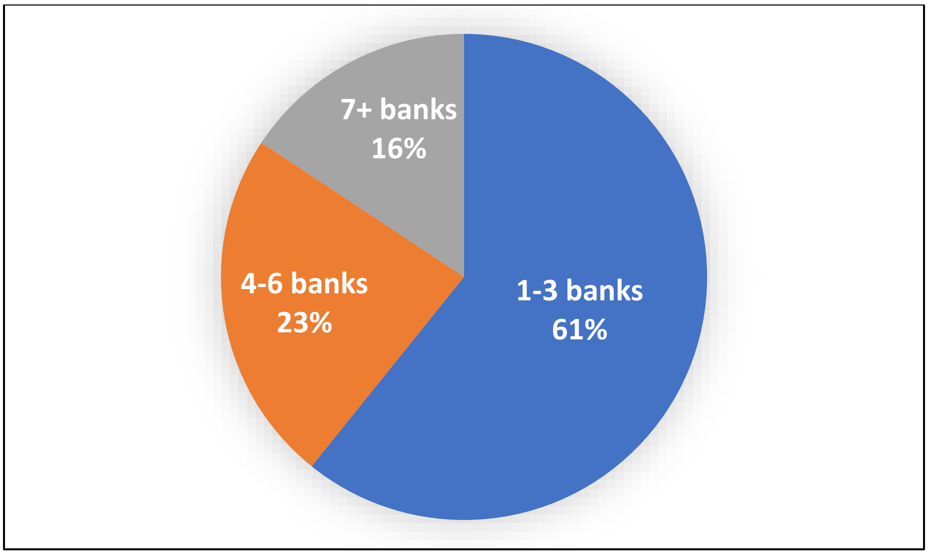
Figure 4.9: SME Survey - Activity area of SMEs



Q4- How many banks do you work with?

Sixty-one percent of the SMEs work with three or less banks. Twenty-three percent of SMEs work with four to six banks at the same time. Sixteen percent of the respondents stated that they have accounts in seven or more banks.

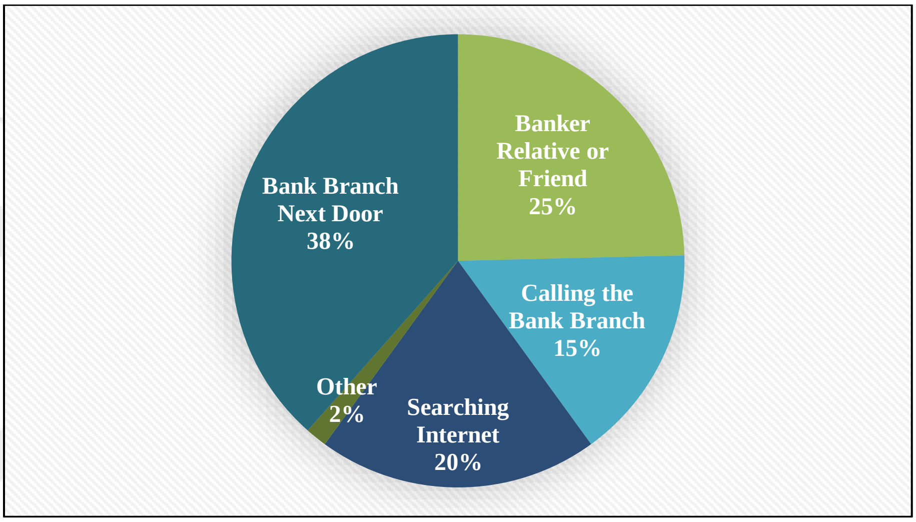
Figure 4.10: SME Survey - The number of banks that SMEs work with



Q5- Which channels do you prefer when you need to search for credit?

SME owners were left free to choose more than one option in this question. Thirty-eight percent of the respondents chose "going to bank branch" for credit searching. Additionally, fifteen percent of them said that they "call the bank branch". Twenty-five percent of them call their "financially literate relative or friend". Twenty percent of SME owners search the "internet".

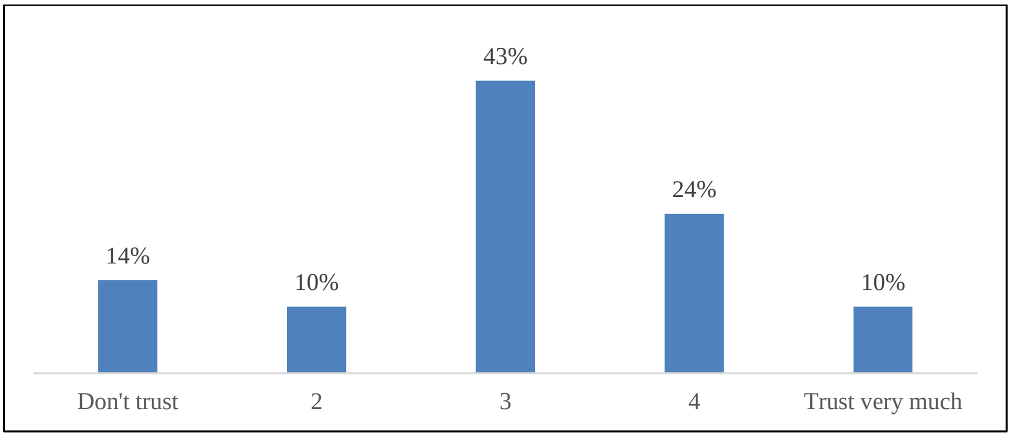
Figure 4.11: SME Survey - The channels for credit searching of SMEs



Q6- How much do you trust the banks?

Twenty-four percent of SME owners do not or have low levels of trust for the banks. Thirty-four percent of them trust banks more than average. Finally, forty-three percent of SME owners trust banks at an average level.

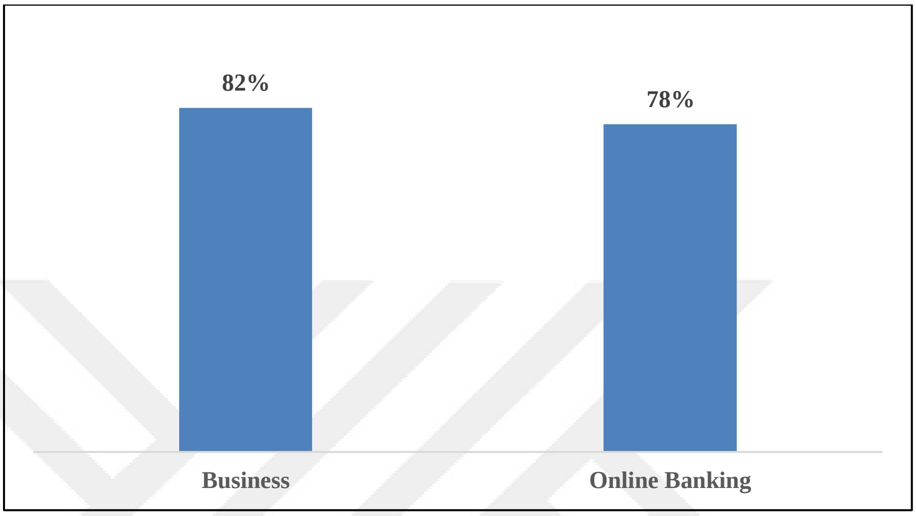
Figure 4.12: SME Survey - The trust levels of SMEs to banks



Q7- Do you use a smart phone and for which purpose?

Eighty-two percent of SME owners use smart phones in their business operations. Seventy-eight percent of them also have an online banking account.

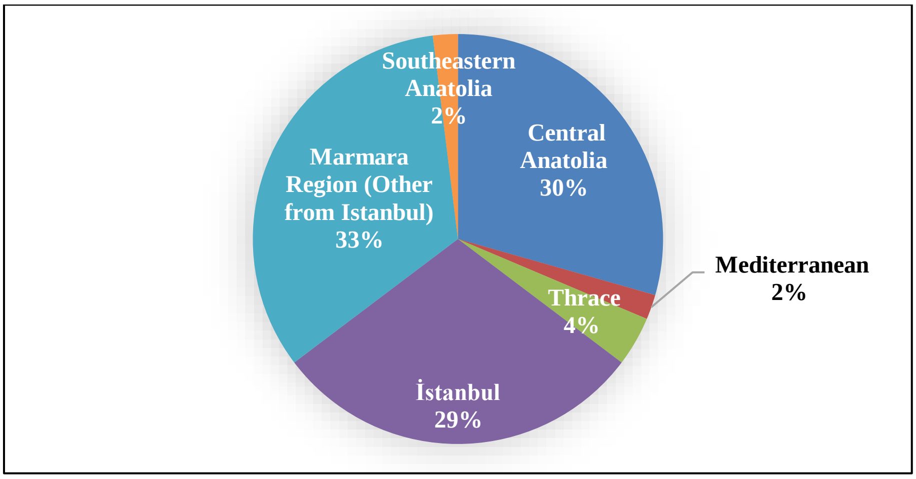
Figure 4.13: SME Survey - Smart phone penetration among SME owners – business or online banking purpose



Q8-Where is your company located?

Survey was conducted to the SMEs from 7 different regions. Thirty-three of them are located at Marmara region other than Istanbul such as Gebze, Kocaeli, Yalova etc. Thirty percent is in Istanbul. Twenty-nine percent of these companies run their business at Central Anatolia.

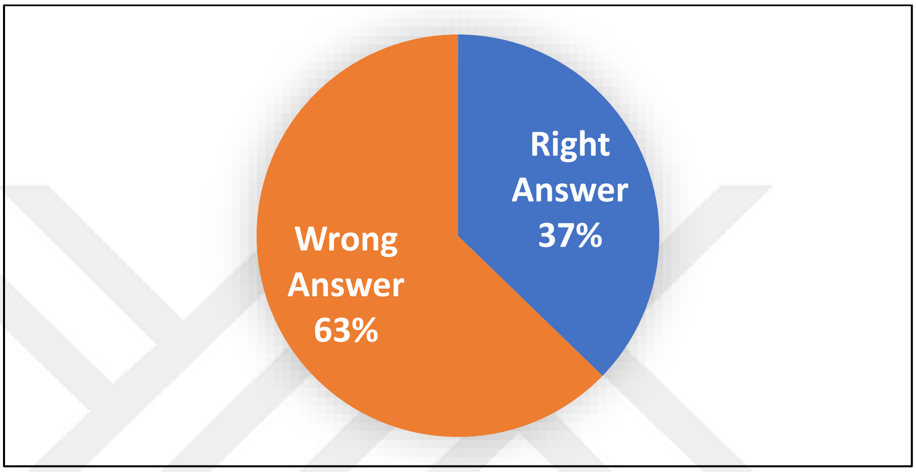
Figure 4.14: SME Survey - The location of SMEs



Q9- For a 1-year loan of 50,000 TL, which of the following option is the most cost-effective?

This question was asked to measure the financial literacy level of SMEs. Sixty-three of them gave the wrong answer. Remaining thirty-seven percent gave the right answer for this question.

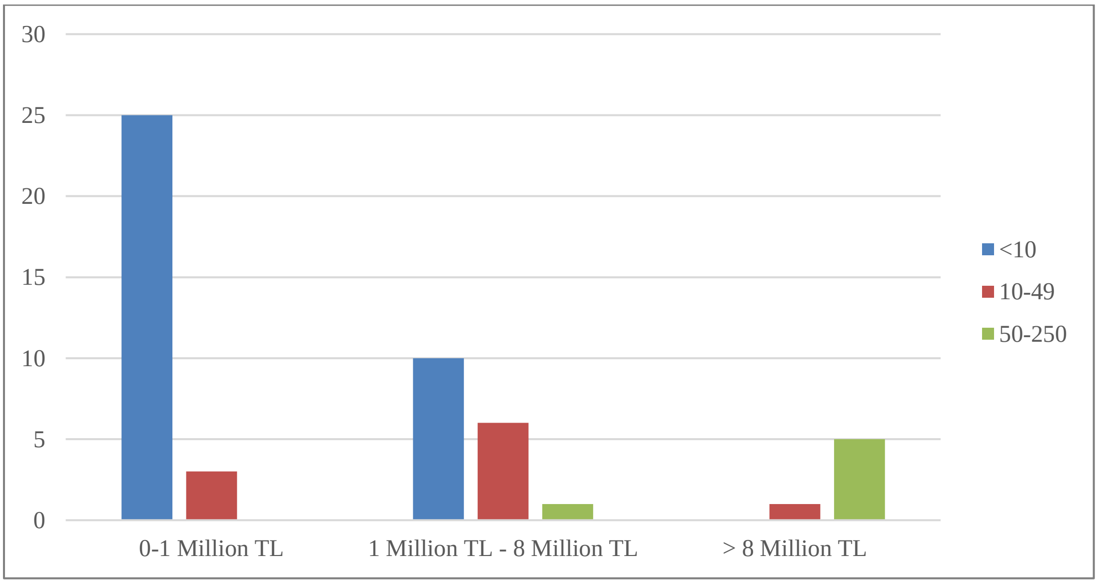
Figure 4.15: SME Survey - Financial literacy question



4.2.1 Extended Analysis

There is an 83 percent correlation between number of employees and yearly net sales.

Figure 4.16 : Yearly net sales & number of employees

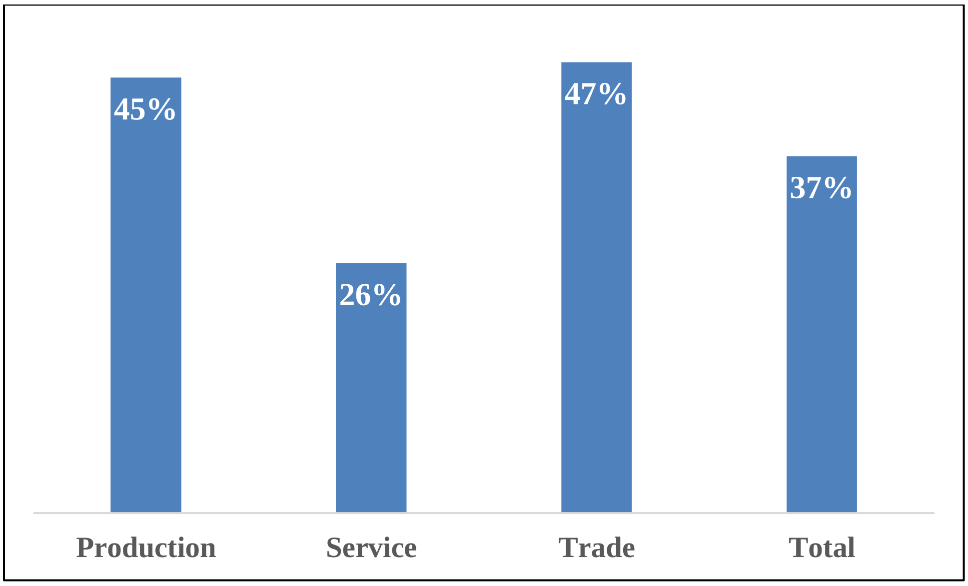


The big scale SMEs in terms of human resources are operating in production sector. Trade business SMEs can manage their operations with less employees as opposed to other sectors.

Figure 4.17 : Sector & number of employees

Financial literacy level of SME owners in the service business is the lowest with 26 percent. Almost half of the trade business owners are aware of financial calculations.

Figure 4.18: Right answer rate of financial literacy question by sectors

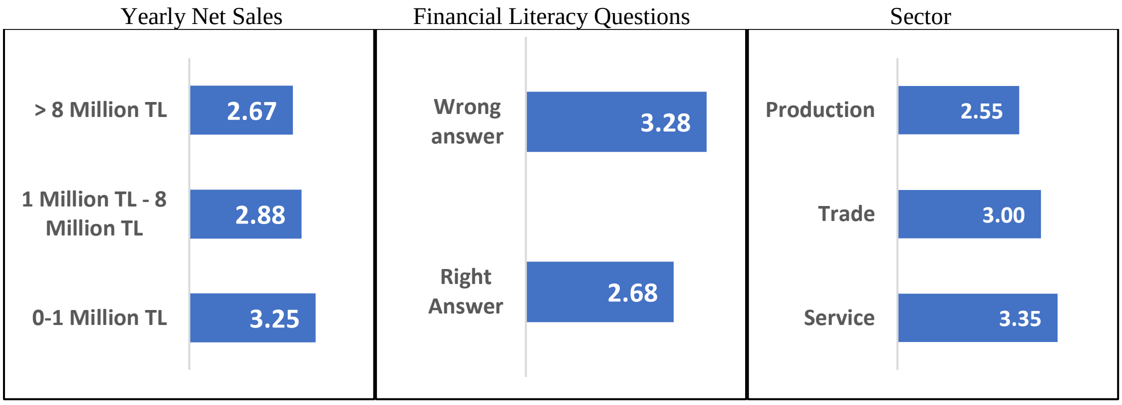


According to findings, bigger companies in terms of yearly net sales and employee numbers work with more banks. SMEs in service sector can work with three or less banks.

Figure 4.19: Average number of banks that SMEs work with by yearly net sales, number of employees and sector

Service business owners are less financially literate, but they trust banks most. Another interesting finding is the owners who gave right answers to financial literacy question do not trust to banks. There is a negative relation between the level of yearly net sales and trust level to banks. Higher level of net sales results with a lower trust rate.

Figure 4.20: Average trust rate of SME owners against banks (from 1-5)



According to the research, it can be concluded that; SMEs working with more banks and having better financial knowledge trust banks less.

4.3 BANKER INTERVIEW

For getting a relevant overview from a banker about Turkish FinTech Environment an interview was made with Zeynep Orman Demirel who is the Quality and Process Management Senior Vice President at Akbank. She is responsible for the transformation projects of the bank and working for the bank for 10 years.

First, she explained the FinTech environment in Turkey. She stated that BRSA supports payment system focused FinTech companies in recent years. However, PayPal -one of the first FinTech companies- decided to stop its operations since BRSA asked them to keep their customer data on local services. This decision gave a competitive advantage to the local payment system companies.

Additionally, The Interbank Card Center (BKM) which is an institution established by the Turkish banks for managing interbank card transactions invested on online payment systems and developed a product BKM Express as a mobile wallet. She added they have a strong relationship with Paraşüt to serve SMEs in FinTech environment.

She emphasizes that, in recent years most of the banks are investing heavily on digitization. They are managing many strategical projects at Akbank about this subject. The future of competition among banks will be on digital services.

She also put forward that the regulation authority -BRSA- in Turkey is tough as opposed to European countries. This leads to banks digitize in a slower pace. On the other hand, this fact raises an important entry barrier for the potential FinTech companies. Especially rules for accepting deposits in Turkey are very strict. These rules were released after the bad experiences at 80’s and 90’s in Turkish Banking Sector.

In credit side, lending is easier than collecting deposits. If a financial company can find enough capital, it can lend as much as their capital and money sources.

In payment side, BRSA has adapted immediately to the new market but it is going to take time for BRSA to get used to financing and asset management FinTech companies.

According to Zeynep Orman Demirel, the transformation of the banks is inevitable, it is just a matter of time. Therefore, other FinTech types will grow in local market in near future.

4.4 SME INTERVIEW

The interview was made with a medium sized SME. The company was established in 2013 in İstanbul. It is specialized on lightening business. They manage projects for luxury buildings and any other high-end places like yachts. Their net sales range is between 1-10 Million TL and they have 5 employees. Their office is at Istanbul.

The company representative emphasized that they do not want to use credit unless they must. They generally use cash credits for commercial vehicles every three years. Since they work on special projects, most of the time the project owner asks for a letter of guarantee. Additionally, they prefer to use government supported credits like KOSGEB (Small and Medium Enterprises Development Organization) and KGF (Credit Guarantee Fund) when there is one with a good advantage.

When they need credit, generally they call their main bank. They said that they think can get the best offers since they keep their all assets at that bank. Because of urgency they do not prefer to ask other banks.

They also complain about the total duration from the first touch to final credit transaction. Generally, bankers say they approve credits in two days. However, it takes around 5 more workdays in real life as they said. The main reason for the delay is collection of documentation and entering the financials to the banking system.

They can reach two or three banks in a week to ask for a new credit. Working with a new bank is costly because telling about their company and their business is time consuming. Also, documentation may take around 10 days. Getting the credit more than 5 days is not acceptable in their business because everything is expected to be fast.

They also complain about misinformation of pricing. They have got two different pricing form the same bank, even from the same branch. This condition affects trust thy hold for banks.

They use the internet banking for almost every financial transaction. They visit the branch just for signing agreements. They replied to “What would increase your satisfaction about the financial service you get from the banks?” question as they would want to reach the necessary information and the products immediately from a reliable source.

The company representative selected the right answer for the financial literacy question. They said they trust banks for keeping their accounts safe but do not trust them for pricing.

5. DISCUSSION

In this part, the outcomes of the literature review and the survey results are discussed.

5.1 WHY DO SMES GET MORE ATTENTION IN RECENT YEARS?

Financial business is old as humanity. Even before the money was invented there were barter activities between people on an accepted value of goods. When first banks appeared in Europe they gave two main services. Lending and borrowing. Borrowing is crucial for banks because they need funds to sell. Selling the funds of a bank is called “lending”. When banks borrow money form customers they must be trustworthy. They should also pay interest over the borrowed money.

Since there is a cost to collect money form customers, banks must lend the money they borrowed in a better interest rate to get profit. There are so many different banking products but they all are still the similar versions of borrowing and lending.

Turkish financial system started at 1853 (Keskin, et al. 2008). Osmanlı Bank was established by foreign capital. Over years banking sector has evolved in many ways. The sector was not competitive for credits until 2000s. When the interest rates decreased after the 2001 crisis, the banks started to compete on lending. The deposit interest rates decreased from sixty percent to ten percent from 2002 to 2017.

Low level interest rates have made mortgage credits more available. As it is seen from Figure 2.2 the mortgage credits increased by 356 times in fifteen years from 2001 to 2016.

On the other hand, the cross-sell opportunities to consumers have helped banks to increase their profitability regularly. However, increase in retail credits affected the consumption ratios negatively. Since the consumption was mainly related with the imports, trade deficit has increased gradually.

The regulations over financial system aimed to decrease the consumption and protect consumers against banks. As it can be seen from the Turkish Statistical Institute reports trade deficit decreased starting from 2014. At the same period banks could not increase their total sector income because these regulations have reduced the margins of banks for retail services.

Banks have changed their strategies from high quality retail service to digitization for cutting the costs and growing the profitability again. They have ended most of value-added services like lounge services at the airports by the parallel of this strategy.

Digitization helped banking sector to rise their total profit forty-six percent at 2016 as opposed to eight percent increase at previous year. Total banking profit increase was twenty-nine percent in 2017.

Banks invested on digital services more for retail business and shut down the inefficient branches. Although there was no significant economic crisis, banks have fired almost 9,190 employees in last two years. At the same period 675 branches -size of a big Turkish bank- was shot down. On the contrary, banks continued to increase their technology investment, while decreasing their operational costs. The trend seems to continue in the next years.

In corporate and commercial banking segment the players are all well-known. Retail banking has stopped being profitable. As a result, banks turned their attention to SME segment more in recent years.

Every bank has a unique credit approval process for their SME customers. One of the most important thing in credit process is the response time for SMEs. Improved retail banking processes let banks to respond retail credit applications in minutes. On the other hand, SME credit evaluation process is more complex because of paper work.

In the SME interview, the owner said that they can get the best pricing from their current bank since they carry out all their transaction in that bank. But the pricing strategies of banks change from time to time. However, the cost of switching banks is high for companies. Probably there are other banks who would offer better pricing. Moreover, they need to send similar documents and establish new relationships every bank to work with. This is a time-consuming procedure. These issues make the banks less competitive for SME customers.

These findings support that there is a potential improvement opportunity for lowering the prices if the duration of the service can be decreased to acceptable levels. If the cost of gaining a SME customer decreases, probably more banks will be willing to lend them.

5.2 THE ROLE OF FINTECH COMPANIES

FinTech startups appeared after the 2008 crisis in US and Europe. After the crisis, mergers and acquisitions have decreased the total number of banks in the industry. Also, banks became too big to act agile. In this environment FinTech startups have specialized on specific financial services and combined them with technology. Technological improvements assisted FinTech companies to serve faster and cheaper than traditional banks.

Several FinTech startups became direct competitors to the banks. Some others preferred to collaborate and work with banks by using their APIs. APIs are common in software development platforms, but it is a new term for financial business.

Banks are trying to be a platform for FinTech companies instead of serving everything by themselves. The main reason is the technology they still use is almost 50 years old. Most of the banks are using COBOL programming language for their critical applications like deposits or credits. The switching cost of information technology infrastructure is too high for them. Therefore, instead of switching whole system to a new technology it seems better idea to direct open banking.

Lending focused FinTech startups are rising in the world. However, in Turkey most of the FinTech companies are working on payments. When FinTech startups in Turkey are categorized according to Startup Watch website, it is seen that most of the FinTech startups are payment-oriented companies serving to retail business solutions. This composition is different from the developed FinTech markets. The main difference is the credit searching – financing FinTech startups has more share in global markets as opposed to Turkish one. The level of recent US venture capital deals also supports this trend. The global trend coming from developed countries will affect the local market soon.

As Zeynep Orman Demirel stated, the regulation does not support competitive FinTech companies. Also, payment activities are regulated and defined better than other transactions.

According to the outputs of banker survey, fourteen percent of bankers do not have idea about Turkish FinTech companies. Sixteen percent of them named US based FinTech companies instead of Turkish ones. However, almost every banker believes that the competition in financial sector will be on digitization and reducing the costs and FinTech companies will help banks in this roadmap and they will be able to grow together.

5.3 THE IMPORTANCE OF LENDING FOR SMES

In the literature about SMEs, financing problem listed as one of the most important issue for them. They have the business idea and potential, but they cannot reach the best financing options for their specific needs. There are so many special programs or funds aiming to attain SMEs, but they remain idle most of the time. The main reasons behind this phenomenon are;

a. The financial literacy is low among SME owners,
b. They cannot hire a finance professional,
c. There is no appropriate channel to evaluate all financing options for a specific purpose.

Moreover, the cost of credits is high relative to corporate & commercial and retail customer segments. The big firms have a competitive advantage. Since every bank has credit lines they try to get more share from these big companies' potential. Retail customers are prevented by the regulations. So, the price levels are standard most of the time.

Nevertheless, the margins are high for SME credits mainly because of two reasons;

i. The competitive advantage of banks over SMEs

ii. The risk level of SMEs.

Basel principles has changed the financial business environment and increased the importance of the credit. Rating of the assets helps banks to keep less capital for their assets. Rating and the quality of the collateral defines the risk level of the transaction. If the transaction risk level decreases banks can offer better prices for their specific customers that has lower risk level. Lowering the risk level is related with appropriate information about the company and the collateral type.

SME owners are usually not aware of this fact as it is stated in the literature. Thus, a tool that helps SME owners to manage financial operations easier would give opportunity to reduce their financial costs.

6. CONCLUSION & IMPLICATIONS

In this part the conclusion of literature review and our survey results will be explained, and an example implementation of a credit platform for SMEs is going to be defined.

6.1 CONCLUSION

Turkish Financial System has been strictly regulated since 2001 because of unwanted experiences. These regulations helped banks to operate with low risk levels. But also, these regulations are important entry barriers for FinTech companies.

It seems that BRSA started to allow FinTech companies to operate in payment systems. This is may be due to the belief that the payment operations can be tracked better, and the ticket size of payments are much lower as opposed to credits and investment banking. Maybe these facts affected the selection of payment systems first.

Yet, the general expectations show that the regulators will allow other companies to serve in those risky fields under structured auditing atmosphere. This strategy will rise the competition but may create an entry barrier for new comers at the same time.

The comparison of Turkish FinTech Industry and global markets shows that there will be more financing focused FinTech companies soon.

On banking side all signals indicate that it is going to be hard to find a bank branch on neighborhoods in several years. Digital banking strategy seems to continue because of the profit rates. Therefore, SMEs especially operating outside of city centers will need to reach banks via appropriate channels. From the current customer behavior, global mobile device usage statistics and SME survey results, it can be projected that mobile will be the most important channel for SME owners.

SMEs are important for economies because of job creation and regional development contributions. So, it is important to deliver right credit options to them.

The digital transformation is going to help banks to make better determination of credit ratings, lines of credits and pricing. This will lead to automated credit process from the initial demand to final lending transaction. If API banking grows like it did in US and Europe, FinTech companies in Turkey will be able serve many services over their applications by connecting securely to bank databases.

By using detailed information of companies -big data-, the artificial intelligence will take the role of credit analysts and fully automate the process at least for micro and small sized companies.

Since the SMEs are going to empower themselves with information that they get from financial applications, they are going to be able to negotiate better with credit institutions. Increased financial literacy will decrease the risk of credits but also decrease the profit margin.

BRSA should encourage FinTech ecosystem to increase efficiency and service quality for end customers. If the rivalry rises in the financial industry customers would benefit from low cost products and services.

All these changes will help to stabilize the market conditions and help us to have more sustainable financial environment for every party. Fair credit pricing will decrease the financial costs of SMEs. This means better profit margin or/and competition power for them.

An application for improving financial literacy and guide SME owners for financial decisions would increase the information level for both parts. Default rates of banks would decrease because banks will be able to lend SMEs with high quality information. Decreasing default rates will help for banks to increase their profitability level. With the launching of a new digital credit platform for SMEs, banks will be able to lend more customers with less operational cost. Lowering the operational cost will mean higher profitability.

6.2 FIDOST.COM – A FINTECH IMPLICATION FOR BUSINESS CREDIT LENDING

In this section, business plan for a credit platform application -Fidost.com- is explained.

6.2.1 Business Plan

6.2.1.1 Company purpose

The main purpose of the application is increasing the financial literacy of SMEs through an application. The mobile application will be developed to help SMEs to find appropriate funding for themselves by comparing offers. At the same time, the application will help credit institutions to find credible customers. Fidost will collect verified data of customers. Thus, credit institutions will be able to obtain high quality data from the company database. Increasing the financial literacy will decrease the interests that SMEs pay to the financial institutions.

6.2.1.2 Problem

Corporate and commercial segments contain all the big scale companies in Turkey. Almost every bank or financial institution have accounts for these companies. When they need credits, they ask all their creditors at same time. They collect the offers and decide on the best ones. These companies have professional staff to deal with financial operations. The professionals can discuss the term of conditions of credits. Since they are big scale companies it is easy to find relevant information about them for credit approval process.

Retail customers uses structured consumer products. The value proposition of the products is the same in every bank. For this reason, price is most important determinant for choosing a bank. The customer data can be obtained easily from many sources. The most important source is KKB (Credit Bureau). KKB prepares “Findeks” report for individuals that measures the credibility of potential customers. Because of the consumer regulations there are certain restrictions about the retail banking products. All these dimensions compose a very well-defined market.

SMEs use more complex products than consumers. However, they do not have professional resource to handle financial operations. Most of the time they ask financial related questions to their close friends. The survey result in this study supports this thesis. 30.8% of SMEs stated that they ask financial advises from their banker relatives. Also, companies that are in service business need financial advisor more because of their limited financial literacy.

Accessible data about SMEs is limited as opposed to other customer segments. The credibility of partners is important but cannot be evaluated solely from the company's credibility.

Within the 188 respondent SMEs, 73 companies (38,8%) employ a separate finance department, while 115 SMEs (61,2%) do not employ a separate unit for their financial transactions (Karadağ 2014, p. 111).

SMEs are required to make innovative initiatives to adapt to changing conditions in the market. This is only possible by being able to reach sufficient funding resources (Taşçı, 2017, p. 95).

6.2.1.3 Solution

In recent years platform business is growing rapidly. Alibaba, Ebay, N11, Hepsiburada are good examples for platform business. Their main value proposition is helping their customers to find best product alternative and compare products in terms of their specialties and customer reviews. This service is widely used for tangible products. The same value proposition now is spreading in for service business. "Armut" is one of the good examples. They collect the details of needs like painting house or transportation service and find best alternatives for the specific customer need.

There are similar services in financial business mainly focused on retail credits. They collect the financial demand from the potential customers and find the best prices from online sources. When customer chooses one of the banks, they forward the leads to the selected bank and charge commission over the transaction.

There are 5 similar FinTech companies in Turkey doing this business. Since the products are less complex in retail banking it is easier to manage these products than the commercial ones.

Most of the current solutions are specialized on generic purpose credits. This principle can be acceptable for generic needs. But specific needs of the SMEs cannot be satisfied fully.

The solution is focused on very specific credit need of the SMEs for their specific business cycle, collateral type, payment period and maturity date. The platform will try to find best ways for paying minimum interest or commission that they must pay. As it is seen from the survey micro and small sized SMEs can work only limited number of banks. Fidost will help these companies to reach more financing alternatives.

Increasing credibility is important for reducing the financing costs. SMEs will be able to reduce the cost of credit with working on preparation the reliable company data on time for rating system, comply with corporate governance principles, fulfilling the requirements to obtain a good rating note, learning the benefits of commercial credits and managing the change.) (Arısoy 2014, p. 95).

6.2.1.4 Why now?

As it is seen from the statistics of banking sector there is a strong movement towards to the digitization. Most of the banks started closing their branches and performing layoffs. They are competing about digital services now instead of powerful branch network. In this business environment, customers will need digital channels to reach the financial services more.

All the services migrate to mobile solutions instead of ATMs, web pages etc. Smart phone and internet usage penetration is almost 90% according to the statistics[24]. As parallel to

[24] https://wearesocial.com/special-reports/digital-in-2017-global-overview

this outcome, according to SME survey the penetration of smart phones among SME owners is more than 80 percent.

SME customer segment is the most important segment for the improvement of the economy. However, the credit prices are higher than other segments. Most of the people are complaining about high credit costs. On the other hand, SME is one of the riskiest segment for lenders because it is hard to collect reliable data about them. Secondly financial literacy level of SME owners is low. So, they are not good at choosing the most suitable credit product for their companies. Also, they are not aware of increasing their credibility to obtain better credit prices. Fidost will help its users to select the best products for the best price for them.

6.2.1.5 Market size

In this project the main targeted customer segment is SMEs in Turkey. According to the official statistics of BRSA there are 4.1 Million SMEs in Turkey. They are categorized into 3 sub-segments. The application is going to be serving especially Micro and Small segment companies. The projected facility will become financial manager for these SMEs.

Table 6.1: The Number of SMEs in Turkey

Segment	Net Sales (Million TL)	Number of Employees	Number of SMEs	Credit Volume (Billion TL)
Micro	<1	< 10	3.200.000	150
Small	1-8	11-49	676.000	198
Medium	8-40	50-249	213.000	249

Source: Banking Regulation and Supervision Agency, SME Credit Report

There are 3.8 Million Micro and Small business companies registered In Turkey. Most of them are in big cities. From this perspective İstanbul, Ankara, İzmir, Antalya and Bursa are the targeted cities for this application. The projected ticket size is 90.000 TL for these Micro and Small segments. The recurrence of the credit need for commercial credits is higher than the retail ones. Companies uses credits more than one time mostly. By taking consideration of inactive companies, it is predicted that there will be 1 potential transaction per customer at least. This assumption leads us 3.8 Million credit transaction every year.

6.2.1.6 Competition

The main functionality of the service is finding the best financing opportunity from banks. There are 6 similar services for retail customers. Their value proposition is finding standardized retail credits among prices published by the banks online. They show the prices and forward the potential customer to the selected bank. Some of them also have SME product selection but the product is almost the same with the retail banking offers.

In Turkish FinTech market, there is no any other financing FinTech company specialized on SME credits. Fidost is customized for Turkish business environment. That is the differentiation and competitor advantage of the application over potential rivals.

The main entry barrier is the know-how level of the company. Two different know-how areas needed for a company. First the commercial credit infrastructure knowledge. Second is technical knowledge. Another barrier is the complexity of commercial credits as opposed to the retail ones.

In the market, one of the main problems is power of lenders against the SMEs. This is mainly caused from the imbalanced financial knowledge level. This is the main opportunity area for a startup. The core value proposition is increasing the power of customers by using technology.

The main threat for substitute service can be change in Revenue Administrations' policy. If Revenue Administration decides to share Balance Sheet data publicly, one of the value propositions of Fidost would be substituted. For many years there are firm efforts about this issue, but Revenue Administration decided against it because of the management of data sharing rights. Therefore, this is a low-level risk for this policy change. Even if the policy changes the main value proposition -comparing and choosing the best priced credit- will not be affected.

The main product of Fidost is the reliable, high quality and up to date SME data. For obtaining this valuable data SMEs will be served in finding the best prices, notification about specific funds and suitable financing options.

The service can be copied in near future. For competing with the new entrants, it is needed to add new facilities to customers. After collecting enough data, the customer behavior will be analyzed and find the best practices from similar companies' data. From these results it will be served as high quality auto advices to potential customers and differentiate the value of the platform.

The first service will be the lead generation to banks for the first year. In the second year SME's will be served with big data solutions.

6.2.1.7 Business model

Fidost Business Model Canvas is as follows.

Table 6.2 : Business Model Canvas

Key Partners	Key Activities	Value Proposition	Customer Relationship	Customer Segments
• Tübitak (Scientific and Technological Research Council of Turkey) • KOSGEB (Small and Medium Enterprises Development Organization) • International Financial Institutions • Financial Literacy NGOs	• Coding • Development • Customer Relationship • Platform Management • Marketing and Sales	• Finding best financing alternative for SMEs • Digital Consultancy on Financing • Lead generation to Banks • High quality data sourcing to banks • Increasing the Financial Literacy	• Direct Sales for Banks • Digital • Relationship Management for SMEs	• Small &Medium Sized Banks • Small&Medium Enterprises
	Key Resources		**Channels**	
	• Human Resources • Server		• Mobile APP • Web	
Cost Structure			**Revenue Streams**	
• HR Cost • IT Infrastructure • Software Licenses			• Lead Generation Revenue from Banks	

Key partners: The purpose of Fidost is matching credit supply and demands between financial institutions and SMEs. Tübitak is a key partner because it serves the incubation center facilities. KOSGEB is the second key partner. There are so many special funds served by KOSGEB and international financial institutions, but the complexity of the funds causes mismatch of supply and demand. The goal of Fidost is reaching SMEs with right credit product. There are also non-governmental organizations(NGOs) aiming to increase financial literacy. Because of mutual target, this kind of NGOs are critical to work with for Fidost platform.

Key activities: Fidost is a platform that will work on web and as an application at IOS and Android platforms. That is why the key activity is coding. Also, development of the platform is important to keep Fidost updated. For development opportunities the feedback of customers need to be collected regularly. This makes customer relations important. Marketing planning is another key activity for the platform.

Key resources: The most important sources are human resources and servers. The coding activity is directly related with human resources. The asset of the platform is high quality customer information. Good quality server investment is inevitable to keep this asset safe.

Value proposition: The main value of the platform is finding the best credit alternative for SMEs. On the other hand, the primary customer group of the platform is banks since they are supposed to pay to platform by credit lead generations. When the platform has enough data to analyze the credit situation of the SMEs, there will be smart advices as outcomes of big data and artificial intelligence services.

Customer relationship, channels and segments: Financial institutions will be visited one by one. Banks will be selected from mid and small sized banks in Turkey. Also, all leasing and credit institutions will be added to the potential customer list.

For SMEs digital channels will be used first. SME owners mainly use bank branches according to the SME survey, but the digitization is going to change this habit. Since the financial literacy level is lower, the service (worst sector in the survey) business SMEs will be targeted first. Small scale SMEs in terms of yearly net sales and number of employees will also be prioritized because they work with limited number of banks as it is seen the SME survey.

Cost and revenue structure: The cost of the platform consist of human resources and information technology infrastructure costs including license and server procurements. The revenue source is the institutions because of the high-quality leads. Pricing will be based on the successful lead generations. The percentage will be around 0,2% per finalized offer. The invoices will be sent to the banks at the end of every month.
Since the receivables will be from banks, the default rate of our receivables will be low as opposed to the end customers.

Pricing strategy: SME automated advisory service will be charged per transaction. Fidost application will prepare a short report to show the probable outcomes of our analysis. If they accept the offer and pay around 200-250 TL full report will be submitted. For collection FinTech companies' solutions like iyzico or payu will be used.

The advantage of SME segment over retail is the recurrence rate of transactions. Consumers gets credits once a year or two years. On the other hand, SMEs apply for credit more than once a year most of the time. There are no official figures about average credit transactions but from our experience and unofficial numbers, it can be claimed that an SME uses credit twice a year on average in biggest banks. From our survey it is seen that SMEs have account on 3-4 banks.

Table 6.3 : SMEs and Credit Volumes

SME Credits, Jul'17	**# of Customers (1)**			**Outstanding Amount Million TL (2)**			**Credit Size Per Customer TL (2 / 1)**		
	Cash TL	**Cash FX**	**Total Cash**	**Cash TL**	**Cash FX**	**Total Cash**	**Cash TL**	**Cash FX**	**Total Cash**
All SMEs	3,200,266	41,825	3,242,091	410,325	78,324	488,649	128,216	1,872,659	150,720
Micro (1-9 Employees & <1 Million TL Total Sales)	2,520,884	19,544	2,540,428	119,008	9,949	128,957	47,209	509,073	50,762
Small Enterprises (10-49 Employees & 1-8 Million TL Total Sales)	520,748	11,828	532,576	141,416	20,795	162,211	271,562	1,758,150	304,578
Medium Enterprises (50-250 Employees & 8-40 Million TL Total Sales)	158,634	10,453	169,087	149,901	47,579	197,480	944,950	4,551,731	1,167,922

Source: Banking Regulation and Supervision Agency, SME Credit Report

According to the latest BRSA statistics there are 3,2 Million SME company having cash credit in Turkey by the end of July 2017. This means that there are around;

*(3,2 Million customers) * (3 Banks) * (2 Transactions per bank) = 19 Million*

credit transactions in the market.

Since 80% percent of the customers have smart phones and mobile internet services, it can be estimated that there are 15 Million potential transactions.

The pricing strategy is charging 0.2% to the banks per transactions. The primary service is high quality customer data. Therefore, banks will be charged for that service instead of charging cost to the SMEs. The focus for the first year will be Micro segment customers. The average ticket size of their credit is TL 75.000. Consequently, the commission will be around TL 100 per transaction. At least 0.1% of the credit transaction market is targeted for the beginning year. These assumptions will lead us to 1,5 Million TL commission income.

Because of their low-level branch coverage, the small sized banks will be targeted at the first stage. The survey outcomes showed that small sized firms can only with limited number of banks. Matching small banks with small and medium sized SMEs will increase the collaboration of both parties.

From the survey in this study smart phone penetration rate is almost 80%. Therefore, the main channel is going to be mobile devices. SMEs will be able to reach our services from web channels as well.

Referral marketing strategy will be implemented for growing organically. Individual users will be accepted to Fidost to gain customers for the platform in exchange of commission. Anyone will be able to open a special account in our platform to refer Fidost service. When those users bring in new customers hey will be paid per validated customer data.

Additionally, Fidost.com is going to be well defined customer platform available for marketing. Banks or other financial institutions will be able to reach directly to their potential targeted customers to promote their products.

6.2.1.8 Team

In this project, there are 5 team members for developing the application.

Board of Directors

Serkan Göktepe – Co-founder

a. METU – Business Administration
b. BAU – Entrepreneurship and Innovation, master's Degree Student
c. 13 Years banking experience
d. 9 Years on commercial and SME credits.
e. 6 Years Commercial Credit Product Vice President, SME marketing and sales

Emre Adalı – Co-founder

a. Boğaziçi University – Business Administration
b. Sabancı University – Information Technology Master's Degree
c. Marmara University– Banking, PhD Student
d. 11 Years banking experience
e. 5 Years' experience on commercial and SME credits.
f. 4 Years in Akbank IT Project Management Department

Development Team

Gizem Deli

Sakarya University – Computer Science

Mesut Sarı

Sakarya University – Computer Science

1-year law firm workflow page development experience

6.2.1.9 Financials

According to the expectations a projection is prepared about the earnings out of this project. It is planned that the platform can be finished fully at the second part of 2018. Therefore, market share is calculated 0,5% for the first sales year.

Unit price derived from the expected average ticket size which is 75.000 ₺ and 0.2% commission rate. For the first 3 years the only service will be finding best financing alternative. That's why there will be no any other income source at the beginning.

Table 6.4: Financial planning

YEAR	MARKET SHARE	# OF TRANSACTIONS	UNIT PRICE	GROS INCOME	TOTAL COST	NET INCOME BEFORE TAXES
2018	0%	-	- ₺	- ₺	₺ 377,000	-₺ 377,000
2019	0,5%	5,000	150 ₺	750,000 ₺	₺ 586,460	-₺ 111,460
2020	2%	20,000	175 ₺	3,500,000 ₺	₺1,026,305	₺ 1,992,445
2021	5%	50,000	200 ₺	10,000,000₺	₺1,796,034	₺ 7,361,779

The main cost is human resources. Since it is a technological service hiring well educated team members for the platform is very important. At the first year the setup cost will be higher because of laptops and other necessary equipment. At the second year there will be need for new team members on marketing and sales. This is going to increase the costs.

6.2.1.10 Vision

According to the findings in this study, financial industry has some similar characteristics like the beginning stage of telecom industry. Technology has changed telecom industry dramatically. There was just wired phone service for many years in the sector. After computers and band rates improvements every year a new service came into market and customers adopted rapidly to these changes. In 1994 two GSM operators TURKCELL and Telsim were established. Since then these 2 companies competed on the same services. At first there were very limited services; calls and SMS. There after they added many services to create more value to their customers. News, Cinema, Whether Condition

Services and so on. However, after the smart phones, all these differentiated services turned into applications. GSM operator services became nonsense. SMS became WhatsApp. People can call each other over Skype, Facebook, WhatsApp etc. Now customers just need reliable and high-quality internet service. Nobody cares about the number of SMS in their tariffs. As a result, GSM operators started to compete in sustainable infrastructure instead of services.

Banks will share the same experience and transform into service providers instead of product or service sellers. Soon, customers will search best products from all financial service providers and choose the ones that they like most via FinTech companies. FinTech firms will empower customers against the big financial institutions. Our vision is being the first reference source on financial issues and opportunities for customers.

6.2.2 Go to market strategy

Since Fidost is a new service a Go-to-market strategy is crucial for the launch. According to Ashkenas and Finn (2016) figuring out a go to market approach is no trivial exercise – it separates companies that will be successful and sustainable from those that will not. Understanding the customer needs is the key part of the go-to-market strategy. Tzuo who founder and CEO of Zuora is asserts that startups should answer the following question for developing their go-to -market strategy. [25]

> *"When you eventually become a $100 million-dollar company, what will your customer base look like? Will it be:*
>
> - *1 customer paying you $100 million dollars a year*
> - *100,000,000 customers paying you $1 a year?"*

Frederiksen (2017) defines go-to-market strategy in 5 steps[26];

1. Target markets
2. Profile target client
3. Brand positioning in the market

[25] https://www.forbes.com/sites/valleyvoices/2015/07/17/every-startups-go-to-market-strategy-has-to-answer-the-100-million-question/#66d128975e7e
[26] https://hingemarketing.com/blog/story/how-to-develop-a-winning-go-to-market-strategy-for-your-firm

4. The service offerings
5. Appropriate marketing strategy

6.2.2.1 Target market

The targeted market for Fidost is mainly lenders like banks, leasing companies, financial institutions (specialized on lending like car credits), fleet leasing companies and corporations working with resellers. Measuring the credibility and getting good quality of information is costly for lenders for SMEs. If lenders could get better information they could rate them better and open credit limits faster.

SME owners are not aware of the advantages to have good financials. Especially Basel criteria made rating and collateral very important for reducing the cost of credit. However, their knowledge level is low, and they miss many opportunities because of lack of necessary information about the appropriate funds.

The target market can be summarized as the transactions are the SME credit needs from these lenders in any form.

6.2.2.2 Profile target client

From the processes it may seem that the main customer segment is SME owner. Besides the key customer is the financial institutions. They are the commission payers for using the system at the first place. SME owners are users searching appropriate credit options.

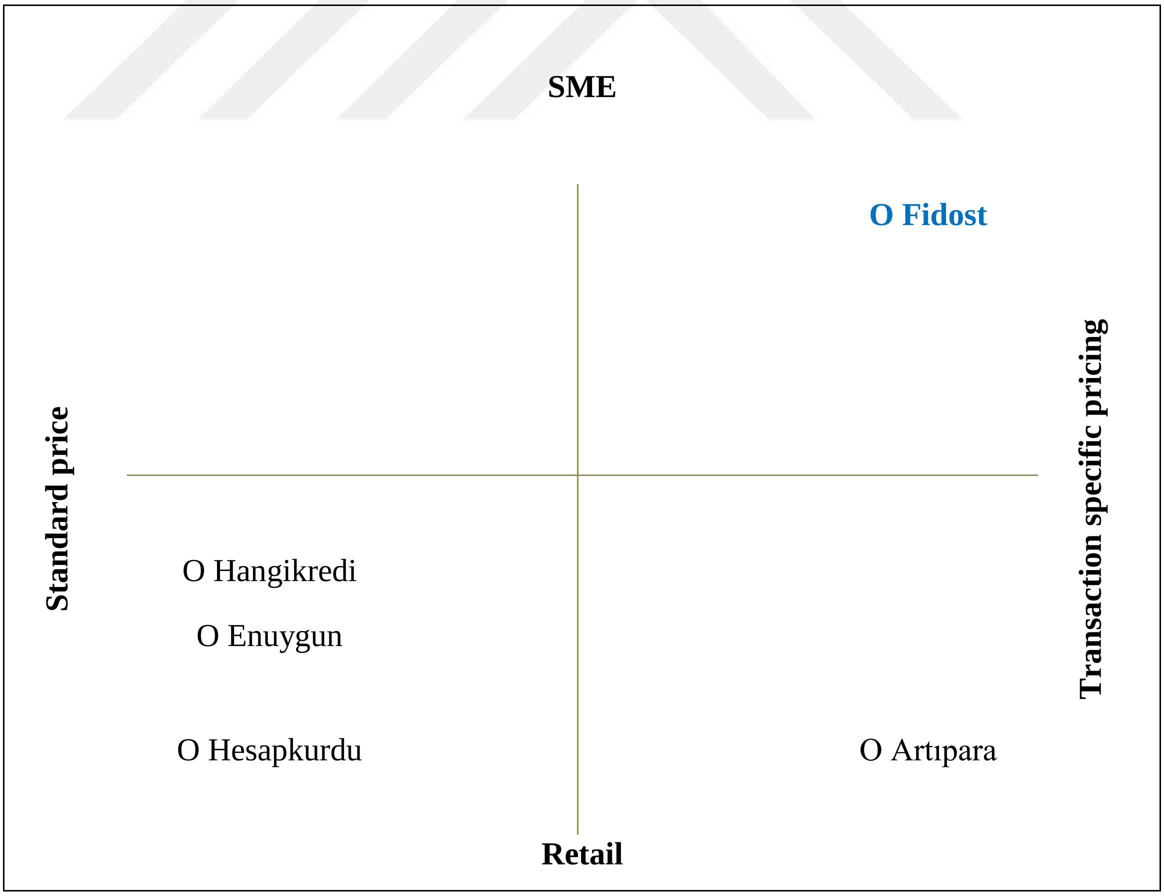
To increase the number of transactions firstly lender representatives must be encouraged to enter the platform. Generally, these mid and c level managers are afraid of the regulations. Also, they may be unwilling to give their prices and let an increase the competition that may lead a decrease in their profit margins. Most of the managers in these lender companies have a specific agenda to reduce their operational costs and work with FinTech companies.

On the SME side, for a platform like Fidost micro and medium size segment companies are more suitable to use. Fidost application aims to work as a financial advisor and tool for the company. Firms having less than fifty employees do not have luxury to hire a financial professional for doing these operations. Fidost can fill this space in the business environment.

6.2.2.3 Brand positioning in the market

In the current market most of the similar platforms are focused on retail credits mostly. Additionally, they are generally collect the standard prices from the lenders and compare them. Fidost is differentiates itself from the competition with targeted customer segment and specific pricing. One of the value proposition of the platform is getting transaction specific price even for the same SME regarding the credit and collateral conditions.

Figure 6.1 : Brand positioning of Fidost in the market



6.2.2.4 The service offerings

For Lenders

a. Lenders will reach good quality data about their customers or potential ones.
b. Have access to find new customers with high level of data quality and help the on acquisition new customer.
c. They can get the digital form of company documents via e-mail and open an account for a firm faster.
d. They can realize that their current customer searching for a new credit and act to keep it with special offerings for retention purposes.
e. They can decrease the default rates of their credits by risk-based pricing methodology.

For SMEs

a. They will be able to reach all financing options from one platform.
b. The sector specific offers will match with the right SME.
c. By increasing their financial literacy, they will invest and manage their financial better.
d. They will reduce the financing cost of their company.
e. They will have opportunity to manage their documents from one platform and do not need to end them all lenders one by one.

6.2.2.5 Marketing strategy

The lender representatives are all cost oriented since the margins were lowered by the regulations for retail business. Therefore, Fidost will be priced as pay-as-you-use. If they do not prefer to offer prices they will not pay anything. Also, there will be a free usage period for new lenders coming to the system to try the application freely.

For lender part of the platform small banks will be prioritized since their branch coverages are limited.To overcome the trust issues the leverage of Tubitak is going to be used in product launches. Also, joint campaigns will be held with chamber of commerce offices.

Special organizations will be organized to emphasis financial literacy with non-profit entities like Habitat Association.

A blog series will be initiated for improving financial literacy of SME owners. These blog entries will be shared from social media accounts and advertisement campaign will be started.

Also, a video series will be prepared containing tips for improving financial performance of SMEs.

Fidost means financial friend so all these contains will be serviced with a friendly language. The advertisements will be prepared to bring solutions for pain points;

a. Finding the best financing alternative,
b. Getting quick response,
c. Understand the credit process,
d. The importance of rating, collateral and the effect of them into the final price
e. Changing the bank easily to have sustainable relationship with them.

Additionally, in the Fidost platform there will be a special user type for independent sales representatives. Anyone will be able to sign up the Fidost as an independent sales representative and they are paid in term of the SME number that they acquire for Fidost. When they refer a SME to the system they will give their own campaign number so that it can be understood that it is their referral. These independent sales representatives will be paid monthly basis over the number of SMEs they sign up to the Fidost platform.

As a result, Fidost is going to be a cooperative FinTech solution for SMEs. It will digitize the approval and pricing processes. In the ideal world of Fidost, the credit need will be calculated by the artificial intelligence and collected the best alternatives for company form the lenders. Then, when the SME owner will select the credit transaction by using automated approval and pricing tools, the user will get the credit immediately.

The purpose of fidost is being the digital financial advisor that serves special solutions for SMEs. SME owners will be able to get professional financial help for their business. Improved financial literacy is going to help sustainability of all parties.

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APPENDIX

Appendix 1

S&P Financial Literacy Report (in alphabetical order)

Country	FinLit %	Country	FinLit %	Country	FinLit %	Country	FinLit%
Afghanistan	14	Egypt, Arab Rep.	27	Mali	33	Switzerland	57
Albania	14	El Salvador	21	Malta	44	Taiwan, China	37
Algeria	33	Estonia	54	Mauritania	33	Tajikistan	17
Angola	15	Ethiopia	32	Mauritius	39	Tanzania	40
Argentina	28	Finland	63	Mexico	32	Thailand	27
Armenia	18	France	52	Moldova	27	Togo	38
Australia	64	Gabon	35	Mongolia	41	Tunisia	45
Austria	53	Georgia	30	Montenegro	48	Turkey	24
Azerbaijan	36	Germany	66	Myanmar	52	Turkmenistan	41
Bahrain	40	Ghana	32	Namibia	27	Uganda	34
Bangladesh	19	Greece	45	Nepal	18	Ukraine	40
Belarus	38	Guatemala	26	Netherlands	66	United Arab Emirates	38
Belgium	55	Guinea	30	New Zealand	61	United Kingdom	67
Belize	33	Haiti	18	Nicaragua	20	United States	57
Benin	37	Honduras	23	Niger	31	Uruguay	45
Bhutan	54	Hong Kong SAR, China	43	Nigeria	26	Uzbekistan	21
Bolivia	24	Hungary	54	Norway	71	Venezuela, RB	25
Bosnia and Herzegovina	27	Indonesia	32	Pakistan	26	Vietnam	24
Botswana	52	Iran, Islamic Rep.	20	Panama	27	West Bank and Gaza	25
Brazil	35	Iraq	27	Peru	28	Yemen, Rep.	13
Bulgaria	35	Ireland	55	Philippines	25	Zambia	40
Burkina Faso	33	Israel	68	Poland	42	Zimbabwe	41
Burundi	24	Italy	37	Portugal	26		
Cambodia	18	Jamaica	33	Puerto Rico	32		
Cameroon	38	Japan	43	Romania	22		
Canada	68	Jordan	24	Russian Fed.	38		
Chad	26	Kazakhstan	40	Rwanda	26		
Chile	41	Kenya	38	Saudi Arabia	31		
China	28	Korea, Rep.	33	Senegal	40		
Colombia	32	Kosovo	20	Serbia	38		
Congo, Dem. Rep.	32	Kuwait	44	Sierra Leone	21		
Congo, Rep.	31	Kyrgyz Republic	19	Singapore	59		
Costa Rica	35	Latvia	48	Slovak Republic	48		
Côte d'Ivoire	35	Lebanon	44	Slovenia	44		
Croatia	44	Lithuania	39	Somalia	15		
Cyprus	35	Luxembourg	53	South Africa	42		
Czech Republic	58	Macedonia, FYR	21	Spain	49		

Source: S&P Financial Literacy Report, 2016

Appendix 2

SME Survey Results (in yearly net sales order)

Yearly Net Sales	# of Employees	Sector	Banks	# of Banks	# of Banks (grouped)	How to search credit	How much trust your bank? (1-5)	Smart Phone Usage of MSE owners	Financial Literacy Question	Region
0-1 Million TL	<10	Production	YKB, TEB, QNB Finansbank, Denizbank, Odeabank	5	4-6 banks	go to branch	3	social media, mobile banking, business	Monthly equal payments, 0.5% interest rate and 2000 commission	Mediterranean
0-1 Million TL	<10	Service	İş Bankası, Garanti, Akbank, YKB, TEB	5	4-6 banks	go to branch, call the branch	3	social media, mobile banking, business	Monthly equal payments, 0.5% interest rate and 2000 commission	Marmara Region (Other from Istanbul)
0-1 Million TL	<10	Trade	İş Bankası, Garanti, Akbank, YKB, QNB Finansbank, Denizbank, Hallkbank	7	7+ banks	Banker Relative	5	mobile banking	Monthly equal payments, 0.95% interest rate	Marmara Region (Other from Istanbul)
0-1 Million TL	<10	Trade	İş Bankası, Garanti, Akbank, YKB, QNB Finansbank, Denizbank, Hallkbank	7	7+ banks	Banker Relative	5	mobile banking	Monthly equal payments, 0.95% interest rate	Marmara Region (Other from Istanbul)
0-1 Million TL	<10	Service	İş Bankası, Akbank, Vakıfbank	3	1-3 banks	go to branch, search the internet	3	mobile banking, business	Monthly equal payments, 0.95% interest rate	Thrace
0-1 Million TL	10-49	Service	Ziraat, Vakıfbank	2	1-3 banks	search the internet	4	social media, mobile banking	Monthly equal payments, 0.95% interest rate	Istanbul Anatolia
0-1 Million TL	<10	Service	İş Bankası	1	1-3 banks	Ask Relatives or go to branch, search internet	4	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	Central Anatolia
0-1 Million TL	<10	Service	Akbank, YKB, TEB	3	1-3 banks	Ask relatives, go to branch, search the internet	4	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	Marmara Region (Other from Istanbul)
0-1 Million TL	<10	Trade	Akbank, YKB, ING Bank	3	1-3 banks	Banker Relative	1	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	Marmara Region (Other from Istanbul)
0-1 Million TL	<10	Service	İş Bankası, Garanti, QNB Finansbank, Ziraat	4	4-6 banks	search the internet	4	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	İstanbul
0-1 Million TL	<10	Trade	Akbank, Hallkbank, Vakıfbank	3	1-3 banks	go to branch	3	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	İstanbul
0-1 Million TL	<10	Trade	Garanti, Akbank, YKB, Ziraat	4	4-6 banks	Banker Relative	3	business	Monthly equal payments, 0.95% interest rate	İstanbul
0-1 Million TL	<10	Trade	Akbank, Denizbank	2	1-3 banks	go to branch	4	business	Monthly equal payments, 0.95% interest rate	İstanbul
0-1 Million TL	<10	Trade	Garanti, Akbank, Denizbank	3	1-3 banks	Banker Relative	3	social media	No idea	İstanbul
0-1 Million TL	<10	Production	İş Bankası, Akbank, YKB, QNB Finansbank	4	4-6 banks	Banker Relative	3	social media, mobile banking	No idea	İstanbul
0-1 Million TL	<10	Service	YKB	1	1-3 banks	Call the bank branch	3	social media, mobile banking, business	No idea	İstanbul
0-1 Million TL	<10	Service	Akbank	1	1-3 banks	search the internet	3	social media, mobile banking, business	No idea	İstanbul
0-1 Million TL	<10	Service	YKB, Ziraat, Hallkbank, Vakıfbank	4	4-6 banks	go to branch	1	social media, mobile banking, business	No idea	İstanbul
0-1 Million TL	<10	Service	İş Bankası	1	1-3 banks	go to branch	3	social media, mobile banking, business	No idea	İstanbul

Yearly Net Sales	# of Employees	Sector	Banks	# of Banks	# of Banks (grouped)	How to search credit	How much trust your bank? (1-5)	Smart Phone Usage of MSE owners	Financial Literacy Question	Region
0-1 Million TL	<10	Service	İş Bankası, Akbank	2	1-3 banks	go to branch, search the internet	3	social media, mobile banking, business	No idea	İstanbul
0-1 Million TL	10-49	Production	Garanti, Akbank, QNB Finansbank	3	1-3 banks	go to branch, search the internet	4	social media, mobile banking, business	No idea	İstanbul
0-1 Million TL	<10	Service	Akbank	1	1-3 banks	go to branch	4	mobile banking	Spot payment 10% interest rate (right answer)	Istanbul Anatolia
0-1 Million TL	<10	Trade	Garanti, Hcbc	2	1-3 banks	search the internet	2	social media, mobile banking	Spot payment 10% interest rate (right answer)	Istanbul Europe
0-1 Million TL	<10	Trade	İş Bankası, Garanti, Akbank, YKB, QNB Finansbank, Denizbank, Vakıfbank	8	7+ banks	search the internet	3	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Central Anatolia
0-1 Million TL	<10	Trade	İş Bankası, Garanti, Akbank	3	1-3 banks	go to branch	3	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Central Anatolia
0-1 Million TL	10-49	Service	İş Bankası, Garanti, Akbank, Denizbank, Vakıfbank	5	4-6 banks	go to branch	2	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Central Anatolia
0-1 Million TL	<10	Trade	Akbank, QNB Finansbank, Vakıfbank	3	1-3 banks	go to branch	5	social media, business	Spot payment 10% interest rate (right answer)	Central Anatolia
0-1 Million TL	<10	Trade	Garanti, Akbank, YKB, QNB Finansbank	4	4-6 banks	go to branch	3	social media, business	Spot payment 10% interest rate (right answer)	Central Anatolia
1 Million TL - 8 Million TL	<10	Trade	Akbank, QNB Finansbank, ING Bank	3	1-3 banks	Banker Relative	4	mobile banking, business	Monthly equal payments, 0.5% interest rate and 2000 commission	Central Anatolia
1 Million TL - 8 Million TL	<10	Service	İş Bankası, Garanti, Akbank, YKB, QNB Finansbank, Denizbank, Ziraat	7	7+ banks	Ask Relatives or go to branch	4	mobile banking, business	Monthly equal payments, 0.95% interest rate	Marmara Region (Other from Istanbul)
1 Million TL - 8 Million TL	10-49	Service	İş Bankası, Akbank	2	1-3 banks	Banker Relative	5	mobile banking, business	Monthly equal payments, 0.95% interest rate	Marmara Region (Other from Istanbul)
1 Million TL - 8 Million TL	<10	Service	Garanti, Akbank, YKB, TEB, Katılım Bankası	5	4-6 banks	go to branch	3	mobile banking, business	Monthly equal payments, 0.95% interest rate	Istanbul Anatolia
1 Million TL - 8 Million TL	10-49	Service	Garanti, Akbank, YKB	3	1-3 banks	Call the bank branch and search the internet	4	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	Thrace
1 Million TL - 8 Million TL	<10	Trade	Denizbank, Vakıfbank	2	1-3 banks	search the internet	1	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	Central Anatolia
1 Million TL - 8 Million TL	10-49	Service	İş Bankası, Garanti, Akbank, YKB, Denizbank, Hallkbank	6	4-6 banks	go to branch	4	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	İstanbul
1 Million TL - 8 Million TL	10-49	Production	İş Bankası, Ziraat	2	1-3 banks	Ask Relatives or go to branch	2	mobile banking	Spot payment 10% interest rate (right answer)	İstanbul
1 Million TL - 8 Million TL	<10	Trade	Garanti, Akbank, YKB, QNB Finansbank, Denizbank, Ziraat, Hallkbank	7	7+ banks	Call the bank branch and ask relatives	1	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Marmara Region (Other from Istanbul)
1 Million TL - 8 Million TL	<10	Trade	İş Bankası, Akbank, TEB, QNB Finansbank, Katılım Bankası	5	4-6 banks	Banker Relative	3	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Istanbul Anatolia
1 Million TL - 8 Million TL	<10	Service	Garanti, Katılım Bankası	2	1-3 banks	Banker Relative	3	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Istanbul Europe
1 Million TL - 8 Million TL	<10	Service	YKB	1	1-3 banks	Call the bank branch	3	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Istanbul Anatolia

Yearly Net Sales	# of Employees	Sector	Banks	# of Banks	# of Banks (grouped)	How to search credit	How much trust your bank? (1-5)	Smart Phone Usage of MSE owners	Financial Literacy Question	Region
1 Million TL - 8 Million TL	10-49	Production	Akbank, Ziraat, Hallkbank, Vakıfbank	4	4-6 banks	Do not use credit	1	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Istanbul Anatolia
1 Million TL - 8 Million TL	10-49	Production	İş Bankası, Akbank, Fibabanka	3	1-3 banks	go to branch	3	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Istanbul Anatolia
1 Million TL - 8 Million TL	<10	Trade	Garanti, Akbank, Ziraat	3	1-3 banks	go to branch	2	social media, business	Spot payment 10% interest rate (right answer)	Central Anatolia
1 Million TL - 8 Million TL	50-250	Service	YKB	1	1-3 banks	Call the bank branch	1	business	Spot payment 10% interest rate (right answer)	Istanbul Anatolia
1 Million TL - 8 Million TL	<10	Service	İş Bankası, Akbank, Vakıfbank	3	1-3 banks	go to branch	5	business	Spot payment 10% interest rate (right answer)	Marmara Region (Other from Istanbul)
> 8 Million TL	10-49	Service	Akbank	1	1-3 banks	search the internet	4	mobile banking	Monthly equal payments, 0.5% interest rate and 2000 commission	Istanbul Europe
> 8 Million TL	50-250	Production	İş Bankası, Garanti, Akbank, QNB Finansbank, Fibabanka, Ziraat, Hallkbank, Vakıfbank, Katılım Bankası	9	7+ banks	Call the bank branch	1	social media, mobile banking, business	Monthly equal payments, 0.95% interest rate	Central Anatolia
> 8 Million TL	50-250	Production	Garanti, Akbank	2	1-3 banks	go to branch	3	business	Monthly equal payments, 0.95% interest rate	İstanbul
> 8 Million TL	50-250	Production	İş Bankası, Garanti, QNB Finansbank, Denizbank, Fibabanka, Şekerbank, Ziraat, Hallkbank, Vakıfbank	9	7+ banks	Ask Relatives or go to branch, call the branch	2	social media, mobile banking, business	Spot payment 10% interest rate (right answer)	Southeastern Anatolia
> 8 Million TL	50-250	Production	İş Bankası, Garanti, Akbank, TEB, QNB Finansbank, Ziraat, Vakıfbank, Katılım Bankası	8	7+ banks	Call the bank branch	3	business	Spot payment 10% interest rate (right answer)	Marmara Region (Other from Istanbul)
> 8 Million TL	50-250	Production	Akbank	1	1-3 banks	Call the bank branch	3	business	No idea	Marmara Region (Other from Istanbul)