The Effect of e-Service Quality Dimensions on Behavioral Intensions of Accountants: The moderating roles of Ease of use and Emotional benefits

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Abstract

Purpose: The purpose of this paper is to examine the relationships between two dimensions of electronic service quality influencing ease of use and emotional benefit in internet banking service quality, together with the subsequent effects on behavioral intention in Turkey.

Methodology: Accountants who use internet the banking services of banks in Turkey completed a self-administered questionnaire. Data obtained from 206 accountants were analyzed using diverse data analysis approaches, including univariate analysis with descriptive statistics as well as multivariate analysis with correlation, regression, moderation analyses. Also, the initial results were tested using Partial Least Square (PLS) based Structural Equation Modeling (SEM) approach.

Findings: The results revealed that Graphic Quality and Layout Clarity have a significant positive association with Behavioral Intentions, Ease of Use and Control and Emotional Benefit. Moreover, Ease of Use and Control is a significant moderator upon the relationship of Graphic Quality and Layout Clarity with Behavioral Intentions.

Originality/value: This research uniquely investigates the subdimensions of the electronic service environment that influence the behavioral perceptions of accountants using internet banking services in Turkey, with outcome quality dimensions.

Introduction

In recent years, the internet has been explored and used as a means of improving service provision in the banking industry (Jun, Yang, and Kim, 2004). Banks traditionally compete within the field of banking services. However, they have expanded the scope of their competition to an e-environment with internet banking services (Gonzalez et al., 2004). These banks have introduced internet banking as a means through which they can assure their customers that they will maintain a competitive quality of service in the future (Jenkins, 2007). In a nutshell, offering internet banking is no longer regarded as a competitive advantage; rather, it is a competitive necessity (Gan et al., 2006). Research indicates that banks that have exploited internet banking effectively create and maintain close relationships with their customers, reduce their operating and fixed costs (Mols, 2000), thereby achieving efficient and enhanced financial performance (DeYoung, Lang, and Nolle, 2007). Thus, an understanding of the way in which users of bank e-services evaluate the quality of such electronic service (e-service) is of the utmost importance to the banks.

The present research examines the dimensions and subdimensions of e-service quality as well as the behavioral intentions of accountants participating in the area of internet banking in Turkey. In particular, this study has three objectives. First, it is built upon the exploratory work of Fassnacht and Koese (2006), who developed a broadly applicable, hierarchical quality model for electronic services that includes dimensions and subdimensions; in the banking context it empirically tests the relationships between environment quality which consist of graphic quality and clarity of layout with behavioral intentions. Second, it explores the relationship between graphic quality and clarity of layout with ease of use and emotional benefit. Finally, it contrasts the moderating roles of ease of use and emotional benefit between graphic quality and clarity of layout with behavioral intentions.

The relevant literature leading to our specific research hypotheses is presented in the following section. This is followed with explanations of the research methods and

findings of the empirical study which was conducted with 206 accountants in Turkey. The paper concludes with a discussion of the results.

Review of the relevant literature

E-service is a "content-centered and internet-based customer service, driven by the customer… with the goal of strengthening customer-service provider relationships" (De Ruyter et al., 2001, p. 2). E-service quality is defined as the "evaluation and judgment of the excellence and quality of e-service offerings" to consumers (Santos, 2003, p. 235). As can be understood from both definitions, customers within the online environment play a significant role since they are interacting through a technical interface. Therefore, it is crucial to fulfill relevant customer needs , because their satisfaction with the e-service can generate increased hit rates to their websites (Santos, 2003).

A growing body of literature has been investigating e-service quality over the last two decades In spite of this growth, there is a lack of clarity and consensus regarding the quality of the relevant dimensions of e-service (Zeithaml, Parasuraman, and Malhotra, 2002; Loonam and O'loughlin, 2008). One of the most widely used instruments is Zeithaml, Parasuraman and Malhotra (2002)'s e-SERVQUAL measure of electronic service quality, which was developed in order to study the ratings by customers as they judge e-service quality. It contains seven dimensions: efficiency, reliability, fulfillment, privacy, responsiveness, compensation and contact. The first four dimensions are categorized as the core service scale, while the latter three dimensions are regarded as a recovery scale, since they are only salient on those occasions when online customers have questions or problems (Siu and Mou, 2005).At the same time, the authors remarked that the variety of dimensions proposed would have to be investigated more systematically and that the extant knowledge on e-service quality at that time was limited, needing thorough academic research on this topic. In recent years, other studies have been published (Collier and Bienstock, 2003; Gummerus et al., 2004; Parasuraman, Zeithaml, and Malhotra, 2005). These studies show that although rigorous research on the topic is emerging, several overlaps and shortcomings remain. For example, dimensions such as design,

ease of use, or information quality repeat consistently, with researchers mainly focusing upon the service delivery process, thus leaving the outcome dimensions of e-service quality inadequately addressed (Fassnacht and Koese, 2006).

The present study was conducted within the online banking context. One of the objectives was to measure the outcome quality dimensions that is experienced by users, which is critical to the quality of an e-banking service. Therefore, this research adopted Fassnacht and Koese (2006)'s hierarchical quality model for electronic services, which takes a comprehensive view of the outcome dimension as an appropriate model. Their model consists of three dimensions (environment quality, delivery quality, and outcome quality) and nine sub-dimensions (graphic quality, clarity of layout, attractiveness of selection, information quality, ease of use, technical quality, reliability, functional benefit, and emotional benefit) all of which are explored in the following paragraphs.

Environment quality denotes the appearance of the user interface on the website. This dimension is further divided into the subdimensions of graphic quality and clarity of layout. *Graphic quality* is described as the visual representation of relevant user interface elements (e.g., text, icons, digital images, and backgrounds). On the other hand, *clarity of layout* encompasses how well the design structure of the user interface assists navigation of the site (Fassnacht and Koese, 2006). While several elements such as graphics, pictures, and images were deemed to provide improvements in the quality of a website, some other components such as simplicity, clarity, and consistency were considered to provide attractiveness within its structure and layout (Santos, 2003).

Delivery quality refers to the way in which the interface enables service providers to present options for their customers. Delivery quality contains the following dimensions: attractiveness of selection, information quality, ease of use, and technical quality. *Attractiveness of selection* is the extent to which the available range of offerings attracts the customer. *Information quality* refers to the method through which the customer receives complete, accurate, and timely information during their interaction process with the user interface (e.g., frequently asked questions).

Technical quality denotes the relative excellence of data transfer and data processing during e-service delivery. *Ease of use* is described as the degree to which the functionality of the user interface facilitates the customer's retrieval of the e-service (Fassnacht and Koese, 2006). The subdimensions of delivery quality play important roles in the process of customer service usage, which enables such steps as searching for information, selection between options, and completing transactions (Carlson and O'Cass, 2011).

Outcome quality, which is defined as "what the customer is left with after service delivery" (Fassnacht and Koese, 2006, p. 27) "play[s] an incredibly influential role" in e-service quality (Collier and Bienstock, 2003). It has three subdimensions: *reliability* refers to the extent to which the provider keeps its service promise; *functional benefit* is the degree to which the service serves its actual purpose (Fassnacht and Koese, 2006) and *emotional benefit,* which is the "product's capacity to arouse feelings or affective states" (Lai, 1995, p. 305). Emotional benefit is crucial because it includes the hedonic elements of benefits. Users speak favorably about an e-service when they enjoy using it and find themselves spending more time on the site than they had originally planned, which can be profitable to the service provider (Sweeney and Soutar, 2001).

Research model and Hypotheses

E-service quality has been earmarked as a significant predictor of behavioral intentions e.g., the likelihood of recommendations, repeated usage, switching, and complaining within online banking (Siu and Mou, 2005; Kuzey et al., 2019). The conceptual framework shown in Figure 1 is grounded in the exploratory findings of Fassnacht and Koese (2006). This framework examines the process through which environment quality subdimensions, graphic quality and clarity of layout influence the ease of use and emotional benefit experienced by accountants and assist in creating their behavioral intentions within internet banking services. However, the ease of use and emotional benefit subdimensions have moderating effects between environment quality subdimensions and behavioral intentions.
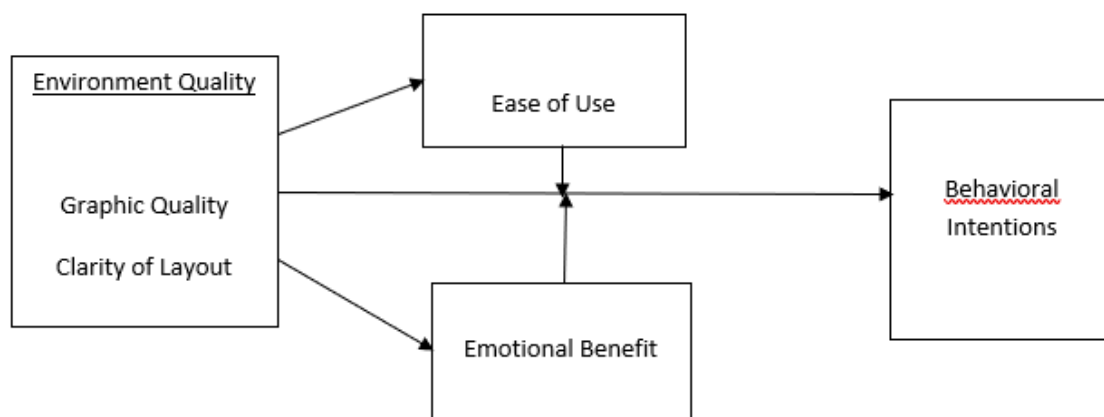
Figure 1: Proposed research model

Relationship between Graphic Quality and Clarity of Layout with Ease of Use, Emotional Benefits, and Behavioral Intentions

McKnight, Choudhury, and Kacmer (2002, p. 301) defined behavioral intentions in terms of consumer projection, anticipation, intention, and willingness to perform three specific behaviors: to follow the advice of the web vendor; to share personal information with the vendor; and to purchase goods or services from the vendor. In the literature, behavioral intentions can also be captured through the following measures: repurchase intentions; word of mouth; loyalty; complaints; and price sensitivity (Zeithaml et al., 1996). The customer's perceived high quality of e-service often leads to favorable behavioral intentions, while low quality e-service creates the opposite (Udo et al., 2010). Several researchers have indicated that behavioral intentions can be used as indicators of system success (Rai et al., 2002; Venkatesh and Davis, 2003). There is ample evidence that the quality of e-service impacts positively upon behavioral intentions (Collier and Bienstock 2006; Udo et al., 2010; Dabholkar, 1996; Kumar and Dash, 2015; Gounaris, Dimitriadis, and Stathakopoulos, 2010). In the context of internet banking, some studies also found that behavioral intentions were positively affected because of the effect of the quality of e-service sub-dimensions such as graphic quality and clarity of layout (Loonam and O'loughlin, 2008; Siu and Mou, 2005; Kuzey et al., 2019). On the other hand, several research teams demonstrated that graphic quality and clarity of layout are positively associated with ease of use and emotional benefit (Kuzey et al., 2019; Khrais, 2018). In light of the above, we suggest the following hypotheses:

H1a,b: Graphic Quality and Clarity of Layout have significant and positive effects upon Behavioral Intentions.

H2a,b: Graphic Quality and Clarity of Layout have significant and positive effects upon Ease of Use

H3a,b: Graphic Quality and Clarity of Layout have significant and positive effects upon Emotional Benefits

Moderating effects of Ease of Use and Emotional Benefits between Graphic Quality and Clarity of Layout and Behavioral Intentions

Several studies found that environment quality sub-dimensions have positive effects on Ease of Use and Emotional Benefit (Kuzey et al., 2019). A study which was conducted by Wang et al. (2003) shows that perceived Ease of Use has a direct significant positive effect on Behavioral Intentions to use internet banking. Another study that focused upon the perception of accountants regarding the e-service quality dimensions of the e-government website indicated that Emotional Benefits and Ease of Use have a positive and significant impact upon Behavioral Intentions (Kuzey et al., 2019). The authors of this study posed to the reader a hypothetical scenario: a user is more likely to repeat using the e-banking website, if the bank utilizes attractive digital images, or backgrounds on the websites with a well-designed, simple, and clear structure. Ideally, if the user finds the website of the bank to be user-friendly and functional, s/he will tend to use it repeatedly. Thus, the following hypotheses are suggested:

H4a,b: Ease of Use moderates the relationship between Graphic Quality and Clarity of Layout and Behavioral Intentions

H5a,b: Emotional Benefits moderate the relationship between Graphic Quality and Clarity of Layout and Behavioral Intentions

Research methodology

Various analysis approaches were performed in order to investigate the research models. The data was collected, cleaned, and prepared for further analysis. Univariate analysis tools such as descriptive statistics and frequency analysis were performed so as to examine the research variables. Then, multivariate analysis tools

including correlation analysis as well as the regression analyses were performed for testing the research hypotheses. In the final section of the analysis, moderation analysis was performed in order to test the hypothesis related to the moderating role of the selected variables.

Measure

The survey design for the research included multi-item scales. The scales of the research model were adapted or modified using prior scholarly works published in the English language (Fassnacht and Koese, 2006; Dabholkar et al., 2000). The items of the scales incorporated five-point Likert scale measurement, in which 1 indicates "strongly disagree", while 5 indicates "strongly agree". The items were examined using Exploratory Factor Analysis (EFA) to generate the composite values of the research constructs; as well, Ordinary Least Squares (OLS) regression analysis, as along with moderation analysis were employed to test the research models.

The scales that were used to measure the quality of the e-service sub-dimensions were modified and adapted from Fassnacht and Koese (2006). These sub-dimensions were Graphic Quality (GQ), Clarity of Layout (CL), Emotional Benefits (EB), and Ease of Use (EU). Behavioral Intentions (BI), adapted from Dabholkar, Shepherd, and Thorpe (2000), measured Behavioral Intentions that incorporated the likelihood of revisiting the website in future, as well as recommending the website to others.

The original language of the scales was in English, while the targeted population's language was not English. The back translation (Brislin, 1970) method was used in order to translate the items into Turkish so that the participants could understand the survey questions easily.The aim of this method is to create a research questionnaire that is equivalent to the original scales proposed in the English language, were then translated into Turkish. Toward this end, the back-translation approach is utilized in order to alleviate any possible comprehension errors caused through the direct translation method. Therefore, the survey questions were initially translated from English into Turkish by a bilingual expert, following which the items were re-translated back from the Turkish version into English by another bilingual expert. As a result of this back-translation methodology, any possible errors in

translation are examined and corrected instantly, prior to the distribution of the questionnaire. Following translation, the draft survey was examined in detail and prepared and for the final step which included distributing the questionnaires to the targeted participants.

Target Sample

The frame of the sample included accountants. Toward this end, the target population incorporated accountants employed in the most widely populated provinces of Turkey such as Istanbul, Ankara, and Izmir. The research sample included randomly selected accountants. The authors performed the data collection procedures carefully in order to eliminate possible biases that could have inadvertently been caused in the process of sampling, collection of data, and/or calculations, etc. First, the accounting offices were contacted thru emails which provided detailed information regarding the aim of the study The participants were also provided the required information about the objective of the study as a crucial step, prior to collecting the data. Furthermore, the participants were ensured that there was no right or wrong answer when responding. Lastly, the participants were informed that their answers would remain completely anonymous. This information helped the participants to not be concerned or anxious about their participation (Bordia et al., 2006).

The prepared survey was finally distributed to 500 accountants, with 300 accountants agreeing to participate in the study. However, only 206 out of the 300 accountants returned the research survey, creating a 69% response rate.

Data Screening

Data screening is an important step prior to hypothesis testing (Hair et al, 2019). The obtained raw data was subjected to data preprocessing steps by being cleaned, organized, and imported into a spreadsheet environment. Any possible typos were detected andcorrected. Moreover, the labels of the variables as well as the records were entered into the analysis tools. Further purification steps were then performed. Accordingly, ten records had a high ratio of missing values, listwise, and were eliminated from the analysis.At the same time, eight of the participants provided the

same values across the row levels;as a result, they were also eliminated from the analysis. Following these data screening processes, 188 records were left for further analysis. Further data screening phases were then performed before the baseline analysis. Screening for univariate as well as any multivariate outliers' detection was performed,; no significant outliers were detected. Finally, multicollinearity analysis was performed using Variance Inflation Factors (VIF). There was no risk of multicollinearity issues, since the VIF values were significantly less than 10 (Hair et al, 2019).

Sample distribution

The summary statistics of the various demographic variables are presented in Table 1. The results are based upon frequency analysis with the number of observations and the corresponding percentage of the indicated value. The results indicated that that 84% of the participants were male while 16% were female; 30.3% were between 39 and 45 years old, 28.7% were between 32 and 38, and 2.1% were younger than 25; 73% of the participants held undergraduate degrees, 54% held a certified public accountant license; 53% of the respondents had over 15 years' experience; 44% of the participants were owners of the CPA office; 30% of the participants were employed by a private organization; finally, approximately 50% of the participants were general directors, 18% were accounting specialists, 14% were directors of finance, and 10% were accounting managers.

Table 1: Descriptive Statistics

Variables	Categories	Frequency	Percent
Gender	Female	30	16.0
	Male	158	84.0
	Total	188	100.0
Age	<25	4	2.1
	25-31	27	14.4
	32-38	54	28.7
	39-45	57	30.3
	46-52	25	13.3
	>52	21	11.2
	Total	188	100.0
Education	Ph.D.	2	1.1
	Master	37	19.7
	Undergraduate	137	72.9
	Associate	2	1.1
	High school	10	5.3
	Total	188	100.0
License of authorization	No license	17	9.0
	CPA (Certified Public Accountant)	101	53.7
	CPA trainee	16	8.5
	CPA-Independent auditor	48	25.5
	Sworn-in Certified Public Accountant	6	3.2
	Total	188	100.0
Experience	1-5 years	21	11.2
	6-10 years	30	16.0
	11-15 years	38	20.2
	16-20 years	43	22.9
	20 + years	56	29.8
	Total	188	100.0
Position	Staff at an audit firm	3	1.6
	Staff at a public institution	4	2.1
	Internal and external accounting in my own office	1	0.5
	CPA- Audit office	9	4.8
	CPA office	82	43.6
	Certified Public Accountant office	5	2.7
	Staff at a private institution	57	30.3
	Staff at a CPA office	19	10.1
	Unemployed	2	1.1
	Staff at a Sworn-in Certified Public Accountant office	6	3.2
	Total	188	100.0
Title in the company	Director General	94	50.0
	Director of Finance	27	14.4
	Deputy Director of Accounting	4	2.1
	Accounting Manager	19	10.1
	Accounting Supervisor	11	5.9
	Accounting Specialist	33	17.6
	Total	188	100.0

Factor Loadings

Before testing the hypothesis, the factor analysis based upon Exploratory Factor Analysis (EFA) was performed. In testing the research models, the composite values of the constructs were used. Therefore, the EFA was utilized to calculate the composite values of the research variables. The factor analysis results. including the

factor loadings, percentage of variance, cumulative percentage, eigen values, and the Cronbach's alphas are provided in Table 2. There were 19 items prior to the analysis. The Principal Component Analysis (PCA) as the method based upon Eigenvalues greater than one to extract the factors, and Varimax as the rotation methodology were selected to perform thefactor analysis. The results showed that the factor loading of GO ranged between .93 and .95, LC ranged between .94 and .93, BI ranged between .90 and .93, EUC ranged between .90 and .91, and EB ranged between .85 and .90. The suggested minimum factor loadings based upon a sample size of 200 is 0.40 (Hair et al, 2019). Therefore, the factor loadings of the items were significantly greater than 0.40. The 19 items were analyzed further, since the values of the factor loadings of the included items were significantly larger than the cut-off value of 0.40. Five factors were extracted: three items were loaded under GO and LC, four items were loaded under BI and EB, and five items were loaded under EUC following the factor analysis. Further related statistics are provided in Table 2. Accordingly, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.946, which is greater than the cut-off value of 0.70; as well, the Bartlett's Test of Sphericity was significant (χ^2-stat.: 3864.646; df:171; p-value:0.000). Therefore, the research data was appropriate for the EFA methodology based upon KMO and Bartlett's test of Sphericity. Furthermore, the cumulative percentage of variance was 84.53%. The explained variance based upon cumulative percentage was significantly greater than 50% (Hair et al., 2019), ranging between 2.88% and 26.48%. Finally, the Eigenvalues were used to extract the factors which ranged between 1.55 and 5.03.

Finally, validity and reliability of the constructs were investigated for the EFA, based upon convergent validity, discriminant validity, face validity, and reliability using Cronbach's alpha. The *convergent validity* was satisfied, since the items within a single factor were highly correlated; the *discriminant validity* was satisfied since the items were loaded significantly under a single factor; the *face validity* was satisfied since the items under each factor made sense and are meaningful. Finally, the *reliability* was satisfied since the Cronbach's alpha of the factors (latent variables)

was above the cut-off value of 0.70 (Hair et al., 2019). The extracted variables are used for further analysis in the forthcoming sections.

Table 2: Exploratory Factor Analysis

Items	GQ	LC	BI	EUC	EB
GQ1	0.95				
GQ2	0.95				
GQ3	0.93				
LC1		0.94			
LC2		0.93			
LC3		0.93			
BI1			0.93		
BI2			0.91		
BI3			0.92		
BI4			0.90		
EUC1				0.91	
EUC2				0.87	
EUC3				0.87	
EUC4				0.83	
EUC5				0.90	
EB1					0.90
EB2					0.89
EB3					0.90
EB4					0.85
% of Variance	26.48	23.91	19.63	11.63	2.88
Cumulative %	26.48	50.39	70.02	81.65	84.53
Eigenvalue	5.03	4.54	3.73	2.21	1.55
Cronbach's Alpha	0.94	0.92	0.94	0.93	0.91

Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0.946

Bartlett's Test of Sphericity: Chi-Square: 3864.646; df:171; p-value:0.000

GQ: Graphic Quality

LC: Layout Clarity

EB: Emotional Benefit

EUC: Ease of Use and Control

BI: Behavioral Intention

Research variables and descriptive statistics

The research variables were generated in order to examine the research models. The extracted factors were used to generate the composite scores of the research variables. The composite values were calculated by taking the arithmetic average of the items loaded under the extracted factors. Thus, the variables of the research models were based on the average of the items extracted after the EFA.

The descriptive statistics, as well as the linear correlation analysis, are presented in Table 3. The mean value of GQ is 3.48±1.02, LC is 3.25±1.05, EUC is 3.30±0.99, EB is 3.23±1.02, and BI is 3.78±1.06. The average variations around the mean values are

relatively small, based upon standard deviations. The values of the variables ranged between 1 and 5.

Furthermore, the bivariate linear correlation analysis was performed. The correlation coefficients were based on Pearson's correlation analysis (Table 3). The results indicated that GQ has a significant and positive linear correlation with EUC ($r = 69.6\%, p<0.05$), EB ($r = 69.1\%, p<0.05$), and BI ($r = 62.9\%, p<0.05$). Moreover, the results revealed that LC has a significant and positive linear correlation with EUC ($r = 77.1\%, p<0.05$), EB ($r = 74.2\%, p<0.05$), and BI ($r = 61.4\%, p<0.05$).

Table 3: Descriptive statistics and correlation analysis

..	Variables	V1	V2	V3	V4	V5
V1	GQ	1				
V2	LC	0.506*	1			
V3	EUC	0.696*	0.771*	1		
V4	EB	0.691*	0.742*	0.862*	1	
V5	BI	0.629*	0.614*	0.708*	0.702*	1
..	Observation	188	188	188	188	188
..	Mean	3.48	3.25	3.30	3.23	3.78
..	Standard deviation	1.02	1.05	0.99	1.02	1.06
..	Min	1.00	1.00	1.00	1.00	1.00
..	Max	5.00	5.00	5.00	5.00	5.00

*$p<0.05$

GQ: Graphic Quality

LC: Layout Clarity

EB: Emotional Benefit

EUC: Ease of Use and Control

BI: Behavioral Intention

Multicollinearity analysis

The multicollinearity assumption is very crucial to regression analysis. The independent variables are examined when there is a high correlation among them. Toward this end, the multicollinearity analysis was utilized, based upon Variance Inflation Factor (VIF). The results are provided in Table 4. There are two independent variables in the research models. The VIF values are 2.85 for GQ and LC, being significantly less than 10, which is the cut-off value for significant multicollinearity concern (Hair et al., 2019). Therefore, there was no risk of multicollinearity issues between the independent variables.

Table 4: Multicollinearity analysis

Variable	VIF	1/VIF
GQ	2.85	0.35
LC	2.85	0.35
Mean VIF	2.85	

Baseline analysis

Research models

The research models were examined in detail. The functional relationship between the dependent variables and the independent variables was formulated using equations 1, 2, and 3 below. The ordinary least square regression analysis was performed in order to test the research models. The dependent variables were BI, EUC, and EB. The independent variables were GQ and LC. The error term is denoted by "ε". Crucial assumptions of the linear regression analysis such as linearity, homoscedasticity, independence of observations, and normality were examined prior to analysis. Furthermore, the multicollinearity assumption was already investigated, with no high correlation detected among the independent variables. Moreover, the robust standard errors based upon Huber Sandwich Estimator (Huber, 1967; White, 1980) were used for the regression analysis to control the risk of heteroscedasticity issues (Wooldridge, 2020).

Model 1: $BI = \beta_0 + \beta_1 GQ + \beta_2 LC + \varepsilon$ \qquad (1)

Model 2: $EUC = \beta_0 + \beta_1 GQ + \beta_2 LC + \varepsilon$ \qquad (2)

Model 3: $EB = \beta_0 + \beta_1 GQ + \beta_2 LC + \varepsilon$ \qquad (3)

Findings

The research models were subject to regression analysis. The results are provided in Table 5. They show that GQ had significant and positive relationships with BI ($p<0.01$), EUC ($p<0.01$), and EB ($p<0.01$). Moreover, the results revealed that LC had a significant and positive relationship with BI ($p<0.01$), EUC ($p<0.01$), and EB ($p<0.01$). Accordingly, the hypotheses H1, H2, and H3 were supported.

Table 5: Regression analysis for Model 1, Model 2, and Model 3

Independent variables	Model 1 BI	Model 2 EUC	Model 3 EB
GQ	0.40*** (4.10)	0.21*** (2.73)	0.27*** (3.30)
LC	0.31*** (3.24)	0.57*** (7.74)	0.51*** (6.51)
Constant	1.40*** (6.62)	0.74*** (4.53)	0.64*** (3.65)
N	188	188	188
R^2	0.43	0.61	0.58
F-stat.	69.38***	144.81***	125.21***

t statistics in parentheses

$^*\, p < 0.10$, $^{**}\, p < 0.05$, $^{***}\, p < 0.01$

Moderation analysis

Moderation analysis was used to examine Models 4 and 5. In this regard, the moderating role of EUC upon the relationships of GQ and LC with BI was examined. The formulation of the moderation analysis is illustrated in equation 4 and 5 below.

Model 4: $BI = \beta_0 + \beta_1 GQ + \beta_2 EUC + \beta_3 GQ * EUC + \varepsilon$ $\qquad$ (4)

Model 5: $BI = \beta_0 + \beta_1 LC + \beta_2 EUC + \beta_3 LC * EUC + \varepsilon$ $\qquad$ (5)

The moderating variable is EUC, the independent testing variables are GQ and LC, and the dependent variable is BI. Hayes's (2017) moderation analysis methodology using a Stata Module developed by Jose (2013) was utilized for this moderation analysis.

Results of the moderation analysis

The results of the moderation analysis are presented in Table 6. Ordinary regression analysis using Hayes's (2017) methodology was performed for testing research Models 4 and 5. The results revealed that the interaction variable *GQ x EUC* had a significant and positive relationship with BI (p<0.01). Moreover, the interaction variable *LC x EUC* had a significant and positive relationship with BI (p<0.05). According to the obtained results, EUC was a significant moderating variable upon the relationship between GQ and BI, and on the relationship between LC and BI. Therefore, the research hypotheses H4 and H5 were supported.

Table 6: Moderation analysis

Independent variables	Model 4 BI	Model 5 BI
EUC	-0.96*** (-6.00)	-0.91*** (-5.90)
GQ	0.62*** (4.38)	
LC		0.48*** (3.02)
GQ x EUC	0.12*** (2.81)	
LC x EUC		0.098** (2.26)
Constant	-0.069 (-0.16)	0.35 (0.84)
N	188	188
R^2	0.56	0.53
F-stat.	76.96***	67.97***

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The interaction variables of the moderation analysis are illustrated in Figures 2 and 3. The simple slopes of the moderation analysis are plotted at -1SD (Standard deviation), 0 SD, and +1SD of the moderating variable of EUC. Figures 1 and 2 illustrate that EUC was a significant moderator upon the relationship of GQ and LC with BI.
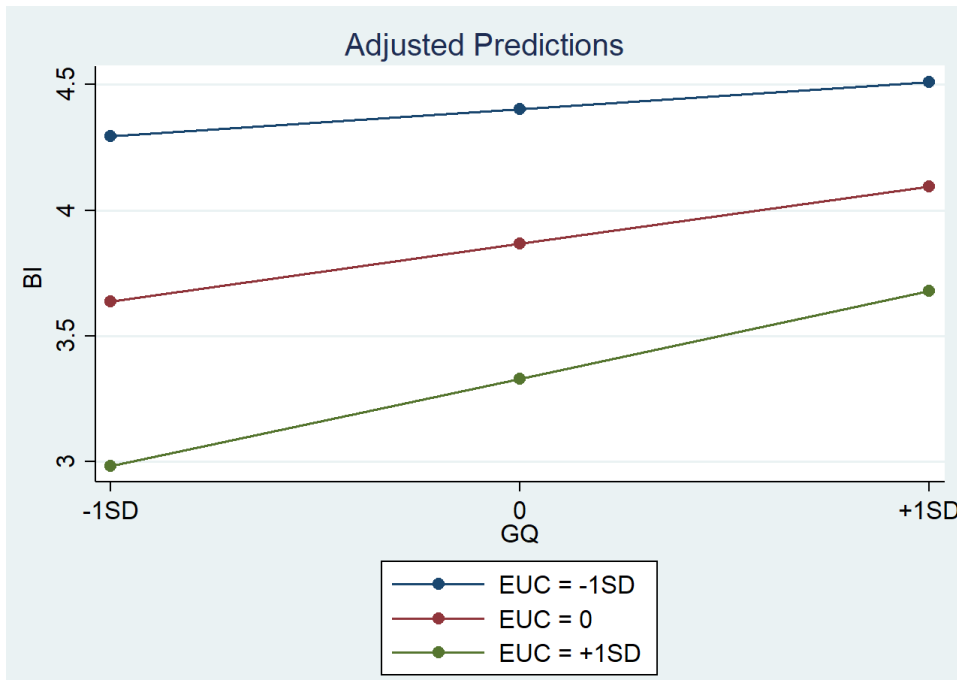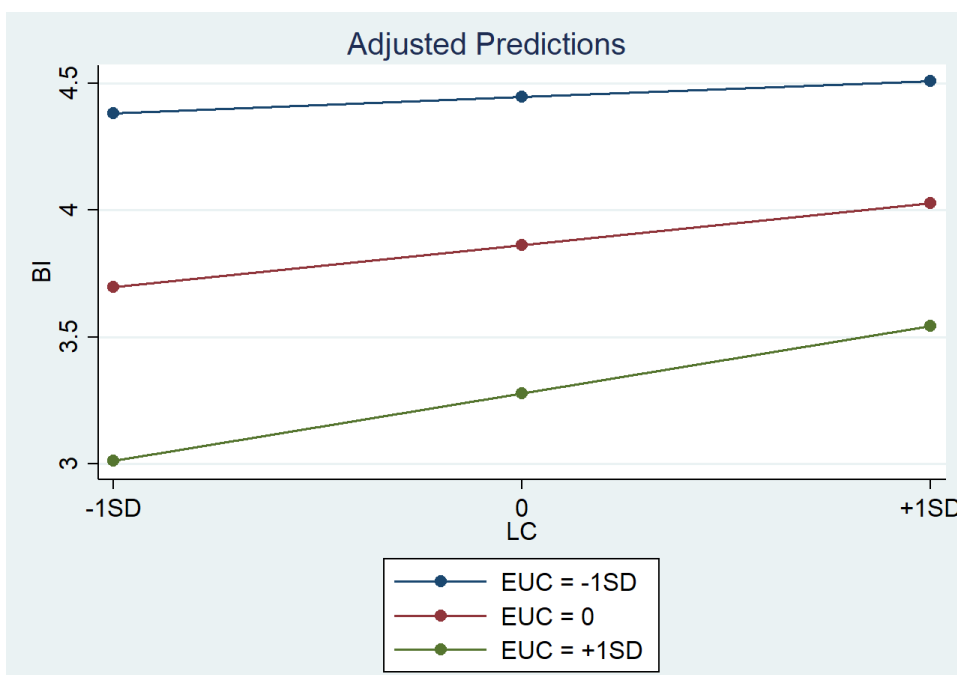
Figure 2: GQ x EUC

Figure 3: LC x EUC

Robustness analysis

In order to check the robustness of the baseline analysis results, we performed Partial Least Squares (PLS) based upon the Structural Equation Modeling (SEM) approach. The PLS-SEM method is highly recommended for research studies with

relatively small samples and/or non-normal data (Marcoulides & Saundersm, 2006; Ringle et al., 2012). The results of the PLS-SEM are provided in Table 7. Accordingly, the coefficients of the paths were all significantly positive (p<0.01), which is in line with the results of the baseline analysis.

Table 7: PLS-SEM regression analysis

Paths			Beta	T-stat.	Results
GQ	→	BI	0.376***	3.4715	Supported
GQ	→	EUC	0.212***	2.7169	Supported
GQ	→	EB	0.270***	3.2401	Supported
LC	→	BI	0.317***	2.9966	Supported
LC	→	EUC	0.602***	8.204	Supported
LC	→	EB	0.525***	6.8141	Supported

*****p<0.01*

Conclusion/Implication

This research uniquely investigates the subdimensions of the electronic service environment with outcome quality dimensions that influence the behavioral perceptions of accountants using internet banking services in Turkey.

Utilizing the e-service quality theoretical framework of Fassnacht and Koese (2006) and Carlson and O'Cass (2011), this research expands the process through which environment quality subdimensions of graphic quality and clarity of layout influence ease of use, emotional benefit, and behavioral intentions. The study demonstrates that the appearance of the user interface (graphic quality) and ease of site navigation (clarity of layout) have positive impacts on the ease of use by an accountant who is accessing e-services from a bank, along with an emotional benefit post-service, demonstrating a strong indicator for future continual usage.

In a further assessment, the moderating roles of ease of use and emotional behavior between environment quality subdimensions (graphic clarity and clarity of layout) was also found to positively affect the behavioral intentions of the accountants. Such intentions anticipate a positive experience due to an attractive and well-designed internet banking site, resulting in repeated interactions.

From a theoretical perspective, this research enhances the current literature, contributing an important standard for measuring e-service quality, especially for accountants utilizing internet banking services. Additionally, it validates and expands on Fassnacht and Koese (2006) and Carlson and O'Cass (2011)'s e-service quality

dimensions within the specific context of online banking services. Accountants who utilize banking e-services that offer positive behavioral intentions are likely to retain an ongoing business relationship with that institution, which in return directly impacts profitability. While there are numerous studies examining the effect of e-service quality dimensions relative to customer satisfaction and intentions, research focusing on the effects of e-service quality subdimensions that include behavioral intentions within a specific professional customer base is severely limited. Also lacking are empirical studies exploring these relationships in developing countries. Hence, this paper contributes to the current literature by examining the impact of the e-service quality subdimensions in internet banking upon the behavioral intentions of Turkish accountants .

Accountants will find numerous advantageous implications within this study. Prior research demonstrates that banks that implement e-services correctly are able to create close relationships with their customers, which amplifies a reduction in costs and, in turn, achieving a more efficient and enhanced financial performance (Mols, 2000; DeYoung, Lang, Noble, 2007). Based upon this premise, the results of this research can be equally applied to the accounting industry in both the private and public sectors. As demonstrated in this study, accountants occupying the roles of consumers will select banking e-services that are simplistic, visually pleasing, easy to navigate, andreliable.

This framework can be implemented by accountants working within both the private and public sectors. Accountants working for private companies overseeing multiple departments and/or offices could benefit by utilizing this framework in setting up e-services within the company. An internal system focusing on graphic quality and clarity of layout could create improved relationships between managers and employees by expediting accessibility to information, reducing workload stress and overhead costs, and furthermore, optimizing continual usage in order to obtain higher efficiency within their organizations.

As shown within the banking industry, the e-environment is no longer an added novelty but a competitive necessity (Gan et al., 2006). This idea may transcend into

public accounting firms wanting to competitively expand their clientele base domestically as well as internationally. In considering future strategies concerning e-commerce, the accounting industry should consider the following points, which is upheld by this research. Client users are likely to repeat their usage of an e-service website incorporating attractive digital images or background that include a well-designed, simple and clear structure *(*Kuzey et al., 2022*)*. Clients that additionally find the accountant's website user-friendly and functional tend to utilize the service again, as demonstrated by the accountant users of banking e-services. Furthermore, use of the facility will continue to strengthen when the website creates lasting good feelings for the user. This allows clients to obtain more information regarding additional banking services, as well as to offer an efficient communication tool between accountant and client.

In conclusion, an understanding of how e-service users of banks evaluate e-service quality is of the utmost importance for researchers (Kuzey et al., 2022). Consumers are becoming more comfortable with electronic services by way of their daily transactions. Consumer expectations have continually increased, becoming more sophisticated in the expected quality of the e-service. These expectations have become dominant within internet banking and have now expanded into other professional settings such as accounting.

Limitations of the study

There are some limitations in the present study. One is that the sample was relatively small. The sample size can be increased by including more participants. Another limitation of this study is that it tested the model within a single context, internet banking services in Turkey. Extending the results within similar contexts appears entirely appropriate. Furthermore, self-reported issues may constitute a limitation in this sensitive study, even though the survey was designed and administered carefully in order to minimize this potential limitation.

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