

## SERVICE QUALITY, CUSTOMER SATISFACTION AND LOYALTY: THE MODERATING ROLE OF GENDER

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**Abstract.** The purpose of this study is to investigate customer satisfaction as a mediator of the effects of service environment, interaction quality, empathy, and reliability on loyalty. The present study also aims to examine gender as a moderator in the relationship between the aforementioned service quality dimensions and customer satisfaction. Data were gathered from the customers of retail banks in Northern Cyprus. The results based on hierarchical multiple regression analysis reveal that customer satisfaction mediates the impacts of service environment, interaction quality, empathy, and reliability on loyalty. The results also indicate that gender moderates the effects of empathy and reliability on customer satisfaction. Implications of the results are discussed, and avenues for future research are offered.

**Keywords:** customer loyalty, customer satisfaction, gender, Northern Cyprus, retail banks, service quality.

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**JEL classification:** M3, M31.

### 1. Introduction

In today's global market environment where there are intense competitive pressures, service quality continues to compel the attention of banking institutions (Angur *et al.* 1999; Yavas *et al.* 2004). Astute bank managers realize that delivery of high service quality is a strategic weapon for differentiating themselves and gaining a competitive advantage. This is not surprising, because today's sophisticated and discerning customers demand superior service quality. It is acknowledged among these managers that high service quality results in a number of desirable outcomes, such as reduction in customers' complaints, greater willingness to recommend to someone else, improved customer satisfaction and retention rates, and enhanced financial performance (Angur *et al.* 1999; Rostamy 2009; Yavas, Benkenstein 2007; Yavas *et al.* 2007). Astute bank managers also strive to have a pool of satisfied and loyal customers, because such customers buy and spend more (cf. Babakus, Yavas 2008).

In addition, personal characteristics, such as gender may moderate the service quality-customer satisfaction relationship. An understanding of the presence (or absence) of differences between male and female customers regarding how various service quality dimensions affect satisfaction is crucial to bank managers in determining if a gender-differentiated approach is warranted in managing customers.

### **1.1. Purpose and rationale**

Against this background, this study develops and tests a model, which investigates the relationships among service quality, customer satisfaction and loyalty. Specifically, the current study uses the parsimonious 20-item four-dimensional scale consisting of service environment, interaction quality, empathy, and reliability developed by Karatepe *et al.* (2005) based on data obtained from the customers of retail banks in Northern Cyprus. By using this scale, the present study tests customer satisfaction as a mediator of the effects of service environment, interaction quality, empathy, and reliability on loyalty. This study also tests gender as a moderator in the relationship between the above-mentioned service quality dimensions and customer satisfaction.

The present study contributes to the services marketing literature in the following ways. First, a close examination of the services marketing literature indicates that the bulk of existing research regarding the relationships among service quality, customer satisfaction and loyalty is based on samples derived from the developed Western countries, such as the USA, the UK, and Canada (Tsoukatos, Rand 2006). In addition, despite problems associated with the dimensionality of the SERVQUAL (service quality) scale and its stability from context to context, many studies have used, adapted, or replicated this scale to measure service quality. However, there is a need for using industry- and culture-/country-specific measures of service quality (Imrie *et al.* 2002; Winsted 1997). Karatepe *et al.* (2005) responded to such calls and developed and validated a parsimonious 20-item four-dimensional scale for the retail banking industry in Northern Cyprus. It should be noted that several prior studies dealing with the measurement of service quality in various service settings of Northern Cyprus (e.g. banks, travel agencies, airlines, hotels) failed to provide support for the five-dimensional structure of the SERVQUAL scale (Arasli *et al.* 2005; Johns *et al.* 2004; Karatepe, Avci 2002; Kozak *et al.* 2003; Nadiri *et al.* 2009; Nadiri, Hussain 2005; Safakli 2007). An empirical study also indicates that the existing service quality scales applied in developed countries should not be directly transposed to emerging markets (Greenland *et al.* 2006). Therefore, this study uses the aforementioned scale developed by Karatepe *et al.* (2005) to test the effect of service quality on customer satisfaction and loyalty.

Second, there is a dearth of empirical research regarding the role of gender as a moderator in the relationship between service qualities dimensions and customer satisfaction (cf. Matzler *et al.* 2008; Sánchez-Hernández *et al.* 2010). Investigating such relationships is significant, because without sound evidence and guidelines, bank managers run the risk of making wrong decisions. On one hand, ignoring gender differences may create problems if there are gender-based differences. On the other hand, a gender-sensitive approach may become even more problematic if there are no differences between male and female customers.

Third, the findings of this study would provide useful insights concerning the management of service quality and gender differences in the relationship between service quality and customer satisfaction for bank managers in Northern Cyprus. Cyprus is one of the largest islands in the Mediterranean Sea and covers an area of about 3,500 square miles. As a result of the partition of the island in 1974, the Turkish Cypriots have been living in the north, while the Greek Cypriots have been living in the south (Okumus *et al.* 2005). The Turkish Cypriots declared the independence of the Turkish Republic of Northern Cyprus in 1983, which is recognized internationally only by Turkey (Altınay 2000).

Northern Cyprus has a population of 222,442, and its economy operates on a free market basis, dominated by the service industries, such as tourism, higher education, banking, and public (State Planning Organization 2007). There are local public and private retail banks as well as branch (public and private) retail banks from Turkey. The contribution of financial institutions to the Northern Cyprus economy accounted for 6.2, 6.3, 6.6, and 7.0% of Gross National Product in 2005, 2006, 2007, and 2008, respectively (State Planning Organization 2010). In addition, more than 40,000 university students in the 2008-09 academic year and more than 450,000 tourists who accommodated in hotels in 2008 were the actual and/or potential buyers of the retail banks' services in this country.

Banks in Northern Cyprus strive to acquire and retain a pool of customers via various promotional efforts focusing on credit cards that enable customers to purchase goods and services on an installment basis (Arasli *et al.* 2005). Jenkins (2007) discusses that local retail banks have started to adopt Internet banking services to reduce switching behaviors of their actual buyers to survive in the marketplace. However, inconveniences due to poor electrical infrastructure inhibiting the use of technology and technology-based services, such as Internet- and telephone-banking are among the problems of the banking industry in Northern Cyprus (Karatepe *et al.* 2005).

The next section of this article presents the theoretical background, hypotheses, and conceptual model. Then, discussions of the method and findings of the empirical study are provided. The article concludes with implications of the findings and directions for future research.

## **2. Theoretical background and hypotheses**

### **2.1. Service quality**

Service quality is a complex construct, which has been the focus of a number of studies in the services marketing literature. Two schools of thought dominate this literature: the Nordic school of thought and the North American school of thought. Specifically, the Nordic school of thought is based upon Gronroos's (1984) two-dimensional model (i.e. technical quality, functional quality), while the North American school of thought is based upon Parasuraman *et al.*'s (1988) five-dimensional SERVQUAL model (i.e. tangibles, reliability, responsiveness, assurance, and empathy). In addition, other significant conceptual and empirical studies in this research stream suggest that service quality is comprised of service product, service environment, and service delivery (Rust, Oliver

1994) or consists of interaction quality, physical environment quality, and outcome quality (Brady, Cronin 2001).

Though the SERVQUAL scale is a widely used measure of service quality, there are a number of shortcomings associated with its dimensionality (Bahia, Nantel 2000; Fullerton 2005). Therefore, it has been suggested that there is a need to develop industry- and culture-/country-specific measures of service quality (Imrie *et al.* 2002; Winsted 1997). Despite this recognition, most of the empirical studies have measured service quality by using, adapting, or replicating the five-dimensional SERVQUAL scale in various service settings, such as banks (Angur *et al.* 1999; Arasli *et al.* 2005; Nadiri *et al.* 2009; Yavas *et al.* 1997, 2004), airlines (Kozak *et al.* 2003), hotels (Karatepe, Avci 2002; Mey *et al.* 2006; Nadiri, Hussian 2005), travel agencies (Johns *et al.* 2004), and higher education (Zafropoulos, Vrana 2008).

A limited number of studies have presented new models or approaches to the measurement of service quality (Karatepe *et al.* 2005). Broadly speaking, Avkiran (1994) identified service quality dimensions, such as staff conduct, credibility, communication, and access to teller services via the use of the SERVQUAL scale as a starting point and findings extracted from a qualitative study commissioned to establish quality service standards. Bahia and Nantel (2000) developed a scale to measure bank customers' perceptions of service quality and reported that it consisted of six dimensions, which were effectiveness and assurance, access, price, tangibles, services portfolio, and reliability. In addition, Aldaigan and Buttle (2002) developed a scale to measure service quality via the technical and functional service quality schema proposed by Gronroos (1984). Their SYSTRA-SQ (System and Transactional-Service Quality) scale encompassed service system quality, behavioral service quality, service transactional accuracy, and machine service quality.

Recently, Karatepe *et al.* (2005) developed a service quality measure specifically for the Northern Cyprus bank industry. Their parsimonious 20-item four-dimensional scale included service environment, interaction quality, empathy, and reliability. They define such dimensions as follows:

*Service environment* refers to the appearance of the service providers and appearance of the interior and exterior of the bank facilities. *Interaction quality* encompasses attitudes and behaviors of the service providers and their interaction style with customers. *Empathy* is defined as individualized attention given to customers and willingness of the bank personnel to help customers and resolve their problems in a timely manner. *Reliability* refers to dependability of service and accuracy of records and information (375–376).

Karatepe *et al.* (2005) study did not lend full support to the Nordic school of thought or the North American school of thought pertaining to the dimensionality of service quality and the meanings of quality dimensions. However, they concluded that there may be some potentially universal service quality dimensions.

Using a multi-stage and multi-sample approach, a very recent study identified thirteen service quality dimensions consisting of ATM technology and efficiency, personable, professional staff, value of other products excluding loans, branch service facilitators,

attractive, effective accounts/loans, effective queue management, physical aspects of the ATM, account communication, effective account manager/ment, simple account/card acquisition, network accessibility, physical environment features, and clear and full service mix as the determinants of satisfaction among bank customers in East Africa (Greenland *et al.* 2006).

Consequently, two important observations have emerged from the literature. First, the five-factor structure of the SERVQUAL is not applicable across situations or services. Second, an industry- and culture-/country-specific measure of service quality is needed, though there may be several potentially universal facets of service quality.

## **2.2. Customer satisfaction and loyalty**

A close examination of the relevant literature indicates that the causal order of service quality and customer satisfaction has been a source of much debate (e.g. Babakus *et al.* 2004; Yavas *et al.* 2004). On one hand, it is argued that customer satisfaction precedes perceived quality of goods and services (Bitner 1990; Bolton, Drew 1991). Simply put, this perspective proposes that satisfied customers make favorable quality judgments about services, because such customers judge things in higher quality due to positive affect they have experienced (Babakus *et al.* 2004). On the other hand, it is argued that favorable perceptions of service quality result in satisfaction (Anderson *et al.* 1994; Babakus *et al.* 2004; Cronin *et al.* 2000). This is also supported in the context of financial services. For example, Jamal and Naser (2002) found that core and relational aspects of bank service quality appeared to be linked to customer satisfaction. Karatepe *et al.* (2005) demonstrated that the customers of retail banks with favorable perceptions of service quality had higher satisfaction. Siu and Mou (2005) also found that service quality dimensions in Internet banking, such as credibility, problem handling, and security enhanced customer satisfaction. The weight of evidence in this research stream suggests that service quality is an antecedent to customer satisfaction.

A careful assessment of the relevant literature also demonstrates that customer satisfaction mediates the impact of service quality on loyalty. Although there are empirical studies, which demonstrate that customer satisfaction fully mediates the relationship between service quality and loyalty (Ibáñez *et al.* 2006; Lenka *et al.* 2009), there is considerably more empirical research for the partial mediating role of customer satisfaction. For example, in a study of retail bank customers in the Netherlands, it was reported that bank service quality influenced loyalty both directly and indirectly via satisfaction (Bloemer *et al.* 1998). The same study also reported that two service quality dimensions, such as reliability and efficiency were directly linked to customer loyalty. Cronin *et al.* (2000) demonstrated that satisfaction had a partial mediating role in the relationship between service quality and behavioral intentions among the customers of different service settings (e.g. entertainment, fast food) in the USA. Choi *et al.* (2004) found similar results among the South Korean health care consumers. Bei and Chiao (2006) found that satisfaction partially mediated the effect of perceived service quality on loyalty among the Taiwanese bank customers. Such results were also reported for the customers of retail banks in Iran (Mosahab *et al.* 2010).

In this study, it is proposed that customer satisfaction partially mediates the effects of service quality dimensions on loyalty. Since this study is conducted with the customers of retail banks in Northern Cyprus, it uses the previously mentioned 20-item four-dimensional scale including service environment, interaction quality, empathy, and reliability.

Therefore, the following hypotheses are proposed:

**H1:** Customer satisfaction will partially mediate the effects of (a) service environment, (b) interaction quality, (c) empathy, and (d) reliability on loyalty.

### **2.3. The moderating role of gender**

The interest on gender differences in management and marketing research has a long history. To date, among others, the role of gender has been examined in a number of management and marketing contexts including work environments (Babin, Boles 1998; Yavas *et al.* 2008), ethical perceptions (Ergeneli, Arikani 2002), and role stress (Karatepe *et al.* 2006).

An observation that emerges from studies examining the role of gender in management and marketing contexts (Babin, Boles 1998; Eagly *et al.* 1995; Iacobucci, Ostrom 1993; Karatepe *et al.* 2006; Meyers-Levy, Sternthal 1991) is that men are more task- or goal-oriented (agentic) and women are more relationship-oriented (communal). The agentic and communal distinction between the two sexes has implications regarding how each gender observes the environment, processes, evaluates and retrieves information, and makes judgments. Specifically, women process information in a more detailed fashion, while men use simple heuristics and process information based on few details (Babakus, Yavas 2008; Karatepe *et al.* 2006). Accordingly, it can be argued that women place more emphasis on the dependability of service and accuracy of information.

In addition, Iacobucci and Ostrom (1993) find that females appear to be generally more sensitive to the interaction quality of the service. As discussed by Noble *et al.* (2006), women have strong desire for affiliation and place more importance on social interactions with employees who provide them with the relevant information about various goods and services of the firm. On the other hand, it was demonstrated that males attached more importance to the tangible product quality, while females placed more emphasis on service quality (Mittal, Kamakura 2001). Babakus and Yavas (2008) reported that the impact of interaction quality on share of wallet was higher for female customers than male customers, while the effect of merchandise quality on share of wallet was stronger for male customers than female customers.

Using the above-mentioned information and discussion, it is proposed that the effects of interaction quality, empathy, and reliability on satisfaction are higher for female customers than male customers. However, the effect of service environment on satisfaction is higher for male customers than female customers. This prompts the hypotheses that:

**H2(a):** The effect of service environment on satisfaction will be stronger for male customers than female customers.

**H2(b):** The effect of interaction quality on satisfaction will be stronger for female customers than male customers.

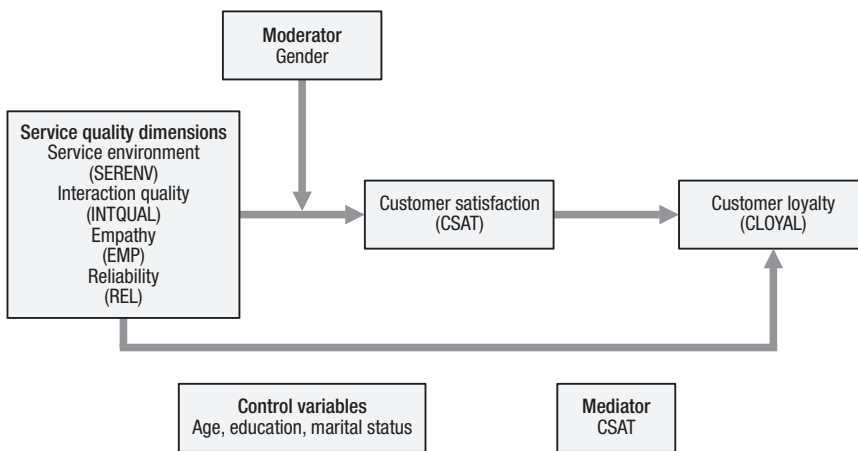


**H2(c):** The effect of empathy on satisfaction will be stronger for female customers than male customers.

**H2(d):** The effect of reliability on satisfaction will be stronger for female customers than male customers.

## 2.4. Conceptual model

Figure 1 depicts the conceptual model. The model proposes that customer satisfaction partially mediates the effects of service environment, interaction quality, empathy, and reliability on loyalty. The model also proposes that gender moderates the effects of such service quality dimensions on customer satisfaction. In the model, age, education, and marital status are treated as control variables to avoid statistical confounds.



**Fig. 1.** Conceptual model

## 3. Method

### 3.1. Sample and procedure

Systematic sampling procedure was used in order to specify the sample of this study (Neuman 2006). Specifically, data for this study were obtained from the customers of 14 retail banks in Northern Cyprus. One is local public bank and ten are local private banks. In addition, one is branch public bank and two are branch private banks from Turkey. The members of the research team received permission from the managements of these 14 banks for collecting data from their customers just after finishing a transaction. Every third customer leaving the banks was requested to participate in the study. The number of respondents to be drawn from each bank was determined proportional to the number of customers of each of the banks. Data collection occurred during all operating hours in order to have a representative sample of customers. Participants self-administered the questionnaires. The sampling and data collection procedures are consistent with that of Karatepe *et al.* (2005). After a three-month period, of the 1000 questionnaires distributed, 855 were retrieved, yielding a response rate of 85.5%. Such

a sample size is larger than similar studies (Bahia, Nantel 2000; Lenka *et al.* 2009) and the ones conducted in Northern Cyprus (Arasli *et al.* 2005; Nadiri *et al.* 2009).

The managements of the banks were not willing to provide information on their customers. Therefore, it was not possible to conduct checks for determining differences between respondents and non-respondents. This problem can also be observed in other empirical studies (e.g. Koh, Boo 2004; Shane *et al.* 1995). Despite such a problem, the response rate of 85.5 percent is high considering any incentives were not offered to respondents.

25% of the respondents were between the ages of 18–27 and 44% between the ages of 28–37. 22% of the respondents were aged between 38 and 47 years and the rest were older than 47. 58% of the respondents were male. 31% of the respondents had secondary and high school education and 3% primary school education. 18% of the respondents had two-year college degrees, while 44% had four-year college degrees. The rest had graduate degrees. 71% of the respondents were married, while the rest were single or divorced. Such a demographic breakdown of the sample is representative of retail bank customers in Northern Cyprus (cf. Arasli *et al.* 2005; Karatepe *et al.* 2005).

### **3.2. Measurement**

This study used the parsimonious 20-item four-dimensional scale developed for the retail banking industry in Northern Cyprus by Karatepe *et al.* (2005). Each of the service environment and reliability dimensions was operationalized via four items. Interaction quality was measured using seven items. Finally, empathy was measured via five items. Respondents were requested to rate their level of satisfaction on each service quality dimension. Thus, customer satisfaction was assessed using four items. Five items from Zeithaml *et al.* (1996) were used to operationalize customer loyalty. The items in customer loyalty were originally prepared in English and then translated into Turkish using the back-translation method (McGorry 2000). Responses to the items in service environment, interaction quality, empathy, and reliability were rated on five-point scales ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). The items in customer satisfaction were rated on a five-point scale ranging from 5 (*very satisfied*) to 1 (*very dissatisfied*). Response options for the items in customer loyalty ranged from 5 (*extremely likely*) to 1 (*not at all likely*). In addition, gender was coded as a binary variable (0 = male and 1 = female).

Age, education, and marital status were treated as control variables in this study. Age was measured using a six-point scale. Education was measured via a five-point scale. Marital status was coded as a binary variable (0 = single or divorced and 1 = married). In addition, prior to the main data collection, the survey instrument was tested with a pilot sample of fifty customers of a retail bank in Northern Cyprus. The results revealed that these customers did not have any difficulty understanding the items.

### **3.3. Data analysis**

All measures in the 20-item four-dimensional scale were subjected to a series of confirmatory factor analysis to address issues of convergent and discriminant validity (Anderson, Gerbing 1988; Joreskog, Sorbom 1996). The internal consistency reliability is evaluated based on the commonly accepted cut-off value of 0.70.



One of the most appropriate ways to test the mediating and moderating effects is the use of hierarchical multiple regression analysis following the guidelines provided by Baron and Kenny (1986). Testing the mediating and moderating effects in this way is prevalent in the extant literature (e.g. Han, Back 2006; O'Driscoll *et al.* 2003; Ryu, Han 2010; Yang, Peterson 2004). For the mediating effects, in the analysis predicting customer satisfaction, the control variables were entered in step 1 and service quality dimensions in step 2. The control variables were entered in step 1, service quality dimensions in step 2, and customer satisfaction in step 3 to predict loyalty. Sobel test was also used for the significance of the mediating effect.

All predicting variables were centered prior to multiplication in order to reduce multicollinearity (Cohen *et al.* 2003). The control variables were first entered in step 1, service environment in step 2, gender in step 3, and the interactive term (service environment \* gender) in step 4 to predict customer satisfaction. This procedure was repeated for the rest of the moderating effects.

## 4. Results

### 4.1. Measurement results

Table 1 presents the results of confirmatory factor analysis. Overall, the results indicated a good fit of the four-factor model to the data on the basis of a number of fit statistics ( $\chi^2 = 1448.65$ ,  $df = 164$ ; GFI [Goodness of fit index] = 0.85; NFI [Normed fit index] = 0.91; CFI [Comparative fit index] = 0.92; IFI [Incremental fit index] = 0.92; SRMR [Standardized root mean square residual] = 0.051. Factor loadings ranged from 0.43 to 0.87. 19 out of 20 loadings were greater than 0.70. All observable indicators loaded significantly on their respective latent variables and their  $t$ -values were above 2.00. Therefore, these results provided evidence of convergent validity (Anderson, Gerbing 1988).

Discriminant validity was evaluated based on a series of chi-square difference tests using measures of each pair of constructs. In particular, a two-dimensional model for each pair of constructs was first fit, and then items representing each construct were forced into a single factor solution. As can be seen in Table 2, the chi-square difference test produced a significant result for each pair of measures. Thus, imposing a single factor solution on the two sets of items representing different constructs demonstrated a significant deterioration of the model fit. These results provided evidence of discriminant validity (Anderson, Gerbing 1988; Babakus *et al.* 2004).

Composite scores for each construct were created by averaging all items comprising that particular construct. The results of means, standard deviations, and correlations among the variables are shown in Table 3. As also demonstrated in Table 3, the reliability coefficients (alpha) were 0.90, 0.93, 0.85, 0.88, 0.89, and 0.94 for service environment, interaction quality, empathy, reliability, customer satisfaction, and customer loyalty, respectively. These findings were above the commonly accepted cut-off value of 0.70.

**Table 1.** Scale items and confirmatory factor analysis results

Scale items	Standardized loadings	<i>t</i> -value
<b>Service environment</b>		
The exterior of this bank is visually appealing	0.85	30.36
The interior of this bank is visually attractive	0.85	30.24
Employees of this bank have neat appearances	0.79	27.14
The interior of this bank is spacious	0.82	28.68
<b>Interaction quality</b>		
Employees of this bank have the knowledge to respond to problems	0.74	24.76
Employees of this bank are polite to customers	0.82	29.21
Employees of this bank are experienced	0.76	25.94
Employees of this bank instill confidence in customers	0.84	29.94
Employees of this bank are understanding of customers	0.85	30.43
Employees of this bank serve customers in good manner	0.84	29.92
There is a warm relationship between employees of this bank and customers	0.82	28.80
<b>Empathy</b>		
This bank does not make its customers stand in a queue for a long time	0.43	12.89
Employees of this bank enact transactions on a timely manner	0.76	25.70
Employees of this bank always help customers	0.87	31.61
Employees of this bank provide individualized attention to customers	0.80	27.69
Employees of this bank are willing to solve customer problems	0.83	29.47
<b>Reliability</b>		
Employees of this bank provide error-free service	0.81	27.94
Employees of this bank carry out customer transactions confidentially	0.83	28.67
Employees of this bank provide customers with precise information	0.85	30.20
This bank informs customers about its financial operation accurately	0.72	23.73
Model fit statistics: $\chi^2 = 1448.65$ , $df = 164$ , $GFI = 0.85$ , $NFI = 0.91$ , $CFI = 0.92$ , $IFI = 0.92$ , $SRMR = 0.051$		

**Notes:** All loadings are significant at the 0.01 level. GFI = Goodness of fit index; NFI = Normed fit index; CFI = Comparative fit index; IFI = Incremental fit index; SRMR = Standardized root mean square residual.

**Table 2.** Discriminant validity: chi-square difference

Variables	1	2	3	4
1. Service environment	–			
2. Interaction quality	700.20	–		
3. Empathy	785.70	273.53	–	
4. Reliability	1673.11	756.44	585.15	–

**Notes:** Chi-square difference tests (all tests = 1 *df*).  $\chi^2 > 10.83$ ,  $p < 0.001$ .

**Table 3.** Scale reliabilities, means, standard deviations, and correlations of study variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Age	1.000									
2. Education	–0.052	1.000								
3. Marital status	0.431**	0.063	1.000							
4. Gender	–0.077*	0.052	–0.002	1.000						
5. Service environment	–0.014	0.028	0.107**	–0.061	1.000					
6. Interaction quality	0.013	–0.009	0.042	–0.030	0.745**	1.000				
7. Empathy	0.010	–0.019	0.028	–0.024	0.680**	0.811**	1.000			
8. Reliability	0.066	–0.077*	–0.025	–0.039	0.521**	0.743**	0.737**	1.000		
9. Customer satisfaction	–0.013	0.016	0.056	–0.047	0.770**	0.851**	0.781**	0.709**	1.000	
10. Customer loyalty	0.048	0.029	0.110**	–0.042	0.710**	0.769**	0.723**	0.642**	0.826**	1.000
Mean	2.18	3.14	0.71	0.42	3.46	3.57	3.34	3.48	3.58	3.48
Standard deviation	0.97	1.00	0.46	0.49	0.94	0.83	0.81	0.86	0.89	0.94
Coefficient alpha	–	–	–	–	0.90	0.93	0.85	0.88	0.89	0.94

**Notes:** Composite scores for each measure were obtained by averaging scores across items representing that measure. The scores for service environment, interaction quality, empathy, reliability, customer satisfaction, and customer loyalty range from 1 to 5. Age was measured using a six-point scale. Education was measured using a five-point scale. Marital status was coded as a binary variable (0 = single or divorced and 1 = married). Gender was also coded as a binary variable (0 = male and 1 = female).

\* Correlations are significant at the 0.05 level.

\*\* Correlations are significant at the 0.01 level. Correlations without asterisks are not significant.

#### 4.2. Test of research hypotheses

Table 4 delineates the results regarding the mediating role of customer satisfaction. That is, interaction quality ( $\beta = 0.41, p < 0.001$ ) is the most important determinant of customer satisfaction, followed by service environment ( $\beta = 0.29, p < 0.001$ ), reliability ( $\beta = 0.16, p < 0.001$ ), and empathy ( $\beta = 0.14, p < 0.001$ ). The control variables and service quality dimensions explain 79% of the variance in customer satisfaction.

**Table 4.** Hierarchical multiple regression results: direct and mediating effects

Dependent variables and standardized regression weights					
Independent variables	Customer satisfaction		Customer loyalty		
	Step 1	Step 2	Step 1	Step 2	Step 3
<b>(I) Control variables</b>					
Age	-0.05	-0.04	0.00	0.01	0.03
Education	0.01	0.02	0.02	0.04	0.02
Marital status	0.08*	0.02	0.11**	0.06*	0.05*
<b>(II) Service quality dimensions</b>					
Service environment		0.29***		0.28***	0.13***
Interaction quality		0.41***		0.31***	0.11**
Empathy		0.14***		0.18***	0.11**
Reliability		0.16***		0.14***	0.06
<b>(III) Customer satisfaction</b>					0.50***
F	1.41	793.07***	3.61*	408.02***	158.81***
$R^2$ at each step	0.00	0.79	0.01	0.66	0.71
$\Delta R^2$		0.79		0.65	0.05
Sobel test for:					
SERENV→CSAT→CLOYAL	8.62***				
INTQUAL→CSAT→CLOYAL	8.88***				
EMP→CSAT→CLOYAL	4.48***				
REL→CSAT→CLOYAL	5.54***				

**Notes:** Age was measured using a six-point scale. Education was measured using a five-point scale. Marital status was coded as a binary variable (0 = single or divorced and 1 = married). SERENV = Service environment; INTQUAL = Interaction quality; EMP = Empathy; REL = Reliability; CSAT = Customer satisfaction; CLOYAL = Customer loyalty.

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

As indicated in Table 4, service environment, interaction quality, empathy, and reliability have significant positive effects on customer loyalty. When customer satisfaction ( $\beta = 0.50, p < 0.001$ ) is entered in the equation, the sizes of the direct impacts of service environment ( $\beta = 0.13, p < 0.001$ ), interaction quality ( $\beta = 0.11, p < 0.01$ ), and empathy ( $\beta = 0.11, p < 0.01$ ) are reduced, but remain significant. However, inclusion of customer satisfaction results in the absence of a significant positive effect of reliability on loyalty. The results also demonstrate a significant increment in  $R^2$  of the model ( $\Delta R^2 = 0.05, p < 0.001$ ). According to the results of Sobel test in Table 4, there is a significant mediating role of customer satisfaction on the relationship between service quality dimensions and loyalty. Customer satisfaction partially mediates the effects of service environment, interaction quality, and empathy on loyalty, while it fully mediates the effect of reliability on loyalty. Therefore, hypotheses 1a, 1b, and 1c are supported, whereas hypothesis 1d is not.

Tables 5 and 6 present the results concerning the moderating effects. Table 5 shows that the interaction of service environment and gender does not significantly influence customer satisfaction. Therefore, hypothesis 2a is not supported. Hypothesis 2b is not supported, because the interactive term (interaction quality \* gender) is not significantly related to customer satisfaction.

Table 6 demonstrates that the interaction of empathy and gender significantly and positively influences customer satisfaction ( $\beta = 0.05, p < 0.05$ ). The interactive term makes a significant contribution in  $R^2$  of the model ( $\Delta R^2 = 0.01, p < 0.05$ ). This finding illustrates that the effect of empathy on satisfaction is higher for female customers than male customers. Therefore, hypothesis 2c is supported. The interactive term (reliability \* gender) also significantly and positively influences customer satisfaction ( $\beta = 0.06, p < 0.05$ ). This interactive term makes a significant contribution in  $R^2$  of the model ( $\Delta R^2 = 0.01, p < 0.05$ ). This finding indicates that the impact of reliability on satisfaction is higher for female customers than male customers. Therefore, hypothesis 2d is supported. In addition, the results reported in Tables 4, 5, and 6 do not change with or without the control variables.

## 5. Discussion

The present study developed and tested a model that examined customer satisfaction as a mediator of the effects of service environment, interaction quality, empathy, and reliability on loyalty. The model also tested gender as a moderator of the impacts of these service quality dimensions on customer satisfaction. The customers of retail banks in Northern Cyprus served as the study setting. An overall conclusion that readily emerged from the findings of this study was that the majority of the hypotheses received support from the empirical data.

### 5.1. Assessment of findings

The results suggest that there is strong empirical support for the four-dimensional service quality scale developed for the retail banking industry in Northern Cyprus. Broadly speaking, the results that service environment, interaction quality, empathy, and reliability represent the four dimensions of service quality are consistent with the work of Karatepe *et al.* (2005).

**Table 5.** Hierarchical multiple regression results: moderating effects

Dependent variable and standardized regression weights		Customer satisfaction				Customer satisfaction			
Independent variables	Step 1	Step 2	Step 3	Step 4	Independent variables	Step 1	Step 2	Step 3	Step 4
(I) Control variables					(I) Control variables				
Age	-0.05	0.01	0.01	0.01	Age	-0.05	-0.04	-0.04*	-0.04*
Education	0.01	0.00	0.00	0.00	Education	0.01	0.02	0.02	0.02
Marital status	0.08*	-0.03	-0.03	-0.03	Marital status	0.08*	0.04	0.04	0.04
(II) SERVEN	0.77**	0.77**	0.77**	0.77**	(II) INTQUAL	0.85**	0.85**	0.85**	0.85**
(III) Gender			0.00	0.00	(III) Gender			0.04	0.04
(IV) SERVEN* Gender				-0.01	(IV) INTQUAL* Gender				0.01
F	1.41	1231.36**	0.00	0.11	F	1.41	2248.14**	2.08	0.54
R <sup>2</sup> at each step	0.00	0.59	0.59	0.59	R <sup>2</sup> at each step	0.00	0.72	0.72	0.72
DR <sup>2</sup>	-	0.59	0.00	0.00	DR <sup>2</sup>	-	0.72	0.00	0.00

**Notes:** Age was measured using a six-point scale. Education was measured using a five-point scale. Marital status was coded as a binary variable (0 = single or divorced and 1 = married). Gender was also coded as a binary variable (0 = male and 1 = female). SERVEN = Service environment; INTQUAL = Interaction quality.

\*  $p < 0.05$ , \*\*  $p < 0.001$



**Table 6.** Hierarchical multiple regression results: moderating effects

Dependent variable and standardized regression weights	Customer satisfaction				Customer satisfaction			
	Step 1	Step 2	Step 3	Step 4	Step 1	Step 2	Step 3	Step 4
Independent variables					Independent variables			
(I) Control variables					(I) Control variables			
Age	-0.05	-0.04	-0.05	-0.05	Age	-0.05	-0.11**	-0.12**
Education	0.01	0.03	0.03	0.03	Education	0.01	0.06*	0.06*
Marital status	0.08*	0.05*	0.05*	0.06*	Marital status	0.08*	0.12**	0.12**
(II) EMP	0.78**	0.78**	0.78**	0.78**	(II) REL	0.72**	0.72**	0.72**
(III) Gender			-0.03	-0.03	(III) Gender		-0.03	-0.03
(IV) EMP* Gender				0.05*	(IV) REL* Gender			0.06*
F	1.41	1339.37**	2.37	4.59*	F	1.41	920.36**	1.59
R <sup>2</sup> at each step	0.00	0.61	0.61	0.62	R <sup>2</sup> at each step	0.00	0.52	0.52
DR <sup>2</sup>	-	0.61	0.61	0.01	DR <sup>2</sup>	-	0.52	0.00

**Notes:** Age was measured using a six-point scale. Education was measured using a five-point scale. Marital status was coded as a binary variable (0 = single or divorced and 1 = married). Gender was also coded as a binary variable (0 = male and 1 = female). EMP = Empathy; REL = Reliability.  
\*  $p < 0.05$ , \*\*  $p < 0.00$

The results reported in this study suggest that all service quality dimensions have significant positive impacts on customer satisfaction. Interaction quality is the most important determinant of customer satisfaction, followed by service environment, reliability, and empathy. These are partially consistent with the work of Karatepe *et al.* (2005), which shows that interaction quality is the most important indicator of service quality, followed by empathy, reliability, and service environment. When the results of this study are compared to the results of other studies, there are also a number of similarities. For example, in a study conducted with the East African consumers, effective queue management and personable, professional staff were among the most important dimensions of service quality influencing satisfaction (Greenland *et al.* 2006). In a study of retail bank customers in Northern and Southern Cyprus, reliability, empathy, and assurance were the common service quality dimensions influencing satisfaction (Arasli *et al.* 2005). In addition, responsiveness, empathy, and tangibles influenced satisfaction among the retail bank customers in Turkey (Yavas *et al.* 1997).

The result that customer satisfaction partially mediates the impact of service quality (e.g. service environment, interaction quality, empathy) on loyalty is consonant with the other empirical studies in the services marketing literature. For instance, in a study of retail bank customers in the Netherlands, Bloemer *et al.* (1998) demonstrated that service quality affected loyalty directly and indirectly via satisfaction. Similar findings were also reported in the works of Bei and Chiao (2006) in Taiwan, Cronin *et al.* (2000) in the USA, Karatepe *et al.* (2005) in Northern Cyprus, and Mosahab *et al.* (2010) in Iran. On the other hand, the results suggest that customer satisfaction fully mediates the effect of reliability on loyalty. That is, reliability influences loyalty only via customer satisfaction. This finding can be attributed to Bagozzi's (1992) appraisal → emotional response → behavior framework. Specifically, it suggests that customers evaluate past, present and future outcomes based on past encounters by a focal company and its particular competitors (Babakus *et al.* 2004). Such outcomes lead to an emotional reaction (satisfaction or dissatisfaction), which in turn directs behaviors (loyalty).

This study examined gender as a moderator of the effects of service quality dimensions on customer satisfaction. This is important for at least two reasons. First, from a theoretical perspective, women and men appear to attend to different aspects of a service encounter, while making judgments about their satisfaction (Iacobucci, Ostrom 1993), because women are more relationship-oriented and tend to be highly detail-oriented, while men are more task- or goal-oriented and tend to focus less on details (Babakus, Yavas 2008; Karatepe *et al.* 2006). However, empirical research concerning such relationships in the services marketing literature is scanty (cf. Matzler *et al.* 2008; Sánchez-Hernández *et al.* 2010). Second, from a practical perspective, making an assessment of the effects of service quality dimensions on satisfaction without considering the moderating role of gender may mislead bank managers to set the right priorities. Two important findings emerge from the moderating role of gender. That is, the impacts of empathy and reliability on satisfaction are higher among female customers than male customers. Such findings may be attributed to the fact that women are relationship-oriented and attach more importance to social interactions with customer-contact em-

ployees providing them with specific information about bank services and dealing with their requests and problems effectively. This is also evident in past studies. For example, Yavas *et al.* (2004) discuss that female customers in the private banks of Germany attach more importance to interpersonal relationships and communication than male customers and tend to offer positive word of mouth communication. The results reported in the current study confirm extant theory that female customers place more emphasis on social interactions than male customers (e.g. Noble *et al.* 2006). These results are important additions to the existing knowledge base.

On the other hand, the results do not lend credence to gender as a moderator in the relationship between: service environment and satisfaction, and interaction quality and satisfaction. Individuals in collectivist cultures, including the retail bank customers in Northern Cyprus, tend to establish and maintain long lasting relationships. Therefore, both male and female customers may tolerate problems associated with service quality and do not leave the service provider (Dash *et al.* 2009; Donthu, Yoo 1998). As a result, the effects of service environment and interaction quality on satisfaction might have been equally important for both male and female bank customers in Northern Cyprus.

## **5.2. Management implications**

The present study provides various useful insights pertaining to the management of service quality and gender differences in the relationship between service quality and customer satisfaction for bank managers. First, it would be useful to use industry- and culture-/country-specific measures of service quality. By doing so, bank managers would have the opportunity to measure service quality and its effect on customer satisfaction, loyalty and overall business performance. With this realization, bank managers in Northern Cyprus should use this study's 20-item parsimonious four-dimensional service quality scale to measure the satisfaction levels of their customers with each service quality dimension. Moreover, multi-branch bank organizations should use the present scale to assess customers' perceptions of service quality in different branches and track the performance levels of these branches over time (Karatepe *et al.* 2005). As a result, they would be capable of detecting the organization's strengths and weaknesses and take actions to reduce customer defection rate.

Second, the organizational structures of the local public and private banks in Northern Cyprus are not attuned to viewing things from the customer's perspective. That is, they are not structured to provide individualized service quality. Therefore, managements of these banks should establish and maintain a customer-oriented environment. Such an environment would make their customer-contact employees focus on delivery of superior service quality (Yavas *et al.* 2003). In order to achieve this, effective continuous training programs in interpersonal skills is a must. These training programs could consist of case studies centering on interpersonal skills, product knowledge, empowerment, and effective customer complaint management. They could also include case studies, which would teach the management of customers based on a gender-differentiated approach appertaining to service quality dimensions, such as empathy and reliability. Otherwise,

providing employees with training programs based on only technical skills would be insufficient.

Third, managements of the banks should make sure that their trained frontline employees spend sufficient time with female customers to present detailed information about the services delivered. This is necessary, because such customers attach more importance to social interactions. Although frontline bank employees are susceptible to stressful and demanding situations (Karatepe, Tekinkus 2006), they should deal with female customers' requests and complaints effectively.

Fourth, managements of the banks need to make improvements in the service environment. Specifically, they need to improve the main visual, aural, olfactory, and tactile dimensions of atmosphere. This is important, because today's sophisticated and discerning customers pay attention to such dimensions. Fourth, managements of the local retail banks try to adopt Internet banking services, though their customers are faced with inconveniences due to poor electrical infrastructure in Northern Cyprus. Despite this problem, they should continue their investment in Internet banking services for enabling customers to make their transactions via these services and obtain specific information about the services provided.

On a closing note, managements of the banks in Northern Cyprus should try to create the perception of a strong financial institution with superior service quality and modern facilities and sufficient technology via various corporate advertising efforts on a permanent basis for customer retention (cf. Bloemer *et al.* 1998). The above-mentioned implications would be useful for the retail banks in establishing and maintaining long-term relationships with their customers in the marketplace.

### **5.3. Limitations and avenues for future research**

As with all empirical studies, there are several limitations to this study, and viable prospects for future research remain. First, this study used cross-sectional data to test the study hypotheses. Such a practice precludes use from drawing causal inferences among the study variables. Longitudinal designs would be a remedy for this problem. Second, incorporating service value and different aspects of loyalty, such as affective, intention and behavioral loyalty into the model would shed further on the understanding of their relationships with the variables in the model.

Third, the direct, mediating and moderating effects in the conceptual model of this study were evaluated via hierarchical multiple regression analysis. This is consistent with the other empirical studies in the extant literature (e.g. Han, Back 2006; Yang, Peterson 2000). However, using structural equating modeling in future research would enable the researcher to make the simultaneous assessment of complex patterns of relationships (e.g. direct, mediating and moderating relationships). Fourth, in future research investigating the relationships among service quality, customer satisfaction and loyalty cross-nationally would be beneficial. Finally, using income level as a control variable in the model could lead to a better presentation of gender as a moderator. Thus, it would be beneficial to collect data about customers' income levels in future research.

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## APTARNAVIMO KOKYBĖ, VARTOTOJŲ PASITENKINIMAS IR LOJALUMAS VARTOTOJŲ LYTIES ATŽVILGIU

**O. M. Karatepe**

Santrauka

Šio straipsnio tikslas – išanalizuoti klientų pasitenkinimą kaip mediatorių, kuriam įtakos turi aptarnavimo aplinka, sąveikos kokybė, empatija ir lojalumas. Straipsnyje nagrinėjama lyčių įtaka sąryšiui tarp paslaugų kokybės ir vartotojų pasitenkinimo. Tyrimo rezultatai buvo gauti apklausus Šiaurės Kipro banko klientus. Autorius pritaikė daugiakriterinę regresijos analizę. Gauti rezultatai parodė, kad yra sąryšis tarp minėtų elementų, t. y. tiek tarp aptarnavimo aplinkos, sąveikos kokybės, empatijos, lojalumo ir klientų pasitenkinimo bei tų veiksnių atitinkamo pasiskirstymo ir jų priklausomybės nuo lyties.

**Reikšminiai žodžiai:** vartotojų lojalumas, klientų pasitenkinimas, lytis, Šiaurės Kipras, bankai, aptarnavimo kokybė.

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