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Availability of Mobile Banking Applications for Teachers

Feyza Gül Apan[a,*], Ahmet Naci Çoklar[b], Şemseddin Gündüz[c]

Abstract: The development of technology enables banks to provide efficient services. Mobile applications, one of these services, have an important place in increasing the satisfaction of the users. This study aims to evaluate Ziraat Mobile Application in terms of usability. In this context, "Demographic Information Form" and "Ziraat Mobile Application Task List Scale" were applied to 20 teachers. Descriptive statistics technique and Mann Whitney U-test were used in the analysis of the obtained data. It has been determined that there is a direct proportion between the number of wrong actions taken by the users while performing the assigned tasks and the time to complete the task. It has been observed that the number of wrong actions decreased to an average of 0.21 while performing tasks involving operations that are frequently used in daily life, while the number of incorrect actions increased to an average of 2.36 while performing tasks with operations that are not frequently used in daily life. The research findings showed that there was no significant difference between the duration of use of the application and the usability, and the gender and usability. At the end of this study, suggestions were made in order to evaluate the application in different criteria.

Keywords: Usability, Banking Services, Mobile Banking, Mobil Application.

1. Introduction

Thanks to the rapid developments in technology, changes are taking place in many areas today. These changes are also seen in banking environments today. Banks have begun to use new methods to provide effective and efficient service to their customers. Telephone banking, internet banking, sms banking, ATM (Automatic Payment Machines / ATM) banking, mobile (mobile phone connected internet) banking are within the scope of these services. Mobile banking applications have become one of the important service environments where retail customers using internet banking can access information and perform necessary transactions without going to a bank branch. In this way, the way has been opened to make transactions quickly and easily.

Continuous development of technology has made it necessary to renew business activities. Like many other sectors, the banking sector is affected by the developing technology and offers various and quality services to its customers. In this context, the superiority of technology greatly affects the banking sector on the basis of providing services via electronic channels (Uzun and Berberoğlu, 2017:51-62).

Pala and Kartal (2010) defines internet banking as a virtual ADC (Alternative Distribution Channel), which is a part of electronic banking services, using connection systems that can be directly communicated, and where all corporate and individual banking transactions can be made.

Dursun et al., (2014: 95), in the study conducted to evaluate the attitudes of customers towards branch banking and internet banking, emphasized the differences between the two channels, taking into account the factors of physical factors, service diversity, security, reliability, enthusiasm, execution of transactions, transaction fees. In this direction, the only factor that did not differ was the service diversity. As a result of the study, it was concluded that customer satisfaction in internet banking is at a higher level than branch banking. In this direction, the only factor that did not

[a] Computer Education and Instructional Technology Department, Institute of Educational Sciences, Necmettin Erbakan University, Konya, Turkey, feyzaglapan@gmail.com

b Prof.Dr., Computer Education and Instructional Technology Department, Necmettin Erbakan University, Ahmet Keleşoğlu Education Faculty, Konya, Turkey, acoklar@erbakan.edu.tr

c Asist.Prof.Dr. Computer Education and Instructional Technology Department, Necmettin Erbakan University, Ahmet Keleşoğlu Education Faculty, Konya, Turkey, semsedding@gmail.com

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differ was the service diversity. As a result of the study, it was concluded that customer satisfaction in internet banking is at a higher level than branch banking.

Mobile banking is defined as a service through which customers can perform their banking transactions via a network connection using a mobile device, namely a smartphone or tablet (Shaikh and Karjaluoto, 2015). The most important issues in the spread of mobile banking today; Internet access is the widespread use of smart phones, the increase in the use of tablet computers and the quality of mobile applications offered (Koç, 2015). Mobile banking is used for money transfer, payments, etc. via an electronic device. It provides the opportunity to perform financial transactions such as (Lee & Chung, 2009). Banks with mobile banking services; It aims to adapt to changing customer demands and needs, to create a positive image for the company, to get ahead in the competition and to gain new customers (Rajnish and Buse, 2007: 70).

Baabdullah (2017) tried to determine the effect of mobile banking on the performance of commercial banks, taking into account the banking sector in Kenya. The relationship between commercial banking and mobile banking correlation was investigated. They measured by analysis and moderately positive result d have to determine that relationship. According to the study findings, mobile banking makes a significant contribution to the performance of commercial banks. That's why banks should pay more attention to mobile banking. Mobile banking customers, on the other hand, must synchronize their systems constantly in order to benefit from the benefits of the service.

Internet banking not only has many opportunities that will benefit, but it also has dangers that can cause damage. Security risk is one of these dangers. One of the most important duties of service providers has been to ensure the security of customers in the mobile environment.

Many users are not inclined to use new technologies. Customers have stated that they are concerned that the personal information of hackers will be shared with third parties and their money will be stolen without their knowledge and permission (Learn & Lin, 2005) . While sociodemographic characteristics affect mobile banking usage, education level does not affect mobile banking usage (Karjaluoto et al. , 2002). Younger users trust mobile banking more than older users. Older users place more emphasis on performing their transactions through a bank clerk (Howcroft et al., 2002: 111-121).

During the years when mobile banking became popular, some security problems arose. To prevent these security problems, banks have applied some security measures and the current two-step security solution has been passed. The period of obtaining account information over the Internet is largely over. Despite this, there is a segment that does not use this system and makes transactions by going to banks. In order to make transactions in banks, people should go to the bank and wait in line and take into account the opening and closing hours of banks.

Mobile banking basically provides two benefits to people:

- 7/24 access to the system
- Saving on time

Banks are updating their mobile applications by enriching them with many new functions as well as transaction flows. The number of users accessing the mobile banking service is increasing day by day. This increase reveals the usability problem of the application. In this context, the aim of the study is to evaluate the usability of Ziraat Mobile Application.

Ziraat Mobile Application’s to have the highest concentration ratio of the share's ratio 14.02% and Turkey’s Lovemarks Research in three consecutive years to be honored with this award by selecting the most popular Bank in Turkey in 2018 to assess usability of the bank has been effective in being selected for.

Usability is about how the user's success that results in product use. International Standards Organization (ISO) usability: "How effective, effective and pleasing a product is used by certain users for certain purposes, in specified environments." expressed in the form.

2. Method

The research is a descriptive study in which qualitative research technique is used.

2.1. Studying group

20 teachers who have used the Ziraat Mobile Application before were selected as participants. Participants' ages range from 22–31 years. The study with 1 female teacher was excluded from the study group because it did not fit the desired age range. The study was conducted with 13 female and 6 male teachers. The demographic information of the participants is given in the table below (Table1).

Table 1. Demographic information of the participants (N=19)

SPECIFICATIONS		N	%
Gender	Female	13	68,4
	Male	6	31,6
Duration of Use	0-1 years	5	26,3
	1-2 years	5	26,3
	2-3 years	3	15,8
	3-4 years	6	31,6
Level of Use	good	7	36,8
	Middle	10	52,6
	little	2	10,5
Frequency of use	Everyday	5	26,3
	Once a week	10	52,6
	Once a month	4	21,1

2.2. Collection of Data

Trait record chart, which is one of the observational recognition techniques, was used as a data collection tool. Research data; "Demographic Information Form" evaluating the general characteristics of the participants and "Ziraat Mobile Application Task List Scale" were used. The scales used were developed by the researcher with expert opinion. A demographic information form was used in order to define the target audience and determine the level of use of the Ziraat Mobile Application. In the questionnaire form, the age, gender, education level of the participant, how long the application has been used, and the frequency of use of the application were questioned. While developing the Ziraat Mobile Application Task List Scale, a task pool was created by first scanning the Ziraat Mobile Application. While creating the task pool, attention has been paid to select at least one task from each service category. 10 different tasks chosen by the researcher were drafted. The scale, which was turned into a draft, was presented to the expert lecturer individually. The language of the expressions in the options has been made clear and understandable in line with the recommendations of the expert who examined the bill. In addition, three of the tasks were not found suitable for the scope since they are not among the frequently used operations. For this reason, the number of tasks was reduced to seven by removing the three task measurement tools. The developed feature record chart consists of 2 parts. In the first part, the number of deviations made while performing the task is written in the second part, and the completion time of the task in seconds. The steps of the user must be followed sequentially while performing the task in the current stage. The next step in a different way from the action implemented by each researcher observing "deviation count" is written on the scale.

The research was conducted between 20 November 2019 - 29 November 2019. Before the researcher started to observe, the Ziraat Mobile Application and the stopwatch were prepared. The scales were applied in a non-noisy environment. During the application, it was avoided to give clue to the users who asked questions. The tasks in the scale were performed on the researcher's mobile device in order to take security precautions and to ensure that each user can perform the tasks in the application with the same updated version. The mobile device was given to the user after the application was opened and the login information was completed. Each observation lasted an average of 342 seconds. When the Ziraat Mobile Application did not respond, the timer was paused and continued when the application was ready.

2.3. Data Analysis

The data obtained from the questionnaire were transferred to Microsoft Excel Worksheet and SPSS Statistics 22 program. Descriptive statistics (mean, percentage, total, frequency) were used to make a general evaluation in the analysis of the transferred data. The significance level of usability was analyzed by gender and the duration of use of the application with the nonparametric "Mann Whitney U-test". In this study, the significance level was taken as 0,05.

3. Findings and Discussion

After the data collection process was completed, the data obtained were transferred to the computer for appropriate statistical operations. Table 2 contains data on the frequency of use of the application by the teachers in the study group and the duration of the data to perform the tasks.

Table 2. Information about the teachers in the study group

Gender	Level	Frequency	Total Deviation	Total Time
Female	Medium	A few times a week	4	319
Female	Medium	Everyday	10	361
Female	Medium	A few times a week	9	394
Female	Medium	A few times a week	7	294
Male	Good	Everyday	5	275
Female	Good	A few times a week	9	340
Female	Good	Everyday	15	473
Male	Good	Everyday	5	261
Female	Little	A few times a week	8	373
Female	Good	A few times a week	12	555
Male	Medium	A few times a week	4	233
Female	Medium	A few times a week	10	210
Male	Good	A few times a week	7	227
Male	Medium	Several times a month	14	465
Female	Little	Several times a month	15	463
Female	Medium	Several times a month	9	468
Female	Good	Everyday	3	165
Male	Medium	A few times a week	10	366
Female	Medium	Several times a month	5	261
Average			**8,47**	**342,26**

In Table 2, it is understood that users can complete all tasks in an average of 342 seconds with an average of 8 deviations. The person who completed the tasks the fastest and with the least deviation was a female teacher in 165 seconds with 3 deviations, and the slowest one was a female teacher in 555 seconds with 12 deviations. Two people who completed the tasks with the highest deviation made a total of 15 deviations. Task completion times are 473 and 463 seconds, respectively. When the use of time is evaluated, it becomes clear that there is a big difference between the longest completion time and the shortest completion time. It is observed that the level of use of the application by the person completing the task the fastest is "good" and the frequency of using the application is "everyday". It is observed that the level of using the application is "good" and the frequency of using the application is "several times a week" of the person who finishes the task the slowest. Table 2 shows that as the total number of deviations increases, the total duration also increases. Correlation analysis was conducted to determine whether there was a relationship between the deviation completion times of the participants while performing the task. Analysis result is shown in Table 3.

Table 3. The relationship between the task completion time of the participants and the number of deviations.

	Total Time		
Number of deviations	**N**	**R**	**p**
	19	0.79	0.00

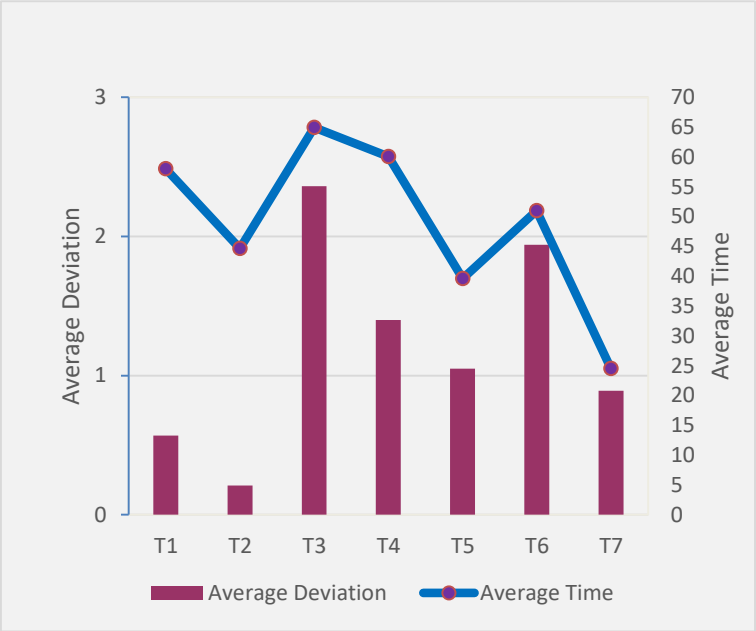
The relationship between the number of deviations made by the participants while performing their tasks and the time they completed was found to be r = 0.79. It can be said that there is a highly positive and significant relationship between the number of deviations and the completion time. In other words, as the number of deviations made while completing the task increases, the task completion time increases. The data regarding the number of deviations made for each task given within the scope of the research and the time to complete the task are given in Table 4.

Table 4. Average task completion time and average deviation of tasks

		Average Number of Deviation	Average Time (sec)
T1	Find the minimum 50₺ maximum 250₺ withdrawal transactions in the last 3 months from the account transactions and tell them the number of transactions.	0,57	57,57
T2	Make 50₺ Money EFT/Transfer to the IBAN number of "TR54 0001 8875 2718 **** **** **".	0,21	44,63
T3	Close/open your debit card for foreign transaction trade.	2,36	64,94
T4	Add an automatic water bill payment order to Konya Water - (Koski) with the subscriber number "12345678".	1,4	60,05
T5	Check the traffic ticket debt status of the vehicle with license plate 42 ADV 271.	1,05	39,57
T6	Reach Ziraat Bank's "customer contact center" number and tell this number you reached.	1,94	50,94
T7	Open the map showing the closest agricultural ATMs.	0,89	24,52

When Table 4 is examined, the task with the highest number of deviations and the longest completed task was task3. In Table 4, it is seen that as the average number of deviations decreases, the average duration also decreases. According to Table 4, the two tasks performed as soon as possible were task 2 and task 1, respectively. Daily life of users in a short time, the cause of which occur most frequently used operations are thought to arise from taking place between. According to Table 4, the two tasks performed in the longest time were task 3 and task 6, respectively. It is thought that the reason why Task 3 was carried out in a long time is due to the fact that it is not among the operations that users frequently use in daily life. While the first 5 tasks to be performed are among the menu options, the last 2 tasks are on the main page, unlike the first 5 tasks. Since they are in different categories, the realization of task 6 was completed in a longer time with more deviations. Although the number of stages to be performed in order to complete the task 6 and task 7 is the same and the operations are in the same category, the task 7 was completed faster and with less deviation number. Although the difficulty levels are equal, it is thought that the reason why task 7 is completed faster than task 6 is due to the succession in the ranking. The graphical view of the average deviation and average completion time of the given tasks is given in Figure 1.

Figure 1. Average deviation-Average duration graph



The Mann Whitney U-test was conducted to determine whether the Ziraat Mobile Application's performalece of the tasks differed according to the time the participants used the application.

Table 5. U-Test Results of Ziraat Mobile Application Usability According to Usage Period

Results according to total deviation and total time::

	Group	n	Mean Rank	Total Rank	U	P
According deviation	0-2 year	10	12,10	121,00	24,00	0,08
	2++	9	7,67	69,00		
According time	0-2 year	10	11,35	113,50	31,50	0,27
	2++	9	8,50	76,50		

Mann Whitney U-test results are given in Table5 according to the total deviation and total duration of the tasks completed in the scale among the observed teachers who have used the application for 0-2 years and those who have used the application for more than 2 years. Accordingly, no significant difference was found between the duration of use of the application and the total number of deviations (U=24.00,p<.05). In addition, there was no significant difference between the usage time of the application and the total task completion times (U=31.50,p<.05).

Participants 13(68.4%) are female, 6(31.6%) are male and all of them are university graduates. The Mann Whitney U-test was conducted to determine whether the Ziraat Mobile Application's performalece of the tasks differed according to the gender of the participants.

Table 6. U-Test Results of Usability of Ziraat Mobile Application According to Gender

According to the results and the time deviation:

	Group	n	Mean Rank	Total Rank	U	P
According deviation	Female	13	10,69	142,50	30,00	0,42
	Male	6	7,92	47,50		
According time	Female	13	10,96	139,00	26,50	0,27
	Male	6	8,50	51,00		

Mann Whitney U-test results are given in the table according to the task completion times and total deviation numbers in the usability scale after the application of men and women among the observed teachers. Accordingly, there was no significant difference between the number of deviations and gender.

4. Results and Recommendations

Ziraat Bank, one of the three state-owned banks in Turkey; It was established as a charity fund in 1863 and developed with great strides over time, and expanded its services in order to become the bank of everyone and every segment (URL-1). It also continues to improve its services. Ziraat Mobile Application is one of these services. One of the purposes of banks in implementing mobile banking applications is to offer financial services easier, more efficient and faster thanks to the practical solutions provided by technology. With smart phones becoming an indispensable part of daily life, the mobile banking service offered by banks as an important alternative distribution channel, eliminates the distance between customers and banks and provides easy service without time and space limits (Demirel, 2017). The most up-to-date service type in mobile banking is performing banking transactions with applications downloaded to smart phones (Seyrek and Akşahin, 2016: 47-61). As the fast and effective use of mobile banking applications by customers increases, customer satisfaction increases (Özer et al., 2013). In other words, usability from the dimensions of mobile service quality has a direct and positive effect on customer satisfaction (Thakur, 2014: 628-646).

The determination of the achievement of the objectives of banks to offer the mobile banking system to users can be achieved by qualitatively evaluating the data of real user observations. In this study, currently serving hundreds of thousands of people and of Turkey's largest banks located within the first 5 Ziraat Bank mobile app is evaluated in terms of usability. The research findings were reached by analyzing the results of the Ziraat Mobile Application Task List Scale collected from 20 participants in the study. The study of 1 participant was excluded from the group because it did not fit the desired age range. Task execution times and the number of deviations made while performing the task are important in revealing the differences in perspective between mobile application developers and real users. Considering the number of deviations and task completion times during task completion, it was observed that the most difficulties were in closing / opening the bank card for foreign transaction trade and in the task of reaching the "customer contact center" number of the ziraat bank and saying the number reached. Most of the participants did not think that the task could be on the home page. The number of deviations and time spent by the users while performing the task does not differ according to their gender. The number of deviations and time spent by the users while performing the task does not differ according to their experience of using the application. According to the research, no significant difference was found between gender and usability, and the duration of use of the application and usability. According to the research, no significant difference was found between gender and usability, and the duration of use of the application and usability. The result obtained is also compatible with the study of (Kurt ve Turan, 2017: 25-59). This is explained by the fact that individuals using smartphones are already accustomed to mobile lifestyle and can easily use applications. This study was conducted on university graduate teachers. No difference was found in terms of demographic data since it was applied to individuals with the same education level and close age range (22-31). When the study is applied on individuals of different education and age groups, different results can be obtained.

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About Authors

Feyza Gül Apan, Necmettin Erbakan University, feyzaglapan@gmail.com

Ahmet Naci Çoklar, Necmettin Erbakan University, acoklar@erbakan.edu.tr

Şemseddin Gündüz, Necmettin Erbakan University, semsedding@gmail.com

ORCID

Feyza Gül Apan http://orcid.org/0000-0003-0591-9246

Ahmet Naci Çoklar http://orcid.org/0000-0001-9210-4779

Şemseddin Gündüz http://orcid.org/0000-0003-1075-0043