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Functional Quality, Hedonic Quality, and E-Trust of Mobile Applications: Evidence From an Emerging Market

Mobil Uygulamalarda Fonksiyonel Kalite, Hedonik Kalite ve E-Güven: Gelişmekte Olan Bir Pazardan Bulgular

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Abstract: The study investigates the role of functional and hedonic quality on the e-trust of mobile applications in an emerging market, namely, Turkey. Using a student sample of 214 respondents from a public university, results were analyzed using Structural Equation Modelling. This study found that e-trust in a mobile application was affected by responsiveness and hedonic quality. No link was found between efficiency and e-trust. Efficiency and responsiveness were correlated with hedonic quality. The study adds important insights to the relevant literature. This study shows the significance of functional and hedonic quality in creating e-trust. This study also shows the relationships between functional and hedonic quality by claiming that hedonic quality could be a dimension of mobile applications' quality.

Keywords: Functional quality, hedonic quality, e-trust, mobile applications, emerging market.

Öz: Çalışma, gelişmekte olan bir pazar olarak Türkiye'de mobil uygulamalara yönelik e-güven üzerinde fonksiyonel ve hedonik kalitenin rolünü araştırmaktadır. Bir devlet üniversitesindeki 214 öğrencinin katılımcı olduğu çalışmada elde edilen sonuçlar Yapısal Eşitlik Modellemesi kullanılarak analiz edilmiştir. Bu çalışma, bir mobil uygulamaya yönelik e-güvenin, cevap verebilirlik ve hedonik kaliteden etkilendiğini bulmuştur. Verimlilik ve e-güven arasında bir bağlantı bulunmamıştır. Verimlilik ve cevap verebilirliğin hedonik kalite ile ilişkili olduğu bulunmuştur. Çalışma ilgili literatüre önemli katkılar sağlamaktadır. Bu çalışma, e-güven oluşturmada fonksiyonel ve hedonik kalitenin önemini göstermektedir. Bu çalışma aynı zamanda hedonik kalitenin mobil uygulama kalitesinin bir boyutu olabileceğini iddia ederek, fonksiyonel ve hedonik kalite arasındaki ilişkileri göstermektedir.

Anahtar Kelimeler: Fonksiyonel kalite, hedonik kalite, e-güven, mobil uygulamalar, gelişmekte olan pazar.

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INTRODUCTION

Mobile applications (apps) are software that runs on a mobile device. Mobile device users can load apps via stores such as the Google Play Store, or others. Mobile apps have grown its popularity all over the world. In the first quarter of 2021, about 5.7 million apps exist on Google Play and the Apple App stores (Statista, 2021). Mobile apps give opportunities for people to keep in touch with friends, do business and have entertainment, etc. Mobile apps that have become indispensable for daily life have also changed the nature of e-commerce. Global revenue of mobile apps, which is estimated to reach around 613 billion dollars by 2025, came to about 318 billion dollars in 2020 (Statista, 2021). Because of this growing usage, it is essential to comprehend mobile apps and related topics that contribute to this concept's advancement as a research area.

Trust is an intention to feel confident in other parts of exchange (Moorman et al., 1992:315). E-trust is the confidence level of customers in e-activities or e-channels (Ribbink et al., 2004:447). It is also the main element of creating, maintaining, and enhancing long-term relationships in the scope of mobile apps. E-trust is essential because it affects the adoption and development of online transactions (Vos et al., 2014:421). Studies (Chang and Chen, 2008; Prahiaawan et al., 2021) assume e-trust as an antecedent of repurchase intention, leading consumers to purchase again from the same company. Besides, firms must create a trust to get loyalty, especially in an online environment (Reichheld and Scheffer, 2000:107). Thus, it is essential to gain e-trust in the scope of apps likewise. Consequently, this study concentrates on e-trust in the scope of mobile apps.

Quality is classified as a pre-determinant of e-trust in the literature (Kim et al., 2009:240). But there are limited studies (Hwang and Kim, 2007; Bernardo et al., 2012) that focus on hedonic quality in the online environment. There are also limited studies (Bernardo et al., 2012; Del Mar Alonso-Almeida et al., 2014) that show the link between functional and hedonic quality in the online environment. Additionally, there are limited studies (Xu et al., 2015; Arcand et al., 2017) that focus on functional and hedonic quality in the scope of mobile apps. Based on the in-depth literature review, no specific effort focuses on functional quality, hedonic quality, and e-trust in the scope of mobile apps. The current study focuses on these three constructs. Thus, the study investigates the role of functional and hedonic quality on the e-trust of mobile applications in an emerging market, namely, Turkey.

The study has important insights and contributions to the relevant literature in three ways: i) it fills the gap of relevant literature based on functional and hedonic quality relationships, ii) it provides helpful information for policymakers to create e-trust in the scope of mobile apps, and iii) it shows the functional quality, hedonic quality, and e-trust relationship altogether. This study has three research questions in the context of mobile apps. First, how will functional quality enhance e-trust? Second, how will hedonic quality enhance e-trust? Third, what is the link between functional and hedonic quality? The study conducted Structural Equation Modelling (SEM) to answer these questions. The study follows the stimulus-organism-response theory (SOR) (Peng and Kim, 2014) and the commitment-trust theory (Mukherjee and Nath, 2007) in modelling. First, theoretical framework and hypotheses development were provided. After that, the methodology was presented. Analyses and results were offered. Finally, the conclusion and discussion were provided.

THEORETICAL FRAMEWORK AND HYPOTHESES

Functional and Hedonic Quality

Service quality is specified as the separateness between consumers' feelings and their anticipations about firms (Parasuraman et al., 1988:17). There is great attention to the quantification of service quality. The most famous one is SERVQUAL (Parasuraman et al., 1988) which measures offline services' quality. As a pioneer, Grönroos (1984) served a model that included two dimensions: technical and functional quality. To measure the website's service quality, ES-QUAL scale (Parasuraman et al., 2005), including four dimensions, was designed. Among many other online-specific scales like eTailQ (Wolfenbarger and Gilly, 2003) and SITEQUAL (Yoo and Donthu, 2001), there are few efforts to measure mobile apps-based quality. Choi, Kim, Sung and Park (2007) suggested six factors to measure mobile service quality. Lu, Zhang and Wang (2009) designed three dimensions to measure mobile service

quality. Özer, Argan and Argan (2013) claimed that mobile services have unique features. They designed a model including five dimensions. Recently, Huang, Lin and Fan (2015) offered a mobile service quality model for shopping experiences and designed the MS-QUAL scale. Among all these scales, the study tested the MS-QUAL scale in the context of an emerging market namely, Turkey. They developed two scales for virtual products and physical products shopping experiences. These scales are mobile apps specific and developed recently. The study focused on physical product shopping as a scale, which covers four dimensions: efficiency, contact, fulfillment, and responsiveness. These four dimensions have functional attributes which are utilitarian in nature. This study suggests functional quality as a multi-dimensional concept, exploring the discrete position of each functional quality dimension.

Functional quality attributes are not enough to explain overall service quality with low predictive validity (Richard and Allaway, 1993:59). Consumers think of hedonic attributes in the shopping process (Babin et al., 1994:644). Hedonic attributes are related to enjoyment and pleasure. Hedonic quality is the value acquired by a consumer from searching for and buying a specific product (Bernardo et al., 2012:343). Primarily, Van der Heijden (2004) emphasized the importance of hedonic quality in the context of websites. Because of the high consumer participation level in mobile apps, the importance of hedonic quality gets increased. Some researchers added hedonic quality as an element of functional quality (Yang et al., 2010; Del Mar Alonso-Almeida et al., 2014; Arcand et al., 2017). On the other hand, limited studies (Bernardo et al., 2012) focus on the relationship between functional and hedonic quality. More specifically, there is no clear proof of a relationship between functional and hedonic in the context of mobile apps. Thus, the suggested hypothesis is as follows:

H1: The level of a)efficiency, b)contact, c)fulfillment, d)responsiveness in a mobile app is positively correlated with hedonic quality.

E-Trust

Privacy and security are fundamental in an online environment (Chou et al., 2015:544). E-trust reduces the perceived risk of practising a service like mobile apps (Ribbink et al., 2004:446). Additionally, once a mobile app develops trust, consumers are more willing to buy their product or repeat this (Chou et al., 2015:544). E-trust is the main aspect of systems adoption as the main element of e-commerce relationship management (Hwang and Kim, 2007:746). E-tailers should form e-trust first to set e-loyalty and e-satisfaction (Kim et al., 2009:245). Some authors (Hwang and Kim, 2007; Flavian et al., 2006) identified e-trust as a multi-dimensional concept with three elements: competence, benevolence and integrity. Other studies (Ribbink et al., 2004; Kim et al., 2009; Chou et al., 2015) recognized e-trust as a one-dimensional concept. The current study adopted the one-dimensional e-trust concept, defining customers' confidence in mobile apps. Besides, this study didn't focus on the separate role of e-trust dimensions. Prior studies (Hwang and Kim, 2007; Kim et al., 2009; Chou et al., 2015; Arcand et al., 2017) suggested that the functional quality of an e-service affects e-trust directly. Additionally, very rare studies (Hwang and Kim, 2007; Arcand et al., 2017) suggested that the hedonic quality of an e-service affects e-trust directly. More specifically, the current study focuses on functional quality→e-trust and hedonic quality→e-trust relationships in the scope of mobile apps. Thus, the suggested hypotheses are as follows:

H2: The a)efficiency, b)contact, c)fulfillment, d)responsiveness of a mobile app positively affects e-trust.

H3: The hedonic quality of a mobile app positively affects e-trust.

METHODOLOGY

The mobile app market is growing to a great extent, year by year. Global revenue from mobile apps is 318 billion dollars in 2020 and, is estimated to attain around 613 billion dollars by 2025 (Statista (2021). Because of the growing importance, this study focused on mobile apps specifically. The study aims to investigate the impact of functional quality and, hedonic quality on e-trust in the context of mobile apps in an emerging market namely, Turkey. The related numbers show that Turkey, as an emerging market is a proper sample. Turkey's population is approximately 85 million in 2021 (TUIK Report2, 2022) and about 82.8 million people have mobile subscriptions (BTK Report (2020). The rate

of having a mobile/smartphone is 99.4% in households (TUIK Report1, 2020). Internet usage rate among 6-74 years old is 82.6 percent in 2021 (TUIK Report, 2021).

Research model

The following research model was proposed.

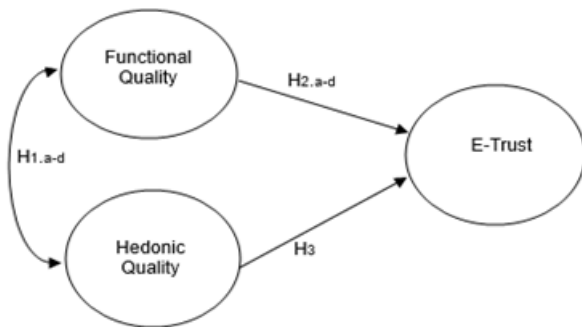


Figure 1. *The proposed model*

Measurement

A questionnaire, covering two parts, was used in this study. The first part collected the functional quality, hedonic quality, and e-trust-related data. The second part collected the demographic data from the respondents. Appropriate past studies were chosen to measure the research constructs called functional quality, hedonic quality, and e-trust. MS-QUAL scale, including efficiency, fulfillment, contact, and responsiveness, was adapted by Huang, Lin, and Fan (2015) to measure functional quality within mobile apps. The MS-QUAL scale has multiple sizes in nature. Accordingly, fifteen items were used to evaluate functional quality. Five items were concerted by Bernardo, Marimon, and Del Mar Alonso-Almeida (2012) to evaluate the hedonic quality. Finally, three items to evaluate the e-trust of mobile apps were adapted from Kim, Jin, and Swinney (2009). Five-point Likert-type scales were employed for functional quality, hedonic quality, and e-trust items. A legal translator transformed all items into Turkish. A pre-test was employed with 30 undergraduate students in Adana, the seventh-largest city in Turkey. Based on these pre-test results, four items were reshaped with a minor revision.

Data collection

The study population was defined as mobile shoppers who have bought any products via mobile apps. Students at a public university who are over 18 years old having responsibility for their credit cards were approached by surveyors. Data was collected face to face by four trained surveyors. These surveyors were trained about the questionnaire by the researcher. The data were collected from September to December 2020. Before applying the survey, a filter question was asked by surveyors to ensure that they were accurate respondents. The filter question was related to the mobile shopping experience. If they have done mobile shopping continually, the surveyor invited the respondent to attend the study. Convenience sampling was employed in this study. The questionnaire was handed out to volunteer participants. Finally, 214 completed questionnaires, which are enough as a sample size for structural equation modelling analysis based on Wolf et al. (2013), were obtained. The demographic profile is as follows.

Table 1. Demographic characteristics

Characteristics	Number of respondents	Percentage
Gender		
Female	98	%45.8
Male	116	%54.2
Age		
16-24	104	%48.6
25-35	97	%45.3
36+	13	%6.1
How long have you been using this mobile app?		
Lower than 1 year	31	%14.5
1-2 years	59	%27.6
2-3 years	42	%19.6
3+	82	%38.3
Mobile app usage frequency in a month		
1-10 times	53	%24.8
11-30 times	75	%35.0
30+ times	86	%40.2

Of the 214 total respondents, 116 (54.2%) were male, and 98 (45.8%) were female students. Approximately %49 of the respondents were between the age of 16-24. These results confirm that Turkey's university starting period is about 17 or 18 years old. The majority (38.3%) of respondents had used the related mobile app for more than 3 years. So, it is assumed that they have enough years of experience to make evaluations about the mobile app. The respondents had been using the mobile app more than 30 times in a month. Thus, the sample closely parallels with the growing usage potential of mobile apps in Turkey.

ANALYSES AND RESULTS

In the beginning, reliability analysis was employed to demonstrate the parameters of MS-QUAL scale dimensions. Table 2 shows that all related results exceed the recommended level (.70).

Table 2. Reliability analysis results of MS-QUAL scale

Dimensions	Cronbach Alphas
Efficiency	.907
Contact	.796
Fulfillment	.868
Responsiveness	.872

First, the data appropriateness for factor analysis must be investigated. Kaiser-Meyer-Olkin (KMO-MSA) was conducted to comprehend this issue. The value of KMO-MSA is .93, which explains 60.6 percent of the variance regarding functional quality. The value of KMO-MSA is .88, which explains 71.9 percent of the variance regarding hedonic quality. The value of KMO-MSA is .72, which explains 87.2 percent of the variance in terms of e-trust. Thus, all KMO-MSA values are over .60. Additionally, Bartlett's Test of Sphericity values are over .005. Therefore, the data set is assumed to be proper to use the Confirmatory factor analysis (CFA).

A 1st order model (Model1) and 2nd order models (Model 2, Model 3, Model 4) were compared to verify the functional quality's multidimensionality by employing CFA. Model 1 shows the MS-QUAL scale as a unidimensional construct. Otherwise, the second-order models covered the combinations of factors, including efficiency, fulfillment, contact, and responsiveness. Model 2, Model 3, and Model 4 represent

multi-dimensional solutions in which all items were loaded on two, three, and four factors, respectively. The best scores of second-order models' are shown in Table 3. LISREL program was utilized to evaluate the outcomes of measurement models. The multivariate normality was absent (p-value ≤ 0.05). Therefore, the robust maximum likelihood method was conducted. As shown in Table 3, RMSEA, GFI, NFI, and CFI were used.

Table 3. Comparison of measurement models of functional quality

Models*	χ^2/df	RMSEA	GFI	NFI	CFI
Model 1 (one factor)	3.94	0.12	0.77	0.37	0.42
Model 2 (two factors)	2.12	0.07	0.93	0.79	0.87
Model 3 (three factors)	2.82	0.09	0.83	0.55	0.63
Model 4 (four factors)	3.33	0.10	0.79	0.50	0.57
Recommended value	≤ 3	≤ 0.08	≥ 0.9	≥ 0.9	≥ 0.9

* p-value < 0.01

Model 2 of functional quality demonstrated suitable fit and is preferable to Model 1, Model 3, and Model 4 regarding fit indices. Thus, Model 2 was ideal for modelling the functional quality. Model 2 covered efficiency and responsiveness as dimensions. NFI and CFI are below the cut-off marks. But especially CFI value is not much different. NFI is an incremental fit indice that calculates C the proposed model's Chi-Square (χ^2) measurement and associates it with a significant standard (Bentler and Bonett, 1980:600). So, this model advances the fit by 79% related to the null or independence model. NFI less than 0.9 can generally be substantially improved (Bentler and Bonett, 1980; Yusif et al., 2020). Additionally, other values are above the cut-off marks. Thus, there was an extensive fit between the data and the model. Table 4 shows the correlation coefficients.

Table 4. Correlation matrix of functional quality

Constructs	(1)	(2)
Efficiency	(1)	0.89
Responsiveness	(2)	0.75*

* p-value < 0.05

Diagonal elements are the square roots of the AVEs.

CFA results were utilized to measure the reliability, convergent validity, and discrimination validity of functional quality. All items had significant factor loadings on related dimensions (t-values > 1.96). Standardized factor loadings of functional quality were between 0.76 and 0.95. These values show sufficient convergent validity. The average variance extracted (AVE) coefficients were estimated. To get suitable convergent validity, AVE coefficient has to be over 0.50. All AVE coefficients were over their suggested cut-off marks. Additionally, composite reliability (CR) value above 0.60 shows well reliability. All CR coefficients were above their recommended level. The correlation value of efficiency and responsiveness were lesser than the square root of each dimension's AVE. Therefore, the discrimination validity was acceptable.

Table 5. Psychometric properties and CFA results of functional quality

Constructs	Item	Mean	SD	Factor Loading	t-Value*	AVE	CR
Efficiency ($\alpha=0.91$)	e1	4.16	0.83	0.93	12.68	0.79	0.95
	e2	4.12	0.82	0.95	13.73		
	e3	4.05	0.83	0.90	13.49		
	e4	3.89	0.91	0.87	15.52		
	e5	3.45	1.10	0.76	14.54		
Responsiveness ($\alpha=0.87$)	r1	3.86	0.89	0.93	14.65	0.81	0.93
	r2	3.78	1.01	0.94	18.18		
	r3	3.70	1.01	0.83	15.32		

*All t-Values are significant at $p < 0.01$.

After that, CFA was utilized to measure the total measurement model constructs. The robust maximum likelihood method was applied since multivariate normality was absent. CFA values indicated that the total measurement model closely fits the data. All fit indices met the recommended marks ($\chi^2/df = 2.80$ and $p\text{-value} < 0.01$, $RMSEA = 0.09$, $GFI = 0.89$, $NFI = 0.70$, $CFI = 0.78$), except for NFI and CFI. But especially CFI value is not much different. This model advances the fit by 70% related to the null or independence model. NFI less than 0.9 can generally be substantially improved (Bentler and Bonett, 1980; Yusif et al., 2020). Therefore, there was an extensive fit between the data and the model. As seen in Table 6, correlation coefficients were significant. Table 7 shows the CFA results of the total measurement model.

Table 6. Correlation matrix of latent constructs

Constructs*	(1)	(2)	(3)	(4)
Efficiency (1)	0.82			
Responsiveness (2)	0.67	0.90		
Hedonic quality (3)	0.76	0.84	0.79	
E-trust (5)	0.69	0.87	0.97	0.93

* p-value < 0.05

Diagonal elements are the square roots of the AVEs.

Table 7. Psychometric properties and CFA results

Constructs	Item	Mean	SD	Factor Loading	t-Value*	AVE	CR
Efficiency ($\alpha = .91$)	e1	4.16	0.83	0.83	9.53	0.68	0.91
	e2	4.12	0.82	0.93	11.50		
	e3	4.05	0.83	0.76	10.08		
	e4	3.89	0.91	0.88	20.00		
	e5	3.45	1.10	0.69	18.47		
Responsiveness ($\alpha = .87$)	r1	3.86	0.89	0.95	21.13	0.81	0.93
	r2	3.78	1.01	0.94	21.42		
	r3	3.70	1.01	0.80	17.57		
Hedonic quality ($\alpha = .89$)	h1	3.86	0.88	0.76	13.96	0.62	0.89
	h2	3.98	0.89	0.87	14.44		
	h3	3.92	0.93	0.87	17.77		
	h4	4.06	0.98	0.68	10.94		
	h5	3.47	1.19	0.73	17.82		
E-trust ($\alpha = .93$)	etr1	3.83	0.92	0.94	26.15	0.86	0.95
	etr2	3.89	0.87	0.96	23.06		
	etr3	3.86	0.88	0.87	16.25		

*All t-Values are significant at $p < 0.01$.

CFA results were utilized to estimate the reliability, convergent, and discrimination validity. The related factor loadings were significant additionally, all t-values were bigger than 1.96. All factor

loadings to related constructs were significant. Standardized factor loadings of items were between 0.68 and 0.96. These values demonstrate good convergent validity. AVE coefficients were in the 0.62-0.86 range and were bigger than their recommended level. All CR coefficients were between 0.89 and 0.95. These values show good reliability. The square root of AVE's except e-trust was bigger than its correlation coefficients with other constructs. Hedonic quality and e-trust are different constructs theoretically. This is the result of the low impact of h1 and h5 on the hedonic quality scale. Therefore, a minor discriminant problem between hedonic quality and e-trust is noticed. Care must be taken when interpreting their relationships.

Structural Model

SEM was finally utilized to investigate the hypotheses. It was examined whether the data set is proper with the conceptual model using LISREL. The model's extensive fit was acceptable ($\chi^2/df = 2.78$ and $p < 0.01$, RMSEA = 0.09, GFI = 0.86, NFI = 0.92, CFI = 0.95). While the GFI was slightly lower than the suggested cut-off mark, all other indices were above the related cut-off marks. According to Etezadi-Amoli and Farhoomand (1996), the practical cut-off mark of the GFI is 0.80. So, this value was over 0.80. Additionally, the GFI was not much different. Thus, there was an extensive fit between the data and the model. Table 8 demonstrates the SEM results.

Table 8. Hypotheses testing

	Path and Correlation	Std. Coef.	t-Value*	Result
H2a	Efficiency → E-Trust	-0.20	-2.39	NS
H2	Responsiveness → E-Trust	0.18	1.95	Supported
H3	Hedonic quality → E-Trust	0.91	7.22	Supported
H1a	Efficiency and Hedonic quality	0.83	30.74	Supported
H1	Responsiveness and Hedonic quality	0.84	31.51	Supported
d	Efficiency and Responsiveness	0.73	19.46	
R ² Value				
E-Trust → R ² = 0.815				

Fit indices: $\chi^2/df = 2.78$ and $p < 0.01$, RMSEA = 0.09, GFI = 0.86, NFI = 0.92, CFI = 0.95. NS: Not Supported.

* Standardized coefficient

**All t-Values are significant at $p < 0.05$ except Responsiveness (=0.10)

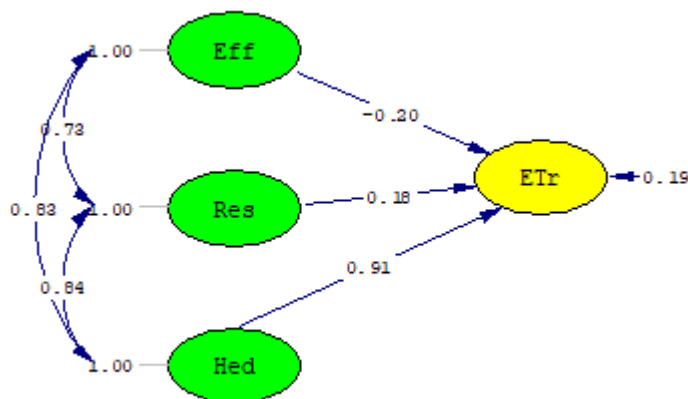


Figure 2. Structured model

Finally, all the hypothesized paths are confirmed except H2.a. H1.a anticipated that the level of efficiency in a mobile app is positively correlated with hedonic quality. As Table 8 shows, the lambda value for this path is statistically significant ($\lambda: 0.83$, $t: 30.74$, $p < 0.05$) and positive. H1.d anticipated that the level of responsiveness in a mobile app is positively correlated with hedonic quality. The related lambda value is statistically significant ($\lambda: 0.84$, $t: 31.51$, $p < 0.10$) and positive. Additionally, efficiency in a

mobile app is positively correlated with responsiveness, as expected. H2.a. predicted that the efficiency of a mobile app positively affects e-trust. H2.a. was rejected. On the other hand, H2.d. anticipated that the responsiveness of a mobile app positively affects e-trust. The lambda value for this path is statistically significant ($\lambda:1.18$, $t:1.95$, $p<0.05$) and positive. H3 predicted that the hedonic quality of a mobile app positively affects e-trust. The related lambda value is statistically significant ($\lambda:0.91$, $t:7.22$, $p<0.05$) and positive. Table 8 also shows the R-squared value. R^2 value indicates the extent to which the antecedents explain an endogenous variable. Consequently, the antecedents explained 81.5% of the variation in e-trust. The proposed model explained 81.5% of the variation by endogenous variables.

CONCLUSIONS AND DISCUSSION

Acquisitions of buyers' trust in an online environment is a vital phenomenon. In this respect, the potential of mobile apps in today's business environment cannot be ignored. Thus, the study aimed to investigate the impact of functional quality and, hedonic quality on e-trust in the context of mobile applications in an emerging market namely, Turkey. Using a student sample from a public university, this study found that e-trust in a mobile app depends on responsiveness and hedonic quality.

H2.a. predicting the efficiency of a mobile app positively affects e-trust was rejected. Efficiency refers to the capability of a mobile app to serve related information which is easy to come by to customers. While some scholars found a significant effect of efficiency on e-trust (Giovanis and Athanasopoulou, 2014; Al-Khayyal et al., 2020); others found no effect of efficiency on e-trust (Hansen and Jonsson, 2013; Al-dweeri et al. 2017). On the other hand, H2.d. predicting the responsiveness of a mobile app positively affects e-trust was accepted. Responsiveness refers to the effectiveness of handling problems and returns in a mobile app (Huang et al., 2015). While some scholars found a significant effect of responsiveness on e-trust (Hansen and Jonsson, 2013, Zhang et al., 2021), other scholars rejected the effect of responsiveness on e-trust (Ribbink et al., 2004; Kim et al., 2009). Additionally, H3. predicting the hedonic quality of a mobile app positively affects e-trust was accepted. In the related literature, there are very rare studies which focus on hedonic quality and e-trust relationship. Hwang and Kim (2007) showed the direct effect of enjoyment on e-trust within the scope of web quality. It is assumed that the results of the current study added value to relevant literature and expanded it in the context of mobile apps. H1.a. predicting the level of efficiency in a mobile app is positively correlated with hedonic quality was accepted. H1.d. predicting the level of responsiveness in a mobile app is positively correlated with hedonic quality was also accepted. There are very rare studies focusing on functional quality and hedonic quality relationships. These positive correlation numbers show that hedonic quality could be a dimension of mobile app quality. Besides, some studies claim that hedonic quality should be assessed within the scope of e-quality (Bernardo et al., 2012; Del Mar Alonso-Almeida et al., 2014). Thus, the study shows the importance of hedonic quality in the scope of mobile apps.

The first theoretical implication of this paper contributes toward filling a gap that the hedonic quality of a mobile app is an important factor. Because our comprehension of this subject is very limited. Second, this study contributes to the e-trust research flow by showing the functional and hedonic quality effects separately. Third, the functional and hedonic quality relationship which is very rare studied is shown by this study in the context of mobile apps. Practitioners could benefit from the findings of the current study in several ways. In their mobile app-related decisions, they have to pay attention to create hedonic quality-related opportunities like 'Shop with a Friend'. In this respect, mobile app designers could guide companies to enhance the enjoyable experience. Responsiveness which refers to the willingness to assist customers and serve quick services is an important indicator in developing e-trust in the scope of mobile apps. Practitioners should also create and improve the performance of opportunities like call centres.

This study has some limitations. The first limitation of this study is related to the sample. This study's sample profile is students. Even though the sample profile is proper for the study, future studies could determine their samples with different segments of mobile app users. Another limitation related to the sample is the geographic origin. As mentioned above, Turkey is a proper sample as an emerging market. But it is recommended to gather data from different emerging markets for future studies. Additionally, the sample could be widened to other emerging countries to show the cultural differences. The less important limitation of the research is related to the lack of discriminant validity between

hedonic quality and e-trust. But this situation does not risk the analysis of hedonic quality and e-trust. This study just focused on functional and hedonic quality as antecedents of e-trust. Future studies could also focus on other additional characteristics as antecedents of e-trust. Focusing on more specific-sector products' mobile apps can serve specific solutions. Finally, future studies could utilize a more specific-sector perspective.

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