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An Evaluation of Internet Banking in Turkey

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Abstract

The present study is an attempt to examine the performance of Turkish banks in terms of providing banking products and services through their web sites. A representative sample of 22 banks operating in Turkey was included in this study. The websites of these banks have been analyzed in terms of the financial transaction, non financial transaction, speed, security, uninterrupted serviceability and visual design. Research is conducted in 2009 and shows that Turkish banks perform extremely well in IB. This study also investigates the level of adoption of IB in Turkey. A survey is conducted to obtain customers' perspectives regarding IB. According to the results obtained from the survey; all of the participants who did not use IB found IB difficult. They did not know how to use IB or found IB service insecure and unclear. Therefore, they prefer face-to-face banking. Moreover, it was observed that the levels of education and income were the factors that most affected IB use. It was concluded that the clients who found IB easy and thought that it served their purpose had been using IB for a longer time. On the other hand, usefulness, web security and personal views did not have a significant influence on the duration of IB use.

Keywords: **Internet Banking, Websites Evaluation, Customer Adoption, Turkey.**

INTRODUCTION

The term Internet Banking (IB) refers to the use of the internet as a remote delivery channel for banking services (Achour and Bensedrine, 2005). IB involves consumers using the internet to access their bank and account, to undertake banking transactions. IB makes it possible for banks to offer consumers a variety of services 24 hours a day (Mols, 2000: 9).

IB offers various operations. Banking institutions are using their websites not only to provide classical operations such as fund transfer or account details, but also to provide stock trading in world markets, bill payments, check book request, credit card request and investment advice (Guru et al., 2003). Banks also use the websites as an information delivery tool, a channel for conducting transactions and a tool to improve customer relationship (Diniz, 1998).

IB has become increasingly prevalent, employed by many financial institutions to reduce cots associated with having personnel serve customers physically, shorten processing periods, increase speed, improve the flexibility of business transactions and provide better service overall (Ainin et al., 2005).

Firstly, the purpose of this study is to evaluate the progresses of Turkish banks on the web and the type of services offered. We attempted to evaluate IB services, using a quality evaluation model of IB websites. This evaluation model considers several criteria. They include financial transaction, non financial transaction, speed, security uninterrupted serviceability and visual design. The study is based on the survey of websites of the banks. Personnel correspondence was also conducted with the experts of the banks. It begins by analyzing the bank websites. Then it examines the IB products and services. To the best knowledge of the authors, there are no published studies, researching websites of commercial banks in Turkey. The present study is intended to fill this important gap. In the second part of the study, a survey was conducted to obtain customers' perspectives regarding IB.

The rest of the paper has been organized as follows. The next section gives a review of relevant literature. Section 3 gives an evaluation of the IB in Turkey. Section 4 presents the research methodology. Section 5 reports the findings of the study. Finally, Section 6 contains the concluding remarks.

LITERATURE REVIEW IN IB

The literature dealing with IB is very large. In this section, we focus the review of previous studies on the evaluation of IB websites and the surveys conducted on this subject.

Diniz (1998) presents a survey on websites of banks in order to learn about web banking models and their adoption in United States. He finds out American banks using the web to reach opportunities in three different categories: to market information, to deliver banking products and services and to improve customer relationship. He reports that most of the American banks offer basic and intermediate services at the transactional and informational levels. Sathye (1999) surveys the state of IB in Australia. He ascertains the major factors affecting the adoption of IB by Australian consumers. This study states that security concerns and lack of awareness stand out as the reasons for non-adoption of innovation of IB by Australian customers. It finds that only two of the 52 banks started IB services at that time. There is still a lot of room for IB to expand in Australia.

Mols (2000) focuses on the perceptions and expectations regarding the internet among key managers in the Danish retail banks. Jasimuddin (2001) evaluates the websites of Saudi banks and reports that Saudi banks use the Internet as an information delivery tool to improve relationship with customers. Polatoglu and Ekin (2001) have examined the level of adoption of the IB in Turkey, and discussed the factors affecting its diffusion. This study reveals that IB services not only reduce the operational costs of the banks, but also increase the level of customer satisfaction. They clarifies that IB services have added benefits in terms of customer attraction, and it may lead to higher competition by bringing new products and alternative channel offerings.

Chung and Paynter (2002) evaluate seven New Zealand banks regarding their IB websites and services offered. They use a tailored Hersey's web site evaluation model. They also conduct a survey to obtain customers' perspectives regarding IB. They find that New Zealand banks perform extremely well in providing up-to date information. Further improvements on security, download time, response time and the ability to provide services free from technical problems should be considered in order to satisfy customers' requirements.

Guru et al. (2003) evaluate the websites of banks in 12 Islamic countries. They find that the majority of Islamic countries are still in the early stages of developing IB. Only some Islamic banks in the Middle East have well-developed IB websites. Vijayan and Shanmugam (2003) study the service quality of IB in Malaysia and find that two of the top five Malaysian banks have a four star rating out of a maximum five star rating. The remaining three top banks have a three star rating based on a 40-item evaluation instrument. Awamleh et.al. (2003) survey Jordanian banks and find limited evidence of web usage at the intermediate level while the basic level use is dominant. They also find the banks in Jordan are not fully utilizing concepts and applications of web banking.

Wu et al. (2004) evaluate the web site usability of IB in Taiwan. Their study indicates that there is a gap between the user expectation and actual usability of Web sites. Moreover, the results show that old banks are more experienced than new banks and private banks are more

competitive than government-owned banks to survive in a competing market. Al-Sabbagh and Molla (2004) search the factors that affect Omani consumers' adoption and use of IB. The findings of their study indicate that IB in Oman is in its early stages of development. In addition, Omani customers appear to make their IB adoption decision based on its compatibility, usefulness and ease of use. Singh and Malhotra (2004) present the current state of IB in India and also identify key differences between internet banks and non-internet banks with special reference to commercial banks operating in India. The study is based on the survey of websites of the banks. Based on the results, IB is not a significant determinant in explaining the profitability for all banks. There is also no statistical significant difference between the internet and non-internet banks with respect to accounting efficiency and credit quality. Eriksson et al. (2004) studied technology acceptance of IB in Estonia. The findings of this study point to the perceived usefulness of IB.

Diniz et al. (2005) propose and test a model of three dimensions to evaluate virtual business environments from the user's point of view: functionality, security and usability. They select three banks in Brazil for IB services testing on the model's dimensions. Ainin et al. (2005) provide an overview IB adoption in Malaysia. They evaluate the IB websites and services offered by local banks. They adopt the model used by Chung and Paynter (2002). In this study, they identify IB services and describe characteristics of IB adopters. Awamleh and Fernandes (2005) adopt the Diniz (1998) model to analyze the content of bank websites in the United Arab Emirates (UAE). The results reveal that IB in the UAE is still in its infancy. In their study it is also concerned with factors that impact the satisfaction of IB users. They find that security of transactions and conveniences contribute significantly to satisfaction of IB customers. Achour and Bensedrine (2005) present the current situation of internet based financial services and the online brokerage network in Tunisia. They adopt the tailored Hersey's general e-commerce web site evaluation model. They use this tailored model as a starting basis, and add some items such as information, order and security components. The research shows that internet based services in the financial sector are still in the early stages. Jaruwachirathanakul and Fink (2005) identify the factors that encourage consumers to adopt IB in Thailand, and developed strategies for banks in order to increase the rate of usage. They find that features of the web site and the perceived usefulness are the most significant factors in encouraging IB adoption, whereas the external environment is the most significant factor preventing IB adoption in Thailand.

Ayadi (2006) investigates the technological and organizational factors which have an influence on the implement of IB in Tunisia. This study highlights that disintegrated information systems, organizational rigidity and disregarding user's implementation are the factors which degrade the diffusion of IB. Chiemeke et al. (2006) investigate the level of adoption of IB in Nigeria. Their study adopts the Diniz (1998) model and proposes an additional factor on security measures, to evaluate twelve large on-line banks in Nigeria. The results reveal that IB in Nigeria is being offered at the basic level of interactivity, with most of the banks having mainly information sites and providing little internet transactional services. Although the level of adoption of IB remains insignificant, IB will continue to play a significant role in the development and delivery of banking products and services in Nigeria. Cheng et al. (2006) investigate the perception of IB in Hong Kong. They provide several keys into determinants of IB usage. They find perceived usefulness is a major factor determinant of customer's intentions for IB usage.

Ndubisi and Sinti (2006) examine the determinant structure of customer attitude on adoption of IB in Malaysia. They show the "attitudinal factors" play a significant role in IB adoption. In addition, IB adoption can predict by behavioral tendency and webpage features. According to this study, easy-to-use technologies and trial ability should be put in place in order to increase adoption. Moreover, risk has no significant influence of adoptions. Sayar and Wolfe (2007)

compare the IB services in the UK and Turkey. They reveal that Turkish banks offer a wider range of web services compared to British banks, despite the fact that the UK has a more favorable environment for IB in terms of its banking sector and technological infrastructure. There is a conceptual difference regarding the security issues between British and Turkish banks. Turkish banks use technology to avoid fraud, whereas the British banks prefer more conventional methods.

INTERNET BANKING IN TURKEY: AN OVERVIEW

The concept of global competition first manifested itself in Turkey in the late 1980s in the form of private banking services and ATM (Automatic Teller Machines). Telephone banking was introduced into Turkey in 1995 and IB began to be used in the early 2000s due to increased internet subscription and the habit of shopping via the internet.

Data concerning IB and its frequency of use in Turkey can be accessed through reports prepared by The Bank Association of Turkey (BAT). According to the data obtained from the June 2009 report, the total number of retail customers who were registered in the system and "logged in" at least once is 12.540,061. On the other hand, the total number of retail customers who have entered the system during the past year is 6.676.472. During the January-June 2009 period, 5,001.219 retail customers have made at least one IB transaction. Likewise, the number of commercial customers who were registered in the system to use IB and "logged in" at least once as of March 2009 is 1.508.642. Of these customers, 591.336 made at least one transaction in the January-June 2009 period. Apart from these, the number of commercial customers who have "logged in" within the past year is 719.878.

Table 1: IB Use in Turkey

Period	Retail			Commercial			Total		
	Total number of registered customers that logged in at least once	Total number of registered customers that logged in at least once in 1-year period	Number of active customers	Total number of registered customers that logged in at least once	Total number of registered customers that logged in at least once in 1-year period	Number of active customers	Total number of registered customers that logged in at least once	Total number of registered customers that logged in at least once in 1-year period	Number of active customers
June 2008	10,494,772	5,436,926	4,262,930	1,274,368	654,069	534,007	11,769,140	6,090,995	4,796,937
September 2008	10,951,231	5,742,251	4,443,703	1,323,155	668,840	539,587	12,274,386	6,411,091	4,983,290
December 2008	11,222,126	5,946,652	4,613,670	1,358,545	687,737	555,459	12,580,671	6,634,389	5,169,129
March 2009	11,792,975	6,343,912	4,838,001	1,458,623	709,764	580,766	13,251,598	7,053,676	5,418,767
June 2009	12,540,061	6,676,472	5,001,219	1,508,642	719,878	591,336	14,048,703	7,396,350	5,592,555

Source: Report of the BAT Internet Banking Statistics, June 2009.

As can be seen from Table 1, a constant increase is observed especially in the number of active customers in periods of 3 months. The average rate of increase in the total number of active customers as of periods is 3,8 %, an average of 4 % for retail customers, and the rate of increase in the number of commercial customers is 2,5 %.

Although IB is not as common in Turkey as in Europe, it is in a process of constant development. While three-fourths of the population in European countries makes their banking transactions through the internet, the figure is quite low in Turkey. The correlation between the internet usage and age and education manifests itself in the field of internet banking, too. Studies conducted in

this regard put the age of IB use in Turkey at about 28. It is expected that thanks to the rapid rate of increase in young population and education level, IB use in Turkey will catch up with European countries in the coming years and perhaps overtake them.

RESEARCH DESIGN AND METHOD

This study was conducted as two main parts. In the first part of the study, we evaluate the websites and services offered by Turkish banks. In the second part of the study, a survey was conducted to obtain customer perspectives of IB. The items in the questionnaire were developed based on the studies of Sathye (1999), Polatoglu and Ekin (2001), Al-Sabbagh and Molla (2004), Eriksson et al. (2005), Ainin et al. (2005), Ndubisi and Sinti (2006), Cheng et al. (2006).
The data for this study consists of annual observations of IB websites for the period January and November of 2009 and covers 22 banks that operate in Turkey. The sample consists of 3 public sector banks, 10 private sector banks and 9 foreign banks (See Appendix 1). All pages and functions contained in these banks websites were examined and evaluated during this period. The study was developed based on the information we can get from the web sites. We also made direct contact with the banks. During the survey research, 630 survey forms were dispatched to different provinces of Turkey by post. The sample group consists of banking customers from different professional groups. There was a total of 527 respondents.

FINDINGS

Evaluation of Bank Websites

A brief overview of the related literature shows that IB websites can be evaluated from many different approaches such as usability, security, functionality, interactivity and accessibility. In this study we evaluate 22 Turkish banks regarding their IB websites and services offered. Components that appear in our evaluation model are financial transaction, non financial transaction, speed, security, uninterrupted serviceability and visual design. The evaluation instrument consists of 27 elements (See Table 2-3). The evaluator is required to record the absence or presence of each element. The presence and absence of each element was checked against information published on the bank websites, specifically on the site maps that list what is available.

Transactions in banks related to internet use have been investigated under two headings, namely financial and non-financial transactions. Financial transactions are divided into five subtitles: money transfers, payments, investment transactions, credit card transactions and account management. The obtained data are shown in Table 2. It is observed from Table 2 that internet banking is extensively used in a majority of the banks. Money transfers involve EFT, money orders and foreign currency transfers. It has been determined that EFT and money orders are made in all the banks that use IB. Foreign currrency transfers, on the other hand, are performed all the other banks except for four banks. The payments subtitle involves invoice, tax, insurance premiums, loan and automatic payment orders. Except for six banks, bill payments can be made in all the other banks. Tax payments, insurance premiums, loan and automatic payment orders can be made in all the banks except for seven banks.

The subtitle of investment transactions involves investment funds, foreign currency transactions, time deposit accounts, share certificates, repurchase agreements (repo), bonds and bills, gold and TURKDEX (Turkish Derivatives Exchange) transactions. Investment funds, share certificates, repo, bonds and bills are made by all the other banks except for six banks. Foreign

currency transactions, on the other hand, are made by all the banks except for four. Time deposit transactions are made by all the banks with the exception of five banks. The number of banks that make TURKDEX transactions is a mere five in comparison to the other transactions.
Under the subtitle of credit card transactions there are cash advance and payment to own and others' credit card. Cash advance can be given by the other banks except for 11 banks, whereas payment to own and others' credit card can be made by the other banks except for seven banks. Account management forms the last part of the financial transactions. When transactions of account information, opening and balancing of accounts, cheque and promissory notes are examined, it is observed that preparation of account information is performed by all the others except for four banks. Account opening and balancing transactions are made by all except for seven banks and cheque and promissory note transactions are made by all the banks except for five.

The banks included in the scope of the study have been listed according to the level by which they make financial transactions. If the transaction was made by the bank, the bank was scored 1, and if not, it was scored 0. The score for each bank was calculated in percentage terms by dividing the total number of elements present by the maximum score of 27. The percentage score in the last row of Table 2 provide an indication of the performance differences. Table 2 shows that Finansbank scores the highest in the financial transactions. The one that received the lowest score among them is the Turkland Bank.

Table 2: Financial Transactions

FINANCIAL TRANSACTIONS																							
	1-Money Transfers			2-Payments						3-Investment Transactions								4-Cerdit Card Transactions			5- Account Management			
Banks-Transactions	EFT	Money orders	Foreign currency	Invoice	Tax	Insurance premium	Loan	Others	Automatic payment order	Investment funds	Foreign currency deposit	Time accounts	Share certificate	REPO	Bonds and bills	Gold	TURKDEX	Cash advance	Payment to own credit card	Payment to credit others' card	Account information	Open and balance accounts	Cheque and promissory notes monitoring	Total %
Finans Bank	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
Denizbank	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	95,65
T. C. Ziraat Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	95,65
Türkiye Garanti Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	95,65
Türkiye İş Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	95,65
Akbank	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
Fortis Bank	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
Tekstil Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
Türk Ekonomi Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
Türkiye Halk Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
Türkiye Vakıflar Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
Yapı ve Kredi Bankası	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	91,3
HSBC Bank	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	86,96
ING Bank	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	86,96
Şekerbank	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	86,96
Alternatif Bank	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	82,61
Anadolubank	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	82,61
Eurobank Tekfen	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	1	82,61
Millennium Bank	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	82,61
Turkish Bank	1	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0	39,13
ABN AMRO Bank N.V.	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	21,74
Turkland Bank	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,7

Non-financial transactions are divided into four subtitles: Credit card application, loan application, regular payment orders and confirmed demands for public offers, changes and cancellations. It can be seen in Table 3 that 14 banks can make all non-financial transactions.

Table 3: Non-Financial Transactions

Non-Financial Transactions					
Banks-Transactions	**Credit card application**	**Loan application**	**Regular payment orders**	**Confirmed demands for public offers, changes and cancellations**	**Total %**
Akbank	**1**	**1**	**1**	**1**	100
Anadolubank	**1**	**1**	**1**	**1**	100
Denizbank	**1**	**1**	**1**	**1**	100
Finans Bank	**1**	**1**	**1**	**1**	100
Fortis Bank	**1**	**1**	**1**	**1**	100
HSBC Bank	**1**	**1**	**1**	**1**	100
Oyak Bank	**1**	**1**	**1**	**1**	100
Şekerbank	**1**	**1**	**1**	**1**	100
Türk Ekonomi Bankası	**1**	**1**	**1**	**1**	100
Türkiye Garanti Bankası	**1**	**1**	**1**	**1**	100
Türkiye Halk Bankası	**1**	**1**	**1**	**1**	100
Türkiye İş Bankası	**1**	**1**	**1**	**1**	100
Türkiye Vakıflar Bankası	**1**	**1**	**1**	**1**	100
Yapı ve Kredi Bankası	**1**	**1**	**1**	**1**	100
Alternatif Bank	**0**	**0**	**1**	**1**	50
Eurobank Tekfen	**0**	**0**	**1**	**1**	50
Millennium Bank	**0**	**0**	**1**	**1**	50
Tekstil Bankası	**0**	**0**	**1**	**1**	50
Turkland Bank	**0**	**0**	**1**	**1**	50
T. C. Ziraat Bankası	**0**	**0**	**1**	**1**	50
ABN AMRO Bank N.V.	**0**	**0**	**0**	**1**	25
Turkish Bank	**0**	**0**	**0**	**1**	25

The website evaluation results denote that most of the Turkish banks offering IB facilities had high overall scores, indicating that their websites were of high quality at all functional and interactivity levels. Most of the banks scored full marks on the information components.

After an evaluation of financial and non-financial transactions, issues concerning websites of banks such as speed, security, availability of uninterrupted service, whether commissions are demanded for transactions or not, web page design, languages in which services are offered, customer services and satisfaction of web page content were

investigated.

When the websites of banks were evaluated in terms of speed, it was observed that service provider was especially effective in the opening of websites of banks. It was also observed that websites of all banks that offered IB services could be accessed in the same connection environment. However, it was found that difficulties were experienced especially in the opening of the websites of public banks in certain periods (for example on the pay day and the next day) and that they could not cope with the intensive use.

When the banks were examined in terms of security, it was determined that websites of all the banks were protected by a security system. Security software such as secure socket layer-ssl, one time password, datasign secured, globalsign is being used.

Websites of all the banks offer services on a 24-hour basis and different time procedures are applied for transactions such as EFT. While 15.00 is the hour when the last EFT transaction is performed for some banks, for others this is as late as 16.45. After these hours, orders can be given for only forward EFT transactions. Also, no other transactions can be performed in the banks at the weekends except for some transactions such as bill payments.

When the web site designs were examined, it was observed that percentage results in the financial and non-financial transactions sections were effective in evaluations of web site designs, and that visual designs of websites of banks where intensive banking transactions were made were also successful.

The language used in the websites of all banks is Turkish. English is used as a second language in all of them. The banks charge commissions on the basis of the type of IB transactions. However, special prices are determined for those individuals and institutions with which prior agreements were made. They can make many transactions free of charge for which ordinary users have to pay a charge. All of the banks offer customer services in their websites for the purpose of giving assistance and providing information.

Evaluation of the Survey

In the second part of the study, a survey was conducted to aim at determining IB users' perception level of IB services. 630 survey forms were sent to different cities across Turkey by post, of which 527 were returned. Of these returned forms, 466 had been completed fully, whereas 61 survey forms were not included in the analysis because there were missing values. The sampling group consists of bank customers from different professions.

The demographic profiles of the sampling group were expalined by the help of frequencies and percentages. Then, the factors affecting IB use of the bank costumers and the effect of demographic features on the IB use of bank costumers were examined by the help of cross tabs and logistical regression analysis. Finally, the extent to which participants' IB perception levels affect frequency and time duration of IB use were investigated via the multiple regression analysis. The findings of the study have been evaluated below.

The Analysis and Evaluation of the Findings

Demographic Profile: Demographic features of the bank costumers were investigated in this section using frequency and percentage descriptive statistics. Distribution of the bank costumers by their gender is summarised in Table 4. It is understood from the data in the table that 40 % of the participants are female and 60 % are male.

Table 4. Distribution by Gender

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Female	184	39,5	39,5	39,5
Male	282	60,5	60,5	100,0
Total	466	100,0	100,0	

When distribution of the participants by their age is examined in Table 5, it is observed that 67 % are between 20 and 35, 29 % are between 36 and 50 and 4 % are 50 and above.

Table 5. Distribution By Age

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
20-35	311	66,7	66,7	66,7
36-50	137	29,4	29,4	96,1
50 >	18	3,9	3,9	100,0
Total	466	100,0	100,0	

Distribution of the bank costumers by their marital status is summarised in Table 6. It is understood that 37 % of the particiapnts are single and 63 % are married.

Table 6. Distribution by Marital Status

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Single	172	36,9	36,9	36,9
Married	292	62,7	62,7	99,6
Other	2	,4	,4	100,0
Total	466	100,0	100,0	

It is understood from the data in Table 7 that 54 % of the participants are in the private sector, 32 % are in the public sector and 14 % are engaged in other professions.

Table 7. Distribution by Profession

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Private Scetor	252	54,1	54,1	54,1

Public Sector	151	32,4	32,4	86,5
Other	63	13,5	13,5	100,0
Total	466	100,0	100,0	

Distribution of the bank costumers by their level of education is summarised in Table 8. It is understood from the data in the table that 7 % of the participants are primary education graduates, 15 % are high school graduates, 50 % hold bachelor's degree, 15 % hold master's and 13 % hold PhD.

Table 8. Distribution by Level of Education

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Primary	31	6,7	6,7	6,7
High School	71	15,2	15,2	21,9
Bachelor's	234	50,2	50,2	72,1
Master's	69	14,8	14,8	86,9
PhD	61	13,1	13,1	100,0
Total	466	100,0	100,0	

Distribution of the bank customers by their level of income is summarised in Table 9. It is seen in the Table 7 that 13 % of the participants have an income that is less than 750 TL, 15 % have an income between 750 and 1000 TL, 25 % have an income between 1001 and 1500 TL, and 47 % have an income above 1500 TL.

Table 9. Distribution by Level of Income

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Less than 750 TL	60	12,9	12,9	12,9
750-1000 TL	70	15,0	15,0	27,9
1001-1500 TL	116	24,9	24,9	52,8
More than 1500 TL	219	47,0	47,0	99,8
5,00	1	,2	,2	100,0
Total	466	100,0	100,0	

Factors That Influence Participants' IB Use: In this section, factors that influenced the IB use of the bank customers were investigated. In this framework, the participants' evaluations on the IB service and the factors concerning the nature of the IB services were taken as independent variables whereas the customers' state of IB use was taken as a dependent variable.

The correlation between the independent variables and the state of IB use, which was the dependent variable, was investigated in the first stage of the analysis by the help of cross tabs. In this framework, the profile of the customers who did not use IB was

handled and thus an effort was made to reach an understanding about the effects of independent variables. Moreover, possible interactions between independent variables may reduce the effects of some variables or remove it totally. For example, it may lead one “not to know how to use IB” or to think that “IB is difficult and requires mental effort”. Therefore, the relationships between the variables were tested using the logistic regression analysis so as to be able to make more informed comments.

The relationship between the participants’ IB use and the state of banks’ offering IB service is summarised in Table 10. It is understood that 66 % of the participants made use of the IB service whereas 34 % were not IB users.

Table 10. The Relationship between IB Use and the State of Banks’ Offering IB Service

			IB Use		Total
			Uses IB	Does not Use IB	
Service	Offers	Total	307	159	466
		% Service	65,9%	34,1%	100,0%
Total		Total	307	159	466
		% Service	65,9%	34,1%	100,0%

Tablo 11 summarises the relationship between the participants’ IB use and the state of their finding the IB service secure. It is seen from the data in the table that 91 % of the bank customers who did not find the IB service secure and 30 % of the bank customers who found the IB service secure did not use IB.

Table 11. The Relationship between IB Use and the State of Finding IB Service Secure

			IB Use		Total
			Uses IB	Does not Use IB	
Security	Insecure	Total	3	32	35
		% Security	8,6%	91,4%	100,0%
	Secure	Total	304	127	431
		% Security	70,5%	29,5%	100,0%
Total		Total	307	159	466
		% Security	65,9%	34,1%	100,0%

The relationship between the participants’ IB use and their finding the benefits of the IB evident is summarised in Table 12. It is observed that 88 % of the bank customers who did not find the benefits of IB evident and 33 % of the bank customers who found the benefits of IB evident did not use IB.

Table 12. The Relationship between IB Use and the State of the Benefits of IB Evident

			IB Use		Total
			Uses IB	Does not Use IB	
Benefits	Not Evident	Total	1	7	8
		% Benefits	12,5%	87,5%	100,0%
	Evident	Total	306	152	458
		% Benefits	66,8%	33,2%	100,0%
Total		Total	307	159	466
		% Benefits	65,9%	34,1%	100,0%

Table 13 shows the relationship between the IB use of the participants and their finding the prices of IB services reasonable. It is understood from the table that 50 % of the bank customers who did not find IB services reasonable and 34 % of the bank customers who found the IB service prices reasonable did not use IB.

Table 13. The Relationship between the IB Use and the State of Finding IB Service Prices Reasonable

			IB User		Total
			Uses IB	Does not IB	
Price	Not Reasonable	Total	1	1	2
		% Price	50,0%	50,0%	100,0%
	Reasonable	Total	306	158	464
		% Price	65,9%	34,1%	100,0%
Total		Total	307	159	466
		% Price	65,9%	34,1%	100,0%

The relationship between the participants' IB use and their finding the use of IB services difficult is summarised in Table 4. It is seen from the table that 100 % of the bank customers who found the use of IB difficult and 34 % of the bank customers who did not find the IB use difficult did not use IB.

Table 14. The Relationship between IB Use and the State of Finding the Use of IB Services Difficult

			IB User		Total
			Uses IB	Does not Use IB	
Use	Difficult	Total	0	4	4
		% Use	,0%	100,0%	100,0%

	Not Difficult	Total	307	155	462
		% Use	66,5%	33,5%	100,0%
Total		Total	307	159	466
		%Use	65,9%	34,1%	100,0%

Table 15 summarises the relationship between the participants' state of IB use and their knowing how to use IB. It is seen that 100 % of the bank customers who did not know how to use IB and 27 % of the bank customers who knew how to use IB did not use IB.

Table 15. The Relationship between the IB Use and the State of Knowing How to Use IB

			IB User		Total
			Uses IB	Does not Use IB	
Method of Use	Does not Know	Total	0	45	45
		% Method of Use	,0%	100,0%	100,0%
	Knows	Total	307	114	421
		% Method of Use	72,9%	27,1%	100,0%
Total		Total	307	159	466
		% Method of Use	65,9%	34,1%	100,0%

The relationship between the participants' IB use and the state of their preferring face-to-face banking is given in Table 16. It is understood from the data that 99 % of the bank customers who preferred face-to-face banking and 23 % of the bank customers who did not specifically prefer face-to-face banking did not use IB.

Table 16. The Relationship between the IB Use and the State of Preferring Face-to-Face Banking

			IB User		Total
			Uses IB	Does not Use IB	
Face-to-Face banking	Prefers	Total	1	67	68
		% Face-to-Face	1,5%	98,5%	100,0%
	Does not Prefer	Total	306	92	398
		% Face-to-Face	76,9%	23,1%	100,0%
Total		Total	307	159	466
		% Face-to-Face	65,9%	34,1%	100,0%

The relationship between the IB use of the participants and their having internet connection is summarised in Table 17. It has been determined that 97 % of the bank customers who did not have internet connection and 29 % of the bank customers who

had internet connection did not use IB.

Table 17. The Relationship between the IB Use and Having Internet Connection

			IB User		Total
			Uses IB	Does not Use IB	
Internet Connection	Yes	Total	1	33	34
		% Internet Connection	2,9%	97,1%	100,0%
	No	Total	306	126	432
		% Internet Connection	70,8%	29,2%	100,0%
Total		Total	307	159	466
		% Internet Connection	65,9%	34,1%	100,0%

Logistical regression analysis was performed at this stage of the study in order to determine the effects arising from the relationships between the independent variables and make more informed interpretations[1]. The *Nagelkerke R Square* value, which is given in the model summary table, shows the extent to which the research model conforms to the real data (Howitt and Cramer, 2008). The closer this value is to "1", the more the model conforms to the research data. In this framework, it can be argued on the basis of the value of .907 given in the table that the research data are in conformity with the proposed model of dependent and independent variables.

Table18. Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
101,579	,656	,907

The total percentage value given in the classification table indicates the accuracy rate of the classification made concerning the state of being IB user (Landau and Everitt, 2004). According to this, it can be argued that 98 % of the research data were accurately classified.

Table 19. Classification Table

Observed		Estimated		
		IB User		Correct Percentage
		Uses IB	Does not Use IB	
IB User	Uses IB	304	3	99,0

[1] The choice of "I do not find IB secure" is encoded as "10", IB benefits are not evident as "11", prices of IB services are not reasonable as 12", IB use is difficult and requires mental effort as "13", I do not know how to use IB as "14", I prefer individual and face-to-face banking as "15" and I do not have internet connection as "16".

	Does not Use IB	5	154	96,9
Total Percentage				98,3

The results of the regression analysis are given in Table 20. It is understood that among the values in the significance column of the table, the relationship between the choices of “I do not find IB secure”, “the benefits of IB are not evident”, “I prefer individual and face-to-face banking” and “I do not have internet connection” and “the state of IB use” is significant at the 1 % level.

On the other hand, when the values in the Exp (B) column are examined, it is observed that the state of using individual and face-to-face banking is the factor that affects IB use the most. Having internet connection is the second most important factor that affects IB use. Not finding IB secure and not finding IB’s benefits evident are factors that affect IB use relatively less but still on a significant level. The relationship between the choices of “the prices of IB services are not reasonable”, “IB use is difficult and requires mental effort”, and “I do not know how to use IB” and the state of IB use is not statistically significant.

Table 20. Results of Regression Analysis

	B	S.E.	Wald	df	Sig.	Exp(B)
D10	6,159	,832	54,857	1	,000	473,106
D11	3,761	1,465	6,592	1	,010	43,002
D12	-24,003	36011,222	,000	1	,999	,000
D13	23,042	15018,525	,000	1	,999	1,016E10
D14	23,980	4727,266	,000	1	,996	2,595E10
D15	7,546	1,081	48,714	1	,000	1892,597
D16	7,057	1,088	42,093	1	,000	1161,176
Costant	-3,761	,382	96,779	1	,000	,023

The Effects of Demographic Features on Bank Customers’ IB Use: This section deals with the effects of demographic features of the bank customers on IB use. In this framework, the demographic features of the customers were taken as independent variables while their state of IB use was taken as the dependent variable.

The relationship between the independent variables and the IB use, which was the dependent variable, was investigated by the help of cross tabs in the first stage of the analysis. The composition of the customers who did not use IB was dealth with in this section and by this way an attempt was made to reach a general conclusion about the effects of demographic features. However, it should not be ignored that interaction, which could be cited among the demographic features, may reduce or totally remove the effects of some variables and therefore the tables should be interpreted with caution. Accordingly, the relationships between the variables were tested using the logistical

regression analysis in order to obtain better results.

The relationship between the IB use of bank customers and their ages is summarised in Table 21. It is seen that 30 % of the participants between the ages of 20 and 35, 37 % of the participants between the ages of 36 and 50 and 78 % of the participants above the age of 50 do not use IB.

Table 21. Correlation between Participants' IB Use and Their Age

			IB User		Total
			Uses IB	Does not Use IB	
Age	20-35	Total	217	94	311
		% Age	69,8%	30,2%	100,0%
	36-50	Total	86	51	137
		% Age	62,8%	37,2%	100,0%
	50 >	Total	4	14	18
		% Age	22,2%	77,8%	100,0%
Total		Total	307	159	466
		% Age	65,9%	34,1%	100,0%

The relationship between IB use of the bank customers and their gender is given in Table 2. It is understood from the table that 42 % of the female participants and 29 % of the male participants do not use IB.

Table 22. Correlation between Participants' IB Use and Their Gender

			IB User		Total
			Uses IB	Does not Use IB	
Gender	Female	Total	106	78	184
		% Gender	57,6%	42,4%	100,0%
	Male	Total	201	81	282
		% Gender	71,3%	28,7%	100,0%
Total		Total	307	159	466
		% Gender	65,9%	34,1%	100,0%

The relationship between IB use of the bank customers who participated in the study and their marital status is summarised in Table 23. It is observed from the data in the table that 38 % of the single participants and 32 % of the married participants do not use IB service.

Table 23. Correlation between Participants' IB Use and Their Marital Status

			IB User		Total
			Uses IB	Does not Use IB	
Marital Status	Single	Total	107	65	172
		% Marital Status	62,2%	37,8%	100,0%
	Married	Total	199	93	292
		% Marital Status	68,2%	31,8%	100,0%
Total		Total	307	159	466
		% Marital Status	65,9%	34,1%	100,0%

The relationship between IB use of the bank customers and their professions is summarised in Table 24. It is understood that 24 % of the private sector participants, 30 % of the public sector participants and 86 % of the participants from the other sectors do not use IB service.

Table 24. Correlation between Participants' IB Use and Their Profession

			IB User		Total
			Uses IB	Does not Use IB	
Profession	Private Sector	Total	192	60	252
		% Profession	76,2%	23,8%	100,0%
	Public Sector	Total	106	45	151
		% Profession	70,2%	29,8%	100,0%
	Other	Total	9	54	63
		% Profession	14,3%	85,7%	100,0%
Total		Total	307	159	466
		%Profession	65,9%	34,1%	100,0%

Table 25 shows the relationship between the IB use of the bank customers and their educational status. It is seen that 84 % of the primary education graduates, 59 % of the high school gradutes, 29 % of the bachelor's degree graduates, 20 % of the master's degree graduates and 15 % of the PhD graduates do not use IB service.

Table 25. Correlation Between Participants' IB Use and Their Educational Level

			IB User		Total
			Uses IB	Does not Use IB	
Education	Primary	Total	5	26	31

		% Education	16,1%	83,9%	100,0%
	High School	Total	29	42	71
		% Education	40,8%	59,2%	100,0%
	Graduate	Total	166	68	234
		% Education	70,9%	29,1%	100,0%
	Master's	Total	55	14	69
		% Education	79,7%	20,3%	100,0%
	PhD	Total	52	9	61
		% Education	85,2%	14,8%	100,0%
Total		Total	307	159	466
		% Education	65,9%	34,1%	100,0%

Table 26 summarises the relationship between the IB use of the bank customers and their income levels. It is understood from the table that 82 % of the participants with an income level below 750 TL, 54 % the participants with an income level between 750 TL and 1000 TL, 23 % of the participants with an income of 1001 TL and 1500 TL and 21 % of the participants with an income of above 1500 TL do not use IB service.

Table 26. Correlation between Participants' IB Use and Their Income Level

			IB User		Total
			Uses IB	Does not Use IB	
Income	Less than 750	Total	11	49	60
		% Income	18,3%	81,7%	100,0%
	750-1000 TL	Total	32	38	70
		% Income	45,7%	54,3%	100,0%
	1001-1500 TL	Total	89	27	116
		% Income	76,7%	23,3%	100,0%
	More than 1500 TL	Total	174	45	219
		%Income	79,5%	20,5%	100,0%
Total		Total	307	159	466
		% Income	65,9%	34,1%	100,0%

Logistical regression analysis was performed in order to be able to determine the effects that arose from the relationships between the demographic features and make more informed comments[2]. The *Nagelkerke R Square* value of .465 in the model summary

[2] Gender was shown with the value of "1", Age with "2", Marital status with "3", Profession with "4", Educational Level with

table indicates a medium level conformity. In this framework, it can be stated that demographic features can account for the state of IB use to a limited extent and that factors other than demographic ones are effective on IB use.

Tablo 27. Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
407,283	,336	,465

According to the *total percentage value* in the classification table, it can be argued that the research data were classified accurately at a level of 79 %.

Table 28. Classification Table

Observation		Expectation		
		IB User		Correct Percentage
		Uses IB	Does not Use IB	
IB User	Uses IB	277	30	90,2
	Does not Use IB	66	93	58,5
Total Percentage				79,4

Results of the regression analysis are given in Table 29. As can be seen from the values in the significance column of the table, the relationship between gender, age, profession, educational level and income level and the state of IB use is significant at the level of 5 %. On the other hand, the relationship between the marital status and the state of IB use is not statistically significant.

Again, it can be concluded from the values in the significance column that the relationship between income and IB use arises only from the first category. In other words, the state of IB use of the group with the lowest income is considerably lower than the others whereas no remarkable difference exists among other groups in terms of IB use.

When the values in the Exp (B) column are examined, it is observed that education is the factor that most affects IB use. On the other hand, the factors of gender, age, profession and income affect IB use on a marginal but significant level.

Table 29. Results of Regression Analysis

	B	S.E.	Wald	Df	Sig.	Exp(B)
D1(1)	,655	,273	5,758	1	,016	1,926
D2			8,969	2	,011	
D2(1)	-2,095	,769	7,421	1	,006	,123
D2(2)	-1,541	,759	4,118	1	,042	,214

"5", Monthly income level with "6".

D3			,712	2	,701	
D3(1)	-,262	1,555	,028	1	,866	,769
D3(2)	-,502	1,552	,105	1	,746	,605
D4			34,851	2	,000	
D4(1)	-2,140	,496	18,638	1	,000	,118
D4(2)	-,560	,539	1,080	1	,299	,571
D5			35,730	4	,000	
D5(1)	3,889	,757	26,386	1	,000	48,838
D5(2)	2,712	,573	22,378	1	,000	15,056
D5(3)	1,409	,471	8,950	1	,003	4,091
D5(4)	,690	,506	1,859	1	,173	1,995
D6			14,041	4	,007	
D6(1)	22,176	40194,375	,000	1	1,000	4,273E9
D6(2)	21,258	40194,375	,000	1	1,000	1,707E9
D6(3)	20,401	40194,375	,000	1	1,000	7,245E8
D6(4)	20,509	40194,375	,000	1	1,000	8,072E8
Constant	-19,732	40194,375	,000	1	1,000	,000

The Effect of the Participants' Levels of Perceiving IB on Frequency and Duration of IB Use: This section deals with the effects of the IB perception levels of bank customers on the frequency and duration of IB use via the multiple regression analysis. In this framework, firstly, the reliability and factor structure of the questions used in the study were tested. Cranbach's Alpha coefficient was used to test the reliability of the questions. "Alpha Coefficient of the Scale If the Item Deleted" was calculated in order to determine to what extent and in what direction the questions influenced the alpha coefficient. The values in question indicate the internal consistency of the remaining variables if any one of the variables is deleted. According to the Table 30, a high reliability value of $\alpha = 0{,}928$ was obtained.

Table 30. Reliability Value

Cronbach's Alpha	N
,928	24

The effects of the items constituting the scale on the level of reliability are shown in Table 31. When the Cronbach's Alpha values are examined, it is observed that removal of a variable from the survey does not increase security. In this framework, the survey structure consisting of 24 questions was maintained.

Table 31. Effects of Variables that Form the Scale on Reliability

	Mean of Scale When the Variable is Deleted	Variance of the Scale When the Variable is Deleted	Total Correlation of Corrected Variable	Cronbach's Alpha When the Variable is Deleted
D35	97,6361	142,186	,602	,925
D36	97,8426	140,061	,583	,925
D37	97,8885	137,909	,644	,924
D38	97,5803	141,883	,576	,925
D39	97,7213	139,998	,573	,925
D40	97,7410	140,285	,662	,924
D41	97,5967	142,531	,619	,925
D42	97,6131	141,442	,671	,924
D43	97,9344	137,009	,657	,924
D44	97,7902	139,561	,622	,924
D45	98,7311	132,763	,563	,927
D46	98,4262	135,081	,542	,927
D47	97,7803	138,731	,610	,924
D48	98,1836	141,150	,482	,926
D49	98,2852	138,869	,550	,925
D50	98,3574	139,776	,483	,927
D51	97,7311	140,052	,607	,925
D52	97,6984	141,521	,589	,925
D53	98,3213	138,087	,474	,927
D54	97,7410	140,883	,609	,925
D55	97,7246	140,891	,602	,925
D56	98,0721	137,449	,522	,926
D57	97,7672	139,778	,667	,924
D58	97,9082	136,669	,653	,924

The principal components analysis was used in determining the factor structure of the IB perception scale. It is seen from the data in the table that this scale consists of 5 factors. Moreover, when the variance values are examined, it is observed that the 5 factors that constitute the scale account for 65 % of the total variance.

Table 32. Total Variance

Components	Initial Values	Total of Loadings

	Total	Variance %	Total %	Total	Variance %	Total %
1	9,807	40,860	40,860	4,830	20,125	20,125
2	2,046	8,526	49,386	3,162	13,175	33,300
3	1,335	5,561	54,947	3,055	12,731	46,030
4	1,253	5,221	60,168	2,571	10,713	56,743
5	1,054	4,390	64,558	1,876	7,815	64,558
6	,898	3,742	68,300			
7	,773	3,222	71,522			
8	,744	3,099	74,621			
9	,720	3,001	77,622			
10	,579	2,413	80,035			
11	,568	2,367	82,402			
12	,538	2,244	84,646			
13	,517	2,153	86,800			
14	,453	1,887	88,686			
15	,415	1,730	90,416			
16	,353	1,469	91,885			
17	,307	1,280	93,165			
18	,299	1,245	94,410			
19	,291	1,213	95,622			
20	,271	1,128	96,751			
21	,231	,961	97,712			
22	,207	,861	98,573			
23	,175	,729	99,303			
24	,167	,697	100,000			

Although the scale is composed of 5 factors from the components matrix obtained as a result of the principal components analysis, a clear factor structure could not be obtained. Therefore, the obtained result consisting of 5 factors was subjected to rotate in order to allow for interfactorial comparison by seeing loadings of each factor more clearly. Varimax rotation method was used for this purpose.

Table 33. Principal Components Matrix

	Components				
	1	2	3	4	5

D35	,673	-,203	,289	-,179	,177
D36	,632	-,012	,263	-,281	,093
D37	,710	-,182	,178	-,254	-,094
D38	,657	-,341	,114	-,271	-,153
D39	,629	-,147	-,110	-,142	-,340
D40	,732	-,272	,004	-,017	-,023
D41	,702	-,329	,154	-,088	,108
D42	,751	-,303	,059	,034	-,031
D43	,696	,017	-,273	-,140	,008
D44	,673	-,086	-,224	-,248	-,144
D45	,564	,389	-,385	-,120	,115
D46	,547	,372	-,367	-,165	,101
D47	,642	,094	-,293	-,271	,042
D48	,490	,584	,420	-,034	-,107
D49	,546	,626	,337	,054	-,046
D50	,491	,560	,319	-,108	-,093
D51	,652	,012	-,022	,160	,561
D52	,651	-,137	,007	,105	,532
D53	,489	,333	-,184	,294	,126
D54	,683	-,216	,219	,463	-,053
D55	,659	-,138	,074	,491	-,085
D56	,565	,033	-,246	,295	-,186
D57	,713	-,023	-,058	,253	-,301
D58	,683	,092	-,245	,183	-,187

The factorial structure obtained as a result of the Varimax rotation method is shown in Table 34. It is observed from the data in the table that the choice “53. I use IB services as a source of information” is below 0.5 and has a high loading value on more than one factor. Therefore, this choice was removed from the scale.

Table 34. Matrix of Rotated Principal Components

	Components				
	1	2	3	4	5
D35	,670	,107	,057	,216	,362
D36	,600	,020	,157	,344	,230

D37	,727	,179	,172	,209	,095
D38	,775	,189	,138	,043	,026
D39	,558	,347	,324	,065	-,157
D40	,613	,376	,215	,032	,216
D41	,682	,248	,094	,056	,327
D42	,631	,426	,155	,045	,235
D43	,421	,245	,558	,081	,151
D44	,548	,216	,494	,045	-,009
D45	,090	,124	,729	,242	,175
D46	,118	,086	,714	,238	,149
D47	,402	,098	,619	,112	,124
D48	,150	,130	,126	,844	,044
D49	,089	,205	,207	,837	,128
D50	,171	,081	,215	,771	,029
D51	,240	,222	,292	,139	,745
D52	,356	,205	,225	,049	,718
D53	-,079	,391	,406	,273	,296
D54	,378	,707	-,085	,165	,319
D55	,274	,736	,035	,134	,268
D56	,150	,590	,353	,068	,051
D57	,359	,659	,259	,193	,004
D58	,249	,552	,458	,154	,052

The relationships among each other of the factors, namely ease of use, usefulness, web security, purpose of use and personal views, which were prepared to determine the participants' IB perception levels, were investigated at this stage of the analysis. It is understood from the values in the significance column of Table 35 that the relationships among the participants' IB perceptions are significant at the level of 1 %. In particular, there is an extremely strong correlation between the factors of ease of use and usefulness and personal views. On the other hand, the relationship of web security with the other factors is relatively weak.

Table 35. Results of Correlation Analysis

		Ease of Use	Usefulness	Web Security	Purpose of Use	Personal Views
Ease of Use	Pearson Correlation	1	,624**	,394**	,580**	,680**

	Significance		,000	,000	,000	,000
	N	305	305	305	305	305
Usefulness	Pearson Correlation	,624**	1	,468**	,521**	,593**
	Significance	,000		,000	,000	,000
	N	305	305	305	305	305
Web Security	Pearson Correlation	,394**	,468**	1	,335**	,414**
	Significance	,000	,000		,000	,000
	N	305	305	305	305	305
Purpose of Use	Pearson Correlation	,580**	,521**	,335**	1	,553**
	Significance	,000	,000	,000		,000
	N	305	305	305	305	305
Personal Views	Pearson Correlation	,680**	,593**	,414**	,553**	1
	Significance	,000	,000	,000	,000	
	N	305	305	305	305	305

The relationship between the bank customers' ease of use, usefulness, web security, purpose of use and personal views and the frequency of IB use was investigated using the regression analysis and the results were given in Table 36. It is understood from the value in the significance column of the table (p = .000) that the relationship among the related variables is statistically significant.

Table 36. Results of Multiple Regression Analysis

Model		Total Squares	df	Mean Squares	F	Sig.
1	Regression	79,080	5	15,816	5,773	,000
	Difference	819,202	299	2,740		
	Total	898,282	304			

The model summary that was formed to demonstrate the extent to which the bank customers' ease of use, usefulness, web security, purpose of use and personal views affect the frequency of IB use is given in Table 37. It is understood from the value in the R-Square column (R Square = .088) that the effect of perception on the frequency of use is limited at the level of 9 %.

Table 37. Model Summary

Model	R	R Square	Corrected R Square	Std. Error
1	,297	,088	,073	1,65524

On the other hand, the coefficients indicating the effects of each of the factors of ease of use, usefulness, web security, purpose of use and personal views on the frequency of IB use are given in Table 38. The data in the table reveal that although the integrated effect of the factors is significant, individual effects of the factors are not statistically significant.

Table 38. Coefficients

Model		Non-Standard Coefficients		Standard Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,454	,877		8,497	,000
	Ease of Use	-,223	,280	-,067	-,797	,426
	Usefulness	-,164	,178	-,072	-,922	,357
	Web Security	-,223	,142	-,100	-1,573	,117
	Purpose of Use	-,170	,191	-,064	-,887	,376
	Personal Views	-,218	,225	-,079	-,971	,332

The relationship between the bank customers' ease of use, usefulness, web security, purpose of use and personal views and the duration of IB use was investigated by the help of regression analysis and the results were given in Table 39. It is understood from the table that the relationship between the related variables is statistically significant.

Table 39. Results of the Multiple Regression Analysis

Model		Total Squares	df	Mean Squares	F	Sig.
1	Regression	32,299	5	6,460	6,606	,000
	Difference	292,390	299	,978		
	Total	324,689	304			

The model summary is given in Table 40. It is understood from the value in the R-Square column of the table (R Square = .099) that the effect of perception on the duration of use is limited to 10 %.

Table 40. Model Summary

Model	R	R Square	Corrected R Square	Std. Error
1	,315	,099	,084	,98888

The coefficients demonstrating the effects of each of the factors, namely ease of use, usefulness, web security, purpose of use and personal views, on the duration of IB use are given in Table 41. The data in the table indicate that there is a positive and linear relationship between the factors of ease of use and purpose of use and the duration of use. It was concluded on the basis of these findings that the customers who found IB use easy and thought that this service served their purpose had been using IB for a longer period. On the other hand, usefulness, web security and personal views do not have a significant effect on the duration of IB use.

Table 41. Coefficients

Model		Non-Standard Coefficients		Standard Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,040	,524		1,985	,048
	Ease of Use	,406	,167	,203	2,431	,016
	Usefulness	-,023	,106	-,017	-,218	,827
	Web Security	-,005	,085	-,003	-,054	,957
	Purpose of Use	,256	,114	,159	2,236	,026
	Personal Views	,011	,134	,007	,083	,934

CONCLUSION

Thanks to the rapid developments in information technologies, the internet, which is intensively used in all fields, is also used extensively in the field of banking. Customers are able to access their accounts through IB wherever they are and make banking transactions. Enabling customers to make their transactions on a 24-hour-basis and keep their portfolios under control at all times, IB also reduces costs of transactions of banks and lightens their workload. The cost of transactions made via the internet is about 1 % of the cost of the transactions made via the branches of banks.

In Turkey, especially banks have assumed the leading role in the use of internet. Transactions are conducted via the internet in all of the 22 banks that operate in Turkey and were included in the scope of the present study. The websites of the banks were investigated under three headings, namely financial transactions, non-financial transactions and evaluation of websites in terms of speed, security and continuity of services. The five headings that were investigated in the financial transactions section were money transfers, payments, investment transactions, credit card transactions and finally account management. Non-financial transactions, on the other hand, were investigated under four headings, namely applications for credit cards, applications for laon, regular payment order and information search and change. Based on the information gleaned from the websites of the banks, the following inferences are made: We found many banks offering transaction services at the advanced level. Most products and services are offered via the Internet. Concerning the security component, we can notice that we practically find the same security elements for all banks. All banks use for identification user code, password, smart cards and digipass. All sites are multilingual in order to reach the largest number of clients. It is generally observed that some banks are better at using IB in banking transactions. However, all of the banks are increasing the number of transactions that are conducted via the internet. It should be noted here that expanding the information technology infrastructure in Turkey and employment of experienced personnel in the field of information technologies will contribute to the development of IB.

The results of the survey that was conducted to determine the users' perception levels of

IB services can be summarised as follows: More than half of the bank customers who participated in the research are male, below the age of 50, married, employed in the private sector, received master's level education and earn an income above 1500 TL. 66 % of the participants are IB users whereas 34 % do not make use of the IB service. All of the participants who are not IB users find IB use difficult or do not know how to use IB. Moreover, most of them do not find IB service secure and its benefits evident and therefore prefer face-to-face banking.

When the relationship between the participants' demographic profiles and their IB use is investigated, it is observed that education is the most influential factor on IB use. Likewise, while the IB use of the group with the lowest income level is considerably lower than the others, no significant difference is observed among the other groups in terms of the use of IB.

It is observed that the factors of ease of use, usefulness, web security, purpose of use and personal ideas, which were prepared to determine the IB perception levels of the bank customers do not have an effect on the frequency of IB use on an individual level. On the other hand, a positive and linear relationship was observed between the factors of ease of use and purpose of use and the duration of use. It was concluded on the basis of this finding that the customers who found IB use easy and thought this service served their purpose had been using IB for longer period. However, usefulness, web security and personal views do not have a significant effect on the duration of IB use.

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Appendix 1: List of the Banks and Their Web Addresses

Banks	Web Addresses
ABN AMRO Bank N.V..	http://www.abnamro.com.tr
Akbank T.A.Ş..	http://www.akbank.com
Alternatif Bank A.Ş..	http://www.abank.com.tr
Anadolubank A.Ş..	http://www.anadolubank.com.tr
Denizbank A.Ş..	http://www.denizbank.com
Eurobank Tekfen A.Ş..	http://www.eurobanktekfen.com
Finans Bank A.Ş..	http://www.finansbank.com.tr
Fortis Bank A.Ş..	http://www.fortis.com.tr
HSBC Bank A.Ş..	http://www.hsbc.com.tr
Millennium Bank A.Ş..	http://www.millenniumbank.com.tr
Oyak Bank A.Ş..	http://www.oyakbank.com.tr
Şekerbank T.A.Ş..	http://www.sekerbank.com.tr
Tekstil Bankası A.Ş..	http://www.tekstilbank.com.tr
Turkish Bank A.Ş..	http://www.turkishbank.com
Turkland Bank A.Ş..	http://www.tbank.com.tr
Türk Ekonomi Bankası A.Ş..	http://www.teb.com.tr
T. C. Ziraat Bankası A.Ş..	http://www.ziraatbank.com.tr
Türkiye Garanti Bankası A.Ş..	http://www.garanti.com.tr
Türkiye Halk Bankası A.Ş..	http://www.halkbank.com.tr
Türkiye İş Bankası A.Ş..	http://www.isbank.com.tr
Türkiye Vakıflar Bankası T.A.O..	http://www.vakifbank.com.tr
Yapı ve Kredi Bankası A.Ş..	http://www.yapikredi.com.tr