

**THE REPUBLIC OF TURKEY  
BAHCESEHIR UNIVERSITY**

# **DIGITAL BANKING SERVICES**

**Master's Thesis**

**PINAR KUŞ**

**İSTANBUL, 2018**



**THE REPUBLIC OF TURKEY  
BAHCESEHIR UNIVERSITY**

**GRADUATE SCHOOL OF SOCIAL SCIENCES  
MASTER OF BUSINESS ADMINISTRATION**

**DIGITAL BANKING SERVICES**

**Master's Thesis**

**PINAR KUŞ**

**Prof. Dr. Özgür ÇENGEL**

**İSTANBUL, 2018**

THE REPUBLIC OF TURKEY  
BAHCESEHIR UNIVERSITY

NAME OF THE GRADUATE SCHOOL  
NAME OF THE GRADUATE PROGRAM

Name of the thesis: Digital Banking Services  
Name/Last Name of the Student: Pinar KUŞ  
Date of the Defense of Thesis:

The thesis has been approved by the Graduate School of Social Sciences

Graduate School Director

Asistant Prof. Burak  
Kontay

I certify that this thesis meets all the requirements as a thesis for the degree of  
Master of Arts.

Program Coordinator

This is to certify that we have read this thesis and we find it fully adequate in  
scope, quality and content, as a thesis for the degree of Master of Arts.

Examining Comittee Members

Thesis Supervisor

Özgür Cengel

Member

Dr. Dr. Tijen Yıldırım

Member

Dr. Öğr. Üyesi:  
Gülberk Gültel'in  
Salman

Signature

[Signature]

[Signature]

[Signature]

## ABSTRACT

### DIGITAL BANKING SERVICES

Pınar Kuş

Master of Business Administration

Thesis Supervisor: Prof. Dr. Özgür ÇENGEL

May 2018, 99 pages

The purpose of this study is to present a systematic review of the research that is given information about the status and future of banking alternative distribution channels in the world and Turkey. As a result, it has been proposed that banks' fees for mobile and digital banking services should be offered more attractive and investments in technological infrastructure services should be increased. In addition, thanks to the Turkey's geopolitical advantages it is evaluated that Turkey can become a regional center of financial technologies in the near future.

Improvements and innovations in the field of information technology are increasing day by day. Along with the parallel development and spread of the internet and mobile devices, there are significant changes in the way in which the business conducts business especially in the financial area, which is valid in all sectors of the world. Moreover, along with technological developments, the developments in information technology and the widespread use of computers have led to the emergence of new financial channels and products. With the increase in competition, banks have begun to provide services not only from branch networks but also from digital channels, taking the advantages provided by new technologies. Thanks to these services, each computer and smart phone has become a personal bank branch, allowing the bank customers to do many services on their own without the need for a branch.

This study consists perceptions of digital mobile banking service researches. For this research, a questionnaire was used as the data collection method. Questionnaires are used in SPSS 24.0 factor analysis, reliability and validity analysis, Independent Sample Mann Whitney-U test and Kruskal-Wallis tests analysis respectively.

**Keywords:** Bank distribution services, digital banking services, financial technology

## ÖZET

### DİJİTAL BANKACILIK HİZMETLERİ

Pınar Kuş

İşletme Yönetimi Yüksek Lisans Programı

Tez Danışmanı: Prof. Dr. Özgür ÇENGEL

Mayıs 2018, 99 sayfa

Bu çalışmada Türkiye ve Dünya'daki bankacılık alternatif dağıtım kanallarının durumu ve geleceği konusunda bilgi verilmiştir. Sonuç olarak, bankaların mobil ve dijital bankacılıktaki hizmetlerinin ücretlerinin daha cazip hale getirilmesi ve teknolojik altyapı hizmetleri yatırımlarının artırması önerilmiştir. Ek olarak Türkiye'nin yakın gelecekte jeopolitik avantajını da kullanarak, bölgesel bir finansal teknolojiler merkezi haline dönüşebileceği değerlendirilmiştir.

Bilişim teknolojileri alanında gelişmeler ve yenilikler gün geçtikçe artmaktadır. İnternet ve mobil cihazların da bu paralelde gelişmesi ve yayılması ile Dünya'daki tüm sektörlerde geçerli olmak üzere özellikle finansal alanda iş yapış şekillerinde önemli değişiklikler olmaktadır. Ayrıca teknolojik gelişmelerle birlikte bilgi teknolojisindeki gelişmeler ve bilgisayar kullanımının yaygınlaşması yeni finansal kanalların ve ürünlerin ortaya çıkmasına neden olmuştur. Rekabetin de artması ile bankalar sadece şube ağları ile değil, yeni teknolojilerin sağladığı avantajlardan yararlanarak dijital ve mobil kanallardan da hizmet vermeye başlamışlardır. Bu hizmetler sayesinde her bilgisayar ve akıllı telefon kişisel banka şubesi haline dönüşerek, banka müşterilerine şubeye ihtiyaç kalmadan birçok hizmeti kendi başlarına yapabilme imkânı sunulmuştur.

Bu çalışma, dijital mobil bankacılık hizmet algılamalarının araştırılmasından oluşmaktadır. Bu araştırma için veri toplama yöntemi olarak bir anket kullanılmıştır. Anketler geri alındığında SPSS 24.0 sırasıyla bağımsız analiz, güvenilirlik ve geçerlik analizi, Bağımsız T-testi ve Tek Yönlü Kruskal-Wallis analizini faktörlendirmek için kullanılmıştır.

**Anahtar Kelimeler:** Banka dağıtım hizmetleri, dijital bankacılık hizmetleri, finansal teknoloji

## CONTENTS

|                                                                                        |             |
|----------------------------------------------------------------------------------------|-------------|
| <b>TABLES .....</b>                                                                    | <b>viii</b> |
| <b>FIGURES .....</b>                                                                   | <b>ix</b>   |
| <b>ABBREVIATIONS .....</b>                                                             | <b>x</b>    |
| <b>1. INTRODUCTION.....</b>                                                            | <b>1</b>    |
| <b>2. BANK CONCEPT, DEVELOPMENT OF BANKING AND FINANCIAL TECHNOLOGIES .....</b>        | <b>3</b>    |
| <b>2.1 BANK AND BANKING CONCEPTS .....</b>                                             | <b>3</b>    |
| <b>2.2 DEVELOPMENT OF BANKING .....</b>                                                | <b>4</b>    |
| <b>2.2.1 Development Of Banking In The World.....</b>                                  | <b>4</b>    |
| <b>2.2.2 Development Of Banking In Turkey .....</b>                                    | <b>6</b>    |
| <b>2.3 BANKING SYSTEM.....</b>                                                         | <b>13</b>   |
| <b>2.3.1 Investment Banking .....</b>                                                  | <b>13</b>   |
| <b>2.3.2 Development Banking.....</b>                                                  | <b>14</b>   |
| <b>2.3.3 Commercial Banks .....</b>                                                    | <b>14</b>   |
| <b>2.3.4 Foreign Banks.....</b>                                                        | <b>15</b>   |
| <b>2.3.5 Participation (Islamic) Banks.....</b>                                        | <b>15</b>   |
| <b>2.4 THE IMPORTANCE OF BANKING SERVICES AND TURKISH BANKING SECTOR.....</b>          | <b>16</b>   |
| <b>2.4.1 International Developments .....</b>                                          | <b>19</b>   |
| <b>2.4.2 Developments In Turkish Banking Sector .....</b>                              | <b>22</b>   |
| <b>2.5 FINANCIAL TECHNOLOGIES AND CONCEPTS.....</b>                                    | <b>26</b>   |
| <b>2.5.1 Development Of Financial Technologies In The World .....</b>                  | <b>33</b>   |
| <b>2.5.2 Development Of Financial Technologies In Turkey .....</b>                     | <b>39</b>   |
| <b>2.6 PREPARATION OF CUSTOMERS AND CUSTOMERS IN MOBILE BANKING APPLICATIONS .....</b> | <b>43</b>   |
| <b>3. EXTERNAL BANKING (DIGITAL-MOBILE BANKING) SERVICES .....</b>                     | <b>48</b>   |
| <b>3.1 DIGITAL BANKING .....</b>                                                       | <b>48</b>   |
| <b>3.2 DEVELOPMENT OF DIGITAL AND RETAIL BANKING .....</b>                             | <b>50</b>   |
| <b>3.3 PURPOSES AND BENEFITS OF DIGITAL BANKING .....</b>                              | <b>51</b>   |
| <b>3.4 DIGITAL BANKING PRACTICES.....</b>                                              | <b>52</b>   |
| <b>3.4.1 Automated Teller Machines (ATM) .....</b>                                     | <b>54</b>   |
| <b>3.4.2 Internet Banking .....</b>                                                    | <b>57</b>   |

|                                                                                       |    |
|---------------------------------------------------------------------------------------|----|
| 3.4.3 Mobile Banking .....                                                            | 58 |
| 3.4.4 GSM Banking .....                                                               | 74 |
| 3.4.5 WAP Banking (Wireless Connection Protocol).....                                 | 74 |
| 3.5 PREPARATION OF CUSTOMERS AND CUSTOMERS IN MOBILE<br>BANKING APPLICATIONS .....    | 75 |
| 4. METHOD AND DATA .....                                                              | 77 |
| 4.1 MODELING AND HYPOTHESES OF RESEARCH .....                                         | 77 |
| 4.2 UNIVERSE AND SAMPLING .....                                                       | 77 |
| 4.3 DATA COLLECTION TOOLS .....                                                       | 78 |
| 4.3.1 Personal Information Form .....                                                 | 78 |
| 4.3.2 Personal Information Form .....                                                 | 78 |
| 4.4 RESOLUTION OF DATA.....                                                           | 78 |
| 5. FINDINGS AND COMMENT .....                                                         | 80 |
| 5.1 FREQUENCY DISTRIBUTIONS OF DEMOGRAPHIC<br>CHARACTERISTICS .....                   | 80 |
| 5.1.1 Findings Related to Sex .....                                                   | 80 |
| 5.1.2 Age Related Findings .....                                                      | 80 |
| 5.1.3 Educational Findings .....                                                      | 81 |
| 5.1.4 Findings Related to Monthly Income .....                                        | 81 |
| 5.1.5 Findings Related to The Transactions Used in Bank Channel ....                  | 82 |
| 5.1.6 Findings on the Information on Mobile Banking Services .....                    | 83 |
| 5.1.7 Findings About The Source of Information About Mobile Banking<br>Services ..... | 83 |
| 5.1.8 Findings On The Use Of Mobile Banking Services .....                            | 84 |
| 5.1.9 Findings Related To The Bank Where Mobile Banking Service Is<br>Used .....      | 84 |
| 5.1.10 Findings On Why Mobile Banking Services Are Not Utilized ....                  | 85 |
| 5.2 FACTOR ANALYSIS RESULTS .....                                                     | 86 |
| 5.3 FINDINGS.....                                                                     | 88 |
| 5.3.1 Descriptive Analysis .....                                                      | 88 |
| 5.3.2 Data Analysis .....                                                             | 89 |
| 5.4 TESTING OF RESEARCH PROBLEMS .....                                                | 90 |
| 5.4.1 Differences According To Gender .....                                           | 90 |
| 5.4.2 Differentiation According To Age .....                                          | 91 |
| 5.4.3 Differentiation According To Educational Status.....                            | 93 |

|                                                                                          |            |
|------------------------------------------------------------------------------------------|------------|
| 5.4.4 Differences According To Monthly Income.....                                       | 94         |
| 5.4.5 Differences According To Level Of Knowledge About Mobile<br>Banking Services ..... | 94         |
| <b>6. CONCLUSION.....</b>                                                                | <b>96</b>  |
| 6.1 IMPLICATIONS FOR THEORY AND PRACTICE.....                                            | 99         |
| 6.2 LIMITATIONS AND FURTHER RESEARCH .....                                               | 99         |
| <b>REFERENCES.....</b>                                                                   | <b>100</b> |
| <b>APPENDICES .....</b>                                                                  | <b>110</b> |



## TABLES

|                                                                                                             |    |
|-------------------------------------------------------------------------------------------------------------|----|
| Table 2.1: Banks operating in Turkish Banking System.....                                                   | 25 |
| Table 3.1: Pros and Cons of Ally Bank.....                                                                  | 71 |
| Table 5.1: KMO and Bartlett's Test for factor analysis.....                                                 | 84 |
| Table 5.2: Rotated component matrix.....                                                                    | 85 |
| Table 5.3: Descriptive statistics of scale.....                                                             | 86 |
| Table 5.4: Hypothesis related to gender and their results.....                                              | 88 |
| Table 5.5: Hypothesis related to age and their results.....                                                 | 89 |
| Table 5.6: Hypothesis related to educational status and their results.....                                  | 90 |
| Table 5.7: Hypothesis related to monthly income and their results.....                                      | 91 |
| Table 5.8: Hypothesis related to level of knowledge about mobile banking services<br>and their results..... | 92 |

## FIGURES

|                                                                                                        |    |
|--------------------------------------------------------------------------------------------------------|----|
| Figure 3.1: Global Fintech investment activity (2010-2015).....                                        | 35 |
| Figure 3.2: Volumetric change of collaborative and competitive Fintech<br>investments (2014-2015)..... | 37 |
| Figure 3.3: Global Fintech and IT expenditures (2015).....                                             | 38 |
| Figure 3.4: Turkey Fintech Trading Volume.....                                                         | 39 |
| Figure 3.5: Development of Fintech investments in Turkey (2012-2106).....                              | 40 |
| Figure 5.1: Gender frequency.....                                                                      | 79 |
| Figure 5.2: Age frequency.....                                                                         | 79 |
| Figure 5.3: Educational status frequency.....                                                          | 80 |
| Figure 5.4: Monthly income frequency.....                                                              | 80 |
| Figure 5.5: Frequency of the transactions used in any bank channel.....                                | 81 |
| Figure 5.6: Having enough information about mobile banking services frequency<br>.....                 | 81 |
| Figure 5.7: Findings about the source of information about mobile banking.....                         | 82 |
| Figure 5.8: Frequencies of mobile banking services usage frequency.....                                | 83 |
| Figure 5.9: Frequencies of used bank for mobile banking services.....                                  | 83 |
| Figure 5.10: Frequencies of reasons of not taking advantage of mobile banking<br>services.....         | 84 |

## ABBREVIATIONS

|         |                                                            |
|---------|------------------------------------------------------------|
| API     | : Application Program Interface                            |
| APY     | : Annual Percentage Yield                                  |
| ATM     | : Automated Teller Machine                                 |
| BCBS    | : Basel Committee on Banking Supervision                   |
| CBT     | : Central Bank of Turkey                                   |
| CPSS    | : The Committee on Payment and Settlement Systems          |
| ENIAC   | : Electronical Numerical Integrator and Computer           |
| FATF    | : Financial Action Task Force                              |
| FAQ     | : Frequently Asked Questions                               |
| FCA     | : Financial Conduct Authority                              |
| FDIC    | : Federal Deposit Insurance Corporation                    |
| FINTECH | : Financial Technology                                     |
| GMAC    | : General Motors Acceptance Corporation                    |
| GSM     | : Global System for Mobile                                 |
| IAIS    | : The International Association of Insurance Supervisors   |
| IASC    | : International Accounting Standards Committee             |
| ICC     | : Interbank Card Center                                    |
| IFAC    | : International Federation of Accountants                  |
| IMF     | : International Monetary Fund                              |
| IOSCO   | : The International Organization of Securities Commissions |
| ISE     | : Investment Skills and Education                          |
| IT      | : Information Technology                                   |
| KPMG    | : Klynveld Peat Marwick Goerdeler                          |
| OECD    | : Organization for Economic Co-operation and Development   |
| P2P     | : Peer to Peer                                             |
| POS     | : Point of Sale                                            |
| PRA     | : Prudential Regulation Authority                          |
| SDIF    | : Saving Deposit Insurance Fund (Turkey-TMSF)              |
| SME     | : Small and Medium Size Enterprisement                     |
| SMS     | : Short Message Systems                                    |
| TBS     | : Turkish Banking System                                   |

## **1. INTRODUCTION**

In today's conditions, Banks are increasingly paying more attention to customer satisfaction in order to be able to sustain their business assets, to stay behind the times, to increase profitability and customer efficiency. In order to be successful in the continuously increasing competitive environment, it can be shown that the most important thing is gaining more active customers than other banks. In order to achieve this, it is necessary for a bank to increase the quality of service within a modern marketing policy. Banks should provide services easy, various and different from their competitors by introducing innovations according to the needs of the region where they are in order to increase the quality of service and apply these services. Reduced costs due to the use of advanced technology have brought banks closer to their customers. This situation caused the increase in the importance given to customer satisfaction in the sector day by day. All these changes and progresses developed banking services and accelerated the banks to take new decisions in this framework.

The intense competition conditions experienced in the environment reveal that customer satisfaction is one of the most important elements that banks have in their success as well as in all enterprises. Banks must conduct more and easy customer-focused activities than businesses operating in other sectors in order to sustain their operations. The aim of this customer-focused activity should be to try to provide quality service that sets customer expectations and satisfies them.

Banks have to find new easy ways to use products and methods to increase and sustain their profitability. The banking sector provides the foundation and development of other sectors as well as opens up new horizons for the sectors with new financing opportunities and new products and services. With the advancement of technology in recent years, branchless banking channels have increased, changed and renewed. Technological advancement has facilitated the use of alternative distribution channels. Depending on the number of users and the volume increase, the banks accelerated their investments in alternative distribution channels. As a result, the diversification and renewal of the products presented from these channels is taking place.

Within the decade between 1980 and 1990, demographic changes have taken a rapid turnaround and development process due to reasons such as bank consolidation, regulatory reforms and the use of emerging technologies in the banking sector and changing customer wishes. In this process, the payment systems have also changed. Generally, it has been seen that major problems have arisen over time in payment systems where an account is opened in a bank and payments are made via this bank or payments are mainly used for checks. In these systems, the banks which made the payments are under the burden of examining many paper documents. This burden was even greater, especially when paying for checks. It has also been observed that the bank's employee and branch expenses have also increased considerably and that employee expenses have started to account for 70-80% of all expenses of the bank's operations (Arkan 1991).

On the major developments observed in banking services in recent years is to measure the effect of product innovation in creating customer satisfaction in this sector. Parallel to product innovation in the banks, the range of services offered by the banks is also increasing. Many banks today have consulting services, individual banking, corporate banking, retail banking and internet banking. For this reason, in recent years, the banks have invested primarily in alternative distribution channels such as ATM, Mobile Banking, Internet Banking, Video Phone Banking and Call Center. The most important among these is the emerging mobile banking applications. While mobile banking applications provide easy service to customers, there is a problem in knowing some information. The goal of working with a clearer statement is the issue of mobile banking practices, as well as the preparation of banks themselves how to make their customers ready. This is because if a person is away from information technology, he/she is not well aware of the situation and cannot take advantage of it.

## **2. BANK CONCEPT, DEVELOPMENT OF BANKING AND FINANCIAL TECHNOLOGIES**

Depending on the various functions that the banks bear, the economy has an extremely large precaution. In this section, explaining the definition and importance of the concept of banking, various functions are mentioned and attention is paid especially to the credit function, which is one of the most important functions of the banks.

### **2.1 BANK AND BANKING CONCEPTS**

Banks, which are considered as indispensable elements of money and credit policy in today's economies, have become unique financial institutions both nationally and internationally due to their large and important roles they play in the development of the countries as well as the various functions they fulfill. There are many definitions on the concept of the bank and if the definition can be made in the most general way, the bank can be regarded as a business that collects the money that real and legal persons do not spend in a certain time and evaluates them by credit.

In the primitive sense, banking had been made as credit for merchant securities and commodities when money had not yet begun to be used as a means of exchange. Land mortgage and bail credit transactions were also used. Later the banking system began to be formed with the distribution of the goods that the people gave to the gods as gratuities to earn income from the clergy. With the growth of commercial life, the accumulation of surplus money in merchants and the use of such surplus money as loans, banking has become the secondary profession of the big merchants' families. (Ergin 1982)

In today's banking system, banking activities have developed and diversified in the course of the years. For this reason, it is not easy to make a broad and comprehensive definition of banking activities. In the continuously developing sector, many new services are offered day by day with the effect of technological developments. For this reason, it is getting more and more difficult to define a comprehensive banking every day.

To put it simply, the bank is a financial institution that obtains funds from the market and makes profits by using these funds in different sectors. In the Banking Law No. 5411,

there are three different types of banks, namely Deposit Banks, Participation Banks and Development and Investment Banks.

## **2.2 DEVELOPMENT OF BANKING**

Historical developments of banking are examined under two headings in the world and in Turkey.

### **2.2.1 Development Of Banking In The World**

It is believed that the word of the bank, which is expressed in some minor changes in all world languages, comes from the word “banco” in Italian and is used as bank afterwards. The Lombardy Jews, considered as the first bankers, made their banking transactions on a table (banco) they put on the markets. The banker's word is also Italian. In Italy, those who open the counter by putting a table in the markets and dealing with the purchase and sale of money were called banchiero (banker) (Parasız 2001).

The development of banking throughout history has been closely linked to the development of the concept of money. In other words, the concept of money and the development in the banking can be tried to reach the present level by reciprocal effect (Eyüpçiller 2000: 6). Historical banking activities in the world dates back to ancient times of XII century (Altuğ 2000). In ancient times, the deposits of palaces and temples of monarchs made as money or goods were accepted as the first traces of banking. Since these places represent the sovereignty of the world after the one who was living, the other death, and in the deposits, trust in the treacherous guard was seen and the public was inspired to trust. There are records showing that the right to use these relics is available (Takan 2001).

The famous Hammurabi Laws of Babylonian Hammurabi, which was issued by the Babylonian ruler Hammurabi, constituted the first example of intervening in credit and interest matters by means of the debt-bond regulating elements in B.C. 1800, the ancient Greek Parthenon and Apollo temples were entrusted with relief and lent money (Urgancı 1982).

From the beginning of the century in B.C. IV. the government supervision on these banks increased, while the bankers and public banks appeared on the one hand. The

development of banking in Egypt after the occupation of Alexander the Great (B.C.56-323), B.C. III. in ancient Egypt there were provisions prohibiting “compound interest”. At the time of Ptolemy (127-51 BC), the banking state went under control, or rather monopolized. This means that personal businesses were removed from the banking field. However, after the country passed through the Romans, private banks re-emerged (Takan 2001).

Although the history of it dates back to the early days, banking started with the revival of commercial life and the completion of urbanization in the 11th century. The fairs established in those years became the center of the credited goods trading activities with the internationality and payment center identity. With the use of today's policy-like payment letters, payment problems have been abolished in commercial activities. (Heaton 1985) Then banking emerged in the 14th and 15th centuries in the commercial cities of Italy, which is known today as banking. That is why the bank's origins are in Italian (Green 1989). The Bank of Barcelona was founded in 1401 and the bank “Casa di San Giorgio” in 1407 called Genova Bank. These are the Lombards, which are examples of Europeans. This necessitated that the Jews helped to provide generality of trade and banking operations by applying the same rules and regulations wherever they went (Eyüpgiller 2000).

With the discovery of the United States, there was a problem that negatively affected international trade because the coins used in Europe and America were different values. For this reason, the Amsterdam Bank, which holds its accounts on a fixed precious metal, was established in 1609 (Geylan 1985). So Modern Banking is accepted to begin with this establishment of the Amsterdam Bank and the British Bank (established in 1694), and the Federal Reserve Bank (established in the United States in 1907). All of these banks formed the skeleton of the modern banking system (Altan 2001).

In XIX century, banking movements changed according to the development of industry and transportation opportunities. It has greatly expanded in that century. Very few state and municipal banks established before this century were left in XIX century. Almost all the banks established before the XVII century belonged to the people and were generally

limited to their lives, while they were “personal enterprises”. However most of the banks that were founded after the century of XIX were “capital companies”. The most prominent feature of the century is that it was the first time that the “establishment and organization of an anonymous establishment” of the banks was practiced in this century.

Thus, instead of the small capital and scattered banks, which have the narrow possibilities of the ancient ages, in all countries, multi-branch “giant banks” with large capital and great financial possibilities, were born (Altuğ 2000). As a result, many changes and developments to date today, the bank has perfect shape.

### **2.2.2 Development Of Banking In Turkey**

Turkish banking begins with the Ottoman period. It is widely accepted that banking in the Ottoman Empire began with the Ottoman Bank, founded in 1856. The Bank was established with British capital to mediate between the Ottoman government and foreign capital owners in the receipt of foreign debt. The Ottoman Empire had to invest all its income in the Ottoman Bank, to make all its payments through this bank, to dispose of the accounts related to internal and external borrowings through this bank, to give an example of the budget each year to the bank and not to spend above the expenditures in the budget except extraordinary situations accepted. The bank was given the authority to supervise the state budget (Akgüç 1992).

In 1908, with the announcement of the second Constitutional Monarchy and the increase of nationalist tendencies, the process of establishing the national capital and the bank consisting mostly of local and single branches were started in the banks established between 1856-1923. It was accelerated by the outbreak of the war. “The main reason for the emergence of the national banking movement was to liberate the accumulating capital within the country from foreign and minority banks and to use this capital to promote national trade. The national banks' credit efforts were mostly in the form of commercial loans, artisan loans, agricultural loans, real estate loans and consumer loans” (Coşkun et al 2012).

In 1863, the State Funds were established for the purpose of granting agricultural loans to farmers under conditions suitable for farmers. The capital of the country shelters was initially provided with collective work and then with the wheat supply of Sandy in proportion to the property of the villagers. It has been decided that this institution will be reorganized in the name of Menafi Sandikleri because of the difficulties in collecting this capital over time and due to various corruption in giving the loans. Ziraat Bank was established as the first state bank in 1888, after receiving suspicions about the use of resources collected in the Funds. Ziraat Bank's capital was created by transferring the receivables of the Reserve Funds to this bank (Keskin et al 2008).

Although the national economic policy pursued by the political power creates a favorable environment for the establishment of national banks, most of the banks established with domestic capital in this period have not longevity and have been forced to stop their activities by not being able to compete with strong foreign banks to be dominant in the credit market (Akgüç 1992).

When the Republic was founded in 1923, the Turkish economy has come to the fore as one of the major economies of idleness. At the İzmir Economics Congress, it was agreed that economic development would take place with national banks. In the first years of the Republic, there was an agriculture-based and underdeveloped economic structure. Much work has been done to develop national banking to change this structure. The national banks and founding years established in this period are as follows: 1924 Türkiye İş Bankası, 1925 Industrial and Maadin Bank of Turkey, 1927 Real Estate and Eytam Bank (Emlakbank). The first national bank of the republican history is the İş Bank that was established for the financing of trade with the directive of Atatürk. For the financing of the industry, the Turkish Industrial Estate and the Maadin Bank and Real Estate and Eytam Bank were established to provide housing loans. The Turkish Industrial and Maadin Bank is the first development bank established in our country. The Bank was established to lend medium and long-term loans to private industrial enterprises and to assist financial, economic and technical matters. In 1932, the Bank was named the Bank of Industry and Credit Bank of Turkey and in 1933 it was transferred to Sumerbank. Real Estate and Eytam Bank was transformed into Real Estate and Credit Bank in 1946.

Real Estate and Eytam Bank was established in 1927 to give housing loans. In 1946, the Bank was transformed into Emlak and Kredi Bank. One of the most important steps taken in the field of banking in the Republican era was, in 1930, T.C. The Central Bank has been established. When it comes to 1929, Turkey was a country where agricultural production dominates. At the beginning of the 1930s, because of these internal and external influences, the strategy of industrialization was adopted as a strategy of industrialization with the encouragement of the private sector, which was followed in 1920s, and industrial investment through public economic enterprises. At the basis of this industrialization strategy, which is called economic statism, there is a view that the state has more possibilities than the private sector in the realization of the investments requiring large capital and advanced technical knowledge due to the circumstances of our country during that period. Investment plans related to the industrial enterprises were decided to be established by the state in the First and Second Industrial Plans (Keskin et al 2008).

Between 1932 and 1938, when the statism policy was implemented, it prepared the First Five-Year Industrial Plan, which started to be implemented in 1934, in order to carry out planned investments in the field of state industry. Sümerbank has been established with operation and financing needs of 20 plants on this plan ( Karacaoğlu 2011). The most important function of Sumerbank was to establish 13 industrial facilities in 1933-1938 when this plan was implemented. 8 million dollar loan from the Soviet Union was used to fund these investments. In 1935, a Second Industrial Plan containing investment plans for close to 100 industrial plants, which mainly operated in the mining and energy sectors, was prepared. Etibank was established to create, manage and finance the mineral deposits and businesses that operated the energy resources on this plan. In the period of 1933-1944, it was possible for the state to realize the investments that were not made by the private sector, which is necessary for industrialization, by financing these investments and imposing some compulsory saving opportunities (Keskin et al 2008).

The most important characteristic of the 1945-1959 period is that as a strategy of industrialization, statehood was replaced by private sector support and the policy of accelerating economic development. The reasons for this policy change was the

emergence of a wealthy class in agriculture and commerce in the high inflation and speculation environment experienced during the war, the desire to establish close relations with the western countries, and the passing of the Democratic Party, which was liberal in power in 1950 and supported the private sector. In line with the economic and political preference of political power at the time, 31 new banks were established in this period, most of which belonged to private capital (Dündar 2006).

The most important feature of 1945-1959 period is the policy of accelerating economic development by supporting private sector as the strategy of industrialization. In this period, despite the adoption of a political economy that emphasizes the importance of the private sector and the market economy, the government has continued to implement non-private investments in the private sector and thus encourage the private sector. Significant government investments have been made in irrigation, energy, transportation, cement, sugar, textile, rubber, iron and steel industries. The sources of the Central Bank have been referred to finance these investments. In this period, on the other hand, to meet the financing needs of the public sector, 20 percent of the applied deposits remained in reserve (Keskin et al 2008).

Between 1945 and 1959, investments, modern enterprises, rapid growth of national income and population, the growth of the cities, the industrial sector getting more share from the national income and the expansion of production for the market caused the increase in the money and credit needs in the economy. Investment in the banking sector has increased and private banking has gained momentum. Yapı Kredi Bank (1944), Garanti Bank (1946), Akbank (1948), Pamukbank (1955) and the Turkish Industrial Development Bank (1950) were established during this period (Kazgan 1997).

Competition based on branch banking and deposits gained importance in this period, due to the determination of the commission rates to be taken from the banking operations by the government and the fact that the authority to perform the transactions based on the bequest was only in the Central Bank. The widespread use of branch banking accelerated the liquidation process of local banks.

Seven new banks were established in the planned period, five of which were development and two were commercial. Development banks established during this period, T.C. Tourism Bank (1962), Industrial Investment and Credit Bank (1963), State Investment Bank (1964), Turkish Mining Bank (1968), and State Industry and Workers Investment Bank (1976) Bank (1964) and Arab-Turkish Bank (1977). The State Industry and Workers' Investment Bank is a development and investment bank established to evaluate the accumulation of Turkish workers working abroad, in investments in priority areas. The name of this bank was the Development Bank of Turkey in 1988. The American-Turkish Foreign Trade Bank and the Arab Turkish Bank were the first examples of the opening of Turkish banking (Keskin et al 2008). One of the most important features of this period in terms of banking has been the fact that most of the private commercial banks became holding banks. Holding banking, which means that an industrial or commercial capital group owns a significant portion of the capital of a bank and is widespread in the world, was encouraged by the government to think that it would accelerate private sector investments at that time.

Rapid development in the planned period, the use of inflation-inducing methods in the financing of industrialization and the failure of the developed industry to direct production and export towards domestic consumption in a high inflation environment caused a significant foreign exchange bottleneck in the 1970s. To overcome this bottleneck, external debts have increased considerably, resulting in convertible deposits and similar measures taken. Due to the balance of payments and foreign exchange problems, it is difficult to make imports and to start working with incomplete capacity due to the problems encountered in the importation of factories established with the import substitution strategy. At the beginning of the 1980s, a strategy aiming to abandon this industrialization strategy and to make production with foreign markets (TBB 1990).

At the end of the 1970s, the economic stagnation caused by the balance of payments problems led to the adoption of a new industrialization strategy that could meet the foreign exchange needs of the industry. In 1980, the import-substitution industrialization strategy in which the production for the internal market was made abandoned, and a development policy based on market economy, based on production for exporting and

exporting was adopted. “In 1985 the Banking Law No. 3182 entered into force; the international supervision and surveillance system and the international banking standards have been introduced to the system, the uniform order account plan has been implemented, the bilateral has been subjected to external denial, the deposit insurance fund has been established and more realistic provision has been made to the dull loans. Interbank market has been established. The foreign exchange market was established in 1988. In 1989, foreign exchange transactions and capital movements were released. The convertibility of the TL was declared in 1990. Foreign residents are allowed to invest in Turkey, to open TL and foreign exchange deposits. In 1992, the electronic fund transfer system became operational (Keskin 1993).

In this period, the free interest and flexible exchange rate policies applied, the promotion of exports, the liberation of imports, the establishment of new banks, the establishment of Turkish lira and foreign exchange markets between banks and the development of computer and communication technology, small and medium sized wholesale banking the number of banks in terms of the number of banks has increased, and it has become a strain in the market shares of private banks in large measure. Turkish banks have started to open abroad by establishing banks or opening branches abroad. Wholesaler banks have focused heavily on foreign trade financing, leasing, factoring, forfaiting, brokerage of securities and short-term credit transactions, and increased financing from international financial markets (Parasız 2001). Foreign banks were mainly wholesale banking activities. As a result, the share of foreign banks in the deposit and credit markets remained low.

1994 has been a year in which the risks have turned into a loss in terms of the financial sector and banks. Despite the growth in the public sector, the tension in the financial sector has increased due to the persistent approach to lowering interest rates in an environment in which expansionary policy implementation has continued (Keskin et al 2008). After 1995, the rapid recovery in the economy affects the growth of the banking system positively as it is in all sectors. High real interest rates have made TL-denominated investment instruments attractive, and money substitution has slowed down. The closing foreign exchange positions have been reopened, and foreign borrowing has begun.

However, the demand of investors is concentrated on very short-term financial instruments. Most of the demand deposits and time deposits in the banking sector are oriented towards day-to-day and very high interest repo (Parasız 2001).

In 1997, Turkey introduced a new concept of money, the introduction of taxation of real persons' securities by subjecting them to the taxation of debentures, and the discussion of equivalent budgetary practices. Political tension has risen. The government has given priority to reducing the inflation in the economy and adopted budget discipline. In order to increase the foreign borrowing, an attempt was made to find a settlement area with the IMF. A monitoring agreement with the IMF has been signed since the second half of 1998. The agreement stipulates that basic macro problems will be solved, the regulations for the trial in the financial sector will be increased, and the draft tax will become law. In fact, the limits of the futures and open positions of the banks have been imposed immediately after the agreement. However, the restriction on futures transactions in particular has been met with tremendous anxiety because foreign investors have reduced the liquidity of the market. Domestic banks have struggled to close their open positions in order to comply with new obligations (Keskin et al 2008).

When the Turkish banking sector reached 2000s, it faced the biggest financial crisis of its history, the restructuring of the sector and the solution of financial problems of the banks became inevitable. November 2000 and February 2001 Crisis showed that a comprehensive restructuring in the Turkish banking sector must be urgently completed. These crises, which lived in November 2000 and February 2001, revealed that a comprehensive program to address structural problems in the banking sector was no longer postponed. In the context of restructuring and regulation in order to overcome the crisis, radical changes have been made in the Banking Law, and a new approach has been introduced in the framework of regulating and supervising the activities of the banks. Internationally accepted principles have been approached to a considerable extent in the regulations and audit conception. In these arrangements, the banks that cannot meet the capital adequacy were taken from the SDIF and the Treasury took over the duty losses of these banks and public banks, the banks in operation were tried and recomputed with a new understanding, the loans were reclassified and the balances of banks operating in

high inflation environment for many years were updated according to inflation. These applications will provide a more realistic view of the financial structures of the banks (Özdemir 2005).

## **2.3 BANKING SYSTEM**

In many countries, banking systems show more or less different structures than one another. As it is in the definition of banks and banking, it has been difficult to make a generally accepted difference in the classification of banks. The economic, legal conditions and the divergence of capital possibilities in various countries cause the differences of the structures of the banks. For this reason, it is not possible to reach an international standard for the classification of banks according to criteria such as legal structures, capital resources, size, credit ratings (Birdal 1993).

Banks in general classification (Birdal 1993):

1-Banks According to Legal Constitutions a) banks in the form of private companies, b) banks in the form of capital companies, and c) three groups as banks established under special legislation.

2-Banks according to Capital Resources a) Private-owned banks, b) Public-owned banks, c) Mixed-capital banks d) It is possible to allocate four groups, namely foreign-owned banks.

3-Banks According to Credit Ratings a) Short-term borrowers, b) Medium and long-term borrowers. However, today we see that banks open both short and long-term loans.

4-Banks According to the Characteristics of Economic Functions a) Central banks b) Commercial banks (deposit banks) c) Investment and development banks d) Agricultural banks e) Mining banks f) Mortgages and real estate banks g) They can be grouped.

### **2.3.1 Investment Banking**

Investment banks are financial intermediaries that act as intermediaries between investors seeking long term funding through issuing securities, investors investing their securities in securities (Suiçmez 1990). Investment banking from another perspective; it covers all capital market activities from the institutional financing to merger and acquisition, fund management and risk capital. Today's approach is investment banking; (Varol 1997), as

a concept formed by a wide range of structures and functions through the intertwining of the above definitions. The basic requirement for the formation of an investment bank is the establishment and operation of the capital market.

### **2.3.2 Development Banking**

Financial institutions formed in the form of public, private or public-private partnerships to provide capital, enterprise, managerial and technical information support in order to start and accelerate economic development are called development financing institutions or development banks as a general word. Development banks are financial intermediaries that have been established in developing countries after World War II and contributed to the development of the capital market by making certain transactions specific to investment banks since investment banking has not developed (Gücenme 1994). Development banks are generally set up to eliminate entrepreneurs' concerns about investing in key industrial areas and helping them to recover, by helping out capital deficits, developing organizational and technical issues in developing countries. In practice, development banks are generally institutions that focus on public ownership or control, largely on medium and long-term credits, with a range of purposes and activities that conflict with their financial strength and profitability (Akıncı 1996).

### **2.3.3 Commercial Banks**

Commercial banking refers to banks participating in all commercial activities. In almost every country, commercial banks, which often have a very important role in economic life, offer multifaceted banking services and are defined as banks that use the short-term resources or demand short-term resources on their loans. The Turkish banking system is also based on multi-branch banking and its activities are concentrated on commercial banking (Ergin and Aypek 1997).

The commercial banking term is generally referred to as deposit-taking credit institutions. Commercial banks are activated in the money market by opening short-term business loans to industrial and commercial enterprises. Short-term commercial loans are used to cover variable costs of business loans. Therefore, commercial banks, which are the institutions that give credit, should reduce the risk and operate by raising the profit rate. In terms of the formation of the resources borrowed by commercial banks, they are also

called deposit banks in terms of the method they use in lending. These commercial banks and deposit banks are also important for showing commercial banks and the working order of commercial banks as well as for showing the historical development process of banking in general.

#### **2.3.4 Foreign Banks**

Foreign banks are able to transfer the latest credit instruments and technology rapidly, from scale economies, differentiation and spread of risk, and direct links with international financial centers, and cause price competition by reducing the concentration rate, as they encourage the development of other foreign banks. Foreign banks with this feature are changing the structure of the national banking sector through increased competition. In fact, foreign banks investing in a country bring technical knowledge, mostly managerial staff and technicians at the top level to the invested country. Entrepreneurs in developing countries learn some things they do not know how to do business with them. Foreign capital also spreads knowledge of management and business on banking, export, production and technology (Candemir 2006).

#### **2.3.5 Participation (Islamic) Banks**

Participation banking concept entered the Turkish finance sector in 1985 for the first time. The date of the establishment of two participation banks in Turkey on the economy in order to gain financial value for various reasons cannot be brought into the economy that has been in operation for financial institutions. Participating banks in other commercial activities in the financial environment, such as special financial institutions, Islamic banking, interest-free banking, such as concepts are expressed. Today, these banks make almost all of the transactions that other commercial banks do with interest free methods. Participation banks are seen as a bank type that completes in this respect and diversifies the economy (Özulucan, Abitter, and Deran 2009:86).

The biggest difference that distinguishes participation banks from other commercial banks is that they do not pay interest. This system, which envisages participants participating in the activity results, is also known as interest-free banking (Özcan ve Hazıroğlu 2000:9).

The difference between profit and interest can be expressed as follows: When two things with the same amount and the same kind are exchanged, the excess that any party has agreed to is called interest. While the profit at the end of the capital at the interest is being committed, the profit share is formed according to the efficiency of the projects supported.

At this point, it will be useful to address the difference between interest and profit share concepts. If the productivity of the project is low, the profit to be achieved will also be low. If you invest in a project with high productivity, the profit share will also be high<sup>1</sup>.

In summary; participation banks; alternative financing method services, those operating in the financial sector, financing the real economy and providing banking services. These institutions; In addition to making banking services, they share the funds they collect through current account and profit / loss account accounts from the savings owners with the profit / loss accounts of the real sector by transferring them according to the principles of interest-free finance. In other words, the banks that are engaged in such banking activities and which are now referred to as participation banks are institutions that make almost all banking services not related to interest with different methods.

## **2.4 THE IMPORTANCE OF BANKING SERVICES AND TURKISH BANKING SECTOR**

The fact that the financial system tools and intermediary institutions are not sufficiently widespread in the developing countries and that the capital market is in the process of development further increases the importance and importance of the banking sector in the financial system. Business and savings owners who do not have enough knowledge and drive their old habits are also effective in determining the sector's position in the financial system. Many firms use bank credits instead of issuing stocks or bonds, while savings holders prefer bank deposits instead of alternative investment vehicles. This, in turn, puts banking ahead in the financial system.

---

<sup>1</sup> [http://bigpara.hurriyet.com.tr/faiz/haber/kar-payi-ile-faiz-arasindaki-fark-nedir\\_ID1425961/](http://bigpara.hurriyet.com.tr/faiz/haber/kar-payi-ile-faiz-arasindaki-fark-nedir_ID1425961/), Accessed At: 5 January, 2018.

Banking services are very diverse and their numbers are increasing over time. Banking services are in reality divided into banking services and other services. In real terms, banking services are also divided into passive transactions and active transactions. Passive bank transactions are expressed as liabilities in the passive part of the bank, such as issuing bonds, accepting deposits, finishing second transactions and taking credits (Kaplan 1996). At the beginning of active banking, transactions are credit transactions. These; open credits, current account credits, discount credits, acceptance and aval credits.

Other banking transactions are transactions that are not related to the balance sheet but are considered to service and commercial transactions for the customer (Kaplan 1996). These services include debt collection, letter of credit, depository services, stock exchange agency, customer consultancy, intelligence transactions, foreign currency transactions, letter of credit, leasing and factoring.

Banks not only prevent money from being spent by transferring people's savings to those on the loan demand, but also help revitalize economic activities by creating lien money. Therefore, the banks are commercial enterprises which receive public services and which significantly affect economic activities with these services (Şahin 1997). The banking system, which is directly related to all the sectors in the economy, is affected by the changes in the economic and institutional structure and the policies followed. Banking services, which constitute the most important structure of the financial system, also play an important and effective role in the development of the country with its extensive service franchise and resource accumulation (Sarısü 1996). As can be seen, the distinction that can be made between banks using banking is very limited. For this reason, it is important to know the types of transactions and types of banks that function as financial intermediaries. Credit cards from these transactions or services will be discussed below.

The key factors in achieving sustainable economic growth in a stable environment are population growth and natural resources as well as technological innovations and capital accumulation. The financial sector plays an important role in the growth process. Because

the accumulation of capital is an important part of the collection and use of financial resources as well as the creation of new technologies (Takan 2001).

The asset of the financial sector reduces the cost of collecting, evaluating and transferring information and resources, providing efficiency for saving owners and investors that in turn affects growth positively. The financial sector sees many economic functions as less costly and more effective.

The services provided by the financial sector can be grouped into four groups: the mobilization of savings, the dissemination of resources, the disbursement of resources, and the monitoring of available resources.

a. Mobilization of resources: The accumulation of financial resources, which are made up of individual and institutional savings, is brought to a certain scale by intermediary institutions, which affects the size of the investments; otherwise, the scale remains much smaller. A well-organized financial sector has very few sources because it uses its savings very well. They can make profitable investments economically. This increases the investment choice of the entrepreneurs. As a result, the growth of the financial sector is positively affected.

b. Diversification of risks: Financial sector risks that are unexpected, unpredictable or not easily and cheaply calculated for individual and corporate investors provide a special insurance for thus; the individual investor obtains returns for both investments and reduces the liquidity risk to a very low level. As a result, long-term, returnable projects with long-term returns can be financed. The diversity of services helps to price and manage risk; this situation allows better distribution of individual risks. Growth and investments can be achieved through the provision of higher-yielding and therefore financially risky projects. The issue here is that the risks that need to be addressed with precision are being measured, managed and priced correctly.

c. Presenting resources to new projects: The cost of collecting and evaluating information for new projects in terms of individual savings owners can be quite high compared to

where there is no financial intermediation, Financing cannot be achieved with high value projects. However, financial intermediaries are specialized agencies in the collection and evaluation of information, savings in financing new high-yield projects at low cost. Savings are efficient and high-yielding new providing efficiency in the use of projects contributes to growth.

d. Monitoring of resources: The financial sector also sees the service of monitoring investments, which reduces the risk of misuse of resources. Investors or investors to reduce the cost of monitoring invest financial sector assets. Functioning of financial institutions the growing expertise in the region means transferring the cost of the visit (Çelebican 1984).

The fact that the financial sector can successfully fulfill the functions listed above depends on the correct formation of the framework of the working conditions of these institutions. Because the performance of financial institutions depends on the risk of the environment in which they operate, the amount of risk they undertake, the ability to manage these risks, and their ability to withstand and resist unexpected developments. This framework includes the macroeconomic structure that ensures stability, the practices of economic policy, the legal regulations regulating the relations and rights of lender and shareholders, the enforcement and bankruptcy system, the commercial law, the competition law, and the regulation, supervision and control system of the activities of financial institutions.

#### **2.4.1 International Developments**

In international economic relations, globalization is at the forefront of the most promised issues in recent times. Globalization can be defined as economic and financial considerations and competition conditions of the financial sector on a country basis or in a universal approach rather than a country perspective.

The main idea is the liberalization and integration of international trade and economic relations, the development and growth of the international political arena, the softening of technological revolution, and the improvements in communication and transportation have made very positive contributions. The free circulation of capital movements also played an important role in this development. The liberalization of capital movements,

the creation of new financial institutions, the new digital technology fully integrated, has created an environment for creating a global market.

The establishment of international rules and institutions has been of great importance in regulating international economic relations. Increasing the number of possible countries to participate in the integration process is a continuation of intensified international economic relations and is seen as a source and a consequence of economic growth.

In the economic sense, as the world becomes smaller, the problems in countries that cannot concentrate or integrate sufficiently into integration are not only limited to these countries but also internationally. In Latin America in 1994, in Mexico in 1994, and in Asian countries in 1997, the concerns about the problem were justified. Another important lesson from these drawbacks has been the dimensionality of differences in developed countries and other countries.

Initially, crises in a limited number of countries began to show their effects in many countries since the second half of the 1990s, leading to instability in the world economy, and developed countries and international organizations came together to seek solutions to the problem. At the beginning of the most discussed topics in these studies in order to ensure international economic stability, reforms are in progress in developing countries participating in international economic ties to strengthen economic structures, particularly the financial system. There is a common view on the following issues, with lessons from living developments, that these reforms support a steady growth, contain policies that will not undermine the stability of regulatory and national money, including international standards:

- i. Creation of a stable economic environment,
- ii. Development of markets,
- iii. Ensuring transparency in each area,
- iv. Strengthening the national and international financial system,
- v. Work on the prevention of international financial crises,

vi. Development and implementation of the correct audit structure for the health of the financial system.

In terms of ensuring the stability and stability of the financial system at a global level, efforts have been accelerated to identify and prepare common standards that will form the building blocks of the new financial architecture by international financial circles.

In the preparation of these standards; Special emphasis has been placed on two issues: i) reducing the vulnerability of financial systems and contributing to standards that will increase flexibility, and ii) turning the attention of decision-makers into applying standards of first importance in terms of country conditions. In order to achieve financial stability, 12 standards have been identified at international level and related institutions have been identified (Damar 2004):

1 - Monetary and Financial Policy Transparency (IMF) 2- Audit (IFAC) 3- Transparency of Financial Policy (IMF) 4- Payments and Reconciliation (CPSS) 5- Data Explanation (IMF) 6- Market Integrity (FATF) (World Bank) 8-Banking Supervision (BCBS) 9- Corporate Governance (OECD) 10- Securities Regulations (IOSCO) 11-Accounting (IASC) 12- Insurance Audit (IAIS)

Studies on international acceptance of widely accepted standards and subsequent implementation (Saka 2001):

1. The development of the monitoring process of the implementation of the standards,
2. Development of information distribution process,
3. Providing and strengthening international consensus on the standards,
4. Determining the priorities according to the conditions of the country in the implementation of the standards,
5. The attention is drawn to the preparation and implementation of an action plan for the implementation of the standards.

Turkey should closely monitor these developments and remain indifferent. Prospective regulations should be viewed from this point of view. In the meantime, it is important for

developing countries to provide financial and technical support to the developing countries in the developed countries in order to ensure the healthy participation and contribution of the adaptation process to the international standards and to prevent the deterioration of the competition power against the developing countries and to recognize appropriate transition periods for compliance with the standards.

#### **2.4.2 Developments In Turkish Banking Sector**

The Turkish Banking System is a system operating in Central Bank of Turkey (CBT), in a mixed economy mode and in this structure. Since our country is not developed at the level of the western countries of non-bank financial intermediaries, the banks constitute the basis of the Turkish Financial System and play an important role in ensuring that people's savings are collected and directed to their use (Çevik 1992). The commercial banks are the judges of the system (Zaim 1995). The lack of development of non-bank financial intermediaries leads the system to operate in oligopolistic market structure and away from specialization.

The Turkish banking system is based on a deep-rooted banking tradition dating back to the 19th century. However, the actual development took place in the last 20 years. The process, which started in 1980 and radically affected our economy, naturally affected the banks too closely. The free market economy that started to be implemented in this period felt like in every sector as well as in the banking sector which is a “service sector” (İpçi ve Karan 1998).

On the other hand, in the oligopolistic market structure, it exhibits dynamic and innovative features with a multi-branch structure that operates mainly on deposit banking, applies policies for raising profit and asset quality, and is open to new features (Altunbaş and Sansu 1996). In this respect, deposit banking and multi-branch structure, especially in the 1980s began to show itself.

In oligopoly markets, market dominance of a few major operators may lead to competitive behavior among businesses. In this case, the methods generally adopted by the enterprises in terms of competition are to create product differentiation by advertising, different sales techniques or by exporting new products to the market (Özdicle 1997).

In Turkey in the 1980s, significant steps were taken to create an institutional infrastructure for the creation, development and strengthening of a functioning market mechanism. The prices of liberalization in financial services have been determined by the markets, and regulations have been made to comply with international standards regarding the regulation, monitoring and supervision of the activities of the banks. The private sector has tried to create an environment that makes it attractive to invest in financial institutions. However, it has not been possible to take timely and effective decisions on the audit results of financial institutions, which are important stages of liberalization in the financial sector. In addition, the public sector has maintained its intense activity / influence directly and indirectly in the financial system. Budget discipline has not been achieved and a monetary policy targeting price stability has not been implemented (Altan 2001).

In addition to the economic policies implemented, deposits that started in the 1980s continue to have the highest interest rates (positive real interest rates) today (Sarıs 1996). The tendency to become as close as possible to savings owners and loan demanders in order to accumulate more deposits and to allocate funds from there with higher interest rates has led to the development of multi-branch banking. Along with the positive real interest policy, multi-branching policies have also raised the cost of resources in banking. Despite these crucial shortcomings, the 1990s were introduced with an arrangement that liberated capital movements, which are considered the last stage of liberalization in the financial sector. After 1960's years, it has developed into a multi-branch large banking. Since 1970s, the management of banks has been started to be taken over by private holdings (Parasız 1997), together with Article 38 of Law No. 7129, which stipulates that banks should open up the upper limit on the credit limit they open to their affiliates with at least 25% capital.

In November 2000, the liquidity crisis experienced in the banking system expanded and turned into a banking crisis, and in February 2001, the money crisis came to fruition. These crises, which became the most important crisis of the Republican history, emerged because of macroeconomic instability resulting from financial liberalization and a fragile,

shallow banking system. The fundamental determinant dynamics of the crisis, along with the macroeconomic and microeconomic problems that arise after financial liberalization, there are also approaches that emphasize the design and implementation fallacies of the stabilization program put into effect in 2000.

The crises of 2000-2001 caused great damage to the financial system, especially the banking system. The “Banking System Restructuring Program” put into practice in the post-crisis period constitutes the starting point of financial system reform. The elements that make up the restructuring are:

- i. Restructuring public banks
- ii. Analysis of weaker financial institutions by taking SDIF
- iii. Strengthening private banks
- iv. Empowerment of surveillance and inspection framework and implementation of efficiency improvement measures in the sector (Akçokoca 2002).

The establishment of the BRSA leads to strengthening of the evidence that effective regulation and supervision of the sector is possible. Provision of private bank capital support; measures to increase the active qualities of public banks (setting loan interest rates under market conditions, liquidation of duty losses) appear to be important steps to ensure the stability and soundness of the financial system. Strengthening the audit framework (capital, risk regulation, accounting standards, independent audit), TBS provides great opportunities to avoid ineffective regulation, which is one of its most important problems.

In Turkey, banks outside the Central Bank classify according to various criteria. As of December 6, 2006, 47 banks have been operating in the Turkish Banking System. TBB banks; The banks established under special legislation are subject to a four classification, namely Investment and Development banks, Trade and Deposit banks and Foreign banks (Şahin 1997).

However, nowadays, both the financial structures and the institutional structures have reached a level where the banks cannot be ignored according to their capital. Especially in the Turkish financial system, these banks have 80% share. For this reason, if a classification according to the capital is taken as basis, it is divided into two groups as Public Banks and Private Equity Banks (Takan 2001).

**Table 2.1: Banks operating in Turkish banking system**

| Banks operating                  | Bank Number | Number of Branches | Personal number | Sector Shares % |
|----------------------------------|-------------|--------------------|-----------------|-----------------|
| Public Banks                     | 3           | 2.019              | 40.158          | 21              |
| Banks with Private Sector        | 14          | 3.659              | 66.869          | 61              |
| Foreign Banks                    | 15          | 206                | 5.416           | 3               |
| Development and Investment Banks | 14          | 19                 | 4.942           | 13              |
| SDIF Assigned Banks              | 1           | 203                | 5.886           | 2               |
| TOTAL                            | 47          | 6.106              | 123.271         | 100             |

Source: (<http://www.tbb.org.tr/v12/asp/bankalar1.asp>)

#### **2.4.2.1 Public banks**

Banks that hold directly or indirectly the state's majority shares in the capital shares fall into this category. “T. C. Ziraat Bank, Halk Bank and Development Bank of Turkey “are publicly owned banks. These banks have an important source in the Turkish banking system. Public-owned banks are able to offer all services within the banking system.

#### **2.4.2.2 Private banks commercial banks**

Private-owned Commercial Banks operating in the Turkish Banking System have an important place in the sector, operating in Turkey with characteristics such as “activity period, capital, asset size, number of branches and transactions in the ISE” (TBB 2002). Moreover, these banks, which provide all the services required by contemporary banking, are characterized as large-scale banks that are at the forefront in determining “innovations and applications” in the sector. The share of Private Sector Commercial Banks in the sector is 61%. In addition, 56% of the total assets in the sector, 61% of total deposits and 61% of the total loans constitute. Again, three of the four banks with an asset size of more

than 20 billion dollars according to their total asset size and between 2 and 5-10 billion dollars with between 10-20 billion dollars are formed as “Private Bank Commercial Banks” (Yazgan 2002).

## **2.5 FINANCIAL TECHNOLOGIES AND CONCEPTS**

The concept of financial technology and the companies founded in this field are starting to gain a wider place in the world of financial services especially in banking and insurance. These companies, which offer services and facilities, provided by many underground digital services such as payment services, credit operations, investment management and personal finance management, that are gaining more and more space within the dominance of banks, insurance companies and investment institutions.<sup>2</sup>

The financial system and technology are very close concepts. Both the financial world and the technology world are very dynamic, and it is possible to encounter new products and services almost every day on both sides. While the financial sector, especially banking, is trying to keep pace with the ever changing and developing technology, financial products and services appear as a new main artery on the technology side. As a result, it is inevitable that these two dynamic structures come together.

Fintech is the abbreviation of "Financial Technology". It is a statement that is both reminiscent and can be expressed in a single word that is to be emphasized. It is possible to count every area where technology tends to finance as a Fintech example. There are many different underground financial technology initiatives such as mobile payment systems, online accumulation tools, and daily budget keeping applications, personal financial consolidation, and financial solutions and accounting solutions for small and new businesses, robot investment advisers and mass funding.

The convergence of stronger and faster chips, programming languages and operating systems, cloud technology, large data, APIs, broadband and mobile internet factors have created many changes in the financial, economics and the world (Evans and Schmalensee, 2016, pp. 51, Skinner, 2016, pp. 196).

---

<sup>2</sup> <http://startupbukuku.com/fintech-nedir/>, Accessed At: 01 January 2018.

It is expected that crypto currency units will become more important as well, as the exchange of chip-based digital values is replaced by the exchange of physical values consisting of cards and cash. In the future, banks will be able to focus on digital value exchange by symbolizing, in exchange for physical currency, to offer products and services (Skinner, 2016, p 168). Plastic bankcards have always been thought to take the place of cash one day; but nothing like this has ever happened. Since everybody has at least one cardholder, the main thing to make this transition is to install the terminals everywhere to accept the cards. For this reason, not only the cards but also the mobile devices with the ability to see the functions of the POS terminals seem to have the capability to revolutionize this. Therefore, smartphones and mobile internet are becoming the main destructive factor here (Birch 2014, p. 125).

The mobility that comes with the combination of the internet and smartphones is an important influence on the emergence and rapid spread of Fintech initiatives and applications. Users want to be able to access their accounts at any time, and make some financial decisions in their daily lives via the internet. Another important reason is that a certain route has already been used, the time is spent and the services that are utilized in a much more costly manner are now being utilized at the place and at a much cheaper rate without taking any serious time anymore.

It is possible to say that banks and all other financial services can be transformed into backward-looking business areas if new technology-based business models shape the future. According to the financial consulting firm McKinsey, 80% of the customer's relationship with the banks is to pay for products and services. When these payments are now made entirely through financial technologies, the banks may become invisible in ordinary and daily payments.<sup>3</sup>

The financial services sector is already reshaping thanks to business modeling such as lending between people (p2p), paying via social media platforms, and mass funding. Particularly the p2p business models are attracting attention. These business models allow bank customers to work together especially with savings owners, investors and

---

<sup>3</sup> <https://techcrunch.com/2015/01/03/the-sharing-economy-and-the-future-of-finance/>, Accessed At: 01 January 2018.

borrowers. In such business models, rather than telling financial institutions what to do with investors or borrowers, customers are performing these services among themselves, especially in areas such as lending, investment and consulting. In Europe, customers are currently running between 50% of their financial services purchases and about 30% of more complex consulting services. Eventually, banking turns into a business model where you go to your branch or where you talk to a customer representative, do your own business as a customer, and serve directly to other bank customers. According to McKinsey, the p2p lending volume globally reached 25 billion US Dollars at the end of 2014. It is estimated that this figure will reach 290 billion USD by 2020.<sup>4</sup>

It is an undeniable fact that Fintech's initiatives, technological entrepreneurs, financial professionals and investor trios can come together effectively and grow. In recent years, finance-based ventures, created almost worldwide, have managed to attract investment in significant quantities. As new channels, products and collaborations are discovered, the integration and presentation of financial services is changing. As a platform, banking is only one of the alternatives.<sup>5</sup>

Many financial services providers use intermediaries such as insurance agencies and financial advisors to deliver their services to a significant extent. Bank branches are not fully independent but can be considered as intermediaries. Some platform economics companies are in fact agents when they are thought to be between the customer and the main service provider. What differs from the old system travel agent model is that it is not a person sitting in an office but a technology and an algorithm that makes it easy to understand this technology and to limit the user and to confuse his mind. This is a new technology-based brokerage that can attract financial advisers, agencies and even branches. That is exactly what new generation auto advisers such as Wealth front, Betterment and Personal Capital are doing abroad. For many people who have a need for financing at an uncomplicated middle-income level and relatively wealthy masses, these companies can easily take the place of a financial advisor. The same applies to large

---

<sup>4</sup>[http://www.oxfordmartin.ox.ac.uk/downloads/GI\\_215\\_e\\_GesamtPDF\\_01\\_high.pdf](http://www.oxfordmartin.ox.ac.uk/downloads/GI_215_e_GesamtPDF_01_high.pdf), Accessed At: 01 January 2018.

<sup>5</sup><https://thefinancialbrand.com/57619/banking-as-a-platform-baap-structure/>, Accessed At: 01 January 2018.

masses using bank branches. It is known that many transactions made in bank branches are already made via internet banking and mobile banking.<sup>6</sup>

In the future of money, the role of banks may become limited to activities such as collecting deposits and lending, and new players may assume roles outside of them. In this, the regulations made for both areas are also different. Despite lighter and clearer arrangements for payments, regulations that are more stringent are made in the banking sector. In addition, all new technologies provide the same opportunities for pay-as-you-go innovations as for banks. By taking advantage of these possibilities offered by the technology, which stone will be the next step to take the revolutionary step forward? As a matter of fact, the payment sector is becoming more innovative and stronger every day. Like Simple, Move, PayPal, Venom and the other hundreds that are doing certain banking transactions, it is also known that the Fintech company has given significant struggles to provide the customer interface to do more.<sup>7</sup>

Perhaps the first and only future of my mind will be Visa and MasterCard if we count the platforms that are up to now in the banking sector. These companies bring together credit card holders, buyers, startups, various payment service providers and businesses on a platform. From this point of view, most banks are part of the Visa and MasterCard platform strategy; but the banks themselves do not have a platform strategy.

The change brought by financial technology affects many areas ranging from payment solutions in banking to credit products. Compared to traditional solutions, banking solutions that are faster and easier to access are playing an important role in winning both current banking customers and customers with new or restricted access to the banking system. In the first place, we have expanded the scope of development with financial solutions, asset management and alternative credit products, which started with payment solutions in the past. We can expect these developments, which are reflected in

---

<sup>6</sup> Ibid

<sup>7</sup> <https://thefinancialbrand.com/57619/banking-as-a-platform-baap-structure/>, Accessed At: 01 January 2018.

regulations in the banking system in many countries, to become more widespread with future banking solutions and future solutions.<sup>8</sup>

Financial technology solutions appear to be a trend to follow in the coming period. Similar to the steps taken in the past, such as ATMs, internet banking, mobile banking, etc., FinTech's involvement in the bank's competency set and service portfolio is also competitive. Of course, there are some points in this area that are different from previous developments, among which we share the following.

In the field of financial technology, it is important to put forward the solutions that the bank will focus on and the development and implementation methods of these solutions with a clear strategy. Today, it is important to identify solutions that the bank will focus on and invest in the financial technology world, which includes many areas such as payment solutions, asset management, alternative loans and financial planning.<sup>9</sup>

It does not appear that any targeted solutions in the field of financial technology can be developed in-house. The speed of change in the industry, customer expectations and investment requirements for new solutions make it necessary to cooperate with different institutions on this field. When we look at the global level, these collaborations can be done with start-up companies, banks or players from different sectors.

Architectural planning stands out as a critical factor. It is necessary to ensure that the bank's basic banking systems and the systems surrounding it and the structures established for financial technology solutions work in a harmonious and sustainable manner on the basis of customers and channels. The lack of proper architectural planning can result in the pilot phase of many of the issues being tested in the field of financial technology.<sup>10</sup>

Competence management is another point that makes a difference in the products and services to be included. It is important to develop and maintain competencies in many areas that we consider examples of using new generation technologies in the development and implementation of financial technology solutions, shaping and managing customer

---

<sup>8</sup> Ibid.

<sup>9</sup><http://www.finansgundem.com/yazarlar/finansal-teknoloji-ve-bankacilikta-donusumun-planlanmasi-yazisi/1233130>, Accessed At: 11 December 2017.

<sup>10</sup> Ibid.

experience, and using third party applications and interfaces that will be supported on the market. As mentioned above, the issue is not just about getting a specific software; the value proposition to be submitted to the client needs to be defined in a comprehensive manner.<sup>11</sup>

A hurricane impact in the world created not a novelty in Turkey attracted considerable attention. We are faced with many different underground financial technology initiatives such as mobile payment systems, online savings tools, daily budgeting applications, money transfer transactions. The fact that financial technology initiatives are on the agenda today is the main reason for attracting attention. Users want to be able to access their accounts at any time, not to go to the miles for these accounts, even to go to the branch to pay the bill, to make the transactions they see as time robbers on the mobile, and to make financial decisions via the internet. Even so; personalized advice, personalized experience, or instant access to an authority, habits are the forefront. Financial ventures often succeed in attracting attention with a new perspective. Fintech initiatives will soon become as important as banking in our lives. Because of this, many global banks today are beginning to raise funds for financial technology initiatives. Nowadays, it is expected that the banks' acquisitions that we rarely encounter will increase in the coming years. However, fintech initiatives need growth to be successful in this area. This is exactly what angel investment entrepreneurs are looking for. Here is what happens: In fact, senior executives are involved as angel investors in these initiatives and can join the company. Although the technological dimension is solved by entrepreneurs, it is necessary to experience in finance part of the business.<sup>12</sup>

We anticipate that, along with "open banking" applications, financial technology solutions will also significantly affect the banking structure. Well, how will this affect you? Does the impact we think involve simply the expansion of the product portfolio and the inclusion of new customer segments into the business model or a more fundamental transformation of the banking business model? <sup>13</sup>

---

<sup>11</sup> Ibid.

<sup>12</sup><http://www.finansgundem.com/yazarlar/finansal-teknoloji-ve-bankacilikta-donusumun-planlanmasi-yazisi/1233130>, Accessed At: 11 December 2017.

<sup>13</sup> Ibid.

When we look at traditional banking models, four areas stand out in this area: retail banking, corporate / commercial banking, wealth management and investment banking. This model, which has been formed for many years as a concept and business model, is the main determinant of banking and financial models today. These structures, which vary considerably in terms of customer base, offered products, risk management and competence, are now focused on responding to the diverse needs of individual and corporate customers.

New solutions that come with financial technology affect all of these areas in common dimensions. In other words, financial technology solutions are making a difference on the whole of these models in the field of customer base, customer value proposition, technology infrastructure, product descriptions and management of customer experience. When we look at payment systems and financial technology solutions offered in this area, this field alone has the potential to affect individual, corporate banking, asset management and investment banking. Credit solutions have an impact on individual and corporate banking. For example, Demand for P2P credit solutions focused on SME loans in the UK is on the rise. In the area of asset management, solutions with quality and cost advantages along with robo-advisor solutions can be offered to financial technology companies. In the light of the short examples mentioned above, financial technology solutions seem to affect many of the areas used by classical banking services. In addition, the concept of "open banking", which is expected to come to the forefront in the future, will enable new solutions to be gathered around platforms and to serve individual, institutional customers and banks.<sup>14</sup>

Will this change the banking models in the future; should we wait for new banking models? The four basic models in the banking arena is not expected to change in the near future, but we can expect the infrastructure and technology opportunities that banks use to set up these models to change. Banks may continue to focus their models on an individual or corporate basis, but in the case of operational business and channel management, banks, financial technology companies and platform providers may be

---

<sup>14</sup><http://www.finansgundem.com/yazarlar/finansal-teknoloji-ve-bankacilikta-donusumun-planlanmasi-yazisi/1233130>, Accessed At: 11 December 2017.

expected to form joint service units (e.g., joint operation centers, branch workspaces dedicated to portfolio managers). These issues, which are new in the global banking context, may open the way for more efficient implementation of open banking activities in the future. A common point of exchange for all banking models that we make is that these models should become more and more converged to the structure of technology companies. If they acquire solutions from a common provider, their competencies will become increasingly important in the fields of follow-up of the producers market, creation of value propositions, the passage of dreams and establishment of new cooperation's.<sup>15</sup>

### **2.5.1 Development Of Financial Technologies In The World**

The largest retail banks in the world continue to play the dominant role in the financial services sector, offering deposits, credit services and payments that are always used by everyone, but this industry has been the only acting in recent years. For example, a person may choose to pay with a debit card when shopping, and companies such as PayPal and Afterpay offer extra solutions to pay. Regular loan customers of banks, businesses and individuals can choose between inter-individual (P2P) platforms or credit providers for loans. Accessibility and convenience are considered a great advantage. Alternative financings are becoming increasingly popular among customers. Therefore, Fintech offers more profitable and improved advice with the solutions that many customers offer with technology. It also offers a better option than the services provided by large organizations (Barberis & Chishti 2016).

'Fintech' emerges from the early 1990s, a project named 'Consortium of Financial Services Technology' initiated by Citigroup to enhance technological collaborations. Besides, market participants, consumers and regulators have been attracted to this industry since 2014 (Arner, Barberis and Buckley 2015). Fintech grew faster than expected, and caused more regulatory scrutiny due to its significant holdings in the finance industry.

---

<sup>15</sup><http://www.finansgundem.com/yazarlar/finansal-teknoloji-ve-bankacilikta-donusumun-planlanmasi-yazisi/1233130>, Accessed At: 11 December 2017.

Today Fintech is seen as a combination of financial services and information technology (IT). However, the financial sector and technology have always been linked to each other. The reason for the increase in Fintech's emphasis is the 2008 Global Financial Crisis, a decline in confidence in traditional financial companies and the emergence of new initiatives in this area. For these regulators and market participants, innovation poses a challenge to ensure a healthy balance between benefits and risks. Fintech's institutions, private equity firms, VC companies and companies, and a few investors invested a lot of money after the crisis. A total of \$ 50 billion has been invested in approximately 2500 companies since 2010 (Skan, Dickerson, & Gagliardi 2016).

Gulamhuseinwala, Bull and Lewis define Fintech as connectors for innovative business models and technology designed to enhance, activate and disrupt the financial services industry. On the other hand, Barberis, Buckley and Arner indicate that Fintech is not restricted to specific industries or business models (such as alternative payment solutions) as a concept, but rather to the financial services sector as it originally covers products and services.

Fintech's history began in 1967 with ATMs, which are considered the beginning of a modern financial technology era. Between 1967 and 1987, the financial services industry switched from analog to digital (Arner et. al 2015). In the mentioned period, financial institutions started to use information technologies more in their internal operations.

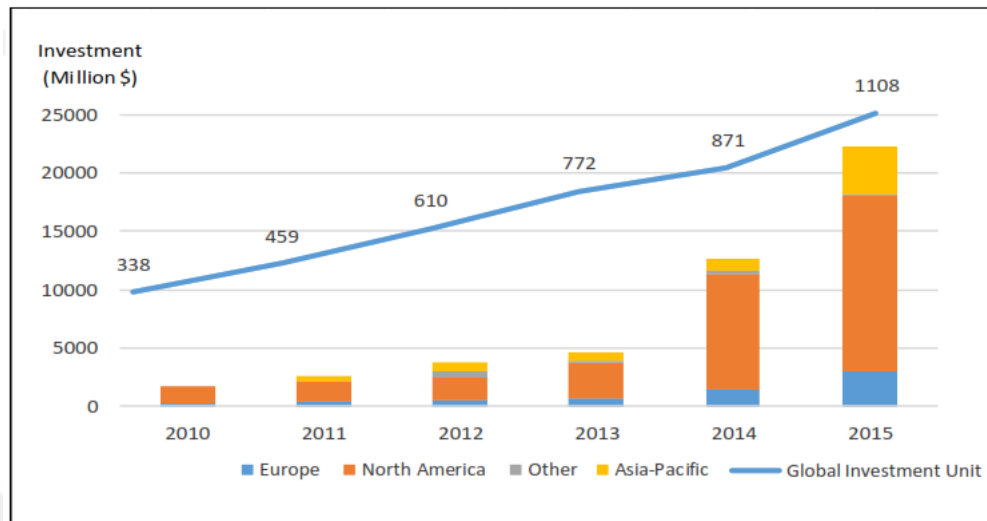
Fintech can be said to be the second development period between 1987 and 2008. In the late 1980s, financial services became a digital industry based on electronic transactions between the industry, mutual customers, financial companies and customers. With the increase in the use of the internet, a new development took place around the year 2000. In 2001, there were over a million online customers in eight US banks. In 2005, the first non-customer service banks in the UK were seen. At the beginning of the 2000s, most of the activities of the banks were digitalized and the financial services industry made considerable budget allocation to IT. In addition, market regulators, in particular security exchanges, continued to use technology to increase (Gulamhuseinwala, Bull & Lewis 2015).

According to Arner, Barbaris and Buckley, the Global Financial Crisis describes Fintech as a milestone in the history of its development. The 2008 Crisis accelerated the growth and development of a new Fintech era (from 2009). As market conditions changed, new companies took their place in the market. Lastly, the amount of new technology financed by technology in recent years has caused an extreme increase in recent years (Gulamhuseinwala et. al 2015).

Fintech has evolved a couple of times in the past and their time has been described above. The Fintech industry will evolve in the future. There has not been much research on the performance of companies in this sector as the focus on consumers, market participants and regulators in Fintech has been sharpened since 2014. It is due to several factors related to Fintech's development over time sector there is a big difference between the situation ten years ago and today. In addition, research on this issue has increased over the past few years.

Risk capital companies, private investment companies, investment trusts and many other investors have spent unprecedented amounts of money in recent years on global financial technology startups. Since 2010, more than 50 billion US dollars have been invested in more than 2500 companies since these innovative ventures redefine ways of storing, accumulating, borrowing, investing, transporting, spending and protecting money (Figure 3.1) (Şahan 2017).

**Figure 3.1: Global fintech investment activity (2010-2015)**



Source: Accenture Analysis - CB Insight Data, 2016

The value of global Fintech investments made in 2015 increased by 75% to 22.3 billion USD. 94 Fintech has invested over 50 million USD. SoFi, an online lending marketplace, has invested alone at US \$ 1 billion.

In 2015, the amount invested in initiatives in the field of financial technology in the Asia-Pacific countries has increased by more than four times to reach USD 4.3 billion. This region is the second region with the highest Fintech investment with 19% after North America. 45% of this investment in the region was made in China and 38% in India.<sup>16</sup>

Looking at the last five years' investments, Fintech's investments have mostly gone to retail payment systems, but their business areas have become much more diversified as the market develops and innovative entrepreneurs look for ways to rearrange and improve the products and processes at different stages of the value chain of financial services. Asset management, investment consulting, lending, accounting management, insurance, risk and compliance are some of these.<sup>17</sup>

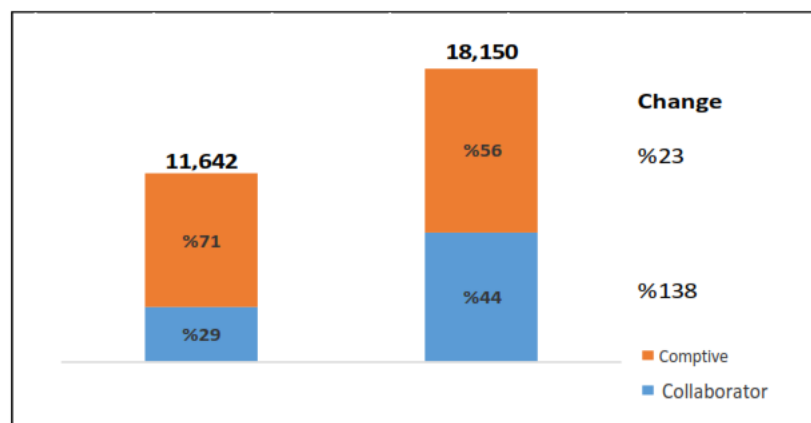
<sup>16</sup> [http://www.Fintechinnovationlablondon.co.uk/pdf/Fintech\\_Evolving\\_Landscape\\_2016.pdf](http://www.Fintechinnovationlablondon.co.uk/pdf/Fintech_Evolving_Landscape_2016.pdf), Accessed At: 21 January 2018.

<sup>17</sup> Ibid.

When the situation in the market is evaluated in terms of Fintech's approach to existing players in financial services, these new initiatives appear to be confronted in two ways: competitive or collaborative. Those who are in a competitive structure are trying to get a share from market share, customer, income of existing players in the sector and show a threat. Those who are in a collaborative structure are aiming to provide solutions for the existing players in the market to develop and be in a better position (Şahan 2017).

OnDeck offers fast credit solutions for small and medium-sized businesses to those in a competitive position, eToro offers card trading services for micro businesses and eToro, which offers specialized investment strategies for individual investors. Those who are in a collaborative structure view the existing actors of the industry as potential business partners for their own development. As can be seen in Figure 3.2, the investments made to the collaborative Fintech in 2015 increased by 138%, reaching 44% of the total Fintech investments. On the other hand, the investment made by Fintech, which is a competitive structure, increased by only 23%. Both the bank and Fintech are increasingly more willing to cooperate with the Fintechs, which are in a competitive structure, with more investment being made.<sup>18</sup>

**Figure 3.2: Volumetric change of collaborative and competitive fintech investments (2014-2015)**



Collaborative Resource: Accenture Analysis - CB Insight Data, 2016

<sup>18</sup> Ibid.

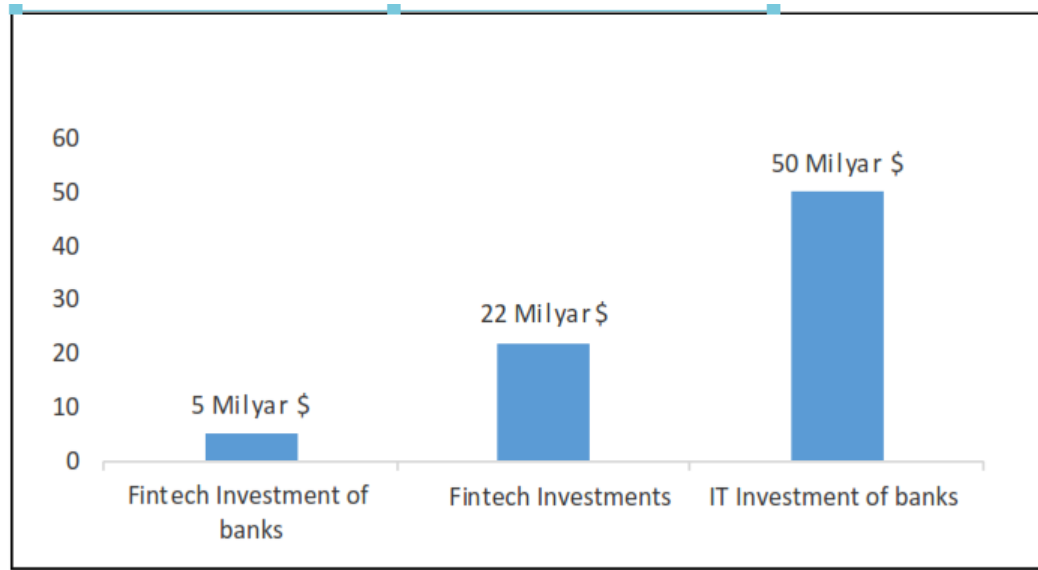
The competitive Fintechs are in fact a simple idea. It is the idea that there is a need for a server from the institution to create value for the customer. Zopa, the first p2p creditor in the world, did this by taking the money from the money and using it as a reliable tool and transferring it to what he needed (Skinner 2016, p.135). Following the launch of Zopa, and after the rapid spread of such startups, Goldman Sach, in its February / 2015 report on the new credit market, found that p2p lenders, traditional finance companies, consumer loans, SME loans, leveraged loans, mortgages, commercial real estate and learning would be able to deal with six types of loans, including loans. Again, Goldman Sach's equity research report of March 2015 shows that the share of p2p companies in the credit market will be 14% by 2025 (Skinner 2016, p.283)

However, more and more Fintech are willing to provide solutions to the banking sector and meet their needs, while banks do not find the same amount of money to invest in Fintech's business. As can be seen in Figure 3.3, in 2015, the banks participated in less than 10% of their total Fintech investments with an amount of less than 5 billion Usd. In the same period, the banks spent US \$ 50 billion on their technology investment for themselves.<sup>19</sup>

---

<sup>19</sup> [http://www.Fintechinnovationlablondon.co.uk/pdf/Fintech\\_Evolving\\_Landscape\\_2016.pdf](http://www.Fintechinnovationlablondon.co.uk/pdf/Fintech_Evolving_Landscape_2016.pdf), Accessed At: 21 January 2018.

**Figure 3.3: Global fintech and IT expenditures (2015)**



Source: 1. Banker's IT Spending, A Global Perspective, Celent, February 2015.

2. Digital Disruption: How does Fintech show the patience of the banks? Citi, March 2016.

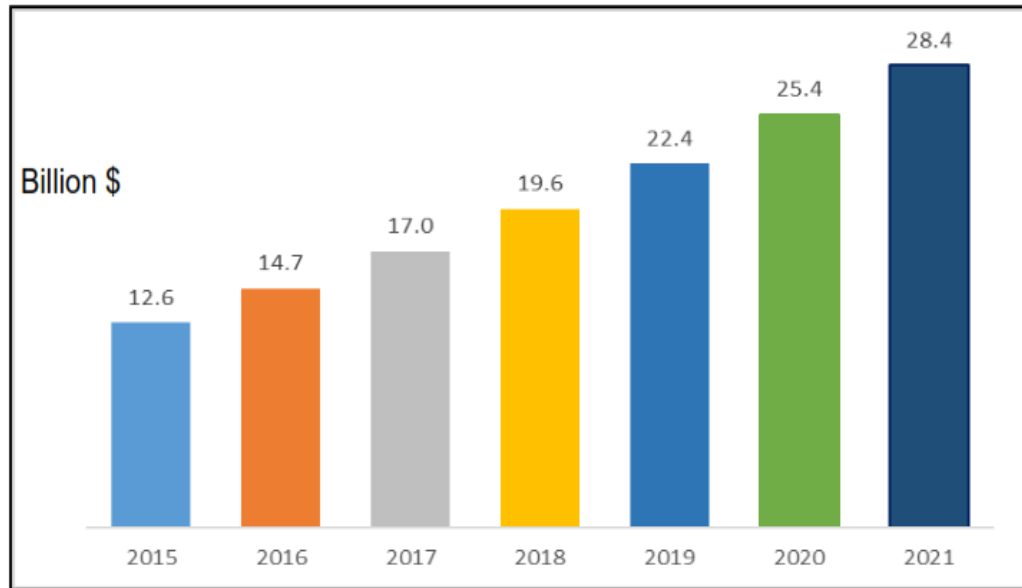
3. Accenture Analysis - CB Insight Data, 2016.

### **2.5.2 Development Of Financial Technologies In Turkey**

Turkey's potential in the financial technology field are estimated to be quite large. Technology-based companies in the financial services sector have started to emerge from the beginning of the 2000's; but Fintech with the concept referred to them much more recently (BKM 2016). Fintech startup of in Turkey, business area of e-commerce in establishing the infrastructure payments, the company is to offer accounting and finance solutions, we can say that the money collection and transfer money concentrated in the area.

Digital payments, the largest segment of Fintech market in the world and Turkey, while 2.2 trillion Usd in the world the volume of transactions in this area in 2016, about 15 billion Usd in Turkey. In Turkey every year 10% the volume of transactions carried out with these technologies (Figure 3.4) (BKM 2016).

**Figure 3.4: Turkey fintech trading volume**

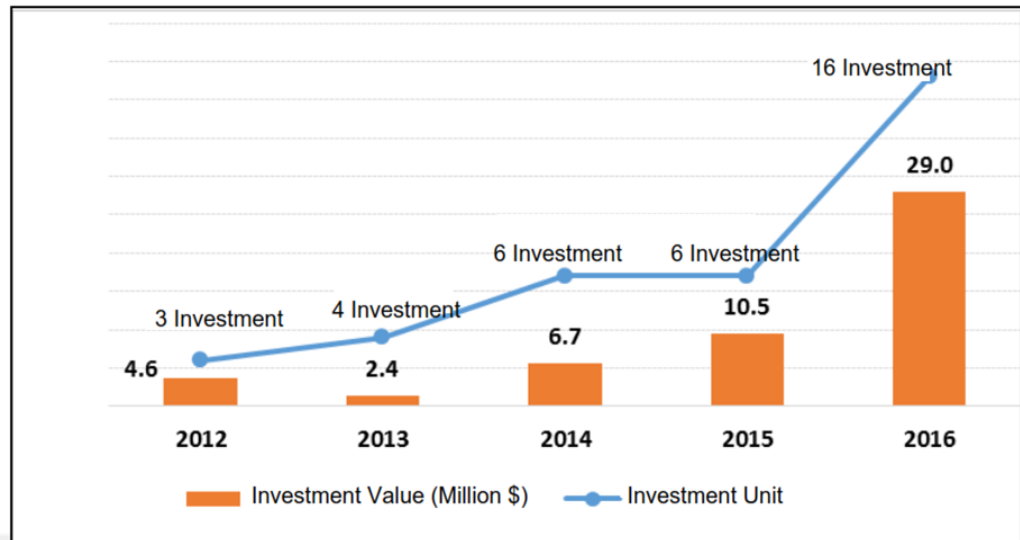


Source: Statista, December 2016.

According to a study by law firm Paul Hasing and Center for Economics & Business Research, cash transactions will be up to one quarter of the total payment transactions by 2026, thanks to mobile and contactless payments. However, Interbank Card Center (ICC) by the share of mobile payment transactions in the online retail world has been noted that this rate was 35% in Turkey to 38% (Fintechtime 2016).

In the period 2012-2015, the amount of investment made to Fintech in Turkey in 2015 increased more than twice as can be seen in figure 3.5, reached 10.5 million Usd. The total amount of investments made over the years in this period amounted to 24.2 million Usd. In 2016 alone, the amount of investment made by Fintech has risen to 29 million Usd. In the same year, Fintech ventures received 47% of the total investment made in startups, and Fintech startups increased to over 200 (BKM 2017).

**Figure 3.5: Development of fintech investments in Turkey (2012-2016)**



Source: The Turkish Fintech Ecosystem, Progress Report 2016

In Turkey, as completed and foresight in 2017 to 14.7 billion dollars is expected Fintech trading volume of 17 billion dollars in the bank Fintech also it is expected to continue to increase interest and investment. 2017 will be a global change year for Fintech. Newcomers will replace Fintech, which has been taken over and shut down and the technology giants will continue to step into the Fintech sector. In terms of Turkey's behalf 2017 Fintech can say will be an important year.<sup>20</sup>

Turkey, which focused on the payments and banking services company Fintech of further investment, insurance, financing, has started to invest in personal finance management and corporate finance. It is anticipated that the payment and banking practices that continue to be released in 2016 will continue this trend in 2017 as well. The 'Insurtech' and 'Regtech' sub-sectors can be common in this rise. In addition, wearable technologies, 'internet of objects' and innovations in artificial intelligence can attract new investments.<sup>21</sup> The rise in Turkey's Fintech summed up with the following headings:

- i. Fintech show more than 200 companies operating in Turkey.

---

<sup>20</sup> <https://home.kpmg.com/tr/tr/home/media/press-releases/2017/03/2017-turkiyede-fintech-yili-olacak.html>, Accessed At: 08 January 2018.

<sup>21</sup> Ibid.

- ii. Fintech investments in 2016 reached \$ 29 million.
- iii. Fintech 2016 transaction value was almost 15 billion dollars in Turkey.
- iv. Investments in Fintech initiatives accounted for 47 percent of total enterprise investments in 2016.
- v. 14 investors in 2016 received investment from angel investors and venture capitalists, 16 deals were realized.
- vi. Total Fintech investment in 2016 was down from \$ 46.7 billion in 2015 to \$ 24.7 billion, and the total number of deals fell from 1255 to 1076.
- vii. Venture capital investments reached a record level, reaching 13.6 billion dollars with 840 contracts.
- viii. Fintech investments in Asia are growing every year, reaching \$ 8.6 billion in 2016 and \$ 8.4 billion in 2015.
- ix. In the US, both total investment and venture capital investments have declined.
- x. Europe's total Fintech investment suffered a significant decline, but transaction volumes remained strong at \$ 2.2 billion.

Consumers now expect to receive fun, fast and user-friendly financial services from anywhere, easily accessible. All work and competition is increasing day by day in the field Fintech in Turkey together with the entire world in order to meet these expectations. Although Turkey Fintech ecosystem in a highly competitive environment, opportunities to continue their cooperation and work together in this competition is an ecosystem that has managed to host. For example, BKM Express, all banks and leading e-commerce company in 2012 with the cooperation of the digital wallet project was implemented in Turkey.

The Fintech ecosystem, which is dominated by both competition and business unions, is growing day by day and is investing increasingly. In the past year, Fintech ecosystem and Fintech investments in the country has grown significantly. Cardtek and Iyzico, which are major Fintech companies in the sector, have invested \$ 15 million on their own and made up 52% of their investments in 2016. Fintech market already having a size of approximately \$ 15 billion and is growing at 14% per year in Turkey. The number Fintech companies is over 200 in Turkey. In 2017, only two FinTech companies in January made a quick start by investing a total of \$ 14.5 million.

Turkey in venture capital and angel investment networks attempt to Fintech, the last 4 years (2012-2016) has invested a total of 53.2 million dollars. The amount of 4.6 million dollars Fintech investment in Turkey in 2012, showing 175% growth compared to the previous year in 2016 reached 29 million dollars.

Despite the rapid growth and development, Financial Technologies Area in Turkey is relatively new and its economic growth rate in general is not high. Therefore, it is a fact that Fintech's pie is not too big yet. However, in ecosystems where the pie is not too big, the potential for growth is particularly high. It is defended in Deloitte's 'Connecting Global Fintech: Hub Review' report that; the higher the overall index performance score calculated from the World Bank Doing Business Index, the Global Innovation Index and the Global Finance Centers Index, it means that the economic development is limited, brings the higher Fintech's growth and innovation opportunities. Although Turkey is in the back of the line according to the overall index performance all over the world, it is placed far ahead in terms of growth and innovation.

Turkey's situation presents a view that is not perfect but positive and promising for an emerging economy about the factors such as proximity to innovative customers, innovation, expertise, regulations and foreign-owned ventures that influence the growth of FinTech market (BKM 2017).

## **2.6 PREPARATION OF CUSTOMERS AND CUSTOMERS IN MOBILE BANKING APPLICATIONS**

Adaptation to mobile banking applications can be examined in the X, Y, and Z generations.

### *i. X Generation*

This generation is classified as born between 1965 and 1979. X-generation individuals are peaceful, entrepreneurial, goal-oriented and independent of technology and knowledge. They are also referred to as 'Baby Buster' following the Baby Boomers footprint. (These 1 billion babies born in the "population explosion" years immediately

after World War II are called "Baby Boomers" (Keleş 2011)). It is a generation that is trying to stay away from very stressful jobs, simplifying the business and enjoying it for living. However, this effort and the race feel themselves excluded because they do not 'catch up' on this bird and make an impression that they cannot keep up.

In the sense used today, the arrival of the first personal computer in this generation period gives the impression that this generation is the infrastructure of developing technology habits. Therefore, new working style emerged with the changing face of X Generation and Y Generation in business life: When the mobile collars band became managerial, information and communication technologies developed rapidly and effects led radical changes on generations. These changes are also technological wisdom, entrepreneurial and rapid promotion anticipation that can cause conflicts with the Y branch, which is working as a subordinate. This generation has a flexible, self-confident, comfortable structure.

#### *ii. Y Generation*

The range of birth years of this generation is not limited by any parameters. Most experts use this generation for those born between 1980 and 2001. Millennium Belt, Generation Next, Digital Generation, Echo Boomers and Nexters.

Two-thirds of the members of the Y generation who are the first generation to grow with the appeal of digital media met the computer before the age of five. These people, who can reach their friends, family, information and entertainment every moment, are optimistic, although they are worse off than the global economic crisis. In addition to being accustomed to being a focus of attention, generation members who hold high expectations also clearly define their goals. According to other generations, the individuals who have the oldest parents have grown up within the nuclear family.

The parents of one of the quarters have at least a university education, while the third has a divorced mother and father. They have high adaptation power and can perform multitasking. Besides this, a structure can be easily bored from the work they do. These birds have advanced thinking and rapid information acquisition processes. They have the

capacity to embrace change and the capacity to challenge the future in a continuous and new way.

People in this generation are described as intelligent, free mind, tech savvy and a generation who knows how to use technology. It is very important for them to live their lives comfortably for this generation, which is about fifteen hours of interaction with media and communication technologies. Technology for this generation is the symbol of many things in life, one of the things that Y is the most superior to the X curve.

Fond of freedom in Turkey, easy to adapt, do not give up quick, well-educated, authority-defying, this generation of young people who admire technology; live in a period of increased economic and intercultural interaction where the effects of globalization are best felt through the possibilities they have.

Although X generation members have met with computer and internet technology later on, they have developed themselves in areas that are necessary for them. They have standard skills such as conducting research from the internet, using mobile banking applications, following business e-mails, using mobile phones (Reisenwitz and Iyer 2009). The place of technology in Y life is a bit more. The mobile phone is not only for making calls, but also for internet, e-mail, banking, games, note taking etc. It is a natural situation for them to use. They know better ways to solve problems using technology for Y belt (Reisenwitz and Iyer 2009). Bailey and Ngwenyama (2010, pp. 68-69) have found that young people in information communication technology training have reached a much easier-to-understand outcome for older people and that they have tried to help other large learners to learn from them during training.

### *iii. Z Generation*

The first members of this group, who came to the world between the years 2000-2020 and believed in the future, will enter the working life within the next five years. This generation, also known as 'Internet belt', is always in contact with new technological possibilities and communication and transportation facilities. Unlike previous generations of this generation, 'network' youth can become members of various networks. It is argued

that they can live solely because they can establish relationships from afar. It can be said that they have developed their ability to deal with more than one subject at the same time.

The trend of today's workforce changes according to the concept of where the work is done under the influence of mobility. The diversity of new devices and services offers mobile workers the convenience of choosing where, when, and how they need to work. Changing living conditions with mobile devices; provide the opportunity to file reports as long as the internet connection is available, participate in meetings, organize designs, perform mobile banking transactions, or complete tasks remotely in a practical manner.

As a result, even more work can be done with mobile devices and telecommuting is increasing thanks to the developing technology (Parr 2011). The Baby Boomer belt is known as the generation that is difficult to adapt to technology like computers, as opposed to the X and Y generations. Since Z generation is expected to have entered the working life in the next five years, net use of mobile banking has not been achieved. However, according to the other generations in terms of being integrated with technology, it is inevitable that technological adaptation is the easiest generation due to digital age growths. In fact, innovations that do not come to mind now will be gained by using technology of Z generation.

As predicted above, the predictions that generations will become more and more users of the technology are accepted by everyone as the years progress in line with the information given about the generations of x, y and z. In the scope of this study, 21-25, 26-30, 31-35 age group constitutes y generation, 36-40, 41-45 and 46-50 age group constitute x generation in participant questionnaires. Since the Z generation constitutes 20 age group of six, their opinions are not included in this study.

When we look at the average of the responses of these age groups to the ease of use and suitability of mobile banking services:

21-25 age group (4.74),

26-30 age group (4.54),

31-35 age group (4,56),  
36-40 age group (4,51),  
41-45 age group (4,48),  
46-50 age group (4,07)

The opinions of younger age groups are more positive and the age of the groups seems to be reduced.

The banks that are aware of this fact are also aware of the innovations they have made in mobile banking services, deliberately making transactions that can be done from the branch intentionally only with the mobile banking services channel and getting no transaction fee / very low transaction fee in mobile banking services. It is following a variety of tactics to familiarize customers with the use of mobile banking services.

### **3. EXTERNAL BANKING (DIGITAL-MOBILE BANKING) SERVICES**

In this section, rapid change in banking channels and services and effects of the technological transformation have been mentioned.

#### **3.1 DIGITAL BANKING**

It has been observed that the technological developments have been driving the internet technology in the recent period with a dizzying speed. We have contacted the above areas of use of internet technology. One of these areas is banking. Very rapid change is observed in banking products. Every day, a new product is encountered in the banking sector. When the results of these developments in banking are reflected in social life, the trade gains a new dimension (Aksoy 2007).

Rapid development in information and communication technologies in general as parallel information and communication technologies have started to be used and information technology has started to be used in commercial life, information and documents required for commercial activities have been transferred to electronic environment and transactions have started to be done in this environment. All these developments have facilitated the spread of electronic commerce (Korkmaz and Gövdeli 2005). Against this background, in the banking sector, all kinds of transaction and transfer of information are required to be presented to the individuals at every moment, everywhere and without errors by utilizing the most advanced technology of the day. The name of the new age in the sector is “electronic banking” (Yıldırım 2006).

If a general definition needs to be made, electronic banking by means of electronic channels, provision of individual and small other banking products and services. On the other hand, the two main features of electronic banking are the structure of the delivery channels through which the activities are carried out and the means by which customers access these channels. Common delivery channels include closed and open nets. The participants who are bound by the terms of membership then carry out access to closed networks. There is no such membership condition in open networks. Commonly used access devices include point-of-sale terminals, automatic teller machines, telephones, personal computers, smart cards and other devices (Takan 2001).

Electronic banking is actually a concept that emerged right after electronic commerce. Every company that deals with e-commerce needs a payment instrument to collect and process the sales made by its customers in the virtual plane, which also offers banks the means of payment. For this reason, electronic commerce in the banking sector has been much faster than in other sectors (Tolon 2004).

Nowadays, there is a great competition between banks in order to attract customers who can easily access any kind of information in electronic environment and thus they can be more selective in their decisions. Banks that use technology better by accelerating their electronic activities have acquired important positions in the sector as a pioneer of change. Banks that cannot adapt to the technological system are obliged to stop their activities because they cannot meet the demands of customers (Yıldırım 2006).

The definition and scope of electronic banking in Turkey has also changed over time. In the past, the concept of electronic banking first brought to mind the automation system in the banks and the inter-bank EFT system. In the basic banking education offered by the Banking Association of Turkey in the internet environment, electronic banking activities in line with the changing definition of electronic banking today; ATM, Telephone Banking, Internet Banking, WAP Banking, Palm Banking, SWIFT (Buğdaycı 2007).

A successful bank in the year 2000 (TBB 1999):

- i. To use technology more widely,
- ii. To give priority to collective quality management principles and customer satisfaction,
- iii. The fact that it has an entrepreneurial management understanding and a faster decision making structure,
- iv. Being more navigable than product development and offering innovative products with added value,
- v. Effective use of branch structure and alternative distribution channels,

- vi. The fact that we have a staff that does not adopt good education and technology, and
- vii. Must be able to manage change effectively.

As a result, electronic banking; (Akpınar 1993), the application and development of technological facilities for the banking activities of the day, considering the objectives such as reducing the costs, meeting the demands of the information society, ensuring the technological competitive advantage and making effective decisions at strategic and tactical level.

### **3.2 DEVELOPMENT OF DIGITAL AND RETAIL BANKING**

The acceleration of technological development in the twentieth century, as well as in every area of life, reveals extremely complicated and difficult to control structures and developments in economic life. This complexity and difficulty has manifested itself both within countries and in international economic relations: developments in transport and communication technologies have played a leading role in this issue (Caglar 2007).

From 1914 onwards, mechanically based typewriters, collecting machines, writers' casks, accounting machines serving the existing building protected the high technology title within the workplace vehicles until the end of 1940's. In 1947, the first electronic digital computer, ENIAC (Electronical Numerical Integrator and Computer), John Mauchly and J.P. was brought into service in the banking era, which was started by Eckert at the University of Pennsylvania, was the IBM 702 system, which was founded in 1955 at the San Francisco branch of Bank of America (Akpınar 1993). With the first automatic teller machines being used for the first time in the 1960s, only one extra payment could be received, the plastic cards made for these machines remained in the machine and were mailed back to the owners (Karatan 1990).

Another development, credit cards, began to be used in the 1960s in parallel with economic, social and technological developments after the cold war. The use of these cards has become increasingly important and widespread in the financing of consumer purchases in the last 20 years (Cengiz 2009). It is known that the internet first started to be used in the 1960s. Many banking transactions can be carried out on the internet, except

for deposits and withdrawals, which began to be used in the banking sector in the 1990s (Özcan 2007).

Two systems are used for fund transfer in the United States. These are FEDWIRE and CHIPS. Fedwire system started to operate in electronic environment in 1967. There are two fund transfer systems in Japan. These were ZENGIN 1973 and BOJ-NET in 1988. The EFT system, which started preparatory studies in 1986 in our country, has been active in 1992 (Özcan 2007). E-banking applications emerged in the form of electronic media solutions such as electricity fund transfer and credit card payment were accompanied by cyber cash (cyber\_cash), which came to the fore at the end of 90's (Aksoy 2007).

Point of sale terminals (POS) began to be used in our country in 1989. With the establishment of Interbank Clearing Houses Center, there has been a rapid increase in the number of POS. The purpose of the Interbank Clearing Houses Center is to promote the use of checks and to reduce the movement of money between banks. The center started to operate in electronic environment since 1993 (Takan 2001).

As a result, within the decade between 1980 and 1990, electronic banking has experienced a rapid change and development process due to demographic changes, consolidation of banks, regulatory reforms, use of emerging technologies in the banking sector and changing customer wishes (Korkmaz and Gövdeli 2005). After 2000 years, new concepts started to emerge together with developments.

### **3.3 PURPOSES AND BENEFITS OF DIGITAL BANKING**

Nowadays, it is an important advantage for enterprises to produce and present a competitive product in accordance with customer demands, to produce this product and presenting it economically as well as to produce new product and to have a pajama (Zerenler et al. 2007). In this respect, the most important reason underlying electronic banking is that banks have to provide fast, accurate and reliable services to customers in the face of increasing competition in our globalizing world, together with the technology that enters every area of life. The main objectives of electronic banking applications in this context are to prevent loss of market share in the face of competition and to reduce costs in this direction, to meet the demands of information society, to spread the service

network as internationally as possible, to increase the quality of services offered. Electronic banking reduces the direct dependence of individual and corporate customers on the bank, while increasing efficiency and efficiency in the financial system and payment channels, thereby reducing the costs of commercial transactions nationally and internationally (Özcan 2007).

Electronic banking enables banks to develop their markets for traditional deposit-taking and lending activities and to offer new products and services, or to strengthen their competitive position in presenting existing payment services. However, costs can also be significantly reduced if the activities are carried out in electronic environment. Another advantage of electronic banking is that it increases the efficiency of the banking and payment system at national and international levels and contributes to reduce the cost of individual transactions. This naturally leads to increases in productivity and economic prosperity (TBB 1998).

Another advantage of electronic banking is that it speeds up the transaction process and saves considerable time. With advances in computer and communications technology, banks and financial institutions are able to perform all customer and information transactions and fund transfers faster and more efficiently. Thus, especially in terms of banks, it may be possible to shift their staff from inefficient areas to areas where they can work more effectively. Another advantage is that because of the automation of the tasks, the mistakes caused by the employees will be reduced. Apart from these; the ability of bank services to be marketed to as many customers as possible and the ability to keep more comprehensive and useful information about the customers in the branches and to monitor and evaluate the efficiency and the importance of each customer for all activities of the ending bank and the importance of the customers for the bank with the help of collected information is another advantage offered by the banking sector (Aksoy 1998).

### **3.4 DIGITAL BANKING PRACTICES**

A key concept in terms of new product policy is the choice of the target group of services to be offered. Today, the demands of service users are quite varied. Classes such as income level, age, occupation criteria, customer expectation, type and duration of relationship with the bank have emerged when customer profile classification is done.

For this reason, the target group must be well defined while a service is offered. The fact that the target groups are not carefully selected may lead to the disconnection of the client after a certain period of utilization (Berk 2001). In order to survive against large internationally active banks, all banks have to adapt to the new electronic calendar and do it as quickly as possible. Because, firstly, customers consider banks to be compatible with electronic age and technology as an important criterion when choosing the banks that will see their financial services. The search for internalizing technology and inventing new technologies with all elements of the economy has forced the banks to keep up with the technology revolution. In today's conditions, banks ignoring this situation and continuing to provide services within traditional structures are obliged to withdraw from the sector and to disappear, and the banks act in accordance with the electronic age.

It is very important to create different channels with the customer to ensure a regular relationship. It is also important that banks establish individual and personalized relationships with their customers provide customized services and identify customer needs (Alagöz 2004). Thanks to technological developments, many innovations have been introduced in banking transactions. Paying systems are great importance in areas where the effects of electronic methods are evident among the services being developed.

As the main payment methods widely used before electronic payment systems are in use, cash payments, payment orders and cash transfers, check payments and transfer accounts. The common feature of these payment methods is that all payments except cash are made mainly with paper-based instruments. Technological developments and innovations that come to the forefront of the electronic field serve the purposes of improving the implementation processes of the traditional payment methods that are still in use today, reducing the processing times and making these payments more effective (Kirkman 1987) (Yildirim 2006). Indeed, globalization, technology and development in the field of computers have diversified payment systems and payment instruments. Currently, credit cards, automatic teller machines (ATMs), point of sales (POS), electronic funds transfer, smart card, prepaid card, electronic wallet, while businesses in the past have used money, checks and stocks more widely accepted as traditional payment instruments.

### **3.4.1 Automated Teller Machines (ATM)**

Electronic payment and fund transfer systems (ATMs, credit cards, debit cards and smart cards), which are very important for trade, are used only for the transfer of money, so they are limited in the trading process. However, it is important to remember that many hot money flows are made in this way in banking. In addition to withdrawing money from these systems, ATMs can also deposit accounts, transfer accounts, inform customers about account status, make regular payments, request a checkbook, draw traveler's checks, accept credit applications. ATMs are able to transfer funds between their accounts, make regular payments, conduct funds and securities trading and control account cases, and provide accountability for electronic funds transfer systems, which enable customers to withdraw and deposit at any time of day and at any time they desire. (Yildirim 2006).

In the first applications of ATM technology, we see an automatic cash dispenser that allows only cash to be received by the user. The first cash dispenser in the world was opened in 1967 at an Enfield location in Barclays Bank, England. Since 1968, they have started to use France, Sweden, Switzerland, USA and Japanese banks. This system can be developed over time to deposit money, deposit money into another account, make an account transfer, learn account balance etc. making it possible to make other banking transactions possible. In this way, automatic teller machines (ATMs), which have been in use since 1983, have led to a large decline in the costs of banking operations (Baker and Brandel 1988), (Korkmaz and Gövdeli 2005).

ATM is; along with working as “online”, it has made electronic transactions using magnetic stripe plastic cards instead of old mechanical documents. In place of mechanical documents, electronic messages are not directed to the paying branch, and the machine starts the counting of the money. The ATMs that are offered to the service at the bank branches in advance are used for bus terminals, hospitals, airports, university campuses, train stations, shopping malls, etc. outside the bank branches in order to reduce personnel expenses and more widely. As well as in the central places where people are used heavily. The success of ATMs, equipped with the ability to perform many transactions from

customers' bank branches, enabled banks to direct these machines, which are connected to banks' centers via online communication lines (Yildirim 2006).

At ATMs, transactions start with the insertion of a plastic card with magnetic tape, which is given to the customer by the bank, into the machine. The machine checks whether the card is forged, whether its use is forbidden or not, and if there is no problem, it opens the keys for use by the customer and makes the system ready for use. After that, the customer notifies the machine by using the keys, and then he / she completes the transaction by inputting the password number given to him by the bank and then using the keys to inform about the type of operation and the amount he / she wants to make. During all these transactions, the customer transactions can be monitored on the screen at ATM and use them as a guideline to see the information on the screen for the transactions to be performed and get help (Arkan 1991).

Following these steps, the customers are able to deposit money, withdraw money, send money, and check account etc. 24 hours a day seven days a week. ATMs can do many banking transactions. Today, cardholders mostly use ATMs to provide cash. Apart from withdrawals, the most commonly used transactions are; asking for account balance, depositing money and transferring between accounts (Yıldırım 2006).

The banks resort to various ways to reduce the cost of ATMs, each with annual operating costs of around US \$ 50,000. One of these ways is the common use of ATMs by various banks. For this purpose, we see that several banks have established joint systems or participated in special systems established outside financial institutions (Akpınar 1993). For example, in Turkey today, such an application under the name of “Golden Point” is mentioned. In the Golden Point implementation, banks open mutual ATMs to each other in order to expand their ATM networks to better serve their customers and contribute to the country's economy. Within the banks of the group formed by the banks, both credit cards and debit cards can be used for each other's ATMs. The ATMs of all banks participating in the application have the 'Golden Point' logos.

The benefits of using ATMs to the bank can be listed as follows (Karatan 1990):

- i. The use of ATM has the possibility of reducing the cost of the ending bank.
  - a. ATMs offer customers a variety of services, but they are also easier to reach customers.
  - b. ATMs are established in certain places where it is not appropriate to open a branch. For example, if a university campus or shopping center cannot open a branch due to space constraints, it may be more advantageous for an ATM bank to be established there.
  - c. With the spread of ATMs, routine work is done by these machines. Because of the decreased staffing requirements, they can have the opportunity to transfer bank staff to other areas that may be more productive.
  - d. Banks use ATM technology to increase their technology tools and take an important step towards customer satisfaction. ATMs to be installed in areas where individuals are used heavily will make a positive contribution to the image of banks
- ii. When the workers or civil servants depositing the wages and salaries are not the whole of this money, but if they withdraw the required amount of the deposit from the bank, the remaining amount will be a deposit, which can be used for the banks.

Of course, the most important benefit for ATM customers in terms of ATM usage is that they can save time and customers can make transactions with the bank by taking advantage of these machines at any time of day, outside the working hours of the bank. It is an important convenience for the customers to benefit from the service provided by the bank for 24 hours a day and seven days a week. In addition, the ability of customers to carry out various banking transactions without facing the bank employees made banking services more affordable and faster (Yildirim 2006).

In addition to the advantages that ATMs provide to their customers, they also have some disadvantages. At this point, security problems are the most important disadvantage for customers. Particularly in the case of the stolen and lost plastic cards, which are necessary in terms of ATM usage, the customers will have difficult times. In addition to the

inconveniences that may arise for customers if the wrong people misplace these cards, the time to renew these cards and the inability to use ATMs during this period are disadvantageous for the customers. Occasionally, if the machines malfunction or do not work, the customer may be in a difficult situation. However, in general, a significant portion of ATM users are satisfied with the benefits provided by the service provided despite the problems occasionally encountered, and they use these machines intensively in terms of banking business (Yıldırım 2006).

### **3.4.2 Internet Banking**

The Internet (International Network) is a global computer network that has emerged because of connecting the world's computer networks with each other, which is growing more and more without any restrictions or administrators. It can be defined as the realization of all the transactions in the classical banking via the internet banking branches over the internet. Anyone connected from home, work, internet or mobile phone can benefit from banking services (Aksoy 2007).

Today, the internet banking system, which we can define as the realization of almost all the transactions made from the physical branches of the banks via the internet, has become an important advanced banking item among the banks by attracting attention of the banks in a short time. The banks attach great importance to internet banking services in order to create the image of the bank that provides easier and faster service to the customers as well as the image of the bank that catches the innovations of the times. In this way, while customer satisfaction is ensured, alternative ways of earning are revealed. It is aimed to provide internet banking applications that enable customers to communicate with their customer representatives in a virtual environment, to be able to see the accounts of the banks independently, daily exchange rates, interest rates, fund information and information about checks and promissory notes. The banks can carry out this service on the internet through “web sites” (Yıldırım 2006). We can find two main reasons underlying the development and diffusion of internet banking. In principle, banks provide a considerable cost advantage by offering internet-banking services. This proves that the internet-banking channel is the cheapest distribution channel to promote banking products. Secondly, while many customer branches feel that they require a lot of time and

effort, banks that set the stage for self-service channels reduce branch networks and reduce the number of service workers (Özcan 2007).

Bank websites in the simplest structure; branch addresses and product promotions. In more developed bank websites; in addition to this basic information, interactive services such as money transfer between accounts, invoice deposit and account control are offered for the use of customers. In the globalizing world, especially due to the increasing tendency of bank mergers, the effects of international competition in the sector and the changes in economic conditions of the countries, banks have to invest in the internet domain. Internet banking practices in such an environment where there is intense competition among banks; (Yıldırım 2006), to provide new and existing customers access to and benefit from the services they desire, to maintain their commercial titles and assets independent of time and space, and to provide uninterrupted banking services for twenty-four hours.

### **3.4.3 Mobile Banking**

One of the customer-focused services that emerged because of the development of banking transactions in electronic environment every day is telephone banking. Bank customers through telephone banking; can do various banking transactions such as invoice payment, fund transfer, account control, information retrieval and loan application without leaving the bank branches, using fixed or mobile phones, anywhere from twenty four hours a day. The features such as saving time, not having to do paperwork such as sending documents, and making it possible to reach the bank anywhere at any time make phone banking attractive to the customers. It is also the positive side of telephone banking that it does not incur additional costs to the individual and does not incur any costs to establish a new equipment (Canpolat 2001).

The use of telephone banking has become easier and more preferred, especially as the development and use of mobile phones spread very quickly around the world. Banks that want to evaluate this development are increasing their investments in this area and are launching new applications that potentially consider mobile phone users (Yıldırım 2006). Estimating that almost everybody will have a mobile phone in the near future are

triggering banking service providers to invest in this technology. This will enable the widest possible access to electronic distribution channels (Aksoy 2007).

Banks offering telephone-banking services are creating a “call center” for their applications. These call centers, which are available 24 hours a day and seven days a week, are staffed by “customer service officers” who have gone through special training and helped them to fulfill their transactions by answering their phones. When the Bank seeks their bank using their customers, fixed or mobile phones, they usually cannot directly contact the customer service representatives. They also introduce a “call forwarding” function, which banks set up in call centers, in order to prevent service disruption by reducing the intensity of workload and to prevent customers from waiting too much on the phone. In this direction, customers searching for their bank will first be able to speak with a voice recording and use the keys of their phone to indicate what they want to do with this voicemail. At this point, customers are directed to the right people in the correct sections of the call center regarding the actions they will take (Canpolat 2001).

The rapid development of mobile phone technology today has revealed the desire of bank customers to access banking services via mobile phones. Against the ever-evolving new technologies, in response to active and dynamic customer profiles that are not content with classical banking services, banks have resorted to mobile banking services that enable them to access their computer systems via mobile phones in order to respond to their customers' needs and expectations and increase their satisfaction (Özcan 2007).

Thanks to “smart phones”, one of the innovations related to telephone banking, the face of this application is changing and evolving. Smartphones are a telephone terminal with a small screen and keyboard and a computer embedded in it. These phones, which are loaded with memory, operate in the same way as personal computers, can load and store information, as well as receive faxes. Thanks to smart phones that bring together a kind of computer, fax machine and phone, customers are able to make their banking transactions more easily in electronic environment (Yıldırım 2007). As a result, the mobile phone market, which is becoming widespread every day, has begun to change its banking habits. Wap, digital assistants and other handheld devices have become more

widely used by a wider audience day by day. These new technological devices are changing expectations both on the supply side and on the demand side. Mobile phones used by everyone from old to old have made access to banking services even easier (Aksoy 2007).

#### **3.4.3.1 Only mobile banking samples**

New technological developments such as online banking, which changes the world financial system by financial institutions are presented. Today, online banking has become an integral part of life for users. This has greatly simplified life. However, in order to use online banking, it is necessary to open an account for online banking by going to a bank branch. Mobile-only banks are banks that are only in an online environment, do not have a physical building and serve without personnel or paper documents, and have caused a new trend in the World (Luarn, & Lin 2005).

Online banking can be defined as a remote service without going to a kind of bank. With this service:

- i. Loan payments, bill payments and fines payments
- ii. Update the current debit card or credit card information
- iii. Money exchange, Money conversion
- iv. Transfers Payments can be made.
- v. There are several different types of online banking:
- vi. Informative type: The correct information about the latest status of the bank account is always available at any time. Balance, payment history and expenses can be tracked quickly. However, the currency cannot be bought, transferred or paid.
- vii. Account management: It provides easy access to account information and data and payment. Mobile communication, cable TV, internet service providers and so on. Payments can be made.
- viii. Financial management: All online banking services are offered. While online, you can borrow money, sell securities, buy and transfer money.

After all, online banking is a technology used to manage banking accounts over the internet. It covers all banking transactions available in the bank except cash transactions. There are three common types of online banking that are widely used in the World (Yu 2012):

*a) Mobile banking*

Using smart tablets and phones, online management of banking accounts and cards are easier. All kinds of financial documents are supported as well as electronic signature and encryption mechanisms. It provides 24/7 access to all services of electronic banking and account management. In mobile-only banking, all services are offered online and no branches or paper transactions are performed. In conventional mobile banking, which is currently in widespread use, these services are provided online, but in order to benefit from the services, it is necessary to go to a physical branch and carry out necessary procedures for accessing the mobile services.

*b) Telephone banking*

It does not mean the same as mobile banking. You can check the balance in the phone banking; you can ask for the statements for a certain period via fax, use of cards can be turned off. When these operations are carried out, only the instructions of the sound menu can be followed and the desired operation can be selected from the menu. Thus, the necessary information can be obtained by voice mail or fax.

*c) SMS banking*

It provides access to bank accounts and cards via SMS. Therefore, transactions and notifications about 24-hour banking can receive SMS messages.

When all types of online banking are handled one by one, the most populous will be mobile banking. As smartphones and tablets use more and more people every day, the popularity of mobile banking applications is increasing day by day.

Mobile-only banking is a banking system in which people's funds, accounts and all other personal financial information are stored only in a virtual environment. Mobile-only banks can access an online bank account using a password and login name from anywhere with an internet connection. Since everything is simple and useful in this application, users do not need to have extra ability.

With this application, any financial transaction can be done in a few seconds. People are prevented from making payment delays, and because of the automation of calculations, online rates are lower than commissions that are obliged to pay for transactions made directly to bank branches.

Considering the advantages of Mobile-Only banking, online mobile banking enables banks to lower their costs such as office equipment, rent, and personnel in a new era. The most important element in mobile-only banking is developing a custom mobile application and presenting it to the users. Banks for mobile devices also offer additional benefits to their customers (Donner & Tellez 2008).

- i. Loans with low interest rates: Banks are able to pay customers at a much lower interest rate.
- ii. Excellency: Banks can offer easy process and a long grace period to use and pay their customers credit. Thus, the banks want to attract new customers.
- iii. Discounts: Users can offer significant discounts in life's entertainment areas such as cinema tickets, air tickets, hotels, petrol stations.
- iv. Increase in deposit rates: Banks are able to offer high deposit rates to attract customers to new mobile devices and to offer advantageous conditions to their customers

Considering the advantages of Mobile-Only banking, conventional mobile banking is more profitable option for users who plan to make cash payments. For users who are willing to withdraw money from mobile-only banking after a few transactions have been made, there is a disadvantage. Mobile-only banks, such as Atom Bank or Fidor Bank,

offer free withdrawals twice a month and reflect a certain percentage fee for each withdrawal.

A mobile-only bank, such as bank B, offers only one year of free account service to its users. A year later, the bank charges a monthly fee of 2 liras. Since mobile-only banking is a new phenomenon, the disadvantages that may arise in the future are not yet foreseen.

When you look at how Mobile-Only Bank works; In order to use a mobile-only bank, mobile bank applications offered on iOS or individuals must download Android platforms and the digital application form included in these applications must be filled out and registered. A three-digit authorization mode must be selected in order for the mobile bank to secure the account to be presented. For example password, face photo and voice recording. The transaction is completed by defining the personal logo, which is one of the differences between mobile banks and conventional banks. The Atom bank is one of the first financial institutions to implement personal logo technology.<sup>22</sup>

Looking at Mobile Banking in Turkey today, mobile technologies are often used for consumer needs like shopping, entertainment, banking, payments. The widespread use of mobile technological devices has changed the way people access finance, make financial decisions and make payments. Monitoring of the financial aspects of innovation because of the high proportion of young population in Turkey and assimilation of these innovations is in a comfortable way.

Banks that do not have mobile accessibility for banking clients are not too strong. Turkey, which is a good case to be assimilated with the direction of the internalization of emerging technologies and digital changes occur. Turkey is able to track mobile technological changes. The number of internet users is increasing with time, still under the developed markets. Increased use of smartphones also leads to increased use of online social media and increased e-commerce transactions. Therefore, e-banking and mobile banking usage potentials are very high because the bank has to have advanced customer experience.

---

<sup>22</sup> <https://letstalkpayments.com/a-list-of-mobile-only-banks/>, Accessed At: 17 January 2018.

The increase in the number of mobile providers outside the banks is causing the competition to increase. As a result, customer wishes are also increasing. The use of mobile technologies has also become mandatory for banks. The banks have allocated extra budgets for this, which provide a value-added service to facilitate day-to-day banking operations with a customer-focused approach.

Despite the widespread use of mobile-only bank in the world, yet it does not have mobile-only banks in Turkey. However, there is an important transformation in the banking and financial services sector. One of the major factors affecting this change is the deployment of new mobile technologies and innovations. These technologies are; the rise of mobile-only banks, the availability of data-managed money management tools, biometric authentication systems, less legal barriers to entry, machine learning to banking products / AI and gaming. In order to adapt to today's competitive environment, there are great opportunities for banks that are already active in developing mobile applications. There is a great deal of pressure to develop mobile applications that can satisfy consumers for a bank that has not yet developed a suitable mobile application development strategy, or a bank for a strategy development process. This pressure is further enhanced by the widespread use of mobile-only banks.<sup>23</sup>

Mobile-Banking Only examples are presented below:

Atom Bank: Atom is a start-up bank located in Durham. (PRA) and is regulated by the Financial Conduct Authority (FCA) and the PRA. As a mobile-only bank and a challenging bank, Atom has introduced biometric banking for the first time in the UK, using biometric encryption instead of passwords in its mobile applications. Atom Bank ranks eighth in KPMG's Global FinTech Innovators 100 ranking.

Founded: 2014

Founder: Anthony Thomson

Financing: \$ 167.16 million from two investors from four investors

---

<sup>23</sup> <http://www.mobven.com/mobile-only-banking/>, Accessed At: 13 January 2018.

Products / services: Mobile banking application, current account, savings account, mortgage

Monese: Monese is a mobile-only banking service that allows users to open a bank account in the UK to look at their citizenship status. Monese, founded by Estonian Norris Koppel, provides users with a snapshot of their passports to open a current account and receive a Visa debit card. Monese's cloud-based technology removes most of the hurdles of old banking systems.

Founded: 2013

Founder: Norris Koppel

Financing: US \$ 1.8 million

Products / services: Non-branch mobile banking, cash withdrawal, card payments, international money transfer, current account

Simple: Simple combines expertise in innovative technology and behavioral economics to offer customers support for smarter work and more savings. Simple offers a bank account with all the tools users need to manage their deposits directly. The deposits of a user's Simple account are held by the company's common banks. Simple banking services can be accessed by using intuitive Web, iPhone and Android applications. In 2013, it grew by 330% and advanced by more than \$ 1.7 billion. Simple serves more than 100,000 customers. Simple was purchased by BBVA in 2014.

Founder: 2009

Founders: Shamir Karkal, Alex Payne, Joshua Reich

Financing: US \$ 15.29 Mn

Products / services: Budgeting tools, debit card, saving account, current account

BankMobile: The first bank that offers free check and savings account. Customers are being offered credit limits at a satisfactory level. More than 55,000 ATMs are offered free of charge by BankMobile and offer a higher saving rate than the top four banks in the country.

Founded: January 1, 2015

Founders: Jay Sidhu, Luvleen Sidhu

Products / services: Free check account, remote check deposit and picture invoice payments, P2P payments, online banking and high efficiency savings account

GoBank: It is the first bank account designed from scratch to be opened and used on a mobile device. Supported mobile devices allow you to control account balances, display transaction history, and transfer money between accounts. GoBank belongs to Green Dot, an active player in the card management industry in the US. GoBank, in partnership with MetroPCS, aims to deploy the GoBank mobile application to its Android device portfolio compatible with MetroPCS. It only offers its products and services online.

Founded: 2013

Founder: Green Dot Corporation

Products / services: Online banking and check account with direct deposit and bill payment, cash and direct deposit, photo-taking deposit etc.<sup>24</sup>

#### **3.4.3.2 Only mobile and internet banking samples**

It is very important to understand how some of the best online banks work and which banks work best. At first, the distinction between internet-only banks and online banking needs to be examined. Online banking involves tasks performed through an Internet connection only through a web browser or mobile application, but as internet-only banks, the bank does not have physical levers. The best internet-only banks these days offer some online functionality, but only online banking will concentrate on banks and branch banks with large online offers and services.

Internet-only banks, also called "direct banks" or "virtual banks", perform many functions, such as those of old-style brick and mortar banks. However, their physical location and the large number of staff do not bring an additional expense to the bank.

It is easy to know how to open an account in a traditional repository. It is enough to come in from the bank and ask for help from somebody. Using one of the best internet-only bank is even easier. Because there is no obligation to go anywhere to open an account or perform a banking mission. You can reach the online bank from anywhere.

---

<sup>24</sup> <https://letstalkpayments.com/a-list-of-mobile-only-banks/>, Accessed At: 17 January 2018.

When looking at how an internet-only bank account is opened once you open an account, you can access your account at any time by logging in that is, entering your user ID and your password / PIN. In the first entry, it is advisable to learn all about your account and the web site / application. If you have any questions, you can take advantage of opportunities such as online chat, FAQ screens and a customer help desk.

The two most basic tasks associated with a bank account are deposits and withdrawals.

*i. Deposits*

There are several ways to deposit money into an online bank account:

ATMs: Because online banks are not a branch, it allows one or more ATMs to be used free. Some online banks pay, in part, compensation for non-network ATM usage fees.

Transfers: It is possible to make deposits via different transfers or online transfers from mobile wallets. Phones equipped with card readers, such as GoPayment, Square and PayPal Chip Card Reader, allow you to deposit money by sliding a debit or credit card.

Checks: Many online banks accept deposits via photo checks. (e-checks): A phone can be used to make a check or deposit money in the picture.

Direct Deposits: You can deposit social security checks, salaries or money sources just as you would in a traditional banking company.

*ii. Withdrawals*

As you do when depositing money, the defined account using ATMs can easily withdraw money or make any payment. It can also be used in the following possibilities.

Bank Card: When you make a purchase with your bankcard, the money can be withdrawn automatically from the check account. A merchant can ask for cash when shopping. Your

debit card may be plastic or an electronic debit card such as Android Pay, MasterPass, Samsung Pay, and Apple Pay in your digital wallet may be used.

**Write a Check:** You can write a check for the money in the account and cash in to the supermarket, the withdrawal facility. Of course, you can write checks at any place that accepts purchases. All online banks provide paper-based control.

Naturally, making or stopping payments and creating automatic payment plans can easily be carried out in internet-only bank.

Considering the advantages of Internet-Only Banks thanks to these advantages, the best internet-only banks increase their value and assets. You will certainly be aware of some of the advantages of internet-only banks against traditional in-person banks with physical locations.

### *Convenience*

You can access your account 24/7 without going to any bank branch and you do not even need to wait. You do not need to change banks when your home or business is moved out of town. In addition to all these, you can also access your bank account when traveling anywhere in the world.

This convenience provided by internet-only banks have a distinct value for those who restrict their movements. It can be very difficult to go to a bank branch with a wheelchair. Even when the car is not used, it can be difficult for people. Computers offer speech synthesis and magnified fonts that can be very useful for people who are blind or visually impaired. People with disabilities can see their work more conveniently with internet-only banks.

The internet-only banks can offer many services and products only with a few moves on the phone or computer. You can check your investments at any time and place check interest rates up to date and make and pay standard payments like life insurance, bills, and annual payments. You may have to go through several departments or divisions while

doing the same in traditional banks. It can be spread over several departments and brochures at a physical bank location.

### *High Savings Rates*

If you search for the banks that offer the highest interest rates on savings accounts and certificates of deposit, you will find the top of the list dominated by the best online banks. It is no mystery – running a bank is less expensive if you do not have to pay for and staff brick-and-mortar branch offices. The top online banks pass on (some portion of) the savings to customers, which means more interest income in your pocket.

### *Lower Fees*

Due to the low cost structure of internet-only banks, they receive lower fees than their customers do.

### *Good Technology*

The best internet-only banks always follow technology to make the online experience easier and safer. In the latter of these, technology makes more money. They use the latest hardware / software solutions from internet-only banks to help customers choose themselves.

### *Money management*

It is always easier to monitor and manage your money when your bank is online. They can be checked at any time and frequency. Most internet-only banks offer the ability to download a transaction that feeds money management software such as Quicken. Internet-only banks offer real-time alerts that can be set to alert you to events set by the customer when your account balance is running low or when an undesired payment is made.

Considering the disadvantages of Internet-Only Banks while many people prefer internet-only banks convenience, there are some disadvantages:

#### *No branch*

Some people prefer to do banking transactions face to face. Some may see bank branches as a social environment. Some of them may want to ask directly to the person concerned. Some people may go to the banking office because of their money in the bank and expect a smile or interest.

#### *Computerphobes*

Some folks who grew up before the Internet age (and some younger people as well) might find computers and mobile apps confusing or threatening. If a computer keyboard causes you to break out in a sweat, you will be comforted by the fact that you can do all your banking at a branch without the need to acquire any computer skills.

#### *ATM's*

Many internet-only banks are located in a widely accessible ATM network where transactions can be made free or payable. However, some people find it more reliable to conduct transactions at a bank with ATMs.

#### *Limited Product Offers*

Many online banking services prefer to keep the bank simple and limit its services to the most commonly used banking products. For example, services offered by bank branches such as mortgage, car loans, insurance and annual payments are not available in some internet-only banks. However, because the services offered internet-only banks are also different, people prefer internet-only banks that offer the full range of services they need most.

### *No Safety Deposit Boxes or Currency Exchange Services*

Internet-only banks do not have the capacity to make security purchases or physical currency purchases from services provided by physical bank branches. However, online banking is easy to use, as Amerika or Europe has the opportunity to make non-bank currency transactions in most major cities. Particularly frequent travelers prefer bank branches where they can make physical currency exchanges.

### *Due diligence*

Finance organizations that have been in existence for many years have been more reliable by customers. For example while people are not questioned about the legitimacy of Citibank or Bank of America, people ask many questions, such as whether the internet-only bank is FDIC insured and whether there is a clear score with the regulators before using one of the best internet-only banks.

### *Customer service*

Internet-only banks differ from customer support services offered by other banks on the quality of customer service. Many internet-only banks are available 24 hours a day via direct phone support, e-mail or chat. Those who want to receive a one-sided customer support service prefer benches with branches.

An example of Internet-only banks is the Ally online bank, which is the most recognized in the world.

**Ally Bank:** Ally Bank is one of the best internet-only banks located in Utah, with no branches and FDIC insured. Savings at high ratios are widely preferred by owners. It also offers mobile application services to its customers.

### *History of Ally Bank*

As part of GM, General Motors Acceptance Corporation (GMAC), the pioneer of Ally Bank, began operations in 1919 with the aim of helping franchisees finance their

inventories and facilitating the use of car loans by consumers. In the 1930s, the concept of vehicle cost from basic models to luxury models was announced. During the Second World War, GMAC supported the financing of vehicles such as locomotives, trucks, tanks, planes and submarines. In 1956, he brought car loans to the time. In 2000, he opened Ally Bank's subsidiary and in 2009 changed GMAC Bank to Ally Bank. Ally Bank soon changed to Ally Financial. Ally Bank was founded in 2014 as a publicly traded company and today is the best internet-only bank with \$ 63 billion customer deposits.

#### *Products Offered:*

**Check Services:** The check fee offered by Ally is both low for transaction fees and the bank interest for deposits in the account. It earns 0.10 per cent for the lower than US \$ 15,000 and 0.60 percent for the high-ranking bearer. ATMs included in the Allpoint ATM network are free to use. Ally eCheck Deposit can be used remotely control the checks, and the money can be transferred via Popmoney. The cost of credit withdrawal is US \$ 25.

**Savings:** The Ally Online Savings Account pays 1.00 APY per day for the entire balance. The Bank has no charges or fees. However, with the exception of checks, more than six daily outgoing transfers are charged at a monthly fee of US \$ 10. Ally offers three CD types. The standard CD gives the highest rate up to 1.75 percent. On the Increase Your CD, you are allowed to increase the APY once or twice so that the current rates can be met. In the case of the third type CD, an early withdrawal fee is exempted.

**Other Products:** Ally Bank offers a Visa CashBack credit card that offers cash refunds of 1 percent on grocery stores and petrol stations and 2 percent on all other purchases. A bonus is offered at various rates and amounts according to the amount of spending made by Ally bank and the spending periods. AllyBank credit card is compatible with popular e-wallets. In addition, Ally Bank offers car purchasing and rental services for individuals, businesses, and vehicle service contracting services. The Bank also provides mortgage exports and mortgage refinancing services.

**Table 3.1: Pros and cons of Ally Bank**

| PROS                                                                                                                                                                                                 | CONS                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>- There is no balance limit</li><li>- No monthly maintenance fees</li><li>- Offering free service from 43,000 ATMs.</li><li>- Mortgage and car loans</li></ul> | <ul style="list-style-type: none"><li>- A fee of \$ 10 per month is charged for more than 6 transfers, excluding checks.</li><li>- There is no cash deposit mechanism.</li></ul> |

Internet-only banks are presented below in other examples:

Barclays: A huge global financial company headquartered in London. It runs an American internet-only bank called Barclays Bank of Delaware. Barclays' accounts are FDIC-insured, and the bank offers savings products only, no checking accounts. It has no branches or ATM network.

Capital One 360: A top-rated internet-only bank. It also has branches in eight states and Washington, D.C. The bank is FDIC-insured and offers a mobile app.

Discover: An internet-only bank (except for a single branch office in Greenwood, Delaware) that offers a full array of banking products. It issues the fourth largest credit card in the U.S.; the Discover Card. Discover Bank is a member of the FDIC.

Synchrony: An internet-only bank with a single branch in Bridgewater, NJ. It offers FDIC-insured savings products, but no checking accounts. Mobile check deposit is available. The Synchrony Bank ATM network allows you freely use your ATM card on machines with the Plus, NYCE or STAR logos. You receive up to \$5 a month reimbursement for out-of-network ATM fees.<sup>25</sup>

---

<sup>25</sup> <https://letstalkpayments.com/a-list-of-mobile-only-banks/>, Accessed At: 17 January 2018.

#### **3.4.4 GSM Banking**

New products and technologies related to GSM have begun to be developed in the field of banking, and phone banking has the opportunity to gain a wider customer base, as product developers have noticed mobile phones as the closest and general means of communication between the bank and its customers. The system, which is used by using GSM networks, especially short message systems (SMS), can give all kinds of information about banking in writing from the screen of mobile phone as well as it can be used for marketing purposes (Erdoğan 2004).

With the application of GSM banking, banks can provide services such as periodical informing, interactive inquiry and intelligent warning mechanism to the customers. Accordingly, banks provide customers with the requested information (such as exchange rate, balance, payment date, etc.) or special deliveries (such as birthday, New Year, etc.) within the periodical information provided by the customers when they use the service.

In interactive inquiry, customers can receive the information they want about banking transactions by sending a text message to a number specified by their bank. For example, when a message is sent to the short message service about services such as exchange rate, balance, the bank short message server that receives this message transmits the data to the mobile phone of the customer automatically. In the service of intelligent warning mechanism; if the customer falls below a specified value or if he / she reaches the EFT account he / she expects, the system informs the customer of the change in this message (Erdoğan 2004).

#### **3.4.5 WAP Banking (Wireless Connection Protocol)**

Mobile banking is realized in three different ways. The second way is to make transactions on the internet via mobile phones that support WAP, and the third and last way is to make transactions on the internet with the computers called palmtop (palm) Özcan (2007). WAP banking is also a new technological development that has emerged in the framework of telephone banking applications and is one of the important points reached in the banking sector by using telephone. Accordingly, the result of associating wap technology, a global access protocol that enables mobile phone users to access information services and sites on the internet with wireless devices, is associated with

banking services in the virtual world, allowing customers to perform banking transactions using mobile phones that offer WAP services anytime and anywhere. In order for bank customers to have access to wap banking services, they must have a wap compatible mobile phone, open this phone to data communication with a message from a GSM operator, and make connection settings with the bank once they are done. After fulfilling these transactions, customers can benefit from any kind of banking services offered by banks through WAP (Yıldırım 2006).

### **3.5 PREPARATION OF CUSTOMERS AND CUSTOMERS IN MOBILE BANKING APPLICATIONS**

Today, there is a rapid transition from classical banking to electronic banking. Banks aiming to provide maximum service to customers are looking for ways to go to the customer's feet and serve him (Aksoy 2007). The rapid development of branchless banking channels (internet banking, mobile banking, telephone banking) in recent years shows that the usage for future years is inevitable in many countries. Today, branchless banking services have remained indifferent to the extraordinary developments experienced in technology, and the unprecedented success story of the past ten years has been the spread and speed of internet and mobile phone usage. More than 80% of the world's population is now mobile. GSM Kumasi (GSMA) reported in 2009 that there are more than 4 billion mobile subscribers worldwide, mostly 80% of new connections in emerging markets and mostly low-income consumers (Akin and Karaboğa 2011).

The ability to use alternative distribution channels as desired and to create the targeted effect is undoubtedly dependent on the ability of customers to benefit from these channels accurately and effectively. Alternative distribution channels will be an innovation for all customers, not just for branch beneficiaries. The presentation and acceptance of these feedstuffs by the municipality brings with it a variety of consequences for the bank. Because the bank will offer, both these new products and they will be in the effort of accepting these products to the customers. He has to do this without missing, convincing and educating the customer. The use of alternative distribution channels requires little technical knowledge. Nowadays, the banks, benefiting from these channels, (Korkmaz and Gövdeli 2004), by introducing the attractive aspects of using these products, especially by telling them to the branches, by hanging brochures promoting products to

the branches as customers can see them, by giving promotional advertisements to press organizations and by using announcement panels outside the branches.

In internet banking, there is a significant advantage with additional convenience as freedom in time and space limitation. Mobile banking, on the other hand, brings the advantage of mobility. The advantages of mobile banking mean that it must be better than mobile banking, the old innovation. Internet banking provides convenience and efficiency for the customers. Mobile banking can improve the communication efficiency of customers with the bank. Perceived risk is an important factor affecting the adoption of mobile banking. Customer behavior and research on the adoption of electronic banking have shown that customers are a number of factors predicting individual behavior toward online and mobile banking, such as the individual acceptance of new technology and the demographic-motivation and behavior of a person against different banking technologies (Akın and Karaboğa 2011).

One of the most important changes in banking is the move towards using electronic distribution channels such as internet, telephone and mobile phone. Especially among these, the concept of internet banking, which has been increasing in usage over the last fifteen years, is expressed as bank customers making bank transactions via internet. Although the internet banking application has been implemented in Turkey since 1997, it is seen that the level of utilization of this service is low. It is claimed that 64% of Internet users in Canada are in Turkey, whereas in Turkey, 14% of them use internet banking according to SPO reports. It is of utmost importance to investigate the reasons for this and to identify the factors that affect the use of internet banking. With the internet banking services offered in Turkey, it is necessary to reveal the directions that customer loyalties do not like and dislike (Pala and Kartal 2010). These situations are the same for mobile banking applications. For this reason, services such as advertisement brochures, booklets, information pages for use on the internet and 24-hour counseling offices are prepared in the preparation of mobile application customers. However, this process in developing countries is inadequate.

## **4. METHOD AND DATA**

The aim of this study is to examine the customer's readiness for digital banking services. The method of research consists of theoretical framework, data collection techniques and data analysis. This research will be modelled according to the descriptive method. Data is gathered by questionnaire without changing any of the existing features of the subjects and the subjects are asked to take their views on the present situation. In this context, the study is based on the descriptive screening model.

### **4.1 MODELING AND HYPOTHESES OF RESEARCH**

These are the main hypothesis formed to be tested for this research;

- i. H1A: There are significant differences between the means of mobile banking perception and the participants' genders.
- ii. H1B: There are significant differences between the means of mobile banking perception and the participants' ages.
- iii. H1C: There are significant differences between the means of mobile banking perception and the participants' educational status.
- iv. H1D: There are significant differences between the means of mobile banking perception and the participants' monthly income.
- v. H1E: There are significant differences between the means of mobile banking perception and the participants' and the level of knowledge about mobile banking services.

### **4.2 UNIVERSE AND SAMPLING**

In scientific studies, the sample volume is determined by the formula in cases where the number of main mass units and the parameters belonging to the sampling are known. For this research, convenience sampling has been used. The total number of individuals in the population in Istanbul is 15,000,000 and the sample volume should be 384. However, because of the time constraint the questionnaire could be made to 300 people who formed the sample cluster for this research.

### **4.3 DATA COLLECTION TOOLS**

The data collection tool used in our research is the questionnaire method. Before the questionnaire was prepared, the previous researches on this subject were examined and the applications of the authors were researched. According to them, the questionnaire has formed in two sections. In the first section, it is aimed to determine the demographic features of the persons who answered the questions. In the second part, there are 14 questions about the mobile banking service perceptions of the customers. Questions about perceptions were used with 5-point Linkert scale. The collected data was analyzed with SPSS 24.0 (Statistical Package for The Social Science).

#### **4.3.1 Personal Information Form**

The first section of the questionnaire is about the personal information. In this section questions about gender, age, educational status, monthly income, which transactions used in any bank channel, if person using/not using mobile banking service and the reasons of not using the mobile banking services asked to the participants.

#### **4.3.2 Personal Information Form**

In this study, the SITEQUAL model was used to measure the perceptions of customers using digital mobile banking services. The SITEQUAL was first developed by Yoo & Donthu "SITEQUAL" (Yoo & Donthu, 2001) to measure perceived quality of internet shopping site. As a psychometrically sound instrument, it is also applicable for our research. In this research, it is aimed to scale suitability, security and ease of use for mobile banking services. For this aim, 14 questions about the suitability, security and ease of use of mobile banking service perceptions are asked to customers. Their perception try to be scaled with 5-point Linkert scale.

### **4.4 RESOLUTION OF DATA**

According to find answer for research hypothesis, firstly the perceptions of participants will be divided into meaningful parts by factor analyses. Then according the results the suitability, security and ease of use for mobile banking defining statistics are inspected. While these process the outcome dimensions of the scale will be checked for normality by Kolmogorov-Smirnov Z test. Addition to this to define the perceptive differentiation for mobile banking services of customers will be analyzed through their demographic

features by Independent Samples T Test and One-Way Kruskal-Wallis tests. All through the research, the significance level will be %0,5.



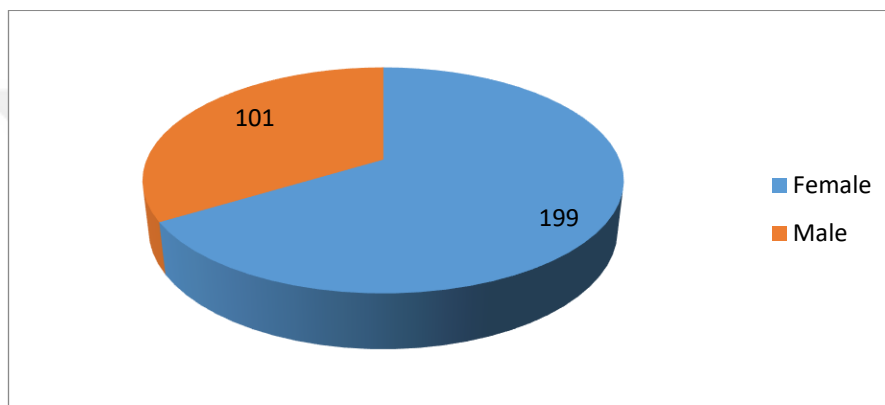
## 5. FINDINGS AND COMMENT

### 5.1 FREQUENCY DISTRIBUTIONS OF DEMOGRAPHIC CHARACTERISTICS

#### 5.1.1 Findings Related to Sex

In Figure 5.1 we can see that 66.3% of the sample were females (199 person) and 33.7% were males (101 people).

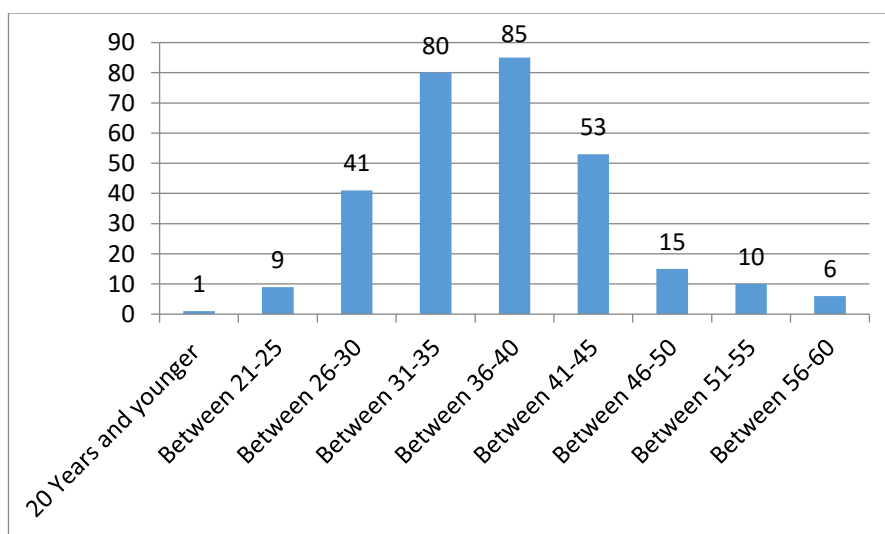
**Figure 5.1: Gender frequency**



#### 5.1.2 Age Related Findings

In Figure 5.2 we can see that more than half (%55) of the participants age between 31-40 years old.

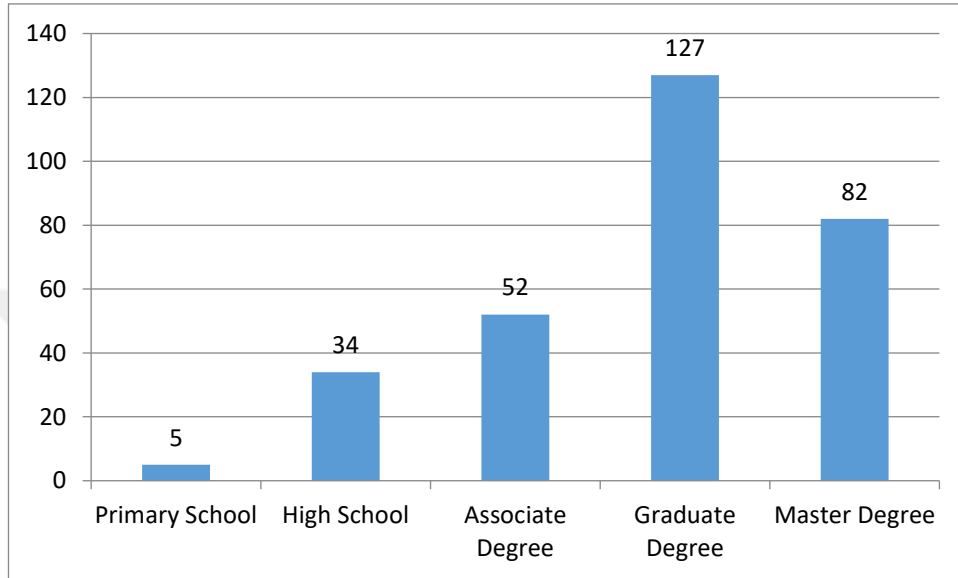
**Figure 5.2: Age frequency**



### 5.1.3 Educational Findings

In Figure 5.3 we can see that more than %70 of participants have graduate or master degree. The education level is much higher than that of Turkey.

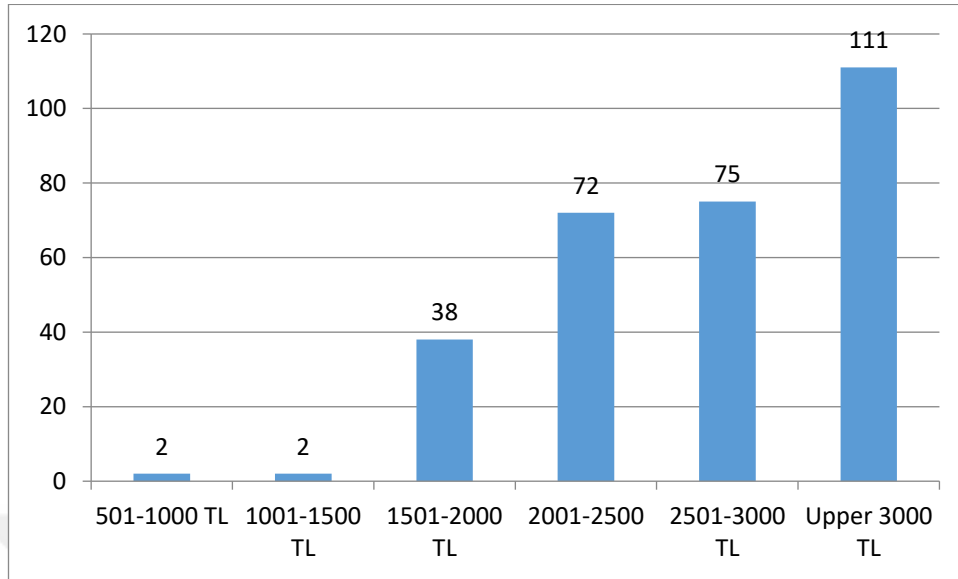
**Figure 5.3: Educational status frequency**



### 5.1.4 Findings Related to Monthly Income

In Figure 5.4 we can see monthly income frequencies of participants. Most of the participants (%86) monthly income is above 2000 TL.

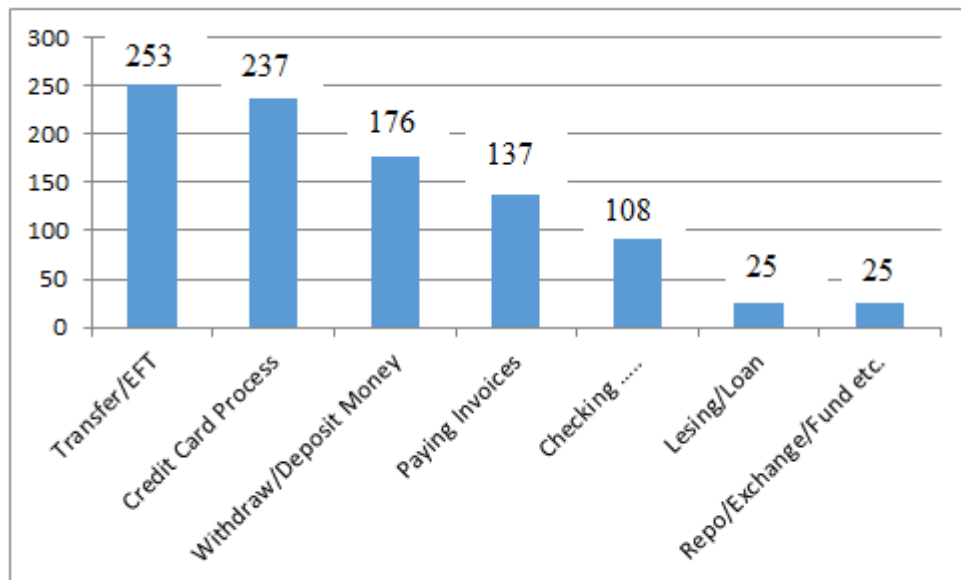
**Figure 5.4: Monthly income frequency**



#### **5.1.5 Findings Related to The Transactions Used in Bank Channel**

In Figure 5.5 we can see the transactions used in any bank channel of participants. The participants generally (%50,9) use the transactions of money transfer and credit card process in any bank channel.

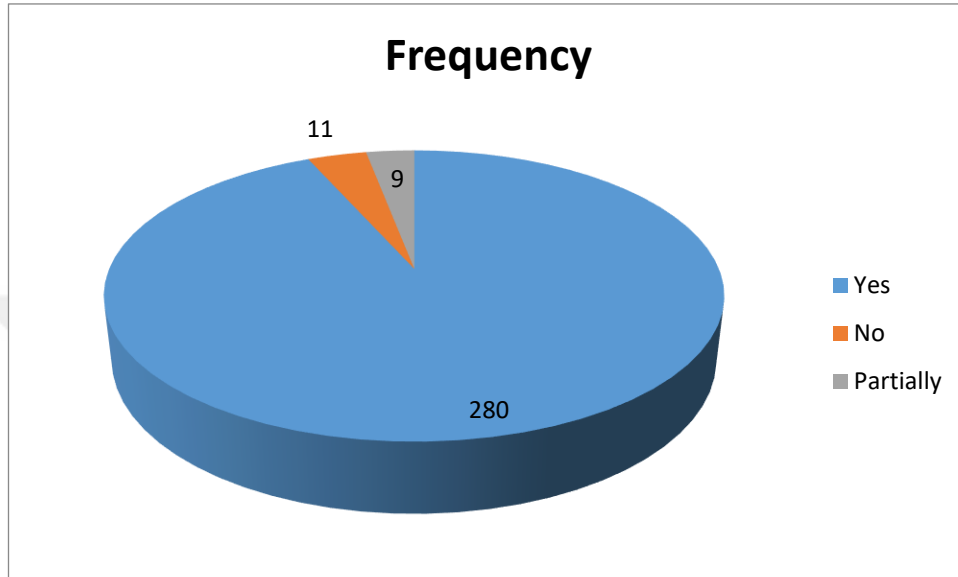
**Figure 5.5: Frequency of the transactions used in any bank channel**



### 5.1.6 Findings on the Information on Mobile Banking Services

In Figure 5.6 we can see that %93,3 of participants have enough information about mobile banking services.

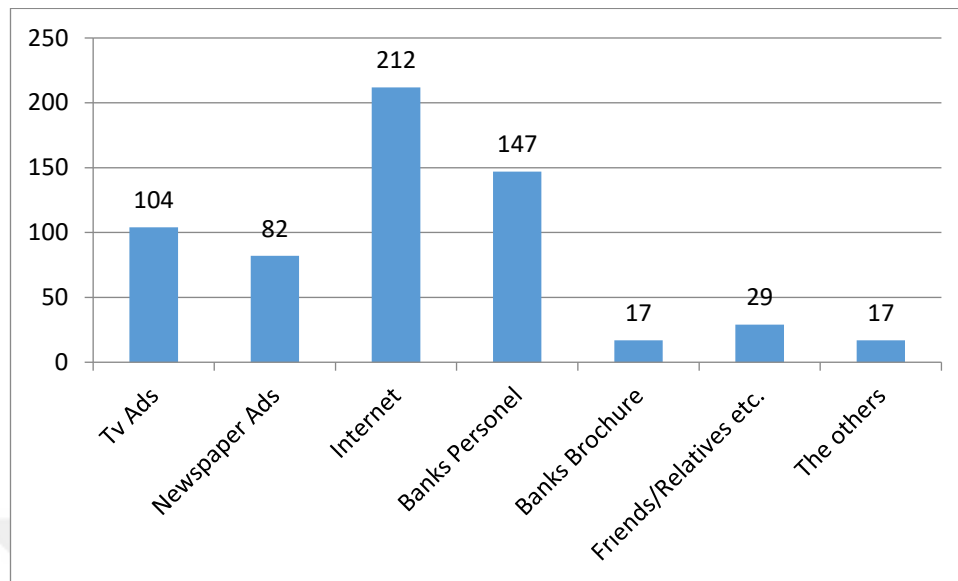
**Figure 5.6: Having enough information about mobile banking services frequency**



### 5.1.7 Findings About The Source of Information About Mobile Banking Services

In Figure 5.7 we can see that the information about mobile banking services mostly obtained by customers via internet with %34. Secondly bank employee gives the customers this information probably during bank branch process.

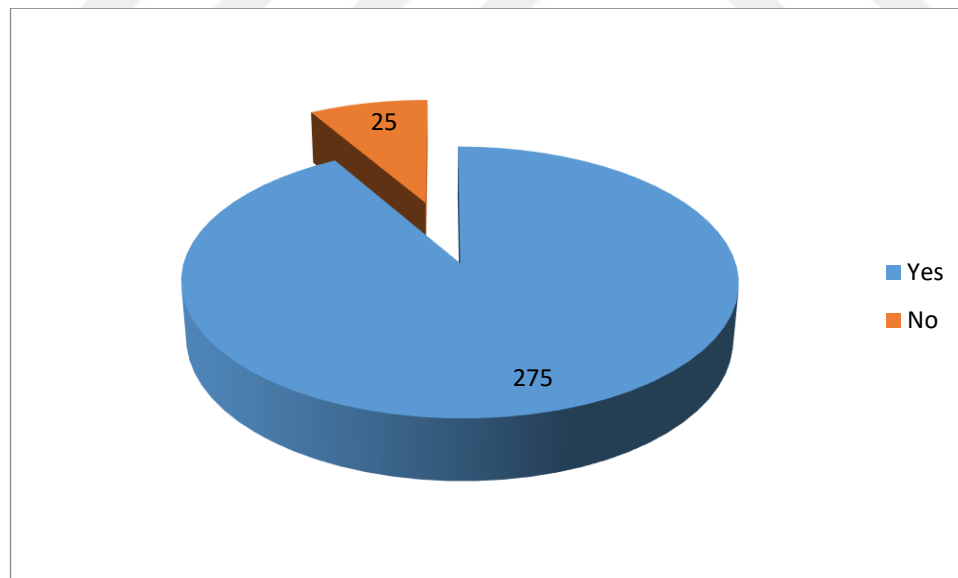
**Figure 5.7: Findings about the source of information about mobile banking**



#### **5.1.8 Findings On The Use Of Mobile Banking Services**

In Figure 5.8 we can see that %91,7 of participants use mobile banking services.

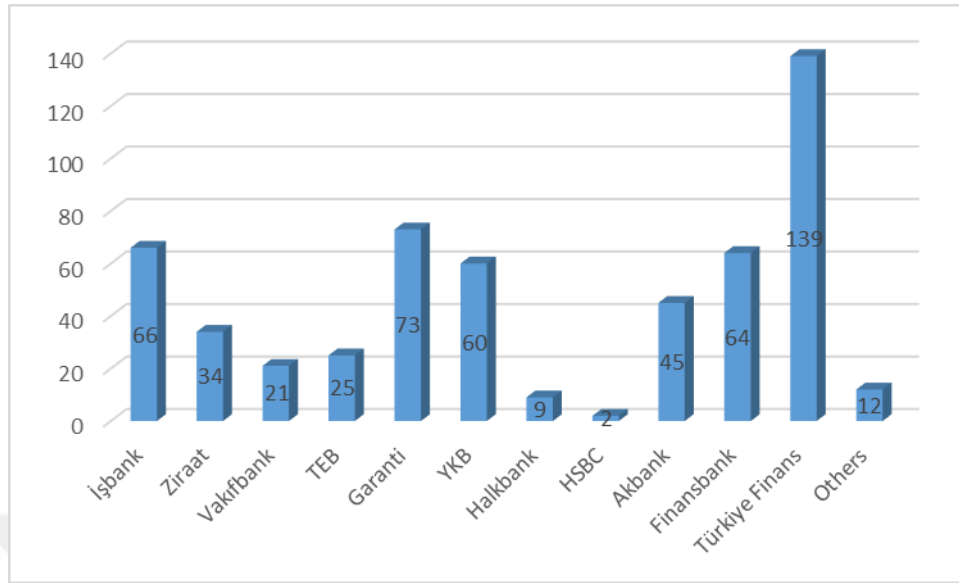
**Figure 5.8: Frequencies of mobile banking services usage frequency**



#### **5.1.9 Findings Related To The Bank Where Mobile Banking Service Is Used**

In Figure 5.9 we can see that the frequencies of banks participants used for mobile banking services.

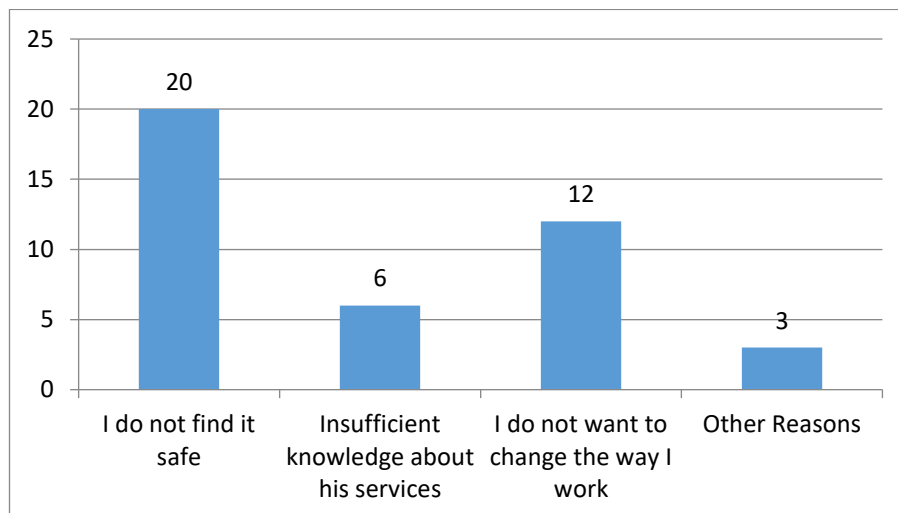
**Figure 5.9: Frequencies of used bank for mobile banking services**



#### **5.1.10 Findings On Why Mobile Banking Services Are Not Utilized**

In Figure 5.10 we can see the frequency of reasons of not taking advantage of mobile banking services of the participants. Among 41-answer %50 of the participants answered not finding safe the mobile banking services.

**Figure 5.10: Frequencies of reasons of not taking advantage of mobile banking services**



## 5.2 FACTOR ANALYSIS RESULTS

Factor analysis is a multidimensional method that allows variables to be interpreted in a more meaningful, easy, understandable, and abstract way, based on the relationship between variables. Before the factor analysis, the data set should be checked for suitability and there are three methods are used to evaluate it. These are correlations matrix formation, the Bartlett test and the Kaiser-Meyer-Olkin (KMO) test. The Bartlett test shows that at least some of the variables in the correlation matrix the probability of a high correlation between the two. The Kaiser-Meyer-Olkin (KMO) test showed that the correlation coefficients is a sample adequacy criterion that compares the partial correlation coefficients. The KMO ratio should be over 0.50. How high is this rate? It is more convenient to apply factor analysis to the data set. KMO and Bartlett's test is executed to measure of sampling adequacy for factor analysis.

**Table 5.1: KMO and Bartlett's test for factor analysis**

| KMO and Bartlett's Test                          |                    |          |
|--------------------------------------------------|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | ,887     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 6977,971 |
|                                                  | df                 | 91       |
|                                                  | Sig.               | ,000     |

As it can be seen in the Table 5.1 the KMO value is 0,887 which is higher than 0,5 so the sample data is adequate for factor analyses. In addition to the Bartlett Test significance value is less than 0,5 which also shows adequacy of sampling.

After these analyses, the second stage is to determine the factors. The goal in this phase is to get few factors to best represent the relationships between variables. Factor analysis gives us the ability to interpret the answers given by the participants less than the factor of 14 instead of using all variables. The factor analyses is executed and as it seemed in the Table 5.2 the ratio of total variance explained is % 83,827.

After Principal Component Analysis rotated component matrix is obtained by varimax rotation method with Kaiser Normalization. This matrix is the latest state of factor analysis. Correlations between the original variable and its factor are seen in the matrix. If the variable has the greatest weight as the absolute value under which factor, that variable is in close relation to that factor. Weights of 0.50 and above are considered to be quite good. Accordingly, it is shown in Table 5.2 that which variable has the highest weight under which factor level. As can be seemed in the Rotated Component Matrix below both of the factors weights are greater than 0,5. The statements in the scale splits into 2 factors. First factor name is determined as “Ease of use and suitability ” and Second factor name is determined as “security”. First factor consists of 11 variables and second one consists of 3 variables as seemed in the Table 5.2. At first we aimed to have the third factor of availability but according to analyse result it seems that availability is more perceived as “ease of use and suitability” factor by the participants of the research.

**Table 5.2: Rotated component matrix<sup>a</sup>**

| <b>Rotated Component Matrix<sup>a</sup></b>         |                                              |                  |          |
|-----------------------------------------------------|----------------------------------------------|------------------|----------|
|                                                     | <b>Variables Of Factors</b>                  | <b>Component</b> |          |
|                                                     |                                              | <b>1</b>         | <b>2</b> |
| <b>Factor 1:<br/>Ease of Use and suitability</b>    | Usefull Because Dont Need To Go To Bank      | 0,926            | 0,257    |
|                                                     | Usefull Because Not Restricted In An Area    | 0,910            | 0,299    |
|                                                     | More Efficient Because Saves Time            | 0,909            | 0,296    |
|                                                     | Ease The Life As An Application              | 0,887            | 0,346    |
|                                                     | More Efficient Because Could Be Used 7/24    | 0,886            | 0,314    |
|                                                     | Ease Doing The Bank Process                  | 0,853            | 0,431    |
|                                                     | Shortens The Time of Banks Process           | 0,802            | 0,387    |
|                                                     | Saves From Tiring and Bureucratic Procedures | 0,754            | 0,387    |
|                                                     | Easy To Learn Using Mobile Banking           | 0,676            | 0,544    |
|                                                     | I Use It Because I Like To Use New Tecnology | 0,657            | 0,444    |
|                                                     | Process Time Is Understandable               | 0,649            | 0,621    |
| <b>Factor 2<br/>Security</b>                        | Personel Info Is Protected While Process     | 0,209            | 0,921    |
|                                                     | Mobile Service Security Is Satisfactory      | 0,313            | 0,852    |
|                                                     | Do Not Have Doubt About Secure Process       | 0,456            | 0,809    |
| Extraction Method: Principal Component Analysis.    |                                              |                  |          |
| Rotation Method: Varimax with Kaiser Normalization. |                                              |                  |          |
| a. Rotation converged in 3 iterations.              |                                              |                  |          |

### **5.3 FINDINGS**

This chapter will outline the main results of the analysis. It will be structured in three segments. Firstly, the descriptive statistics of the sample will be briefly explained. Secondly, the results of the factor and reliability analyses will be presented. After factor and reliability analysis, correlation analysis was also placed to show if there is a correlation between the parameters. Finally, the results of the regression analyses will be presented to show the relationship between the constructs in the hypothesized model.

#### **5.3.1 Descriptive Analysis**

The questionnaire was done to a appropriate sample of 300 respondents contacted, after deciding the preciese the data, the final usable sample was collected from 300 persons of different demographics who evaluate their perception of mobile banking usage. The sample consisted of male and female consumers from all ages from Turkey.

**Table 5.3: Descriptive statistics of scale**

| Descriptive Statistics                     |     |      |           |      |      |
|--------------------------------------------|-----|------|-----------|------|------|
|                                            | N   | Mean | Std. Dev. | Min. | Max. |
| Easy To Learn Using Mobile Banking         | 300 | 4,26 | ,960      | 1    | 5    |
| Process Time Is Understandable             | 300 | 4,28 | ,925      | 1    | 5    |
| Personel Info Is Protected While Process   | 300 | 3,97 | 1,106     | 1    | 5    |
| Mobile Service Security Is Satisfactory    | 300 | 3,88 | ,966      | 1    | 5    |
| Do Not Have Doubt About Secure Process     | 300 | 4,02 | ,966      | 1    | 5    |
| Shortens The Time Of Banks Process         | 300 | 4,51 | ,816      | 1    | 5    |
| More Efficient Than Because Used 7/24      | 300 | 4,58 | ,803      | 1    | 5    |
| Usefull Because Dont Need To Go To Bank    | 300 | 4,63 | ,818      | 1    | 5    |
| More Efficient Because Save Time           | 300 | 4,65 | ,823      | 1    | 5    |
| Usefull Because Not Restricted In An Area  | 300 | 4,62 | ,819      | 1    | 5    |
| Ease Doing The Bank Process                | 300 | 4,51 | ,807      | 1    | 5    |
| Ease The Life As An Application            | 300 | 4,61 | ,792      | 1    | 5    |
| Saves From Tiring And Brocratic Procedures | 300 | 4,45 | ,929      | 1    | 5    |
| I Use Because I Like To Use New Tecnology  | 300 | 4,15 | 1,097     | 1    | 5    |

### 5.3.2 Data Analysis

Data was analyzed using SPSS 24.0 and expolarotary factor and reliability analyses were followed by regression analysis.

#### 5.3.2.1 Reliability analysis

Reliability is a prerequisite for validity. Reliability refers to the consistency of a scale, indicating that it will always yield the same results. In our study, the item statistics method was used to make internal consistency test from reliability approaches. The Cronbach

Alpha coefficient, which is especially suitable for the index type instruments, is used for the reliability calculations made with the item statistics. In the Alpha method, the relationship with the items is calculate. The scale reliability analyses executed for two factors. The reliability analyzes of the factors show that all the Cronbach's alpha values are higher than 0,6. Thus, it can be said that the questionnaire scale's reliability and validity is ensured.

#### **5.3.2.2 Normality test**

To check the normality of "Ease of use and suitability" and "Security" factors Kolmogorov Smirnov test is used. According to results the significance value of both factors found 0,000 it means test of normality is negative and factors did not distributed normal. Since these values are less than 0.05, we have to use nonparametric test methods for further anlyses of variances across groups. So instead of Independent Sample T-test and One-Way Anova test , Independent Samples Mann-Whitney U test and Independent Samples Kruskal-Wallis tests will be used to anlyses of variances across groups.

### **5.4 TESTING OF RESEARCH PROBLEMS**

Hypothesis are tested to find the differences between groups by Independent Samples Mann-Whitney U and Independent Samples Kruskal-Wallis tests according to gender, age, monthly income, educational status,and level of knowledge about mobile banking services.

#### **5.4.1 Differences According To Gender**

The hypothesis in the research and their analyses results for the "Gender" variable are listed below Table 5.4 The hypothesis is analysed by Independent Samples Kruskal-Wallis tests.

Independent Samples Kruskal-Wallis tests is executed to assess whether the average for determined factors on the gender groups differ.

**Table 5.4: Hypothesis related to gender and their results**

| <b>Hypothesis Related to Gender</b>                                                                                                                                 | <b>Method</b>       | <b>P value</b> | <b>Mean of Groups</b>       | <b>Result</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|-----------------------------|---------------|
| <b>H1<sub>A1</sub>:</b> There are significant differences between the means of mobile banking security perception and the participants' genders.                    | Mann Whitney U Test | 0,689          | Female: 3,93<br>Male : 3,98 | Rejected      |
| <b>H1<sub>A2</sub>:</b> There are significant differences between the means of mobile banking ease of use and suitability perception and the participants' genders. | Mann Whitney U Test | 0,768          | Female: 4,47<br>Male : 4,48 | Rejected      |

First Independent Mann Whitney U test results show that the mean of security factor variables don't differentiate between males and females so H1<sub>A1</sub> hypothesis is rejected.

Second Independent Samples Mann Whitney U test results also show that the mean of security factor variables don't differentiate between males and females so H1<sub>A2</sub> hypothesis is also rejected.

#### **5.4.2 Differentiation According To Age**

The hypothesis in the research and their analyses results for the "Age" variable are listed below Table 5.5 The hypothesis is analysed by Independent Samples Kruskal-Wallis test. Independent Samples Kruskal-Wallis test is executed to assess whether the average for determined factors on the age groups differ.

**Table 5.5: Hypothesis related to age and their results**

| Hypothesis Related to Age                                                                                                                                       | Method                                  | p value | Mean of Groups                                                                                                               | Result   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>H1<sub>B1</sub>:</b> There are significant differences between the means of mobile banking security perception and the participants' age.                    | Independent Samples Kruskal-Wallis test | 0,002   | 21-25 : 3,07<br>26-30 : 4,15<br>31-35 : 4,04<br>36-40 : 3,98<br>41-45 : 4,10<br>46-50 : 3,62<br>51-55 : 3,20<br>56-60 : 3,44 | ACCEPTED |
| <b>H1<sub>B2</sub>:</b> There are significant differences between the means of mobile banking ease of use and suitability perception and the participants' age. | Independent Samples Kruskal-Wallis test | 0,974   | 21-25 : 4,74<br>26-30 : 4,54<br>31-35 : 4,56<br>36-40 : 4,51<br>41-45 : 4,48<br>46-50 : 4,07<br>51-55 : 3,64<br>56-60 : 4,45 | REJECTED |

First one-way Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differantiate between the age groups so H1<sub>B1</sub> hypothesis is accepted. Then to find the differantiating group Tukey test is executed. According to Tukey test result the age groups between 21-25 group makes the difference with their security perception of mobile banking, it is lower than the graduate and master degree participants.

Second Independent Samples Kruskal-Wallis test results show that ease of use and suitability factor does not show differences so H1<sub>B2</sub> hypothesis is rejected. So there are no difference between the age groups about their perception for ease of use and suitability factors of mobile banking services.

### 5.4.3 Differentiation According To Educational Status

The hypothesis in the research and their analyses results for the “Educational Status” variable are listed below Table 5.6 The hypothesis is analysed by Independent Samples Kruskal-Wallis test.

Independent Samples Kruskal-Wallis test is executed to assess whether the average for determined factors on the educational status groups differ.

**Table 5.6: Hypothesis related to educational status and their results**

| Hypothesis Related to Educational Status                                                                                                             | Method                                  | P value | Mean of Groups                                                                                                           | Result   |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------|----------|
| <b>H1c1:</b> There are significant differences between the means of mobile banking security perception and the participants' educational status.     | Independent Samples Kruskal-Wallis test | 0,004   | Primary School : 3,53<br>High School : 3,44<br>Associate Degree : 3,87<br>Graduate Degree : 4,04<br>Master Degree : 4,12 | ACCEPTED |
| <b>H1c2:</b> There are significant differences between the means of mobile banking ease of use perception and the participants' educational status . | Independent Samples Kruskal-Wallis test | 0,010   | Primary School : 3,98<br>High School : 4,07<br>Associate Degree : 4,49<br>Graduate Degree : 4,55<br>Master Degree : 4,56 | ACCEPTED |

First one-way Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differantiate between the educational status groups so H1c1 hypothesis is accepted. Then to find the differantiating group Tukey test is executed. According to Tukey test result the High School group makes the difference with their security perception of mobile banking, it is lower than the graduate and master degree participants.

Second Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differantiate between the age groups so H1c3 hypothesis is accepted. Then to find the differantiating group Tukey test is executed. According to Tukey test result

the High School group makes the difference with their security perceptives of mobile banking, it is lower than the graduate and master degree participants.

#### 5.4.4 Differences According To Monthly Income

The hypothesis in the research and their analyses results for the “Monthly Income” variable are listed below Table 5.7 The hypothesis is analysed by Independent Samples Kruskal-Wallis. It is executed to assess whether the average for determined factors on the monthly income groups differ.

**Table 5.7: Hypothesis related to monthly income and their results**

| Hypothesis Related to Monthly Income                                                                                                                       | Method                                  | P value | Mean of Groups                                                                                                                         | Result   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------|----------|
| <b>H1<sub>D1</sub>:</b> There are significant differences between the means of mobile banking security perception and the participants’ monthly income.    | Independent Samples Kruskal-Wallis test | 0,760   | 501-1000 tl : 4,00<br>1001-1500 tl : 3,33<br>1501-2000 tl : 3,88<br>2001-2500 tl : 3,86<br>2501-3000 tl : 4,04<br>Upper 3000 tl: 4,00  | REJECTED |
| <b>H1<sub>D2</sub>:</b> There are significant differences between the means of mobile banking ease of use perception and the participants’ monthly income. | Independent Samples Kruskal-Wallis test | 0,311   | 501-1000 tl : 3,45<br>1001-1500 tl : 4,38<br>1501-2000 tl : 4,44<br>2001-2500 tl : 4,53<br>2501-3000 tl : 4,54<br>Upper 3000 tl : 5,00 | REJECTED |

First Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differantiate between the monthly income groups so H1<sub>D1</sub> hypothesis is rejected.

Second Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differantiate between the age groups so H1<sub>D2</sub> hypothesis is also rejected. As a result monthly income variable level does not make difference in their security and ease of use and suitability perception.

#### 5.4.5 Differences According To Level Of Knowledge About Mobile Banking Services

The hypothesis in the research and their analyses results for the “Level of Knowledge About Mobile Banking Services” variable are listed below Table 5.8 The hypothesis is analysed by Independent Samples Kruskal-Wallis test.

Independent Samples Kruskal-Wallis test is executed to assess whether the average for determined factors on the Level of Knowledge groups differ.

**Table 5.8: Hypothesis related to level of knowledge about mobile banking services and their results**

| Hypothesis Related to Level of knowledge about mobile banking services                                                                                                                        | Method                                  | p value | Mean of Groups                              | Result   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|---------------------------------------------|----------|
| <b>H1<sub>E1</sub></b> : There are significant differences between the means of mobile banking security perception and the participants' level of knowledge about mobile banking services.    | Independent Samples Kruskal-Wallis test | 0,000   | Yes : 4,02<br>No : 2,97<br>Partially : 3,15 | ACCEPTED |
| <b>H1<sub>E2</sub></b> : There are significant differences between the means of mobile banking ease of use perception and the participants' level of knowledge about mobile banking services. | Independent Samples Kruskal-Wallis test | 0,000   | Yes : 4,54<br>No : 3,71<br>Partially : 3,29 | ACCEPTED |

First Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differentiate between the Level of Knowledge groups so H1<sub>E1</sub> hypothesis is accepted. Then to find the differentiating group Tukey test is executed. According to Tukey tests result the “Yes” group which has enough level of knowledge about mobile banking services makes the difference with their security percepts of mobile banking, it is higher than all the other groups as expected.

Second Independent Samples Kruskal-Wallis test results show that the mean of security factor variables differentiate between the Level of Knowledge groups so H1<sub>E2</sub> hypothesis is also accepted. Then to find the differentiating group Tukey test is executed. According to Tukey tests result the “Yes” group which has enough level of knowledge makes the difference with their ease of use and suitability perception of mobile banking, it is higher than the other groups as expected.

## 6. CONCLUSION

With the rapid change in technology, banking that uses intensive technology is at the forefront of the sectors most affected by this change. The use of technology at every point in the banking is the main reason for this influence. Parallel to the change process in the banking sector, the balance between branch and alternative distribution channels has begun to change. The importance given to having a widespread branch network in the past has left its place in alternative distribution channels with the technological transformation process. Today, digital and mobile banking are the first of the alternative distribution channels that stand out in the banking industry. Branches continue to preserve their traditional place with decreasing precaution. Internet and digital banking are the most important alternative distribution channels of modern times. This is followed by mobile banking. The use of digital and mobile banking is increasing day by day. Especially with the tendency of the pricing of transactions to become a judge in the banking sector, the customers who are closely following their financial costs tend to digital and mobile banking. In order to increase the usage of mobile and digital banking, it is important to make the bank transaction fees more attractive by following this trend. With the acceleration of digitization efforts, large-scale banks are expected to slow down or stop their branch network expansion efforts to focus more on branchless banking platforms, especially internet, digital and mobile banking, and to improve their investments in these areas.

Certainly the future of growing financial technology in Turkey and will be seen to increase investments in this area. The strong financial sector and banking system in the country will play a very important role in this growth. It is also known that contactless payments, location-based payments, wearable technologies and internet concepts of objects will take place more often in the world of the future. This will increase the importance of digitalization and financial technology several times over the coming years. When this positive picture is valued, it is possible to foresee that in the near future it will become a regional financial technology center, using the geopolitical advantage.

The fact that banks offer internet banking services must design web pages that are easy to understand and use by the customers, that are functional, that can be personalized and that offer a wide range of products and services transparently, and that they should never make concessions from the security infrastructure at the time of doing so, an irrefutable truth.

To say that customers who are abstaining from use due to lack of information about digital and mobile banking usage should be avoided by periodically informing and encouraging the customers about the great advantages that the banking and finance sector has developed about digital and mobile banking technologies. It will not be wrong.

This research is based on the descriptive screening model and the customer's perception for mobile banking services are examined. For the examination, a questionnaire is prepared according to literature. It had two section, personal information form section and sitequal scale statements section. This questionnaire is implemented to 300 people in Istanbul and the collected data was analyzed with SPSS 24.0 (Statistical Package for The Social Science).

According to demographic features frequency analyses of participants; 66.3% of the were females (199 person), more than half (%55) of the them age between 31-40 years old, their education level is much higher than that of Turkey that is more than %70 of participants have graduate or master degree and most of the participants (%86) monthly income is above 2000 TL. For the other frequencies in the first part, it is seemed that the participants generally (%50,9) use the transactions of money transfer and credit card processes in any bank channel. Among the participants %91,7 of them use mobile banking services, which is the main group of this research. In addition, %93, three of participants have enough information about mobile banking services which they got mostly (%34) from internet and in the second raw from bank's personnel (%24).

According to factor analyses the scale statements in the second part spitted into two factors with reliable and valid data. First factor named "Ease of use and suitability" and second factor named "security". Then test of normality of factor tested by Kolmogorov

Smirnov test and the distribution found non-normal. Since they are not normal, distributed alternative nonparametric tests, which are Independent Sample Man-Whitney U Test and Independent Sample Kruskal Wallis test, are used to see if there are significant differences between these two factors and the participants' demographic features.

At all 10 hypothesis are tested based upon the differences between ages, genders, educational status, monthly income and level of knowledge about mobile banking services and security, ease of use and suitability factor's perception of mobile banking. Based on the stated 2 factor's level of agree there are found significant differences in 5 hypotheses according to age, educational status, and level of knowledge about mobile banking services but there could no significant difference found in 5 hypotheses according to gender , educational status, and monthly income.

The groups in variables, which show differences according to the security factor level of agree, are:

1. The age group between 21-25 which is lower than all the other age groups,
2. High school educational status group which is lower than the graduate and master degree groups,
3. The group, which has enough level of knowledge about mobile banking services, it is higher than the other groups as expected.

These results show that while the younger and less educated people thinks that mobile banking services are not secure enough, the other group which has enough level of knowledge about mobile banking thinks it more secure. However, for the gender and monthly income variable groups the security perception does not differ between groups.

For the ease of use and suitability factor level of agree the differentiating/nondifferentiating groups are the same only with two exception of the age group does not makes the difference in ease of use and suitability factor level of agree. Moreover, the high school group does not show difference for ease of use and suitable factor.

According to the results of the questionnaire, we can conclude that the age, educational status and level of knowledge effects the mobile banking service perception for their security and ease of use and suitability of mobile banking. Moreover, the age group 21-25 are critical in perception level.

### **6.1 IMPLICATIONS FOR THEORY AND PRACTICE**

This study consists of an analysis of digital banking services and proposes strategies to increase the number of active customers and customer satisfaction. The implications of this study could be helpful particularly for bankers in the field of digital banking services. Mainly, this study offers a potential contribution to the alternative distribution channels usage and the perception of financial technologies and bank collaborations. Further, this study suggests explanations to the issue of positioning mobile banking while differentiating from other banking channels.

### **6.2 LIMITATIONS AND FURTHER RESEARCH**

For this research, the main limitation was getting enough reply number for the questionnaires. Therefore, for further research it could be limited to one mobile service-giving bank. If one brand name of bank is selected the research could be merely limited to some number of this banks branches in designated areas of Istanbul. This limitation will ease of collecting and getting detailed data for the questionnaire. And according our research result most of the people get information about mobile banking from banks personnel so for further research it could be also an idea to make face to face meeting with banks personnel to get their experiences in that subject.

## REFERENCES

### **Books**

- Akgüç, Ö. (1992). *100 Soruda Türkiye'de Bankacılık (Üçüncü Baskı)*. Gerçek Yayın Evi.
- Altan, M. (2001). *Fonksiyonel İşlemler Açısından Bankacılık*. Beta Yayınları.
- Altuğ, O. (2000). *Bankacılık*. Ankara: Sermaye Piyasası Kurulu Yayınları.
- Baker, D. I., Brandel, R. E., & Penney, N. (1988). *The Law of Electronic Fund Transfer Systems (No. 1)*. Warren Gorham & Lamont.
- Berk, N. (2001). *Bankacılıkta Pazara Yönelik Kredi Yönetimi*. İstanbul: Beta Basım Yayın Dağıtım AŞ.
- Birch, D. (2014). *Identity is the new money (Perspectives)*. London: London Publishing Partnership.
- Chishti, S., & Barberis, J. (2016). *The FINTECH Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries*. John Wiley & Sons.
- Ergin, F. (1982). *Kredi Sistemi*, Filiz Yayınevi, İstanbul.
- Evans, D. S., & Schmalensee, R. (2016). *Matchmakers: The New Economics Of Multisided Platforms*. Harvard Business Review Press.
- Green, E. (1989). *Banking: an illustrated history*. Phaidon Inc Ltd.
- Kaplan, İ. (1996). *Banka Sözleşmeleri Hukuku*. Dayınlarlı Hukuk Yayınları.
- Kirkman, P. (1987). *Electronic Funds Transfer Systems: The Revolution in Cashless Banking And Payment Methods*. Blackwell.

- Landau, S. & Everitt, B. (2004). *A Handbook of Statistical Analyses Using SPSS*. Chapman & Hall/CRC Press LLC.
- Öçal, T., Çolak, Ö. F., Togay, S., & Eser, K. (1997). *Para Banka Teori ve Politika*. Gazi Kitabevi, Ankara.
- Parasız, İ. (2001). *Enflasyon-Kriz-Ayarlamalar*. Ezgi Kitabevi.
- Şahin, H. (1997). *İktisat İlkelerine Bakış*. Ezgi Kitabevi Yayınları, Bursa,
- Skinner, C. (2016). *Valuweb: How Fintech Firms are Using Mobile and Blockchain Technologies to Create the Internet of Value*. Marshall Cavendish.
- Takan, M. (2001). *Bankacılık*. Nobel Yayınevi, Ankara.
- Urgancı, H. (1982). *Para ve Banka*. Marmara Üniversitesi Yayınları, İstanbul.
- Yazgan, T. (2002). *Türkiye’de Bankacılık Sistemi*. Reklam Yayınları.
- Yıldırım, O. (2007). *Türkiye’de Bankacılık Sektörü*. Seçkin Yayıncılık.

## ***Periodicals***

- Akın, F., & Karaboğa, K. (2011). Bireysel Müşterilerin Şubesiz Bankacılık Hizmetlerini Kullanma Kararına Etki Eden Faktörlerin Belirlenmesi Üzerine Bir Araştırma: Bilecik Örneği. *İktisadi ve İdari Bilimler Dergisi*, 30(1), 301-320.
- Aksoy, L. (2007). Türkiye Bankacılık Sektöründe Çağrı Merkezleri Ve Müşteri Memnuniyeti. *Pazarlama Dünyası*, Şubat Sayısı.
- Arner, D. W., Barberis, J., & Buckley, R. P. (2015). The evolution of Fintech: A new post-crisis paradigm. *Geo. J. Int'l L.*, 47, 1271.
- Candemir, A. (2006), Türkiye’de Doğrudan Yabancı Sermaye Yatırımlarını Belirleyen Faktörler: Bir Uygulama, Yased Yayınları, Yayın No 2006- 12/53
- Cengiz, V. (2009). Parasal Aktarım Mekanizması İşleyişi ve Ampirik Bulgular. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, (33), 225-247.
- Coşkun, M. N., Ardor, H. N., Çermikli, A. H., Eruygur, H. O., Öztürk, F., Tokathoğlu, İ., & Dağlaroğlu, T. (2012). Türkiye’de bankacılık sektörü piyasa yapısı, firma davranışları ve rekabet analizi. İstanbul: Türkiye Bankalar Birliği.
- Çevik, S. (1992). <sup>3</sup>1980 Sonrası Türk Bankacılık Sektörünün Genel Görünümü Yapısal Değişiklikleri ve AT’na Uyum İmkanları. *DEÜİİBF Dergisi*, 7(1 s 160).
- Erdoğdu, C. (2004). Avrupa Birliği’nde Elektronik Ödeme Sistemlerindeki Gelişmeler. *Bankacılar Dergisi*, (48), 80-93.
- Geylân, R. (1985). Ticari banka yönetimi ve Türk ticari bankalarının temel yönetim sorunları (No. 86). Anadolu Üniversitesi Yayınları.
- Heaton, H. (1985). On The Tax-Incentive To Leasing. *Financial Review*, 20(3), 57-57.
- İpçi M. & Karan M. B. (1998). “21. Yüzyıl Eşiğinde Türkiye’de Bankacılık Sisteminin Yapısı, Verimliliği ve Sanayi Sektörüne Katkıları”, *ASOMEDYA Dergisi*, Mart, 1998.

- Keskin, E., İnan, E. A., Mumcu, M., Erdönmez, P., Kılınç, G., Özaktan, A., Yavuz, M., Kranda, A. (2008) 50. Yılında Türkiye Bankalar Birliği ve Türkiye’de Bankacılık Sistemi “1958-2007” Yayın No: 262. Türkiye Bankalar Birliği Yayını.
- Keskin, E. (1993), “Türkiye Ekonomisi ve Bankacılık Sistemi, 1993”, Finans Dünyası, Haziran Sayısı.
- Korkmaz, S., & Gövdeli, Y. E. (2004). Türk bankacılığında alternatif dağıtım kanalları ve ürünleri ile bunların gelişiminde ve pazarlanmasında eğitimin önemi. Gazi Üniversitesi, Endüstriyel Sanatlar Eğitim Fakültesi Dergisi, 15.
- Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. Computers in human behavior, 21(6), 873-891.
- Özcan, M. E., & Haziroğlu, T. (2000). Bankacılıkta Yeni Bir Boyut: Katılım Bankacılığı. Bereket Dergisi, Yıl, 3.
- Özdemir, Z. (2005). Bilanço yapısı itibarıyla Türk bankacılık sistemi. Sosyal Siyaset Konferansları Dergisi, (50).
- Özdicle, L. B. (1997). Türk Bankacılık Sektöründe Piyasa Yapısı. Hazine Dergisi, 6(4), 29-52.
- Pala E. ve Kartal B. (2010) “ Banka Müşterilerinin İnternet Bankacılığı İle İlgili Tutumlarına Yönelik Bir Pilot Araştırma” Yönetim ve Ekonomi, 17(2), 43-61.
- TBB, (2002). “Finansal Yeniden Yapılandırma Programı”, Bankacılar Dergisi, Sayı 41, s. 3-37.
- Tolon, M. (2004). Ticari Bankalarda Pazarlama Stratejilerinin Uygulanması ve Türkiye’deki Ticari Bankalar Üzerine Bir Alan Çalışması. Verimlilik Dergisi, 4, 63-88.
- Varol A. (1997). “Yatırım Bankacılığı”, Bankacılar Dergisi, Sayı:97.

- Yoo, B., & Donthu, N. (2001). Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL). Quarterly journal of electronic commerce, 2(1), 31-45.
- Yu, C. S. (2012). Factors affecting individuals to adopt mobile banking: Empirical evidence from the UTAUT model. Journal of Electronic Commerce Research, 13(2), 104.
- Zaim, O. (1995). The effect of financial liberalization on the efficiency of Turkish commercial banks. Applied Financial Economics, 5(4), 257-264.
- Zerenler, M., Bilge, F. A., & Özilhan, D. (2007). The impact of using information technologies on crisis management success in small and medium sized enterprises. The Business Review, 8(1), 332-339.

#### ***Other Publications***

- Akçokoca, E. (2002). Bankacılık Sektörü Yeniden Yapılandırma Programı. Türk Bankacılık Sisteminin Temel Sorunları ve Bankacılık Sektörü Yeniden Yapılandırma Programı Toplantısı.
- Akıncı, D. A. (1996). Kalkınma ve yatırım bankacılığının doğuşu, gelişimi ve uluslararası boyutta günümüzde yaşanan dönüşümler. Türkiye Kalkınma Bankası.
- Akpınar, H. (1993). Daha hızlı, daha güçlü, daha yüksek. Türkiye Bankalar Birliği.
- Aksoy, T. (1998). Çağdaş Bankacılıktaki Son Eğilimler ve Türkiye’de Uluslararası Bankacılık, Ankara: Sermaye Piyasası Kurulu.
- Alagöz, B. S., (2004), “CRM Kültürünü Yerleştirme Sürecinde Örgütsel Dönüşüm ve Yeniden Yapılanmalar”, Selçuk Üniversitesi, IV. Ulusal Üretim Araştırmaları Sempozyumu 8-10 Ekim, ss. 105-110.

- Altunbaş, Y., Düzakın, H. G., & Sarısu, A. (1996). Avrupa Birliği sürecinde Türk ve Avrupa bankacılık sistemlerinin karşılaştırılması. Türkiye Bankalar Birliği.
- Arkan, S. (1991). Bankacılıkta kullanılan yeni elektronik sistemlerle ilgili hukuki sorunlar. Türkiye Bankalar Birliği.
- Birdal, İ. (1993). Banka işletmeciliği. Yıldız Teknik Üniversitesi. Çelebican, G. (1984). Bankalarda sermaye yeterliği sorunu. Türkiye Bankalar Birliği.
- BKM, (2016). Bankalararası Kart Merkezi.The Turkish fintech ecosystem. Progress Report.
- BKM, (2017). Türkiye FinTech Ekosistemi Raporu, Fintech İstanbul, Nisan 2017.
- Buğdaycı, E. (2007). Dünya’da ve Türkiye’de Elektronik Bankacılığın Gelişimi ve Basel Komitesi’nin Elektronik Bankacılık Konusuna Yaklaşımı. İstanbul, İstanbul Üniversitesi Sosyal Bilimler Enstitüsü.
- Canpolat, Ö. (2001). E-ticaret ve Türkiye'deki gelişmeler. Sanayi ve Ticaret Bakanlığı.
- Çağlar, M.C. (2007). Finansal zorluğa düşecek firmaların önceden tahmini ve ülkemizde bir uygulama / Predicting financial failure and an application in Turkey. Yayınlanmamış Yüksek Lisans Tezi, İstanbul Üniversitesi Sosyal Bilimler Enstitüsü.
- Çelebican, G. (1984). Bankalarda sermaye yeterliği sorunu. Türkiye Bankalar Birliği.
- Damar, H. E. (2004). The Turkish banking sector in the 1980s, 1990s and beyond. Tacoma, WA: Department of Economics, Pacific Lutheran University, manuscript.
- Donner, J., & Tellez, C. A. (2008). Mobile banking and economic development: Linking adoption, impact, and use. Asian journal of communication, 18(4), 318-332.

- Dündar, B. (2006). Birleşmeler ve stratejik işbirliklerinin şirketlerin küreselleşmeleri üzerindeki etkileri (bankacılık sektöründe bir araştırma) (Doctoral dissertation, DEÜ Sosyal Bilimleri Enstitüsü).
- Ergin, A., & Aypek, N. (1997). Ticari Bankalarda Etkinlik ve Verimlilik. 3. Verimlilik Kongresi Bildiri Kitabı, 314-330.
- Eyüpgiller, S. (2000). Bankalar İçin Banka İşletmeciliği Bilgisi. Banka ve Ticaret Hukuku Araştırma Enstitüsü, Ankara.
- Gulamhuseinwala, I., Bull, T., & Lewis, S. (2015). FinTech is gaining traction and young, high-income users are the early adopters. The Journal of Financial Perspectives, 3(3), 16-23.
- Gücenme, Ü. (1994). Türkiye'de sermaye piyasasındaki son gelişmeler. Türkiye Bankalar Birliği.
- Karacaoğlu, Ç. (2011). Yabancı Sermayeli Bankaların Türk Bankacılık Sektörüne Girişi. Kadir Has Üniversitesi, Sosyal Bilimler Enstitüsü, Yayınlanmamış Yüksek Lisans Tezi, İstanbul.
- Karatan, F. (1990). Bankacılıkta Ödeme Sistemlerinin Otomasyonu: Elektronik Fon Transferi Sistemleri. Türkiye Bankalar Birliği. Ankara.
- Kazgan, H. (1997). Osmanlı'dan Cumhuriyet'e Türk bankacılık tarihi. Türkiye Bankalar Birliği.
- Özcan, Z. Ö. (2007). Türkiye'de Elektronik Bankacılık: İnternet Bankacılığı Üzerine Bir Çalışma. Yüksek Lisans Tezi, Sakarya Üniversitesi, Sakarya.
- Özulucan, A., & Deran, A. (2009). Katılım Bankacılığı ile Geleneksel Bankaların Bankacılık Hizmetleri ve Muhasebe Uygulamaları Açısından Karşılaştırılması/The Comparison of Participation Banking and Traditional

Banking on the Perspective of Banking Services and Accounting Applications.  
Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 6(11).

Saka, T. (2001). Türk bankacılık sektöründe bilgi teknolojileri denetimi. Türkiye Bankalar Birliği.

Sarısu, A. (1996). Türk bankacılık sisteminin genel yapısı, temel özellikleri ve kamu bankalarının bölünerek özelleştirilmesi. Başbakanlık Hazine Müsteşarlığı.

Sarısu, A. (1996). Türk bankacılık sisteminin genel yapısı, temel özellikleri ve kamu bankalarının bölünerek özelleştirilmesi. Başbakanlık Hazine Müsteşarlığı.

Skan, J., Dickerson, J., & Gagliardi, L. (2016). Fintech and the evolving landscape: landing points for the industry. Accenture, available at: [https://www.accenture.com/t20160427T053810\\_\\_w\\_\\_/us-en/\\_acnmedia/PDF-15/Accenture-Fintech-Evolving-Landscape.pdf](https://www.accenture.com/t20160427T053810__w__/us-en/_acnmedia/PDF-15/Accenture-Fintech-Evolving-Landscape.pdf) (accessed 15th January, 2018).

Suiçmez, H. (1990). Türkiye'de kalkınma ve yatırım bankacılığında proje değerlendirme ve verimlilik. Millî Prodüktivite Merkezi.

Şahan, D., (2017). Platform ekonomilerinin bir uygulaması olan finansal teknoloji şirketleri bankacılık sektörünü nasıl değiştirecek? (How are the financial technology companies which are an implementation of the platform economies to change the banking sector?). Yayınlanmamış Yüksek Lisans Tezi, Bahçeşehir Üniversitesi.

TBB, (1990). 90'lı Yıllarda Türk Bankacılığının Gündemindeki Konular Ve Öneriler. Türkiye Bankalar Birliği Yayını, Ankara.

TBB, (1998). 40. Yılında TBB ve Türk Bankacılık Sistemi “1958-97”, İstanbul TBB Yayınları.

TBB, (1999). 2000’li Yıllarda Türk Bankacılık Sektörü. Türkiye Bankalar Birliği.

Uyar, S., & Aygören, H. (2006). Basel II İlkelerinin Kobi'lere Olası Etkileri: Finansman Maliyeti, Finansal Raporlama ve Muhasebe Açısından Değerlendirme–Likely Effects Of Basel II Principles To Small and Medium Sized Enterprises (SMSs): An Evaluation In Terms Of Cost of Capital, Financial Reporting and Accounting. Mali Çözüm Dergisi, 77, 52-70.

Yıldırım, H. (2006). Bankalarda operasyonel risk yönetimi ve bir uygulama / Operational risk management in Banking and an implementation. Yayınlanmamış Yüksek Lisans Tezi, Marmara Üniversitesi.



### ***Internet Sources***

[http://bigpara.hurriyet.com.tr/faiz/haber/kar-payi-ile-faiz-arasindaki-fark-nedir\\_ID1425961/](http://bigpara.hurriyet.com.tr/faiz/haber/kar-payi-ile-faiz-arasindaki-fark-nedir_ID1425961/), Accessed At: 5 January, 2018.

<http://startopenhukuku.com/fintech-nedir/>, Accessed At: 01 January 2018.

<https://techcrunch.com/2015/01/03/the-sharing-economy-and-the-future-of-finance/>, Accessed At: 01 January 2018.

[http://www.oxfordmartin.ox.ac.uk/downloads/GI\\_215\\_e\\_GesamtPDF\\_01\\_high.pdf](http://www.oxfordmartin.ox.ac.uk/downloads/GI_215_e_GesamtPDF_01_high.pdf), Accessed At: 01 January 2018.

<https://thefinancialbrand.com/57619/banking-as-a-platform-baap-structure/>, Accessed At: 01 January 2018.

<http://www.finansgundem.com/yazarlar/finansal-teknoloji-ve-bankacilikta-donusumun-planlanmasi-yazisi/1233130>, Accessed At: 11 December 2017.

[http://www.fintechinnovationlablondon.co.uk/pdf/Fintech\\_Evolving\\_Landscape\\_2016.pdf](http://www.fintechinnovationlablondon.co.uk/pdf/Fintech_Evolving_Landscape_2016.pdf), Accessed At: 21 January 2018.

<https://letstalkpayments.com/a-list-of-mobile-only-banks/>, Accessed At: 17 January 2018.

<https://home.kpmg.com/tr/tr/home/media/press-releases/2017/03/2017-turkiyede-fintech-yili-olacak.html>, Accessed At: 08 January 2018.

<http://www.mobven.com/mobile-only-banking/>, Accessed At: 13 January 2018.

## APPENDICES

Dear Participant,

The aim of this questionnaire is to collect data for MBA thesis. Participation in the survey is voluntary. Answering the questions thoroughly is of great importance in terms of ensuring healthy outcomes.

Participants are not required to provide any information that would reveal their identity. We emphasize that the answers you give in this questionnaire will be confidential, will be used only for this academic study, and we will give you the necessary care to ensure that none of the answers is shared with any of the institution or person. Thank you in advance for your participation.

Pınar Kuş

### A. Personal Information Form

1. Gender?

( 1 ) Female    ( 2 ) Male

2. Age?

( 1 ) 20 and younger    ( 2 ) Between 21-25    ( 3 ) Between 26-30  
( 4 ) Between 31-35    ( 5 ) Between 36-40    ( 6 ) Between 41-45  
( 7 ) Between 46-50    ( 8 ) Between 51-55    ( 9 ) 56 and older

3. Educational Status?

( 1 ) Primary School    ( 2 ) High School  
( 3 ) Associate Degree    ( 4 ) Graduate Degree  
( 5 ) Master Degree

4. Monthly income?

( 1 ) 0-500 TL    ( 2 ) 501-1000 TL    ( 3 ) 1001-1500 TL  
( 4 ) 1501-2000 TL    ( 5 ) 2001-2500 TL    ( 6 ) 2501-3000 TL  
( 7 ) Above 3000 TL

5. What are the most common transaction or transactions on any bank channel you do in general ?

- ( 1 ) Money Transfer (Havale/EFT)      ( 2 ) Credit card proseses  
( 3 ) Money withdraw/deposit      ( 4 ) Leasing ve loan services  
( 5 ) Payment of invoices and dues      ( 6 ) Account Control and Information  
( 7 ) Repo, foreign exchange, fund and similar investment transactions  
( 8 ) Others(please note) :

6. Do You Have Information About Mobile Banking Services? (If your answer is No, go to question 10)

- ( 1 ) Yes      ( 2 ) No      ( 3 ) Partially

7. Where did you get the information about mobile banking services?

- ( 1 ) TV ads      ( 2 ) Newspaper ads      ( 3 ) Internet  
( 4 ) Bank worker      ( 5 ) Bank Brochures      ( 6 ) Friends, relatives, etc.  
( 7 ) Other.....

8. Do you use mobile banking services?

- ( 1 ) Yes  
( 2 ) No

9. Specify the Bank you are using for Mobile Banking Service.

- ( 1 ) Akbank      ( 2 ) Finansbank      ( 3 ) Garanti Bankası  
( 4 ) Halk Bankası      ( 5 ) HSBC      ( 6 ) İş Bankası  
( 7 ) TEB      ( 8 ) Türkiye Finans      ( 9 ) Vakıflar Bankası  
( 10 ) Yapı Kredi Bankası      ( 11 ) Ziraat Bankası  
( 12 ) Other.....(please note)

10. Indicate 3 Reasons for Not Taking Advantage of Mobile Banking Services According to Their Level of Importance. **(8. If the answer to your question Number 8 is No please answer this question. Otherwise leave it empty)**

- ( a ) I do not find it safe
- ( b ) Insufficient knowledge about his services
- ( c ) I do not want to change the way I work
- ( d ) I want to see someone who is absolutely right in front of me
- ( e ) I want to get an official document after the process
- ( f ) Other.....(please note)



**B. Below are various judgments of Mobile Banking. Please indicate to what degree these judgments do you attend.**

| 1=Strongly Disagree<br>2=Disagree<br>3=Neutral/no<br>4=Agree<br>5=Strongly Agree                    | 1 | 2 | 3 | 4 | 5 |
|-----------------------------------------------------------------------------------------------------|---|---|---|---|---|
| B1. I think it's easy to learn to use.                                                              |   |   |   |   |   |
| B2. I think the necessary time for proses are simple and understandable.                            |   |   |   |   |   |
| B3. I think that personal information is protected during the process.                              |   |   |   |   |   |
| B4. I find the mobile service security of the banks satisfactory.                                   |   |   |   |   |   |
| B5. I do not have doubt about secure process.                                                       |   |   |   |   |   |
| B6. I think it shortens the duration of banking transactions.                                       |   |   |   |   |   |
| B7. I find it more effective than branch banking because it is available 24 hours a day.            |   |   |   |   |   |
| B8. I find it appropriate because I have removed the necessity of going to the branch.              |   |   |   |   |   |
| B9. I find it more effective than branch banking because it saves time.                             |   |   |   |   |   |
| B10. I find it convenient because banking transactions can be done without restriction of location. |   |   |   |   |   |
| B11. I think it facilitates the realization of banking transactions.                                |   |   |   |   |   |
| B12. I think it's an application that makes life easier.                                            |   |   |   |   |   |
| B13. I do not think I have been exposed to fatigue and bureaucratic procedures in bank branches.    |   |   |   |   |   |
| B14. I use it because I like to try new technologies.                                               |   |   |   |   |   |