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DETERMINANTS OF CONSUMERS' ADOPTION TO SHOPPING WITH QR CODE IN TURKEY

TÜRKİYE'DE TÜKETİCİLERİN QR KOD İLE ALIŞVERİŞİ BENİMSEMESİNİ ETKİLEYEN FAKTÖRLER

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Abstract

Radical changes have occurred in our daily life with come into our lives of information technologies. QR code is one of the most new of these changes and recently it has become used in many areas of human life. Shopping is one of these areas and it is considered that QR code will be significant impact on consumers' shopping behaviours. The study aims to analyze the determinants of consumers' shopping with QR Code. We developed a theoretical model based on the Technology Acceptance Model with added constructs perceived risk and perceived playfulness empirically tested its ability in predicting consumers' behavioral intention to use QR Code payment. We designed a questionnaire and obtained 697 usable responses. We analyzed the data using Structured Equation Modeling to evaluate the strength of the causal relationships. The results of statistical analyses indicate that directly perceived usefulness and perceived playfulness have a significant impact on the acceptance of QR Code payment in Turkey.

Keywords: Technology Acceptance Model, QR Code, Structural Equation Modeling.

Öz

Bilgi teknolojilerinin, hayatımıza girmesiyle birlikte günlük yaşamımızda köklü değişiklikler ortaya çıkmaktadır. QR Kod bu değişikliklerin en yenilerindendir ve son zamanlarda insan hayatının birçok alanında kullanılır hale gelmiştir. Bu alanlardan biri ise alışveriştir ve QR kodun tüketicilerin alışveriş anlayışlarını üzerinde önemli etkileri olacağı düşünülmektedir. Bu çalışmanın amacı Teknoloji Kabul Modeli'ne algılanan risk ve algılanan kullanışlılık değişkenleri eklenerek tüketicilerin alışverişlerinde OR Kod kullanmayı benimsemesini etkileyen faktörlerin araştırılmasıdır. Bu amaçla bir anket formu oluşturulmuş ve sonuç olarak 697 kullanılabilir anket elde edilmiştir. Oluşturulan hipotezler ise Yapısal Eşitlik Modeli ile analiz edilmiştir. Yapılan analiz sonucu elde edilen sonuçlar algılanan kullanışlılık ve algılanan eğlenebilirlik değişkenlerinin tüketicilerin kullanım niyetini etkilediğini göstermiştir.

Anahtar Kelimeler: Teknoloji Kabul Modeli, QR Kod, Yapısal Eşitlik Modeli.

1. INTRODUCTION

New information technologies like QR Code payment present expanding opportunities to supply the needs of the consumers in the shopping process. QR code is a kind of specific matrix barcode (or two-dimensional barcode) that can be read with the camera of a mobile device and runs faster than traditional barcode types. QR code which was developed by Japanese company Denso in 1994 consists of black motives on a square white background. The QR code technology that based on the near field communication (NFC) was designed to establish a secure and contactless communication among close electronic devices within a very short time (Polat, 2014). QR code technologies has a wide range of usage areas in the world such as drug prescriptions, identifications, business cards, television programs, event tickets, library applications and product brochures. An important factor underlying the widespread use of the QR codes is that it has a capacity to store array containing lots of character like a web page address and end-users ability to access via smart phones and PDA devices such information. QR codes are situated on the written materials on computer and TV screen and they can be scanned through by the softwares that downloaded to mobile phones and the information code they contain can be deciphered (Acartürk, 2012). The QR code finds place in daily life in recent years. Due to the characteristics like their cheap production and ease of distribution, today QR codes technology have already been adapted to many different areas all over the world such as automotive, advertising, health care, social media, etc. (Krombholz et al., 2014). Also Cata et al. (2013) emphazied that QR code is a useful payment system in marketing. This technology will be used in following years for shopping and its technological advances will facilitate the relationships between businesses and consumers (Ertekin and Pelton, 2014).

In Turkey, it is point out that QR Code usage has become common recently. One of these fields is the banking sector. Banks has initiated their customers to use QR Code applications in the shopping process. Hence it is considered that consumers can make purchases more easily and quickly than the traditional methods. In the study factors which are affecting the adoption of consumers' shopping with QR Code technology is examined within the framework of Technology Acceptance Model (TAM). Although TAM

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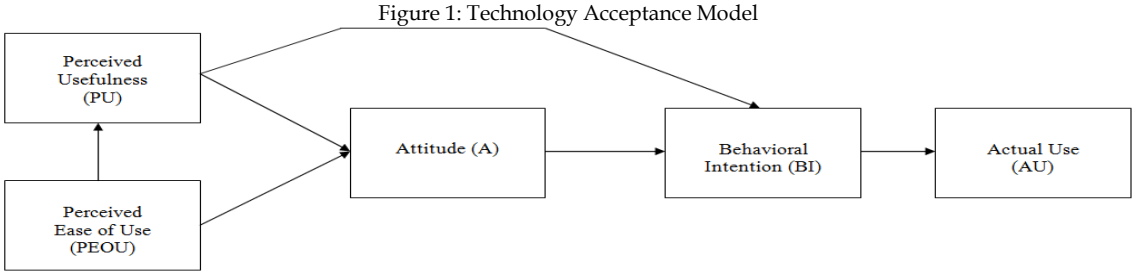
explains the acceptance of an information technology, Mathieson (1991) assumes that the TAM is insufficient to predict intention to use, and those other variables, equally powerful and significant, should be associated into the model. Hence we added perceived risk (PR) and perceived playfulness (PP) constructs for examining the consumers' adoption to QR Code payment.

There are few studies in the literature and the lack of studies on this topic has motivated us to do this study. The rest of this paper is organized as follows. Section 2 explains the Technology Acceptance Model (TAM). Section 3 provides an overview of the literature and describes the hypothesis. Section 4 presents the data and the methodology and reports empirical results and Section 5 concludes.

2. TECHNOLOGY ACCEPTANCE MODEL

The TAM has introduced by Davis (1986) as an adaptation of The Theory of Reasoned Action (TRA) model for to determine the factors that affect the users' acceptance of information technologies. TAM consists of perceived usefulness (PU), perceived ease of use (PEOU), attitude (A) and the behavioral intention of the use (BI) components (Figure 1).

Figure 1: Technology Acceptance Model



Source: Davis et al. 1989

The goal of TAM is to "provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified" (Davis et al. 1989).

TAM explains the acceptance of an information technology in performing tasks and identifies PU and PEOU as two key determinants that enhance the use of technology. Davis (1989) identified perceived usefulness as "the degree to which a person believes that using a particular system would enhance his job performance". Ease of use identified as "the degree to which a person believes that using a particular system would be free of effort". According to the TAM, both PU and PEOU influence the attitude of individuals towards the use of a particular technology, while attitude and PU predict the individual's behavioural intention (BI) to use the technology. PU is also influenced by PEOU. TAM also suggests that external variables intervene indirectly, influencing both PU and PEOU (Lee, 2010; Bienstock et al., 2008; Rym et al., 2013). As Szajna (1996) indicated, "TAM is the model for to resolve the complicated and inconclusive findings related with various beliefs and attitudes for the acceptance of information technologies. It has the potential to integrate various development, implementation, and usage research streams in information technologies. Previous studies have also shown that the TAM explains a higher level of variance in systems use than the TRA, TPB (Pikkarainen et al., 2004; Lee et al., 2003). Hence the TAM is used in the study in order to determine consumers' acceptance of QR Code payment.

3. LITERATURE REVIEW

In the literature few researches considered the perceived risk (PR) and perceived playfulness (PP) constructs in their studies in the acceptance of information technologies. In these studies; Lin et al. (2005) investigated the consumers' website usage behaviors and they found PP and PU had a significant effect on BI. Caruso and Westberg (2008) examined that how the generation Y consumers perceived the value of online music sites and the relationship between the consumers' value perceptions and purchasing behaviors. Findings showed that that there was a positive relationship between online shopping behavior and perceived value of music sites in terms of generation Y consumers. In addition there was a strong relationship between PP, PEOU and PR factors.

Chu and Li (2008) investigated risk factors that affecting the electronic shopping. They concluded that electronic shopping experience is useful for consumers in terms of overcoming PR factor, also more innovative consumers were more likely to take risks in electronic transactions and there was a positive and strong relationship between the PR of the consumers and the strategies of reducing risk in the electronic exchange. Samadi and Nejadi (2009), made a comparison of consumers' shopping intentions on the internet and shops. They indicated that consumers found shopping on the internet more risky than shopping from the store, the positive experience of online shopping reduced the PR also they found that when the risk perception increases, there is a decrease in the future intentions of consumers about shopping over the

internet arised. Lee et al. (2009) investigated the effect of virtual bookstore consumers' perceptions about the internet shopping. Findings indicated that PR has a negative impact on consumers' buying behavior. Hong et al. (2011) investigated the factors affecting the teachers' digital archive usage. They found that there was no relationship between teachers' digital archive BI and PU, PEOU, A and PP factors.

Zheng et al. (2012) analyzed the risk elements faced by Chinese textile consumers in terms of the electronic shopping. Findings showed that Chinese consumers perceive the performance risk as the most important risk factor and in terms of the risk reduction they adopted strategies such as the purchase of well-known brands, high security payment and refund guarantee. Brosdahl and Almousa (2013) investigated the consumer's risk perceptions in electronic shopping for Saudi Arabia and the United States. They found that US consumers showed more positive attitudes about electronic shopping and they found that shopping on the internet were more useful and easier than the Arabian consumers. Also US consumers found electronic shopping was less risky compared to S.A consumers and 99% of US consumers and only 28% of S.A. consumers prefered electronic shopping. However, considering all the participants in the research it had been revealed that there was a significant reduction in the risk perception of the participants who had an electronic shopping experience and they exhibited more positive attitudes related to electronic shopping. Calli et al. (2013) investigated the factors affecting the students' learning process which was located on Sakarya University distance education program. The findings showed that PP, PEOU had a significant effect on PU factor. In addition it had also stated that PU and PP had a significant effect on student's satisfaction.

In the study it is examined that the factors that have an effect on consumers' adoption to QR code Payment. QR code payment is a new information technology hence there are very limited studies in this topic. McKenna and Sage (2012) examined the determinants of acceptence of QR code payment. Findings showed that most of the respondents had no information about the QR code, half of the respondents that smart phone users read the QR code through with their smart phones, one fifth of them used this transaction in order to make purchase and half of them used it for just curiosity. Considering the whole respondents, it had been revealed that 6% of the respondents used the QR codes for purchase, 46% of them used it for only curiosity. Also a large proportion of respondents (70%) used the QR codes because they found it so easy and nearly half of the participants (41%) found the information gained through the QR codes so useful. Ho et al. (2013) investigated that providing the digital receipt facility to consumers referred or not referred them to the adoption of mobile payment systems. Findings indicated that consumers considered the QR code payment was funny, useful and time saver. Ryu (2013) compared the personal characteristics and behaviors of individuals that using and not using the QR code in US. Findings showed that compared with the non-users, QR code users were more prone to innovation, adventure, new ideas and large-scale shopping. Also it had been revealed that compared with the non-users, QR code users were more experienced about online shopping. Almehairi and Bhatti (2014) demonstrated a conceptual model of how shopping could be achieved through the smartphones in the United Arab Emirates (UAE). Findings showed that there was a serious demand for shopping in the UAE and consumers found shopping extremely easy and useful. In addition they also revealed that the idea of making shopping through QR codes were extremely attractive especially for younger consumers looking for an exciting shopping experience and middle-aged consumers who did not want to wait in long queues in shops. Wara and Dugga (2014) investigated that how the use of QR code technology could help to improve the consumers' experience especially in retail shopping. Findings showed that in order to allow access to the real-time information about products (online catalog system) QR code was a simply and effective system in terms of providing consumers faster and more efficient shopping experience.

In the light of all the studies mentioned above, we added PP to TAM in order to extend the acceptance of QR Code payment. The PP variable is related with the determination of the consumers' considerations about entertainment function of the QR code usage in shopping. Especially in the scope of electronic commerce PP has been used in many different studies which are investigating the acceptance of information technologies such as mobile payment (Ho et al., 2013), web context (Lin et al, 2005) and e-learning (Calli et al., 2013). Hence, we expected that PU, PEOU and PP have an effect on consumers' behavioral intention to use QR Code payment and we designated the Hypothesis 1, 2 and 3 as follows:

Hypothesis 1 (H1). Consumers' perceived usefulness (PU) is has a positive impact on consumers' behavioral intention to use (BI) QR Code payment.

Hypothesis 2 (H2). Consumers' perceived usefulness (PU) is has a positive impact on consumers' attitude towards using (A) QR Code payment.

Hypothesis 3 (H3). Consumers' perceived playfulness (PP) is has a positive impact on consumers' behavioral intention to use (BI) QR Code payment.

In the usage of QR code, risk is an important issue. Consumers may inevitably confront with a variety of risk factors such as disclosure of personal information and payment security. Hence PR variable

has been included in the research model. In addition it has been also observed that PR is used in the acceptance of information technologies such as online shopping (Huang et al., 2004; Chu and Li, 2008; Brosdahl and Almousa, 2013), mobile payment (Mallat, 2007) and internet banking (Lee, 2009).

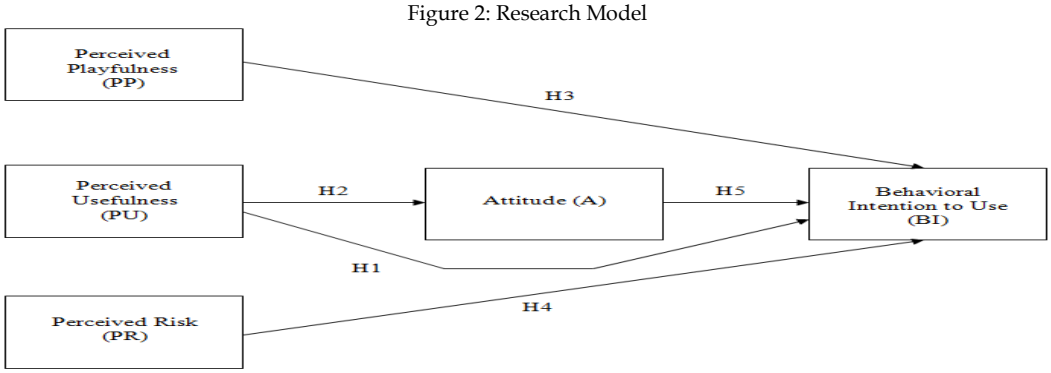
Hence, we expected that PR have a negative effect on consumers' BI QR Code payment and we designated the Hypothesis 4 and 5 as follows:

Hypothesis 4 (H4). Consumers' perceived risk (PR) is has a negative impact on consumers' behavioral intention to use (BI) QR Code payment.

Hypothesis 5 (H5). Consumers' attitude towards using (A) QR Code payment is has a positive impact on consumers' behavioral intention to use (BI) it.

In this framework the research model is presented in Figure 2. In the model, perceived ease of use is removed due to result of the factor analysis.

Figure 2: Research Model



4. RESEARCH DATA AND METHODOLOGY

The purpose of the study is to provide an insight into the determinants of consumers' QR Code Payment acceptance. We used TAM model with added variables PR and PP for the predicting individulas' acceptance to QR Code payment. To collect data, we devised a 29-items questionnaire (26 items relate to consumers acceptance of QR payment and 3 are demographic questions) and used a five-point likert scale as a measurement scale for the study. We gathered sample data from the five cities including Ankara, Istanbul, Samsun, Trabzon and Erzurum in Turkey. This work was trained by five MBA students. After a three-week survey in late July 2014, of the 764 face to face interviews and mailed questionnaires, 697 data were collected based on a structured questionnaire.

The questionnaire items were taken from existing studies but modified for adaptation to QR Code context. All items are shown in Appendix A. The measures BI (Gu et al., 2009), A (Cheng et al., 2006), PU (Pikkarainen et al., 2004), PEOU (Moon and Kim, 2001), PP (Moon and Kim, 2001), and PR (Fernandes and Awamleh, 2006; Meuter et al., 2005) were adapted from various studies related to the TAM. In the survey PU is measured by five items (PU1-5), PEOU by five items (PEOU1-5), A by four items (A1-4), BI by four items (BI1-4), PP is measured by four items (PP1-4), PR by four items (PR1-4). As we have already mentioned PEOU is removed from the model due to results of the factor analysis.

The Structural Equation Modelling (SEM) is used to validate the research model. This technique is chosen due to its ability to test causal relationships between constructs with multiple measurement items. The SEM also has the capability of testing the measurement characteristics of constructs (Suh and Han, 2002: 253).

Table 1: Demographics of Respondents

Demographic Profile	**Frequency**	**Percent (%)**
Gender		
Male	407	58,6
Female	288	41,4
Age		
18-25	193	27,8
26-35	205	29,5
36-45	164	23,6
46-55	98	14,1
55+	35	5
Educational Background		
Primary School Graduate	140	20,1
High-School Graduate	278	40
Bachelor's Degree	245	35,3
Post Graduate	32	4,6

The descriptive statistics of the respondents' demographic characteristics were analyzed and presented in Table 1. Of the 697 respondents, 58,6% were male; 29,5% were in the 26–35 age group, 27,8% were 18–25 in age and 40% were high-school, 35,3% were bachelor's degree. Other demographic details can be seen in Table 1.

4.1. Measurement Model

KMO and Bartlett's test is a pre-requisite to factor analysis. As can be seen from Tacle 2 test results are in the recommended area that KMO value is higher than 0.80 and a significant Bartlett's Test, showing that the collected data are suitable for factor analysis (Truong, 2009).

An exploratory factor analysis is utilized on the survey data using the SPSS 20. As can be seen from Table 2 all factor loadings are higher than 0.5, representing an acceptable significant level of internal validity. As a consequence, the total variance explained after rotation of the five components and 21 variables accounted for 75% of the total variance.

Reliability and construct validity is also tested for the measurement. The reliability analysis is utilized in order to ensure the internal validity and consistency of the items used for each variables. Hair et al. (1998) recommended that Cronbach alpha values must be higher than 0,7. In the study all Cronbach's alpha values are higher than 0,7.

Table 2: Results of Exploratory Factor Analysis

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Perceived Risk (PR)					
PR1	0,867				
PR2	0,923				
PR3	0,913				
PR4	0,857				
Perceived Usefulness (PU)					
PU1		0,812			
PU2		0,779			
PU3		0,755			
PU4		0,758			
PU5		0,644			
Perceived Playfulness (PP)					
PP1			0,642		
PP2			0,791		
PP3			0,861		
PP4			0,819		
Attitude (A)					
A1				0,626	
A2				0,671	
A3				0,762	
A4				0,715	
Behavioral Intention to Use (BI)					
BI1					0,540
BI2					0,692
BI3					0,756
BI4					0,600
Eigenvalues	3,157	3,220	3,157	2,961	2,375
Explained Variance (%)	15,033	19,242	15,333	14,099	11,309
Cumulative Explained Variance (%)	15,033	34,275	49,607	63,706	75,016
Kaiser- Meyer-Olkin (KMO) Measure of Sampling Adequacy				0,940	
Bartlett's Test χ^2= 10368 df : 210 p:0.000					
Cronbach's Alpha Value	0,915	0,906	0,880	0,870	0,868
Total Cronbach's Alpha Value				0,910	

Once the model is validated, AMOS 20 is used to test the overall fit of the structural model and to estimate the relationships between the independent variables and the dependent variable so as to support or not support the hypothesis. Table 3 shows the overall goodness of fit indices for the model (Hair et al. 1995; Steiger, 1990; Wang et al., 2006).

Table 3: Fit Statistics of the Model

Fit Statistics	Suggested	Obtained
x^2/d.f.	≤ 3,00	1,962
GFI (Goodness of Fit Index)	≥ 0,90	0,975
AGFI (Adjusted Goodness of Fit Index)	≥ 0,90	0,962
CFI (Comperative Fit Index)	≥ 0,90	0,991
RFI (Relative Fit Index)	≥ 0,90	0,975
NFI (Normed Fit Index)	≥ 0,90	0,981
RMR (Root Mean Square Residual)	0-1	0,041
RMSEA (Root Mean Square Error of Approximation)	≤ 0,08	0,037

4.2. Reliability and Validity of the Model

Composite reliability and Average Variance Extracted (AVE) are used to test the internal validity of the measurement model. All the composite reliabilities and AVEs are higher than the recommended level of 0.60 and 0.50 respectively. Table 4 shows the values of the variables in the model of the maximum likelihood estimation (MLE), standard errors, AVEs and composite reliabilities. Explained variance estimates, shows the total variance explained in the observed variable concerning each factor. Variance values are estimated according to standard description of factors predictive value which are found to be within acceptable limits that higher than 0,50 (Yap and Khong, 2006; Nunnally and Bernstein, 1994). These values are shown in Table 4 and found as for PU (0,65), PP (O,63) and PR (0,74) respectively.

Table 4: Results of Model

	Item	MLE	S.E.	C.R.	Variance Extracted†	Composite Reliability‡
Perceived Usefulness (PU)	PU1	0,789			0,65	0,90
	PU2	0,813	0,035	27,919		
	PU3	0,849	0,043	23,780		
	PU4	0,810	0,043	22,589		
	PU5	0,758	0,043	20,890		
Perceived Playfulness (PP)	PP1	0,764	0,053	19,175	0,63	0,87
	PP2	0,857	0,056	20,819		
	PP3	0,790	0,040	25,947		
	PP4	0,752				
Perceived Risk (PR)	PR1	0,825	0,043	23,432	0,74	0,92
	PR2	0,900	0,038	28,490		
	PR3	0,889	0,039	28,085		
	PR4	0,823				

The composite reliability coefficients of the factors are also indicated in Table 4. All of the factors' composite reliabilities that are PU (0,90), PP (O,87) and PR (0,92) computed above than the lower limit of 0,70 (Nunnally and Bernstein, 1994).

In addition, critical ratio (C.R.) values are significant at the 1% level. The measurement model coefficient is in the acceptable limits, and thus it has proven that the model is reliable and valid.

4.3. Structural Model

After the measurement model is satisfied, the structural model is estimated. Structural equation model can be estimated if the parameter value is reliable. It requires a supported model. Hence it is required to have the degree of freedom model is positive. Sample size is effective in determining the suitability of the model and parameter values. Therefore we can conclude that the sample size is enough.

Although no single index suggested various goodness of fit index can not identify the correct model. Thus demonstrating the adequacy of the sample size in the study ($\chi 2$ / df) and fit indices (RMR, RMSEA, AGFI, GFI, NFI, CFI, RFI) are used. All fit indices are found in the acceptable range. In addition, RMR (0,049) and RMSEA (0,053) are lower than value of 0,08 (Reisinger and Mavondo, 2006; Hooper et al., 2008; Yen et al., 2010; Yu et al., 2005).

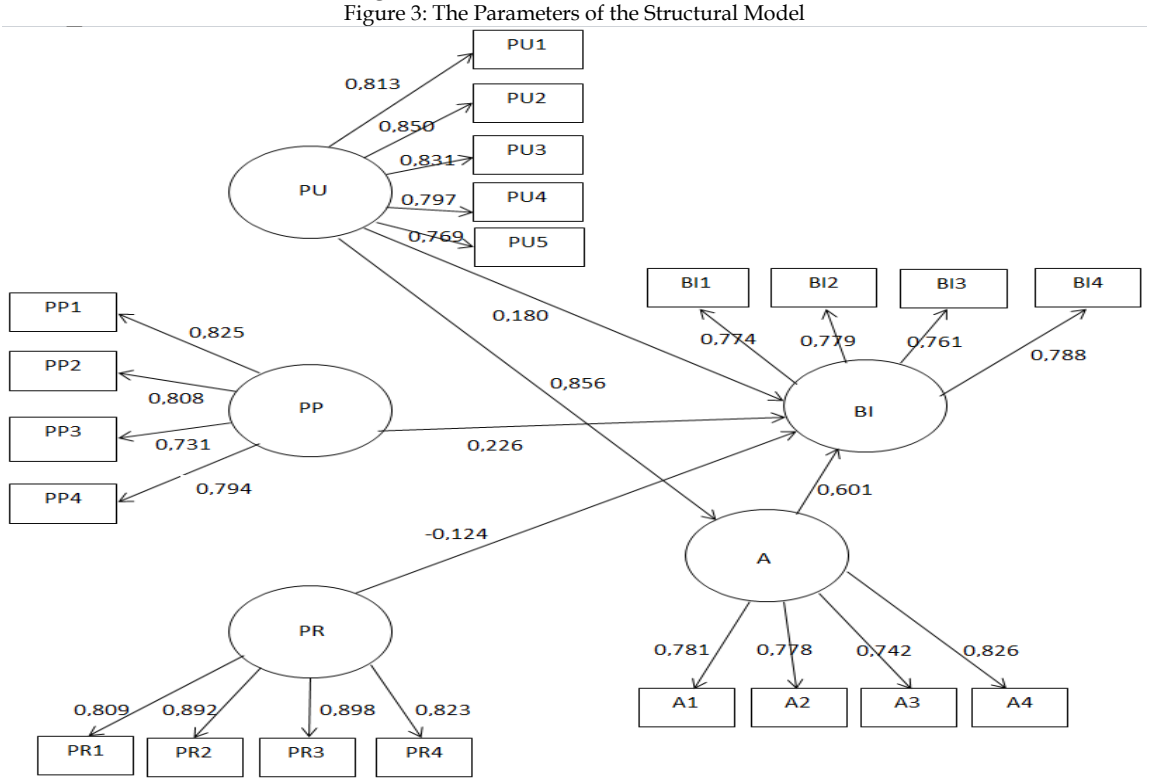
† Variance Predictions of Factors
‡ Reliability Coefficient's of factors.

Table 5: Fit Indices of Structural Model

Fit Statistics	Suggested	Obtained
x^2/d.f.	≤ 3,00	2,923
GFI (Goodness of Fit Index)	≥ 0,90	0,936
AGFI (Adjusted Goodness of Fit Index)	≥ 0,90	0,916
CFI (Comperative Fit Index)	≥ 0,90	0,967
RFI (Relative Fit Index)	≥ 0,90	0,941
NFI (Normed Fit Index)	≥ 0,90	0,951
RMR (Root Mean Square Residual)	≤ 0,08	0,049
RMSEA (Root Mean Square Error of Approximation)	≤ 0,08	0,053

The findings support the acceptability of the structural model. AMOS output shows the parameters of the structural model is shown in Figure 3.

Figure 3: The Parameters of the Structural Model



Structural model results confirms that between PU and BI; between PU and A; between PP and BI; between A and BI has positive and significant relationships. Table 6 indicates the test results of the structural model hypothesis.

Table 6: Structural Model Hypothesis Testing Results

		Estimate	S.E.	C.R.	Hypothesis Results
PU →	BI	0,180	0,064	3,850***	H1: Supported
PU →	A	0,856	0,047	14,371***	H2: Supported
PP →	BI	0,226	0,038	7,346***	H3: Supported
PR →	BI	-0,024	0,020	-1,362	**H4: Not Supported**
A →	BI	0,601	0,065	6,655***	H5: Supported

*** p < 0,01; **p<0,05; *p<0,10.

Hypothesis 1 is to test the relationship between the individual's perceived usefulness and the individual's behavioral intention to use. According to the model, perceived usefulness (β= 0,180) has a positive and significant effect on intention to use. Therefore, hypothesis H1 is supported.

Hypothesis 2 is to test the relationship between the individual's perceived usefulness and the individual's attitude. According to the model, perceived usefulness (β = 0,856) has a positive and significant effect on attitude. Therefore, hypothesis H2 is supported.

Hypothesis 3 is to test the relationship between the individual's perceived playfulness and the individual's behavioral intention to use. According to the model, perceived playfulness (β = 0,226) has a positive and significant effect on intention to use. Therefore, hypothesis H3 is supported.

Hypothesis 4 is to test the relationship between the individual's perceived risk and the individual's behavioral intention to use. According to the model, perceived risk (β = -0,124) has a negative effect on intention to use but it is insignificant. Therefore, hypothesis H4 is not supported.

Hypothesis 5 is to test the relationship between the individual's attitude and the individual's behavioral intention to use. According to the model, attitude (β = 0,601) has a positive and significant effect on intention to use. Therefore, hypothesis H5 is supported.

5. CONCLUSION

The study is examined the causal relationships among the variables that determinants of consumers' acceptance of QR code payment in Turkey. The results show that the proposed model has good explanatory power and confirms its robustness in predicting consumers' behavioral intention to use such technologies. The constructs in the TAM, PU, PP and A are instrumental in determining the BI technology. The findings generally supported the hypotheses derived from the model as well as earlier empirical studies.

The results of this study provide support for the research model presented in Figure 2 and for the hypotheses (except hypothesis 4) regarding the directional linkage among the model's variables. Results show that the BI QR code payment is primarily and positively affected by A (β= 0,601) and less by PP (β = 0,226) and PU (β = 0,180). This implies that the A is the most important predictor of the BI QR code payment. PP also has a significant impact (β = 0,226) and appears to be the second determinant of individuals BI QR code payment.

As a consequance PP may be an important factor for the design of payment systems. Also in the earlier studies researches found that QR code is funny and fast way for shopping. In this respect banks must emphasize that much of the advantage of this payment method for enhancing the usage of the QR code payment. Moreover, A is predicted by PU (β = 0,856). PR is also found to be an insignificant effect. This finding can be explained by the effect of PU on the BI. PU of the QR code payment system could possibly reduce the negative consequences of the risk. Consumers may prefer accomplish the shopping more quickly to neglect risk factors. But its negative effects should not be underestimated by practitioners. Banks should consider alleviating concerns by improving authentication processes, protecting passwords, supplying sufficient information about system, giving unconditional loss guarantees, providing accessible consumer's service. In the further studies adding different variables to the model for the acceptance of QR Code payment or a different information technology can be examined.

6. LIMITATIONS

Although the study provides important insights into the individulas' adoption to shopping with QR Code, the study has some limitations. The first limitation is this study may not fully deal the complexity of QR Code usage. Therefore, the results of this study should be analyzed as preliminary evidence for the adoption to use QR Code payment. The second limitation is the sample size. It is restricted to five cities in Turkey. The replication of the study at different cities of Turkey would enable better generalizability of the findings of the study. Lastly, it is possible that if other factors have been included in the model, a more appropriate or better fitting model may have been identified.

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Appendix: Survey

Gender: Male ( ) Female ( )

Age: 18-25 ( ) 26-35 ( ) 36-45 ( ) 46-55 ( ) 56+ ( )

Education: Primary Education ( ) High School ( ) University ( ) Master/Ph.D

PU1	1- Using QR payment increases my task productivity
PU 2	2- Using QR payment supports the critical part of my tasks
PU 3	3- Using QR payment improves the performance of my tasks
PU 4	4- Using QR payment enables me to accomplish tasks more quickly
PU 5	5- Overall, QR payment is useful for me to utilize shopping.
PEOU1	6- I find it easy to get QR payment to do what I want it to do
PEOU 2	7- My interaction with QR payment is clear and understandable
PEOU 3	8- It will be impossible to QR payment card without expert help
PEOU 4	9- It is easy to remember how to use QR payment
PEOU5	10- It takes too long a time to learn to use QR payment
A1	11- Using QR payment is a good idea.
A2	12- Using QR payment is a pleasant idea.
A3	13- In my opinion, it would be desirable to use the QR payment
A4	14- Using QR payment is a wise idea.
BI1	15- I would use the QR payment for my shopping needs
BI2	16- I will use QR payment on a regular basis in the future
BI3	17- I will frequently use QR payment in the future
BI4	18- I will strongly recommend others to use QR payment
PP1	19- Using QR payment gives enjoyment to me for my task
PP2	20- Using QR payment stimulates my curiosity
PP3	21- Using QR payment is exciting.
PP4	22- Using QR payment gives fun to me for my task
PR1	23- I am afraid that other people might access to information about my shopping transactions.
PR2	24- I believe it can rather easily happen that money is stolen if using QR payment.
PR3	25- I am afraid that the confidentially of my financial transactions might get lost when using QR payment.
PR4	26- I think that privacy is not guaranteed when using QR payment.