International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Digital Transformation in the Banking Sector; An Analysis of the Evaluation of Acceptance Levels of Bank Employees

Assoc. prof. Dr. Nuray Islatince
Faculty of Business Administration
Anadolu University
Eskisehir Turkey
Email: nislatince@anadolu.edu.tr
Orcid: https://orcid.org/0000.0002-1552-3504
Turkey

ABSTRACT

Digitalization opens the door to innovations in data production and analysis, especially to increase the internal efficiency of corporate users and to help them grow by adding value to customers. There are many studies in the literature that have reported that the talents and skills of bank employees have improved in parallel with the digitalization of banking activities. The present study aims to use the Technology Acceptance Model to investigate the attitudes of bank employees in the Turkish banking sector towards the use of information technologies and to perform empirical analysis to identify their thoughts on the use of digital banking and to determine the extent to which they accept the digital transformation. In the research, a survey was planned to be conducted on the subject studied, and for this purpose, the scale developed by Kitsios (2021) was adapted into Turkish.

KEYWORDS: Digitalization, Technology Acceptance Model, Perceived Ease of Use (Peou), Perceived Usefulness (Pu), Behavioral Intention (Bi), Attitude Towards Using (Atu), Banking Sector, Confirmatory Factor Analysis (Cfa)

INTRODUCTION

Digitalization refers to the current rising trend in the use of digital technologies and includes contributions to the integration of products and activities in areas of use. Digitalization opens the door to innovations in data production and analysis, especially to increase the internal efficiency of corporate users and to help them grow by adding value to customers. In this information age, digital transformation has led to radical changes in the expectations and behaviors of individuals. As such, traditional methods have been abandoned, and digital transformation has radically changed the structure of many markets. Starting with the emergence of computer technologies and catching a substantial trend with the advent of the Internet, digital transformation has now become a necessity for institutions to gain a competitive advantage and meet customer needs more effectively. Digitalization is the process of converting information into a computer-readable format. As in the whole world, the banking sector is undergoing a change and development process in our country as well. Digitalization refers to the willingness to use the cloud, social, mobile, and big data technologies. In a digital society, access to all kinds of services is only possible in this way without physical boundaries and time constraints. More than four billion people around the world use smartphones as the easiest way to access information and communicate. Thanks to the Internet, the number of contact points to the banking sector via mobile phones is increasing rapidly. In the past, the only link between banks and their customers as bank branches. Although these service points continue to exist, they have already lost their priority among customers. Hoping that digitalization will reduce human error, increase customer loyalty, and provide a competitive advantage, banks added many innovations to their services such as ATMs, credit cards, debit cards, online payment services, online investment, electronic fund transfer, telephone banking, mobile banking, e-wallets, and internet banking. Digital reforms include broad banking services; digitization of documents, e-statements, electronic signatures for transactions, and online trading platforms are just some of them. Digitalization can significantly affect the work environment of employees in the banking sector. There are many studies in the literature that have reported that the talents and skills of bank employees have improved in parallel with the digitalization of banking activities. Fitzgerald et al. (2014) stated that all sectors now preferred to hire a workforce with skills related to digital systems and advanced technologies. The increase in the use of automation in the banking sector or the ability to carry out activities in physical bank branches without being dependent on banking personnel will not reduce the role of the human workforce. Employees' acceptance of working with robots or digital technologies for the banks to reach the target of achieving sustainability of their activities and increasing their performances effectively and efficiently will increase the profitability of the banking sector while also reducing costs and manual errors. In this context, bank managers should take some steps to determine whether their employees are ready to accept and implement digitalization in their daily work routines. The most important factor for the banking sector using information technologies are employees. Therefore, employees' attitudes towards technological developments and the use of technology can be an indicator of whether technology is accepted by employees. The present study aims to use the Technology Acceptance Model to investigate the attitudes of bank employees in the Turkish banking sector towards the use of information technologies and to perform empirical analysis to identify their thoughts on the use of digital banking and to determine the extent to which they accept the digital transformation. In the research, a survey was planned to be conducted on the subject studied, and for this purpose, the scale developed by Kitsios (2021) was adapted into Turkish. The original scale was translated into Turkish using traditional methods. First, the scale was translated into Turkish by an expert team, then a second expert team translated the scale back into the

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

source language, and finally, both versions were tested on samples that spoke both languages. This scale was developed for the first time in this study. Due to the originality of the scale, it is aimed that future research will benefit from it. Thus, the scale is expected to make valuable contributions to both the relevant literature and academics.

BACKGROUND

One of the main theories in the literature on technology acceptance is the Theory of Reasoned Action, developed by Icek Ajzen and Martin Fishbein in 1980. The theory received significant and well-deserved attention within the field of consumer behaviors. It not only predicts consumer intentions and behavior quite well but also offers a relatively simple basis for determining where and how to target consumers' behavioral change attempts (Sheppard,1988:325). Another theory related to technology acceptance is the Theory of Planned Behavior developed based on the Theory of Reasoned Action. The theory was introduced by Ajzen to improve the Theory of Reasoned Action. An attempt is made to extend the Theory of Reasoned Action to goal-directed behaviors over which individuals have only limited volitional control. First, internal and external factors that can influence volitional control are identified. Next, a behavior-goal unit is defined, and the Theory of Reasoned Action is modified to allow it to predict and explain the goal-directed behavior. The modified theory called the "Theory of Planned Behavior" differs from the Theory of Reasoned Action as it takes into account perceived control as well as actual control over the behavior being studied (Ajzen, 1985: 12). Another theory related to the acceptance of technology is the Diffusion of Innovations Theory. The book "Communication of Innovations" defines innovations as ideas, products, and practices perceived as new by an individual, and in response to the question of how a social system spreads to its members, questions about the character of innovators, the rate of adoption of ideas, and the decision-making process are tried to be answered with 103 generalizations about the diffusion of innovations. The book also discusses issues such as "What is social change?" and "Individual and social system change: the levels at which change occurs" (Rogers, Everett, 1971:6-18). Following these studies, research on ICT acceptance has introduced many competing models, each with different sets of acceptance predictors, and eight prominent models were empirically compared. An attempt was made to formulate a unified model integrating the elements of the eight models. The eight models examined are as follows: Theory of Reasoned Action, Technology Acceptance Model, Motivational Model, Theory of Planned Behavior, Theory of Planned Behavior with the Technology Acceptance Model, Model of PC Utilization, Diffusion of Innovations Theory, and Social Cognitive Theory. Eight models using data from four organizations with three measurement points over six months explained 17 percent to 53 percent of the variance in the intention to use information technologies. Next, a unified model called the Unified Theory of Acceptance and Use of Technology (UTAUT) was formulated with four key determinants of intention and usage and four key constructs. Later, UTAUT was tested using the original data and found to outperform eight individual models. It was concluded that the UTAUT provided a useful tool for managers who needed to assess the likelihood of success for new technology introductions and helped them understand the stimulants of acceptance to proactively design interventions (including training, marketing, etc.) targeted at possible user populations (Venkatesh V., Morris M. G., et al., 2003). To reach the necessary information about the acceptance of innovations and how quickly they can spread, individuals conduct research and conclude by synthesizing the available data. The next step is to create a perception of accepting or refusing innovations. Regarding Social Cognitive Theory, one of the prominent theories in explaining individuals' behaviors, Compeau and Higgins (1995) stated that there was not much research on the training process and the relative effectiveness of different methods for training. In their research examining the training process and comparing a behavior modeling training program based on Social Cognitive Theory, the authors stated that while computer training is widely accepted as an essential contributor to the productive use of computers in organizations, very little research has sought to identify the processes through which training operates and the relative effectiveness of different methods for such training. The authors, in their research adapting Social Cognitive Theory to computer usage, examined the training process and compared a behavior modeling training program that is based on Social Cognitive Theory with a more traditional, lecture-based program. They stated that according to Social Cognitive Theory, watching others performing a behavior, in this case interacting with a computer system, influenced the observers' perceptions of their ability to perform the behavior, or self-efficacy, and the expected outcomes that they perceive, as well as providing strategies for effective performance. Their findings provide only partial support for the research model, while they concluded that self-efficacy had a strong effect on performance in both models. Vallerand (1997) outlined the Hierarchical Model of Intrinsic and Extrinsic Motivation, supporting the General Theory of Motivation. The model serves two purposes. First, the model provides a framework to organize the literature on intrinsic and extrinsic motivation and to identify the psychological mechanisms underlying motivational changes. Intrinsic and extrinsic motivation represents a considerable portion of people's experiences when they are involved in activities. The second purpose of the hierarchical model is to lead to novel and testable hypotheses. Avanto and Presetya (2020) analyzed and retested the theory of acceptance and use of technology proposed by Venkatesh et al. (2003), and stated that there were four main variables (performance expectancy, effort expectancy, social influence, supporting conditions) that affect user intention and user behavior in using information technology. The authors concluded that behavioral intention had a substantial influence on user behavior, so there was an effect of variables of interest in the use of actual user behavior. In other words, all independent variables had a significant effect on the interest in

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

the use, and behavioral intention influenced user behavior. The authors also noted that information technology provided many advantages to support the implementation of organizational tasks and that the need for information technology had become a basic requirement for every organization, especially in carrying out its activities, a condition driven by rapid technological development. Information technology, according to the authors, is being developed based on the number of companies or organizations that use it for their activities. One of the factors in measuring the success of information technology applications is human resources, as the acceptance of the system can affect the achievement or failure of the application system. The authors claimed that behavioral aspects were the human resource factors that can decide the acceptance or rejection of information technology applications. Finally, they suggested that many facilities that are facilitated by the development of information technology directly affected organizational activities. Considering similar studies in the literature, many models have been proposed to determine the factors affecting technology acceptance. Among these models, TAM, on which this study is based, is generally accepted as the most effective and reliable model in explaining the behavior of accepting information technologies.

The most important question regarding the reason for research on the Technology Acceptance Model is: "What causes people to accept or reject information technology?" Davis (1989), in his guideline study, stated that among the many variables that may influence system use, previous research suggested two especially important determinants. First, people tend to use or not use an application to the extent they believe it will help them do their job better. This first variable is called perceived usefulness. Second, even if potential users believe that an application is useful, they may also believe that systems are too hard to use and that the performance benefits of usage are outweighed by the effort of using the application. Here, perceived usefulness is defined as "the extent to which a person believes that using a particular system will enhance his or her job performance." Perceived ease of use, on the other hand, means "the extent to which a person believes using a particular system will be effortless." The authors claim that everything else being equal, an application that is perceived to be easier to use is more likely to be accepted by users. Their study was based on the idea that current measurement scales for predicting user acceptance of computers were not sufficient. They aimed to develop and validate new scales for two specific variables, perceived usefulness and perceived ease of use, which are hypothesized to be the fundamental determinants of user acceptance. The study found that the new scales had strong psychometric properties and exhibited significant empirical relationships with self-reported measures of user behavior. Also, the authors generated several new insights about the nature of perceived usefulness and perceived ease of use and their roles as the determinants of user acceptance. Perceived usefulness was found to significantly correlate with both self-reported current usage and self-predicted future usage. Perceived ease of use was also found to significantly correlate with current usage and future usage. In the study, perceived usefulness had a significantly greater correlation with user behavior than did perceived ease of use. Their regression analyses suggested that perceived ease of use could be a causal antecedent to perceived usefulness, in contrast to a parallel, direct determinant of system usage. Richad, Vivensius, et al. (2019) defined TAM as a model that helps researchers determine which factors dominate the acceptance rate within a system or subsystems and that is developed by researchers to achieve its main objective: to determine the extent to which a technology is accepted by individuals or organizations and its usage and thus called behavioral intention, which is determined from two subsets (the perceived usefulness and perceived ease of use.) The authors aimed to analyze the factors that influence millennials' acceptance of chatbot technology in the banking industry in Indonesia. In their quantitative research, they used innovativeness as the exogenous variable, and perceived usefulness, perceived ease of use, attitude towards using, and behavioral intention as the endogenous variables. They found that innovativeness, perceived ease of use, perceived usefulness, and attitude toward using the chatbot affected behavioral intention. Considering that more than one factor can affect the user acceptance of online banking and some of them are quite important, Suping and Yizheng (2010) conducted a study on user acceptance of online banking. They concluded that social influence and facilitating conditions were important determinants. Based on their results, they proposed several managerial applications for managers: they could put more effort into adverting for boosting customers' social influence, and online banking websites could present even more information to improve their service quality. Thus, according to the authors, banks could try their best to improve the perceived ease of use, which, in turn, enhances users' perceived usefulness. Kitsios, Giatsidis, and Kamariotou (2021) studied the acceptance rate of digital transformation in the Greek banking sector. They identified bank employees' perceptions of new technologies. The authors offered a practical contribution for executives of Greek banking organizations to plan targeted educational programs to facilitate the transition to the new digital era. They claimed that the Technology Acceptance Model could help executives face the challenge of finding out whether their employees are ready to accept and implement digitalization in their daily job routines. Based on the idea that the Internet is becoming more popular as a delivery channel in the banking sector, Chanaka Jayawardhena and Paul Foley (2000) analyzed Internet banking operations under customer empowerment functions and Internet banking Web attributes. They found that Internet banking rendered location and time irrelevant and empowered customers with more control of their accounts. They also noted that banks achieved cost and efficiency gains in many operational areas. Tsindeliani et al. (2002) aimed to research the current state of the Russian banking system in the context of digital economy development, to determine the benchmarks and needs of legal regulation, and to investigate the potential possibilities of digitalization of relations

International Journal of Business and Applied Social Science
E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

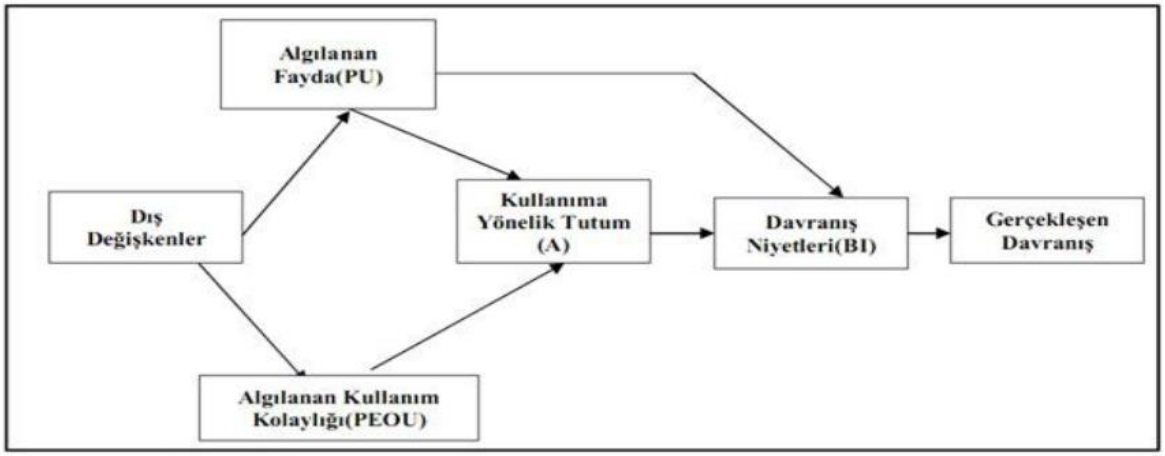
in the banking sector. The authors concluded that the growth in the digitalization of relations in the banking sector would contribute to the effective implementation of prudential rules, including those related to the need to protect public interests. Meena and Parimalarani (2020) conducted a study to research digitalization in the banking sector and analyze the trend in employment opportunities in the banking sector. The authors found that the role of the human workforce was not outdated and suggested that employees should work along with robots or digitalization to achieve a combined goal efficiently and effectively which, in turn, would boost profitability and reduce cost and manual errors. They also noted that the banking sector had an incredible employment opportunity to advance digital transformation, suggesting that employers in the banking sector should empower all employees to do their part in developing and implementing new methods of working. Polat et al. (2020) investigated bank employees' level of participation in the factors that cause the acceptance and rejection of Bitcoin as a new financial product. Among the factors that prevent the adoption and use of Bitcoin, the most significant factors for the employees were found to be "vulnerability of electronic wallets (to hackers)", "lack of confidence in the Bitcoin system", and "possibility of legal restrictions and regulations." Bank employees reported that the biggest obstacle to the widespread use and adoption of Bitcoin in the digital environment was the theft of passwords of electronic wallets. In addition, "volatility in buying and selling" and "uncertainty of the taxation issue" emerged as the least significant factors. Hoong et al. (2017) stated that recent studies related to TAM, TAM2, TAM3, and UTAUT focused on the cognitive aspect of technology acceptance. The authors noted that there was still very little acceptance of technologies such as e-Commerce, Mobile, and ERP that considered emotion and affect, which, according to them, created a gap in the technology acceptance research considering the role of affect in the technology acceptance model. Their research focused on the role of this situation on workers working in Multimedia Super Corridor (MSC)-status organizations in Malaysia regarding their behavioral intention to use knowledge-sharing tools in their everyday tasks. They found that the negative role of the interaction had no effect on perceived usefulness and that it had a very significant positive effect on perceived usefulness and perceived ease of use, with the effect on perceived ease of use being the greatest. Park, Rhoads, et al. (2014), in their research using the framework of TAM, studied the factors that affect employees' acceptance and use of teleconferencing systems for work-related meetings in work environments. The authors found that both individual factors such as anxiety and self-efficacy, and institutional factors such as institutional support and volunteering were significantly associated with perceived ease of use (PEOU), perceived usefulness (PU), and actual use.

TECHNOLOGY ACCEPTANCE MODEL

The technology acceptance model (TAM) is one of the widely used models in the field of information technology (IT). TAM was adapted to predict user behavior across a wide range of technologies and user populations and to model user acceptance of information systems for both explanatory and informational purposes. In this model, the Theory of Reasoned Action is used as a theoretical basis to describe the causal connections among the variables. TAM was originally developed to explain user acceptance of information technology in the workplace. The original TAM suggests that technology acceptance can be explained by two factors, namely perceived usefulness and perceived ease of use. TAM argues that, in addition to belief-intent connections, ease of use has an impact on usefulness. This relationship is quite meaningful the easier a system is, the more useful it can be (Nyrhinen and Leskinen, 2014). A great number of studies have employed TAM to analyze user behaviors during the implementation of different information systems.

Four concepts form the basis of TAM. Figure 1 presents all the concepts used in TAM.

- Perceived Ease of Use (PEOU)
- Perceived Usefulness (PU)
- Behavioral Intention (BI)
- Attitude Towards Using (ATU).



Şekil 1. Teknoloji Kabul Modeli *(Davis, 1989)*

Explanations regarding the dimensions of TAM;

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Perceived Ease of Use: It refers to the degree to which the potential user believes a particular technology is easy to learn and use. If potential users use the technology without any difficulties, they will continue to use it.

Perceived Usefulness: It refers to the benefits that a user believes using a particular technology will bring in performing certain tasks and solving problems. If the user benefits from technology beyond his/her expectations, he/she accepts that technology will be beneficial to him/her and continues to use this technology.

Attitude Towards Using: Attitude acts as a unifier among beliefs, behaviors, and intentions. In other words, it is the propensity to act positively or negatively and is an important variable determining the intention to use the computer.

Behavioral Intention: It indicates the individual's will and efforts to perform a behavior. Researchers have often discussed whether the behavioral intention is effective in determining personal norms, individuals' intentions, and whether or not they behave in a certain way.

Actual Use: It is used in TAM to observe the effect of attitude and intention on behavior. If the user develops a positive intention and attitude toward a particular technology, it is expected that s/he will be positively affected by the technology and adopt it (Altindag and Uzumcu, 2020).

TAM aims to analyze the behavior of employees using information technologies and the determinants that affect their level of acceptance of technology with a theoretically validated model, with the least possible variables.

EMPIRICAL ANALYSIS

TAM proposes that perceived ease of use correlates highly with perceived usefulness. Besides, previous research has shown that the effect of ease of use on attitude towards using technology is dependent on technology or a specific situation. Since the employees of a bank that has adopted digitalization have accepted the innovations, ease of use can contribute to the attitude towards using. Previous research has shown that perceived usefulness has a strong relationship with user acceptance, attitude, and behavior. Davis (1989) suggested that attitude had little effect on behavioral intention. Based on the idea that the relationship between belief and intention is better explained when mediated by attitude, and that perceived usefulness and perceived ease of use can lead to behavioral intention, four hypotheses were formed to identify the relationships among the variables given in Table 1.

Hypothesis One: Perceived usefulness positively affects the intention to use digital banking.

Hypothesis Two*:* Perceived ease of use positively affects the intention to use digital banking.

Hypothesis Three*:* Perceived self-efficacy positively affects the intention to use digital banking.

Hypothesis Four*:* The intention to use digital banking positively affects user behavior.

Methodology

Descriptions of the abbreviations used in this study

n: Sample/ the number of samples in the group
%: Percentage
X: Mean (arithmetic mean) is given as X±SD. SD is desired to be small.
SD: Standard Deviation (range of variation in the mean)
p: Level of significance (P value below 0.05 indicates a significant difference. P>0.05 indicates no significant difference.)

Numerous data collection methods are used in statistics. These methods are mainly discussed under two main headings, namely, primary sources and secondary sources. Data can be collected directly, without intermediaries, from primary sources, and these data collection methods are surveys, interviews, censuses, observations, and laboratory results. Secondary sources, on the other hand, are data previously compiled for different purposes. Secondary sources must be reliable, and care must be taken to ensure that the data from secondary sources are up-to-date. As the data collection method, this study employed the survey method, which is one of the primary sources of data. In addition, a scale was developed as a data collection tool.

Reliability

Questionnaires with the same answer options designed to measure individuals' attitudes or perceptions regarding any subject are called Likert-type scales. For Likert-type scales to be used scientifically, they need to meet some assumptions. The most important is reliability. Reliability tests show whether respondents' responses to a scale are consistent. The reliability level of scales is determined by Cronbach's alpha method. Cronbach's alpha above 0.70 indicates a sufficient level of reliability (Ozdamar, 2013). Reliability is necessary but not sufficient on its own. Reliable scales must also have validity. For this, factor analyses are performed.

Confirmatory Factor Analysis (CFA)

Factor analyses are performed to determine the validity levels of scales. They are applied to scales that have just been developed or that were developed in the past. Scales measure participants' opinions on the subject under study with more than one statement instead of with a single statement. Scales consist of one or more than one construct, called subdimensions. Dimensions are measured by multiple items. Factor analyses are performed to reveal the construct. Factor analyses explore which items fall under which subdimension. All of these analyses are called Validity Analyses (Meyers, Gamst, & Guarino, 2006).

There are two types of factor analyses, exploratory and confirmatory. If the scale was developed before, its compatibility with the old construct is examined by exploratory analysis. If the obtained results are under the original construct, the scale is valid. Confirmatory analyses are applied to recently developed scales or scales adapted into a new language (as in this study). In confirmatory analyses, explained variance, KMO, fit parameters (sd χ, AGFI, GFI, CFI, IFI, RMSEA, SRMR, PNFI, and PGFI), and path analyses are performed. In scale adaptation studies, the

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

translated version may sometimes not fully be under the original construct. In such a case, statements in the translated version may be edited in cultural, geographical, and social terms. However, it should be noted that each scale has its appropriate sample (Schermelleh-Engel & Moosbrugger, 2003). There are scales developed according to various characteristics such as age, occupation, gender, education, etc. Such characteristics should be taken into account when applying the scale. Scales applied to inappropriate samples may fail to yield valid results. For example, applying an anxiety scale developed for elderly individuals to young individuals is both statistically and logically incorrect. The use of an inappropriate measurement tool (scale) eliminates the reliability and validity of the measurements obtained.

Confirmatory factor analyses are performed to reveal the construct of the scale. The resulting construct then undergoes many tests; fit parameters should be very good or at least acceptable. If the conditions are not met, the statements that disrupt the fit are removed from the scale, and the analyses are re-performed. In the case that fit parameters are met, the explained variance rate should be above 65%. The rate of explained variance can be described as the data loss resulting from combining the expressions related to the dimensions in the scale. The rate of explained variance of at least 65% indicates that the lost data can be up to 35% (Buyukozturk, 2012). The Kaiser-Mayer-Olkin (KMO) coefficient shows whether the number of participants included in a study is sufficient. This coefficient must be 0.70 and above. If it is lower, it is necessary to increase the number of participants and to re-collect data.

Once the parameters are met, then which items fall under which subdimension is determined. Depending on their constructs, scales may consist of many different numbers of items or subdimensions. Some scales may consist of only one subdimension. In general, scales are examined under a multidimensional structure. For the general examination of measurement in multidimensional structures, a basic subdimension may be necessary. In these cases, the analysis used in scale development is Tukey's test of additivity. This test tests whether all subdimensions in constructs with multiple subdimensions can be combined under one dimension. On the other hand, the equality of response levels to the scale items is tested by Hotelling's T-2 test. This test examines whether the group is homogeneous in terms of knowledge, skills, abilities, perceptions, and attitudes (Meyers, Gamst, & Guarino, 2006).

In this study, the scale developed by Kitsios (2021) was adapted to Turkish. First, the original English scale developed by Kitsios (2021) was translated into Turkish by an expert team, then a second expert team translated the scale back into the source language, and finally, both versions were tested on samples that spoke both languages. Then, the scale was converted into a questionnaire form. In the first application, a pilot study was conducted on 50 people. When the pilot study yielded the expected results, the main application was started. The research was continued until the calculated sample number was exceeded. Later, the reliability and validity studies of the scale were carried out. After the validity of the scale was determined, participants' characteristics and the correlations between the subdimensions were examined.

In the study, the sample size was 538, and the distribution was under the normal distribution ($p>0.05$). The tests applied are normal distribution tests. Descriptions of these tests are given below.

Independent samples t-test

The t-test, one of the most frequently employed comparison tests, tests whether there is a difference between the measurements of two independent groups. A t-value is calculated in the test, and a p-value lower than 0.05 indicates a significant difference. If the p-value is significant, it is interpreted that the two groups are different from each other and the group with the higher mean has higher measurements.

Analysis of variance (ANOVA) test

This test, which is one of the normal distribution tests, tests whether there is a difference among the measurements of at least three independent groups. If the p-value corresponding to the F value calculated in the test is lower than 0.05, it indicates a significant difference. If there is a difference, the group that creates the difference is determined by a pairwise comparison test. If there is no difference, there is no need for a pairwise comparison test (Can, 2018).

Correlation analysis

Correlation analyses show why two different measurements are correlated. A significant or insignificant correlation can be detected between two variables. If the p-value is significant, there is a correlation. When the correlation is significant, the correlation coefficient (r) determines the direction of the correlation. Correlations can be positive or negative. A positive correlation refers to an increase in one variable along with an increase in the other, whereas a negative one refers to a decrease in one variable while there is an increase in another variable. In statistics, this structure is explained by the correlation coefficient taking a value between $-1<r<1$. Another consideration is the strength of the correlation, which varies depending on the size of the correlation coefficient. If the r coefficient is 0.40 and below, it is weak, r= 0.40-0.60 is moderately strong, and r=0.60-0.80 is strong. A correlation coefficient of 0.80 and above indicates a very strong correlation (Can, 2018).

Population

The research population consists of the employees of 10 banks operating in the Turkish banking sector, namely Akbank, DenizBank, Finansbank, Garanti Bank, Halk Bank, Is Bank, TEB, Vakifbank, Yapi Kredi Bank, and Ziraat Bank. The questionnaire was applied face-to-face and online to officials in various positions of the banks. Table 1 presents the scale items related to usage behavior, perceived usefulness, perceived self-efficacy, perceived ease of use, and intention to use variables.

Using the simple random sampling method, it was calculated that at least 386 employees could represent the population, based on a 5% acceptable margin of error and 95% confidence level. The questionnaire was applied to n=538

International Journal of Business and Applied Social Science
E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

employees. The actual sample size was decided to be larger than the calculated size to compare sub-groups more effectively and to minimize the errors. It was determined that this sample size was quite sufficient for the study to reach its purpose.

Table 1. Questionnaire Items and Variables

Variables	Items
Perceived usefulness	The use of digital banking applications or systems improves the quality of my work.
	The use of digital banking applications or systems makes my job more organized.
	The use of digital banking applications or systems helps me complete my tasks faster.
	The use of digital banking applications or systems supports essential aspects of my work.
	The use of digital banking applications or systems increases my productivity at work.
	The use of digital banking applications or systems allows me to manage more work than would otherwise be possible.
	The use of digital banking applications or systems increases my work effectiveness.
	The use of digital banking applications or systems facilitates my work.
	Overall, I think that digital banking applications or systems are helpful for my work in general.
Perceived ease of use	I consider it difficult to use automated digital banking applications or systems.
	It is easy for me to learn how to run digital banking applications or systems.
	Being in interaction with digital banking systems or applications is always challenging.
	I find digital banking applications or systems easy to use to do what I want to do.
	Digital banking applications or systems connect timely and consistently.
	I can easily recall how to execute my tasks using digital banking applications or systems.
	Interaction with digital banking applications or systems requires a great deal of mental effort.
	My experience with digital banking applications or systems is transparent and understandable
	I think it takes a great deal of effort to use digital banking applications or systems in general.
	I consider it difficult to use automated digital banking applications or systems.
Perceived self-efficacy	I could perform my duties with digital banking applications...
	. . . if there was nobody around to tell me what to do when I went
	. . . if I just had a built-in assistance ease
	. . . if someone taught me how to do this first
	. . . if I had used similar applications to do the same job before this one
Intention to Use	If I had access to digital banking applications or systems, I would use them.
	If I had access to digital banking applications or systems, then I would learn to use them in advance.
	Over the next < n > months, I am planning to use digital banking applications or systems.
User behaviour	On average, how much time do you spend every day using digital banking applications or systems?

Statistical Analyses

In data analysis, descriptive statistics were presented as frequencies, percentages, means, and standard deviations. Independent samples t-test was performed to examine the measurements according to respondents' personal and professional characteristics. Measurements with differences as a result of the ANOVA test were evaluated. Also, correlation analyses were performed to determine the correlations between the scales and measurements. In addition, regression analysis was conducted to examine the correlation between attitude levels toward digital banking applications and scales. Confirmatory factor analysis (CFA) analysis was performed to evaluate the structural validity of the digital banking applications attitude scale. In the study, $p<0.05$ was considered statistically significant. Analyses were performed by using the SPSS (Statistical Package for the Social Sciences) 25.00 package program. Confirmatory factor analysis (CFA) analysis was performed using the AMOS 20.00 package program.

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Reliability and Validity of the Digital Banking Applications Attitude Scale

The Cronbach's alpha coefficient of the scale was found to be 0.91. The Cronbach's alpha coefficient above 0.70 indicates that the scale is reliable enough.

Following the reliability analysis, confirmatory factor analysis was applied to the scale to test the construct validity. As this study is a scale adaptation study, a CFA was performed. The data transferred to the AMOS 20.00 package program were analyzed.

The CFA revealed that the scale consisted of four subdimensions: The use of digital banking applications or systems (UDBAS), Perceived ease of use (PEU), Self-efficacy (SE), and Intention to use (IU). In the factor analysis, the KMO sampling adequacy coefficient was determined as 0.93. The KMO sample adequacy coefficient of 0.70 and above indicates that n=538 questionnaires are sufficient to reveal the factor structure. In addition, according to the result of Bartlett's test of sphericity performed to test the significance of the factor structures, the obtained dimensions were structurally valid (Bartlet's X^2=1459.33, p=0.01). In other words, it was observed that the dimensions were structurally suitable.

Then, the explained variance and internal consistency (the reliability coefficients based on dimensions) of the subdimensions were examined. The total variance explained must be above 65%. Also, the internal consistency is expected to be above 0.70 (Can, 2018).

The explained variance of the use of digital banking applications or systems (UDBAS) subdimension was 21%, and the internal consistency level was 0.84. The perceived ease of use (PEU) subdimension was found to have a 19% explained variance and 0.81 internal consistency. The self-efficacy (SE) subdimension was found to have a 17% explained variance and 0.77 internal consistency. The intention to use (IU) subdimension was found to have a 14% explained variance and 0.75 internal consistency. Finally, the perceived usefulness subdimension was found to have a 14% explained variance and 0.74 internal consistency. Overall, it was determined that the total explained variance was 71%, indicating that the scale was reliable.

In the study, evaluations were made for the scale applied to 538 people. The fit parameters examined are presented in Table 2 below. All fit parameters, including sd χ, AGFI, GFI, CFI, IFI, RMSEA, SRMR, PNFI, and PGFI were calculated for the scale.

As a result of confirmatory factor analysis applied to 29 items and four subdimensions, the contribution of all items to the scale was found to be statistically significant at a 95% confidence level ($p<0.05$). The four subdimensions detected were as follows: the use of digital banking applications or systems (UDBAS) (Items 1-10), perceived ease of use (PEU) (Items 11-20), self-efficacy (SE) (Items 21-26), and intention to use (IU) (Items 27-29).

Table 2: Examination of the Fit Indices of the Subdimensions

Fit Indices	Value	Level of Fit	Excellent Fit Indices	Acceptable Fit Criteria
[1] [2]/sd χ	1.98	Excellent Fit	$0 \le \chi^2/sd \le 2$	$2 \le \chi^2/sd \le 3$
[2]AGFI	0.95	Excellent Fit	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90
[3]GFI	0.99	Excellent Fit	.95 ≤ GFI ≤ 1.00	.90 ≤ GFI ≤ 95
[3]CFI	0.99	Excellent Fit	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤.95
[3]IFI	0.99	Excellent Fit	.95 ≤ IFI ≤ 1.00	.90 ≤ IFI ≤ .95
[4]RMSEA	0.04	Excellent Fit	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤.08
[4]SRMR	0.04	Excellent Fit	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤.10
[5]PNFI	0.79	Acceptable Fit	.95 ≤ PNFI ≤ 1.00	.50 ≤ PNFI ≤ .95
[6]PGFI	0.80	Acceptable Fit	.95 ≤ PGFI ≤ 1.00	.50 ≤ PGFI ≤ .95

1(Kline, 2011), 2(Schermelleh-Engel & Moosbrugger, 2003), 3(Baumgartner & Homburg, 1996; Bentler, 1980; Bentler & Bonett, 1980; Marsh, Hau, Artelt, Baumert & Peschar, 2006), 4(Browne & Cudeck, 1993), 5(Hu & Bentler, 1999), 6(Meyers, Gamst & Guarino, 2006)

Looking at the sd χ and AGFI fit indices, the obtained subdimensions seem to have an excellent fit. GFI, CFI, IFI, RMSEA, SRMR, PNFI, and PGFI fit parameters, on the other hand, indicate an acceptable fit.

Since the fit indices have strengths and weaknesses in evaluating the fit between the hypothesized model and the real data, it is recommended to use various fit indices to reveal the fit in the model. The most frequently used ones are the Chi-Square Goodness of Fit, Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Root Mean Square Residual (RMR or RMS), and Root Mean Square Error of Approximation (RMSEA) (Buyukozturk et al., 2004: 217).

As can be seen, model fit indices indicate an excellent fit. GFI, CFI, IFI, RMSEA, and SRMR fit indices indicate an excellent fit, while PNFI and PGFI fit parameters indicate an acceptable fit.

In the study, factor loadings of the scale and additivity of the sub-factors were calculated with Tukey's test of additivity. The test indicated that a scale total score could be obtained from the scale ($p=0.01$, $p<0.05$). In other words, the scale can be analyzed and evaluated at the "digital banking applications attitude" level, which is a combination of five subdimensions.

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Whether the respondents' response levels to the scale items were equal was tested using Hotelling's T^2 statistics test. The test yielded a significant result (T^2=2559.35, p=0.01). Therefore, it can be stated that there is no response bias in the scale; that is, the respondent's responses to the items were not biased. In general, it was observed that the construct of the scale comprised four subdimensions, as did the original version. With the emergence of a similar construct, it is thought that it will be important to make a new application in the future with participants from different fields.

In the current study, the scale developed by Kitsios (2021) was adapted to Turkish. The Turkish version of the scale was applied to a total of 538 respondents. As a result, four subdimensions were identified, similar to the scale of Kitsios (2021): "the use of digital banking applications or systems (UDBAS)," "perceived ease of use (PEU)," "self-efficacy (SE)," and "intention to Use (IU)." It can be stated that the obtained construct is statistically valid and highly compatible with the original scale.

The obtained path analyses and overall construct are given in the diagram below.

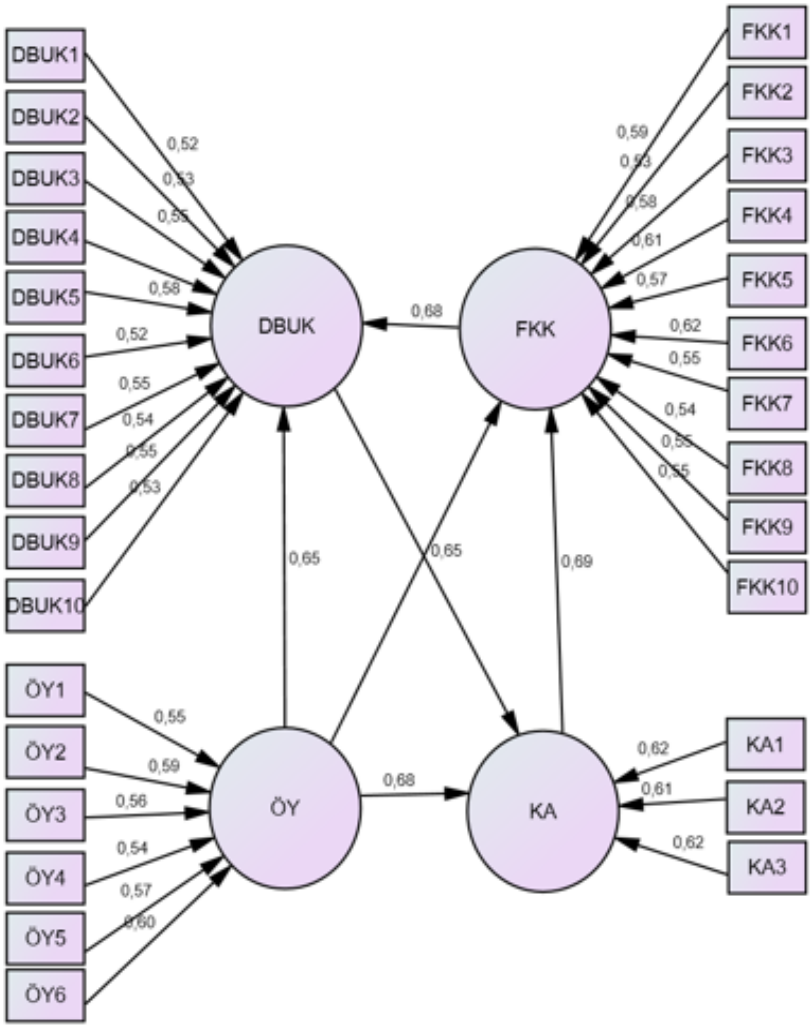


Figure 1: Structural Equation Model

Table 3 presents the mean and standard deviation values of the items. The items were rated as 1= totally disagree - 5= totally agree, as in the original scale.

Table 3: Analysis of the Scale Items

	X±SD
The use of digital banking applications or systems [improves the quality of my work]	3.99±0.78
The use of digital banking applications or systems [makes my job more organized]	4.24±0.91
The use of digital banking applications or systems [helps me complete my tasks faster]	4.16±0.80
The use of digital banking applications or systems [supports essential aspects of my work]	3.98±0.73
The use of digital banking applications or systems [increases my productivity at work]	3.99±0.81

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

The use of digital banking applications or systems [enhances my efficiency at work]	3.98±0.80
The use of digital banking applications or systems [allows me to manage more work than would otherwise be possible]	4.05±0.83
The use of digital banking applications or systems [increases my work effectiveness]	4.05±0.82
The use of digital banking applications or systems [facilitates my work]	4.1±0.72
The use of digital banking applications or systems [Overall, I think that digital banking applications or systems are helpful for my work in general]	4.01±0.84
Perceived ease of use [I consider it difficult to use automated digital banking applications or systems] R	3.34±0.89
Perceived ease of use [It is easy for me to learn how to run digital banking applications or systems]	3.97±0.77
Perceived ease of use [being in interaction with digital banking systems or applications is always challenging] R	4.01±0.84
Perceived ease of use [I find digital banking applications or systems easy to use to do what I want to do]	4.04±0.83
Perceived ease of use [Digital banking applications or systems connect timely and consistently]	3.97±0.82
Perceived ease of use [I can easily recall how to execute my tasks using digital banking applications or systems]	4.07±0.78
Perceived ease of use [Interaction with digital banking applications or systems requires a great deal of mental effort] R	4.00±0.86
Perceived ease of use [My experience with digital banking applications or systems is transparent and understandable]	3.99±0.78
Perceived ease of use [I think it takes a great deal of effort to use digital banking applications or systems in general] R	4.05±0.82
Perceived ease of use [I think digital banking applications or systems are easy to use]	4.01±0.76
Self-efficacy [I could perform my duties with digital banking applications or systems]	3.8±0.68
Self-efficacy [. . . if there was nobody around to tell me what to do when I went]	3.99±0.89
Self-efficacy [. . . if I just had a built-in assistance]	4.02±0.85
Self-efficacy [. . . if someone taught me how to do this first]	3.97±0.77
Self-efficacy [. . . if I had used similar applications to do the same job before this one]	3.98±0.82
Intention to use [If I had access to digital banking applications or systems, I would use them]	3.79±0.67
Intention to use [If I had access to digital banking applications or systems, then I would learn how to use them in advance]	3.94±0.89
Intention to use [Over the next < n > months, I am planning to use digital banking applications or systems]	3.92±0.88

**R refers to reversed items.*

Items were scored between 1 and 5 in the study. It was seen that overall, the respondents scored high mean scores on the questionnaire. About the subdimension of "the use of digital banking applications or systems," the highest mean scores were obtained on the items "makes my job more organized," "helps me complete my tasks faster," and "facilitates my work."

On the other hand, about the subdimension of "perceived ease of use," the lowest mean score was on the item "I consider it difficult to use automated digital banking applications or systems." Besides, about the subdimension of "intention to use," the lowest mean score was on the item "If I had access to digital banking applications or systems, I would use them." Finally, about the subdimension of "self-efficacy," the lowest mean score was on the item "I could perform my duties with digital banking applications."

Table 4: Examination of the subdimension scores

Subdimensions	X±SD
Intention to Use	3.88±0.59
Self-efficacy	3.94±0.59
Perceived Ease of Use	3.95±0.48
The Use of Digital Banking Applications or Systems	4.06±0.58

In the study, it was found that the mean scores on the subdimensions of "the use of digital banking applications or systems", "perceived ease of use", "self-efficacy", and "intention to use" were 4.06±0.58, 3.95±0.48, 3.94±0.59, and 3.88±0.59, respectively. Considering these mean scores, it can be argued that overall, participants had a high level of attitude towards the subject under study.

International Journal of Business and Applied Social Science
E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

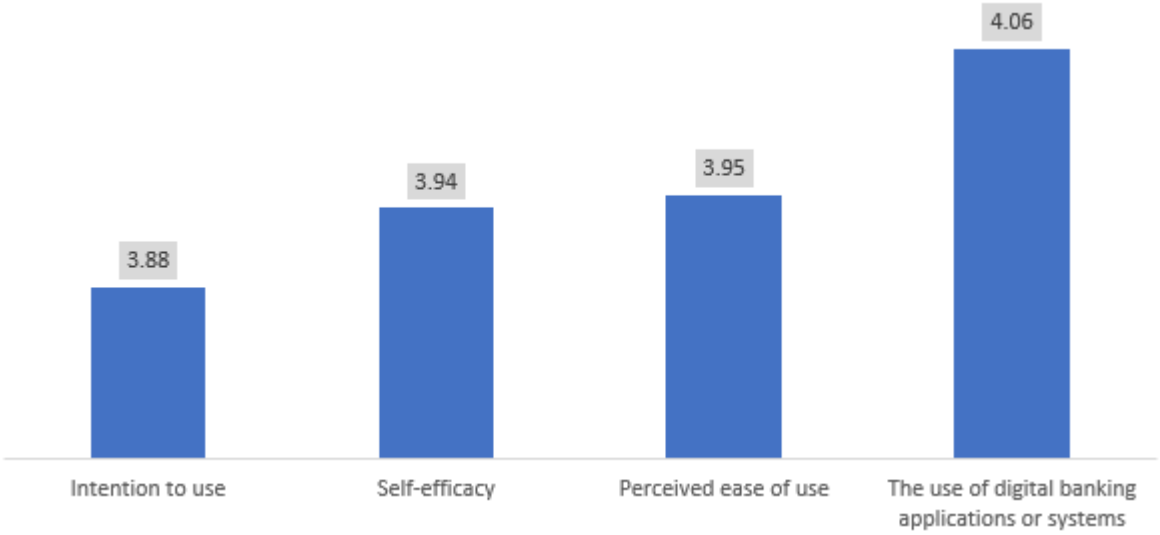


Figure 2: Analysis of mean scores on the subdimensions

Respondents' Characteristics

This part of the study focuses on the demographic and professional characteristics of the respondents. The obtained results are given in the tables as percentages.

Of the respondents, 62.5% were male, and 37.5% were female. 6.3% were 30 years old and below 48.7% were between 31-40 years old, 35.3% were between 41-50 years old, and 9.7% were 51 years old and above. 18% held an associate degree, 63.6% had an undergraduate degree, and 18.4% had a graduate degree. Most of the respondents (57.8%) had a monthly income of 5,000-10,000 Turkish Liras.

90% of the respondents worked in a department that required technological knowledge. Of the participants, 33.9% reported having been working in their departments for 1-3 years, 41.1% for 4-6 years, and 25% for 7 years or more. 6.3% of the respondents were bank managers, 8.6% were deputy managers, 8.6% were customer representatives, 7.4% were operations officers, 24.2% were sales officers, 8.2% were service officers, 10.4% were cleaning and security officers, 11.5% were specialists, and 14.9 were assistant specialists.

Table 5: Respondents' Characteristics

		n	%
Gender	Male	336	62.5%
	Female	202	37.5%
Age	30 and under	34	6.3%
	31-40	262	48.7%
	41-50	190	35.3%
	51 years and above	52	9.7%
Education	Associate Degree	97	18.0%
	Undergraduate	342	63.6%
	Graduate	99	18.4%
Monthly income level	5,000-10,000 TL	311	57.8%
	10,001-15,000 TL	158	29.4%
	15,001 TL and above	69	12.8%
Do you work in a department that requires technological knowledge?	Yes	484	90%
	No	54	10%
If you work in a department that requires technological knowledge, how long have you been working there?	1-3 years	164	33.9%
	4-6 years	199	41.1%
	7 years and above	121	25%
What is your position at the bank?	Manager	34	6.3%
	Deputy Manager	46	8.6%

International Journal of Business and Applied Social Science
E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Customer Representative	46	8.6%
Operations Officer	40	7.4%
Sales Officer	130	24.2%
Service Officer	44	8.2%
Cleaning or Security Officer	56	10.4%
Specialist	62	11.5%
Assistant Specialist	80	14.9%

58.9% of the respondents reported that they were close to technology. 90.9% of the respondents reported having experience with computers and the Internet. Of these respondents, 29.2% reported having experience with computers and the Internet for 1-3 years, 49.5% for 4-6 years, and 21.3% for 7 years and above.

Table 6: Professional Characteristics and Technological Competence

		n	%
Please evaluate how close you are to technology in your everyday life.	Not close at all	63	11.7%
	Not close	32	5.9%
	Close	317	58.9%
	Very close	126	23.4%
Do you have any experience with computers and the Internet?	Yes	489	90.9%
	No	49	9.1%
If you have experience with computers and the Internet, for how long?	1-3 years	143	29.2%
	4-6 years	242	49.5%
	7 years and above	104	21.3%
How competent are you in basic office software related to your job (MS Word, MS Excel, MS Access, MS PowerPoint)?	Not so competent	109	20.3%
	Moderately competent	188	34.9%
	Competent	241	44.8%
Do you think the information system used by your bank is reliable?	Yes	449	83.5%
	Partially	89	16.5%
How often do you use technology in your work?	Very Rarely	48	8.9%
	Rarely	71	13.2%
	Occasionally	256	47.6%
	Quite Often	163	30.3%

Of the respondents, 20.3% reported being "not so competent" in basic office software, 34.9% moderately competent, and 44.8% competent. 83.5% stated that the information system used by the bank they worked for was reliable. Also, 8.9% reported using technology at work very rarely, 13.2% rarely, 47.6% occasionally, and 30.3% quite often.

Table 7: Characteristics of the Bank

		n	%
Sector	Public Sector	155	28.8%
	Private Sector	383	71.2%
What bank do you work for?	Akbank	34	6.3%
	DenizBank	86	16.0%
	Finansbank	55	10.2%
	Garanti Bank	42	7.8%
	Halkbank	66	12.3%

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

	Is Bank	69	12.8%
	TEB	49	9.1%
	VakifBank	36	6.7%
	Yapi Kredi	48	8.9%
	Ziraat	53	9.9%
On average, how much time do you spend every day using digital banking applications or systems?	Less than 1 hour	44	8.2%
	1-3 hours	246	45.7%
	3-5 hours	186	34.6%
	5 hours and more	62	11.5%

Of the respondents, 28.8% worked for public banks, while 71.2% worked for private banks. 6.3% worked for Akbank, 16% DenizBank, 10.2% Finansbank, 12.3% Halk Bank, 12.8% Is Bank, 9.1% TEB, 6.7% Vakıf Bank, 8.9% Yapi Kredi, and 9.9% Ziraat Bank. 8.2% reported spending less than 1-hour using digital applications and systems, 45.7% 1-3 hours, 34.6% 3-5 hours, and 11.5% 5 hours and more.

Analysis of Subdimensions by Demographic and Professional Characteristics

Tables 8, 9, 10, and 11 present the distribution of demographic and other characteristics of the respondents by subdimensions. A t-test was used to determine if there was a significant difference between the means of the two groups, and ANOVA was employed for three or more groups. Since statistical significance was set at 0.05, p-values below this value were interpreted as significant.

Table 8: Subdimensions and Demographic Characteristics

		Intention to Use		**Self-efficacy**		**Perceived ease of use**		**The use of digital banking applications or systems**	
		X±SD	p	X±SD	p	X±SD	p	X±SD	p
Gender	Male	3.88±0.58	0.89	3.94±0.54	0.81	3.94±0.43	0.85	4.05±0.55	0.91
	Female	3.89±0.61		3.97±0.59		3.95±0.54		4.06±0.64	
Age	30 and below	3.29±0.74	0.01	3.3±0.75	0.01	3.44±0.54	0.01	3.3±0.78	0.01
	31-40	3.92±0.54		4.03±0.46		4.01±0.4		4.1±0.46	
	41-50	3.94±0.6		3.94±0.59		3.92±0.51		4.11±0.6	
	51 years and above	3.9±0.52		4.03±0.49		4.03±0.45		4.1±0.59	
Education	Associate Degree	3.65±0.68	0.01	3.69±0.67	0.01	3.71±0.55	0.01	3.75±0.67	0.01
	Undergraduate	3.92±0.59		3.97±0.56		3.96±0.48		4.05±0.58	
	Graduate	4.00±0.43		4.15±0.30		4.12±0.28		4.37±0.27	
Monthly income level	5,000-10,000 TL	3.75±0.66	0.01	3.81±0.66	0.01	3.82±0.56	0.01	3.87±0.68	0.01
	10,001-15,000 TL	4.07±0.45		4.11±0.30		4.09±0.23		4.25±0.24	
	15,001 TL and above	4.05±0.39		4.24±0.27		4.17±0.28		4.42±0.29	

As can be inferred from Table 8, there was not a significant difference between male and female respondents' scores obtained from the subdimensions (p>0.05).

On the other hand, there was a significant difference between age groups' scores on the subdimensions. The source of the difference was the lower scores of the age group "30 and below" on the subdimensions (p=0.01).

Also, respondents with an associate degree scored lower scores on the subdimensions (p=0.01).

Finally, those with a monthly income of 5,000-10,000 Turkish Liras scored lower on the subdimensions (p=0.01).

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Table 9: Subdimensions and Professional Characteristics

		Intention to Use		Self-efficacy		Perceived ease of use		The use of digital banking applications or systems	
		X±SD	p	X±SD	p	X±SD	p	X±SD	p
Do you work in a department that requires technological knowledge?	Yes	4.02±0.44	0.01	4.1±0.32	0.01	4.07±0.28	0.01	4.22±0.3	0.01
	No	2.67±0.42		2.63±0.47		2.81±0.37		2.58±0.39	
How long have you been working in a department that requires technological knowledge?	1-3 years	3.97±0.46	0.65	4.05±0.37	0.51	4.01±0.31	0.63	4.16±0.35	0.37
	4-6 years	4.02±0.45		4.11±0.31		4.11±0.27		4.22±0.26	
	7 years and above	4.08±0.37		4.16±0.25		4.09±0.22		4.3±0.28	
Position	Manager	4.16±0.33	0.01	4.24±0.27	0.01	4.22±0.22	0.01	4.45±0.24	0.01
	Deputy Manager	3.98±0.4		4.21±0.25		4.07±0.31		4.35±0.29	
	Customer Representative	3.91±0.45		4.07±0.27		3.96±0.17		4.12±0.21	
	Operations Officer	3.99±0.39		3.96±0.42		4.04±0.35		4.25±0.23	
	Sales Officer	4.03±0.45		4.09±0.35		4.11±0.24		4.2±0.24	
	Service Officer	3.99±0.4		4.04±0.26		3.94±0.32		4.09±0.2	
	Cleaning or Security Officer	2.64±0.32		2.62±0.42		2.78±0.31		2.52±0.23	
	Specialist	4.09±0.51		4.12±0.28		4.17±0.18		4.26±0.27	
	Assistant Specialist	4.05±0.36		4.15±0.27		4.08±0.22		4.25±0.25	
Please evaluate how close you are to technology in your everyday life.	Not close at all	3.42±0.87	0.01	3.37±0.82	0.01	3.44±0.73	0.02	3.34±0.85	0.01
	Not close	2.97±0.72		2.9±0.74		3.17±0.71		2.94±0.76	
	Close	4±0.42		4.08±0.32		4.04±0.28		4.2±0.25	
	Very close	4.06±0.42		4.2±0.26		4.14±0.22		4.33±0.3	

As can be inferred from Table 9, respondents working in departments that require technical knowledge scored higher scores on all the subdimensions (p=0.01).

On the other hand, there was not a significant difference between those with varying years of experience in departments that require technical knowledge in terms of subdimensions (p>0.05).

Besides, it was seen that cleaning and security officers scored lower scores on all four subdimensions (p=0.01).

Finally, those who are "not close at all" and those who are "not close" to technology in their everyday lives scored lower scores on all four subdimensions (p=0.01).

Table 10: Subdimensions and Technological Features

		Intention to Use		Self-efficacy		Perceived ease of use		The use of digital banking applications or systems	
		X±SD	p	X±SD	p	X±SD	p	X±SD	p
Experience with	Yes	4.01±0.45	0.01	4.08±0.38	0.01	4.05±0.32	0.01	4.2±0.34	0.01

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

computers and the Internet	No	2.65±0.43		2.69±0.51		2.86±0.42		2.58±0.42	
Years of experience with computers and the Internet	1-3 years	4.01±0.44	0.59	4.09±0.36	0.64	4.08±0.32	0.68	4.19±0.25	0.67
	4-6 years	3.96±0.47		4.03±0.41		4.02±0.35		4.15±0.38	
	7 years and above	4.1±0.41		4.2±0.29		4.11±0.25		4.33±0.3	
Competence in basic office software	Not so competent	3.26±0.75	0.02	3.36±0.84	0.01	3.44±0.74	0.03	3.35±0.89	0.03
	Moderately competent	4.04±0.43		4.07±0.36		4.03±0.26		4.19±0.26	
	Competent	4.04±0.41		4.13±0.28		4.1±0.25		4.27±0.26	
Do you think the information system used by your bank is reliable?	Yes	3.94±0.54	0.06	4.00±0.52	0.09	3.99±0.45	0.08	4.02±0.53	0.11
	Partially	3.61±0.75		3.71±0.68		3.74±0.54		3.72±0.73	
How often do you use technology in your work?	Very Rarely	2.67±0.33	0.01	2.66±0.43	0.01	2.74±0.28	0.01	2.54±0.22	0.01
	Rarely	3.76±0.74		3.84±0.68		3.93±0.48		3.96±0.64	
	Occasionally	4.03±0.38		4.09±0.28		4.06±0.25		4.21±0.21	
	Quite Often	4.06±0.41		4.17±0.29		4.12±0.23		4.31±0.28	

As can be inferred from Table 10, respondents with experience with computers and the Internet scored higher scores on all the subdimensions (p=0.01).

On the other hand, there was not a significant difference between those with varying years of experience with computers and the Internet in terms of subdimensions (p>0.05).

Moreover, there was not a significant difference between those who thought and those who did not think that the information system used by their bank was reliable (p>0.05).

Finally, those who used technology in their work "occasionally" and "quite often" scored higher scores on all four subdimensions (p=0.01).

Table 11: Subdimensions and Characteristics of the Bank

		Intention to Use		**Self-efficacy**		**Perceived ease of use**		**The use of digital banking applications or systems**	
		X±SD	p	X±SD	p	X±SD	p	X±SD	p
Sector	Public Sector	4.05±0.45	0.08	4.10±0.37	0.10	4.00±0.32	0.26	4.18±0.36	0.23
	Private Sector	3.82±0.63		3.89±0.61		3.90±0.52		4.00±0.65	
Bank	Akbank	3.79±0.55	0.08	3.88±0.55	0.11	3.94±0.5	0.15	4±0.51	0.19
	DenizBank	3.89±0.62		3.92±0.62		3.89±0.56		4.04±0.63	
	Finansbank	3.82±0.73		3.76±0.67		3.79±0.61		3.84±0.74	
	Garanti Bank	3.84±0.54		4.01±0.66		3.92±0.55		4.17±0.59	
	Halkbank	4.01±0.42		4.09±0.32		4.09±0.21		4.21±0.21	
	Is Bank	3.77±0.52		3.86±0.53		3.94±0.46		4.1±0.55	
	TEB	3.71±0.72		3.7±0.66		3.79±0.51		3.64±0.77	
	VakifBank	4.04±0.44		4.05±0.43		4.09±0.34		4.14±0.32	
	Yapi Kredi	4.05±0.6		4.15±0.47		4±0.4		4.24±0.5	
	Ziraat	4.09±0.51		4.14±0.4		4.03±0.41		4.17±0.5	
The time spent every day on digital banking applications or systems	Less than 1 hour	2.80±0.48	0.01	2.79±0.59	0.01	2.92±0.56	0.01	2.7±0.6	0.01
	1-3 hours	3.96±0.53		4.04±0.47		4.02±0.38		4.14±0.45	
	3-5 hours	3.98±0.44		4.04±0.37		4.05±0.3		4.18±0.32	
	5 hours and above	4.05±0.55		4.14±0.36		4.05±0.31		4.28±0.39	

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

As can be inferred from Table 11, there was not a significant difference between the scores of respondents working in public banks and those working in private banks in terms of subdimensions (p>0.05).

Similarly, there was not a significant difference between the scores of respondents working in different banks on all subdimensions (p>0.05). Those working in Ak Bank, Deniz Bank, Finansbank, Garanti, Halk Bank, Is Bank, TEB, Vakıf Bank, Yapı Kredi, and Ziraat Bank scored similar mean scores on all four subdimensions.

Finally, those who reported spending less than 1 hour every day on digital banking applications or systems scored lower mean scores on all four subdimensions (p=0.01).

Analysis of the correlations among the subdimensions

In the study, a correlation analysis was conducted to analyze the correlations among the subdimensions. The results are given in the matrix below. The correlation coefficient and p-value were interpreted.

Table 12: Analysis of the correlations among the subdimensions

		Intention to Use	Self-efficacy	Perceived ease of use	The use of digital banking applications or systems
Intention to Use	r	1			
	p				
Self-efficacy	r	0.75*	1		
	p	0.01			
Perceived ease of use	r	0.68*	0.83*	1	
	p	0.01	0.01		
The use of digital banking applications or systems	r	0.73*	0.83*	0.85*	1
	p	0.01	0.01	0.01	

There was a strong, positive correlation between the respondents' scores on the "intention to use" and "self-efficacy" subdimensions (r= 0.75, p=0.01).

There was a strong, positive correlation between the respondents' scores on the "intention to use" and "perceived ease of use" subdimensions (r= 0.68, p=0.01).

There was a strong, positive correlation between the respondents' scores on the "intention to use" and "the use of digital banking applications or systems" subdimensions (r= 0.73, p=0.01).

There was a strong, positive correlation between the respondents' scores on the "the use of digital banking applications or systems" and "perceived ease of use" subdimensions (r= 0.85, p=0.01).

There was a strong, positive correlation between the respondents' scores on the "perceived ease of use" and "self-efficacy" subdimensions (r= 0.83, p=0.01).

There was a strong, positive correlation between the respondents' scores on the "the use of digital banking applications or systems" and "self-efficacy" subdimensions (r= 0.83, p=0.01).

Increasing the use of digital banking applications or systems among respondents will increase their self-efficacy levels. Similarly, those who think that the system is easy to use are expected to use digital banking applications or systems more frequently.

CONCLUSION AND RECOMMENDATIONS

As competition in the financial services sector now requires a rapid digital transformation in banking activities, competition in digital platforms are also expected to emerge. Identifying competitive digital strategies should be considered a part of bank service strategies. Digitalization should be seen as a path leading to more efficient use of the bank's resources and reduction in costs. In this context, the banking sector should adopt progressive economic reforms and rapid digital transformations. However, this situation reveals the dichotomy between digitalization and the human factor. The indispensable role of the human factor has not been outdated yet. To achieve synergy between digital channels and the human touch, banks should benefit from multi-channel strategies. Bank employees' acceptance and use of digital instruments will increase trust in banks across society members. The services provided by banks are based on the expectation of profit. The increase in the trust of the savers in the banks will also bring about an increase in the supply of funds for the banks. New plans for banking sector employees' training on artificial intelligence, big data analytics, blockchain ledgers, digital money, and other digitally developed financial derivatives should be implemented immediately. Bank employees' learning about technological innovations will be an important stimulus for reaching high productivity levels, gaining competitive advantage, getting to know customers better, and meeting banks' needs quickly and appropriately.

FUTURE RESEARCH DIRECTIONS

This research was conducted in June 2022 with employees of 10 public and private banks operating in Turkey. While discussing the results of this study, in the analysis of the acceptance levels of bank employees and the actual uses of digital innovations by bank employees, evaluations aimed at the sector or the country, in general,

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

were avoided. By using this new scale, which has been brought to the literature, future research can be conducted with a much wider scope and all bank employees in the sector. Such studies can compare the situation in different countries. Thus, data at the macro level can lead to new results.

CONCLUSION

In this study, the scale developed by Kitsios (2021) was adapted to Turkish. In the Turkish version, a construct that is similar to the one in the scale developed by Kitsios (2021) was obtained. The scale consists of four subdimensions: intention to use, self-efficacy, perceived ease of use, and the use of digital banking applications or systems. It was seen that the resulting construct had high levels of strength and fit.

In the second stage of the study, the evaluations made regarding the respondents' demographic characteristics revealed that their knowledge and experience in technological subjects positively affected the subdimensions. Regarding personal characteristics, it was seen that profession, educational background, and income level had an impact on the scores on the subdimensions. Finally, it was determined that the obtained subdimensions strongly and positively correlated with each other. Based on these results, H1, H2, H3, and H4 are accepted.

On the other hand, the study has quite a few limitations. First of all, the questionnaire was applied to only n=538 banking employees. Also, the sample included respondents from only Ak Bank, Deniz Bank, Finansbank, Garanti Bank, Halk Bank, Is bank, TEB, Vakıf Bank, Yapı Kredi Bank, and Ziraat Bank. The survey was carried out in June 2022, when the effect of the pandemic was less. The study used the Turkish version of the questionnaire developed by Kitsios (2021). It is very important to assess the study based on all these limitations and to avoid generalizations based on sector or country.

REFERANCES

Altındağ İ. & Üzümcü S. (2020). Yapısal Eşitlik Modellemesi: Teknoloji Kabul Modeli Uygulaması. https://www.researchgate.net/publication/343700050_yapısal_esıtlık_modellemesı_teknolojı_kabul_modelı_uygulaması

Awanto A. N. & Prasetya A. (2020). Utaut Model Implementatıon On User Behavıor In Use Of Informatıon Technology. https://www.researchgate.net/publication/342041646_UTAUT_Model_Implementation_On_User_Behavior_In_Use_Of_Information_Technology

Bankaların Bilgi Sistemleri ve Elektronik Bankacılık Hizmetleri Hakkında Yönetmelik Taslağı. www.bddk.org.tr

Baumgartner, H., & Homburg, C. (1996). Applications Of Structural Equation Modeling İn Marketing And Consumer Research: A Review. International journal of Research in Marketing, 13(2), 139-161.

Bentler, P.M. (1980). Gizli Değişkenlerle Çok Değişkenli Analiz: Nedensel Modelleme. Psikolojinin Yıllık İncelemesi, 31 (1), 419-456.

Bentler, P.M. & Bonett, D.G. (1980). Significance Tests And Goodness Of Fit İn The Analysis Of Covariance Structures. Psychological Bulletin, *88*(3), 588.

Browne, M.W. & Cudeck, R. (1993). Model Uyumunu Değerlendirmenin Alternatif Yolları. Sosyolojik Yöntemler ve Araştırma, 21 (2), 230-258.

Can, A. (2018). SPSS İle Bilimsel Araştırma Sürecinde Nicel Veri Analizi. Pegem Atıf İndeksi, 001-429.

Compeau D. R., & Higgins C. A. (1995). Application of Social Cognitive Theory to Training for Computer Skills. https://pubsonline.informs.org/doi/abs/10.1287/isre.6.2.118

Cuesta C. & et al., (2015). The digital transformation of the banking industry" https://www.researchgate.net/profile/David-Tuesta/publication/291357544_The_digital_transformation_of_the_banking_industry/links/56a2cc6f08ae1b65112cbdb9/The-digital-transformation-of-the-banking-industry.pdf

Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2012). Sosyal Bilimler İçin Çok Değişkenli İstatistik: SPSS Ve LISREL Uygulamaları (Vol.2). Ankara: Pegem Akademi.

Davis, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology https://www.researchgate.net/publication/200085965_Perceived_Usefulness_Perceived_Ease_of_Use_and_User_Acceptance_of_Information_Technology

Egesoy, A. & Uray, N. (2009). Teknoloji tabanlı etkileşimlerin servis sağlayıcı-müşteri ilişkilerine olan değiştirici etkileri http://itudergi.itu.edu.tr/index.php/itudergisi_d/article/view/236

Hanafizadeh, P., Behboudi, M. Et al., (2014). Mobile-banking adoption by Iranian bank clients https://www.sciencedirect.com/science/article/pii/S0736585312001074

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Hançer, M. (2003). Ölçeklerin Yazım Dilinden Başka Bir Dile Çevirileri ve Kullanılan Değişik Yaklaşımlar https://www.acarindex.com/balikesir-universitesi-sosyal-bilimler-enstitusu-dergisi/olcekleri-n-yazim-di-li-nden-baska-bi-r-di-le-cevi-ri-leri-ve-kullanilan-degi-si-k-yaklasimlar-73115

Hoong A.L.S. & et al., (2017). Affective Technology Acceptance Model: Extending Technology Acceptance Model with Positive and Negative Affect https://www.google.com/books?hl=tr&lr=&id=-vSODwAAQBAJ&oi=fnd&pg=PA147&dq=Affective+Technology+Acceptance+Model:+Extending+Technology+Acceptance+Model+with+Positive+and+Negative+Affect&ots=r_k71ECuUD&sig=WIr5_2agZG2RyJgOIJk9FREt6pM

Hu, L.T. & Bentler, P.M. (1999). Kovaryans yapısı analizinde uyum indeksleri için kesme kriterleri: Yeni alternatiflere karşı geleneksel kriterler. Yapısal eşitlik modellemesi: çok disiplinli bir dergi, *6* (1), 1-55.

Icek A. (1985). From Intentions to Actions: A Theory of Planned Behavior 11-39 https://link.springer.com/chapter/10.1007/978-3-642-69746-3_2

Jayawardhena C. & Foley P. (2000). Changes in the banking sector - the case of Internet banking in the UK https://www.emerald.com/insight/content/doi/10.1108/10662240010312048/full/

Kitsios F. & et al., (2021) Digital Transformation and Strategy in the Banking Sector: Evaluating the Acceptance Rate of E-Services https://www.mdpi.com/1279806

Kline, R. B. (2011). Convergence of structural equation modeling and multilevel modeling. In M. Williams & W. P. Vogt (Eds.), Handbook of methodological innovation 562-589. Thousand Oaks, CA: Sage.

Kurt, E.Ö. (2015). Üniversite Öğrencilerinin Uzaktan Eğitime Bakış Açılarının Teknoloji Kabul Modeli ve Bilgi Sistemleri Başarı Modeli Entegrasyonu ile Belirlenmesi https://dergipark.org.tr/en/pub/uaifd/issue/21604/232056

Küçükoğlu, M. & Akca M. (2020). Teknolojik Yeniliklerin Bankacılık Hizmetlerine Etkisi: Türk Bankaları Üzerinde Bir Değerlendirme https://dergipark.org.tr/tr/pub/alanyaakademik/issue/54681/659189

Marsh, H. W., Hau, K. T., Artelt, C., Baumert, J., & Peschar, J. L. (2006). OECD's brief self-report measure of educational psychology's most useful affective constructs: Cross-cultural, psychometric comparisons across 25 countries. International Journal of Testing, *6*(4), 311-360.

Meena M. R. & Parimalarani G. (2020). Impact Of Dıgıtal Transformatıon On Employment In Bankıng Sector https://www.researchgate.net/profile/rathi-meena/publication/339400031_ımpact_of_dıgıtal_transformatıon_on_employment_ın_bankıng_sector/links/5e4f70fd458515072dac04af/ımpact-of-dıgıtal-transformatıon-on-employment-ın-bankıng-sector.pdf

Meyers, L.S., Gamst, G., & Guarino, A. J. (2006). Data screening. Applied Multivariate Research-Design and Interpretation, 43-73.

Özdamar, K. (2013). Paket programlar ile istatistiksel veri analizi (Vol 1). Ankara: Nisan Kitapevi, 27-36.

Nyrhinen, j. N. & Leskinen, E. (2014). Multicollinearity in Marketing Models: Notes on the Application of Ridge Trace Estimation in Structural Equation Modelling https://www.academic-publishing.org/index.php/ejbrm/article/view/1310

Park, N., Rhoads, M. & et al., (2014). Understanding the acceptance of teleconferencing systems among employees: An extension of the technology acceptance model https://www.academia.edu/7783886/Understanding_the_acceptance_of_teleconferencing_systems_among_employees_An_extension_of_the_technology_acceptance_model

Peter, R. & Henderson, R. (1998). Information technology acceptance in a sample of government employees: a test of the technology acceptance model https://academic.oup.com/iwc/article-abstract/12/5/427/714481

Polat, A., Akın, F. & et al., (2020). Bıtcoın'ın Yeni Bir Finansal Ürün Olarak Benimsenmesi ve Yaygınlaşmasında Destekleyici ve Engelleyici Olan Unsurlar: Banka Çalışanları Üzerine Bir Araştırma https://dergipark.org.tr/en/pub/marufacd/issue/56245/785254

Richad R., Vivensius V. & et al., (2019). Analysıs Of Factors Influencıng Mıllennıal's Technology Acceptance Of Chatbot In The Bankıng Industry In Indonesıa https://scholar.google.com.tr/scholar_url?url=https://www.academia.edu/download/58883170/IJCIET_10_04_133.pdf&hl=tr&sa=X&ei=s0LiYtGHEfWSy9YPyJGZ4AM&scisig=AAGBfm1dF-iVTxexohR-kOOOYHO3SBTixQ&oi=scholarr

Rogers, E. M. (1971) "Comminication of Innovations" A Division of Macmillan Publishing Co., Inc. N.Y (1971) Third Edition, (Vol 1,5-24. ss.). Access address https://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of-innovations.pdf

International Journal of Business and Applied Social Science

E-ISSN: 2469-6501
VOL: 9, ISSUE: 3
March/2023
DOI: http://dx.doi.org/10.33642/ijbass.v9n3p5

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. Methods of psychological research online, 8(2), 23-74.

Sheppard, B. H. & et al., (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research https://www.researchgate.net/publication/298348626_The_Theory_of_Reasoned_Action_A_Meta-Analysis_of_Past_Research_with_Recommendations_for_Modifications_and_Future_Researchrak

Shukla, A. & Sharma, S. K. (2018). Evaluating Consumers' Adoption of Mobile Technology for Grocery Shopping: An Application of Technology Acceptance Model https://journals.sagepub.com/doi/abs/10.1177/0972262918766136

Suping, H. & Yizheng, S. (2010). Factors Influencing User Acceptance of Online Banking https://ieeexplore.ieee.org/abstract/document/5461412/

Suh, B. & Han, I. (2002). E ffect of trust on customer acceptance of Internet banking https://www.sciencedirect.com/science/article/pii/S1567422302000170

Tsindeliani, I. A., Proshunin, M. M. & et al., (2002). Digital transformation of the banking system in the context of sustainable development https://www.emerald.com/insight/content/doi/10.1108/JMLC-02-2021-0011/full/html

Venkatesh, V., Morris, M. G. & et al., (2003). User Acceptance Of Informatıon Technology: Toward A Unıfied Vıew https://www.jstor.org/stable/pdf/30036540

Valleran, R.J. (1997). Toward A Hierarchical Model of Intrinsic and Extrinsic Motivation https://www.researchgate.net/publication/248124692_Toward_A_Hierarchical_Model_of_Intrinsic_and_Extrinsic_Motivation

Winasis S. & et al., (2021). The effect of transformational leadership climate on employee engagement during digital transformation in Indonesian banking industry http://m.growingscience.com/beta/ijds/4667-the-effect-of-transformational-leadership-climate-on-employee-engagement-during-digital-transformation-in-indonesian-banking-industry.html

Yıldırır, S. C. & Kaplan, B. (2019). Mobil Uygulama Kullanımının Benimsenmesi: Teknoloji Kabul Modeli İle Bir Çalışma https://dergipark.org.tr/en/pub/kauiibf/issue/45479/570997

Zhou, T. (2011). An empirical examination of users' post-adoption behaviour of mobile services https://www.tandfonline.com/doi/full/10.1080/0144929X.2010.543702