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A perceived service quality measurement scale in Iran's retail banking market

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In recent years, special attention has been paid to concepts and models of service quality. Considering different influence of contextual factors on the number of indices or the number and concept of service quality, many researchers place emphasis on designing localized and service-specific quality models. This research attempted to design a model for evaluating customers' perceived service quality in Iranian private banks by conducting quantitative and qualitative research. By conducting exploratory and confirmatory factor analyses these researchers designed a model which includes 25 indices and 7 quality dimensions such as, general quality of process, general quality of output, skills and behaviors, accuracy, diversity of services, speed, and servicescape (tangibles). This model has unique characteristics, which reflect Iranian banking industry specific conditions and circumstances.

Key words: Banking, service marketing, service quality, Iran.

INTRODUCTION

In developing an environment of consumer awareness (Lewis and Entwistle, 1990), thus leading to greater consumer sovereignty, a key differentiator for the competitive advantage is obviously necessary (Blanchard and Galloway, 1994). As such, there is considerable support for the argument that this environment or element should be quality of service (Berry et al., 1989; Edwards and Smith, 1989). The banks are aware of this need and most address the issue of service quality in one way or another.

Over the past two decades, the burgeoning literature has contributed to the measurement of service quality in addition to the development of generic measures and the creation of instruments for specific service settings (Ladhari, 2008). However, with banking services most of the available instruments include scales, contextually developed by specific banks to cope with occasional problems, or instruments, not especially designed for banking services rather designed to measure the perceived service quality across a broad spectrum of spectrum of services. Among such general instruments,

the most popular is SERVQUAL, developed by Parasuraman et al. (1985, 1988), which has been used in both original and adapted versions by a variety of banks (Bahia and Nantel, 2000)

Service companies that operate in a variety of cultural contexts are finding that the most popular generic measure of service quality (that is, SERVQUAL) is less applicable and less meaningful outside developed countries (Malhotra et al., 2005). Moreover, an analysis of the service quality literature in the banking industry reveals that the majority of studies have been conducted in developed economies or within the western cultural environment rather than developing economies (Herbig and Genestre, 1996).

The objective of this investigation was to develop a reliable and valid standard scale for the measurement of perceived service quality in Iran's private banks. The current study focused on retail customers and the scale was validated only with retail customers.

LITERATURE REVIEW

A canvassing of the growing body of literature on service quality suggests that two schools of thought dominate the extant thinking. One is the Nordic school of thought,

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based on Grönroos's (1984) two dimensional model, and the other is the North American school of thought, based on Parasuraman et al. (1988) five dimensional SERVQUAL model. Respecting these two major schools, there has been continued research on the definition, modeling, measurement, and data analysis concerning issues of service quality, leading to the development of a sound knowledge base for researchers. These researchers review of this body of literature points out two major limitations.

First, as noted by Babakus and Boller (1992), it may not be fruitful to pursue the development of a standard applicable to a wide variety of services. The domain of service quality may be factorially complex in some industries and very simple and unidimensional in others. As such, measures designed for specific service Indus-tries may be a more viable research strategy to pursue.

As Shemwell and Yavas (1999) argue, the more specific the scale items are in a service quality instrument and the more applicable they are to a manager's own contextual circumstances, the better he or she will be able to use the information. Thus, rather than taking an existing instrument and fitting it to the context, a more effective approach is to develop an instrument specifically for the focal service. Many studies in banking service quality have replicated or adopted the SERVQUAL model (Athanassopoulos, 1997; Blanchard and Galloway, 1994; Marshall and Smith, 1999) and fewer studies have incur-porated Grönroos's ideas on service quality (Howcroft, 1993; Holmlund and Kock, 1996; Ennew and Binks, 1999). Further, only a few studies have presented new models or approaches to the measurement of service quality in the banking sector. For instance, Avkiran (1994) developed a multidimensional instrument for measuring perceived quality in retail banking, using SERVQUAL as a starting point and adding items extracted from a qualitative study. Avkiran (1994) followed an iterative process and identified staff conduct, credibility, communication, and access to teller services as the final dimensions of service quality. Another scale development by Bahia and Nantel (2000) proposed a scale (BSQ) that consists of six dimensions of service quality, including effectiveness and assurance, access, price, tangibles, services portfolio, and reliability. In another study, Aldlaigan and Buttle (2002), based on the Grönroos's (1984) model, developed a scale to measure service quality perceptions of bank customers, which resulted in SYSTRA-SQ. SYSTRA-SQ consists of service system quality, behavioral service quality, service transactional quality, and machine service quality. More recently, Karatepe et al. (2005) employed a multistage approach and developed a four-dimensional scale consisting of service environment, interaction quality, empathy, and reliability. In addition to developing effective measuring tools for service quality, in general, there is also a need to develop measures that are country and culture specific. Quality models and measures developed in one culture

may not be applicable in a different cultural setting. Despite some cross-cultural commonalities, the weight of evidence suggests that culture plays a significant role in the definition of the service quality construct (Karatepe et al., 2005)

METHODOLOGY

The current research consisted of three phases. During phase one, these researchers generated items that represented service quality through qualitative studies. During phase two these researchers administered the primary scale to bank customers. Finally, in phase three, these researchers used exploratory and confirmatory factor analyses to assist data reduction, test the hypothesized model and refine scales.

Generation of items

In order to generate service quality items, these researchers followed a procedure as discussed below. First, these researchers reviewed major bank service quality models and assessment instruments and listed 45 SQ items. Second, 31 one–on–one interviews and two focus groups with retail banking customers were conducted. The one-on-one interviews focused on each informant's relationship with a principal provider of banking services in Iran. Each interview lasted between 15 and 25 min. and each focus group lasted between 45 and 60 min. During these interviews and focus groups, participants were asked to discuss their expectations of bank services.

To code the qualitative data, a content analytic approach was employed. The process consisted of four steps until 100% agree-ment on all items was reached. During step one, two independent coders produced a list including 357 service quality text items. For step two, the same coders generated a total of 47 items and agreed on 39 of these items, yielding an inter-judge reliability coefficient of 82.98%. After closer scrutiny, the two coders agreed on a final list of 43 service quality items. During step three, these researcher compared service quality items from the literature to those from the interviews and focus groups. This comparison revealed that most service quality items highly overlapped. The independent coders then eliminated the overlapping items, resulting in a final list of 52 items. During the final step, items were further examined through 15 interviews of banking and marketing experts. These interviews were conducted to ensure the accuracy of the items and face validity of the questionnaire. This phase resulted in a questionnaire containing 48 items. Service quality items were transformed into a Likert scale and the respondents were asked to indicate their perceptions of banking using a 5-point scale.

Administration of questionnaire to customers

This phase included activities relating to the distribution and collection of questionnaires. In order to ensure the reliability of the service quality measurement instrument, these researchers conduc-ted a pilot study with a convenience sample of 60 respondents. The pilot study resulted in Cronbach's α of 0.873, indicating reliability of the instrument. Nunnaly (Devellis, 1991) mentioned that a sam-ple of 300 respondents is sufficient to test measurement scales. In the current study data for the initial test and refinement of the instru-ment were obtained from a sample of 348 customers of eight large private commercial banks in six large cities in Iran, including Tehran, Isfahan, Shiraaz, Karaj, Mashhad, and Tabriz. Every third customer exiting the bank after completing a transaction was

Table 1. Demographic characteristics of the sample (N=348).

Demographic variable	Valid percent
Age (years)	
Up to 25	24.2
25 to 35	38.3
35 to 45	20.8
45 to 55	12.5
>55	4.2
Gender	
Male	62.9
Female education	37.1
Education	
Up to high school	27.3
B.S / University student	64.5
Post graduated	8.3

approached and asked to participate (Table 1).

Factor analysis and scale validation

In order to develop and validate the measure for perceived service quality, these researchers employed both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Conventionally, exploratory factor analysis (EFA) is used for situations where the relationships between the observed and latent variables are unknown or uncertain. This approach proceeds in an exploratory manner to reveal underlying factors, thereby illustrating the relationships between latent factors and observed variables. The purpose of this process is to determine a minimum number of factors that will explain the covariation among the observed variables. Exploratory factor analysis has some limitations in terms of scale development. For instance, in a pure EFA, items are loaded only on a statistical basis, thereby affecting the validity of the factors. Conversely, the CFA approach, to a large extent, overcomes the above mentioned limitation and addresses the situation wherein the researcher specifics a model *a priori* and tests the conjecture that a relationship between the observed and latent variables does in fact exist. In short, the hypotheses that form the constraints are an integral part of the CFA technique. Moreover, the researcher knows which factors account for the covariation among the observed variables. Given the fact that the current study entailed a service quality scale from the customer's perspective, for which the relationships between the observed and latent variables were uncertain, these researchers had to employ both approaches. In order to conduct an exploratory factor analysis, principal components for the factor analysis were used as in similar studies (Shaw and Haynes, 2004). Data screening was first conducted to ensure that no undesirable conditions were evident, which may have made the data unsuitable for a factor analysis. Next, a Kaiser-Meyer Olkin test was conducted to measure the adequacy of the sample. From the current analysis, Cronbach's alpha was 0.829, which indicated that the current study had an adequate number of participants. Additionally, the Bartlett's test showed significance with a value of 0.000, which is smaller than 0.05. Therefore, both tests showed that the sample size used in this study was appropriate for further analysis using a factor analysis.

After the completion of data screening, an initial factor extraction

factors with an Eigen value greater than 1. This allowed the number of factors to be greatly reduced. A screen plot was also used to double all factors. All 48 items were factor analyzed using the Varimax method. The number of factors was unconstrained and for the sake of convergent validity, 0.4 was used as the factor loading cut-off point. Items had to display a 0.3 loading difference with another factor to ensure discriminant validity. These researchers used these two criteria results for unidimensionality (that is the extent to which items on a factor measure one single construct). In addition, factors including fewer than three items were eliminated. This procedure resulted in seven factors totaling 25 items. These seven factors included general functional quality, general outcome quality, behaviors, accuracy, speed, servicescape, and diversity of services (Table 2).

The internal consistency reliability of scores yielded by the seven hypothesized dimensions of service quality were assessed (Table 2). Alpha coefficients of the seven hypothesized dimensions ranged from 0.70 - 0.79, while the overall reliability reached a higher level of 0.94. These values exceed the cut-off value of 0.70.

A confirmatory factor analysis using LISREL (Jöreskog and Sörbom, 1993) was then applied to the seven-factor measurement model to further test dimensionality and construct validity. Table 3 shows the results of the confirmatory factor analysis and fit indices using a Chi-square test, the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), Bentler's comparative fit index (CFI), and the root mean square of approximation (RMSEA). The RMSEA was calculated because it measures the lack of fit and takes Parsimony into account by assessing the discrepancy per degree of freedom between the population covariance matrix and the fitted matrix. The results of the confirmatory factor analysis demonstrated a good model fit to the data on the basis of a fit statistic (χ^2= 688.20, df = 254, GFI = 0.90, AGFI = 0.88, CFI = 0.98, RMSEA = 0.072). Furthermore, factor loadings ranged from 0.51 to 0.81, with a majority of the standardized factor loadings greater than 0.60 and all t-values greater than 2.00.

Hence, confirmatory factor analyses results provided evidence regarding construct (convergent and discriminant) validity of the measure (Anderson and Gerbing, 1988). In addition, internal consistency reliability estimates exceeded the 0.70 cut-off value (Table 2). It must be mentioned that, due to the robustness of the research methodology, the final measurement scale had good content validity. If the items representing the various constructs of an instrument are substantiated by a comprehensive review of the relevant literature, content validity can be ensured (Sureshchandar et al., 2002). The present instrument was developed based on a detailed analysis of the prescriptive, conceptual, practitioner, and empirical literature. Moreover, experts, both from academia and practitioners in the field, also ensured the content validity of the instrument through based on a thorough review.

Finally, these researchers examined criterion-related validity. In the present study, criterion-related validity was established by correlating composite scores for each dimension, which were calculated by averaging scores across items representing that dimension, with four criteria including overall service quality, satisfaction, loyalty to the bank, and recommendations to others. The correlations are shown in Table 4. Of note all scales yielded significant positive correlations with the four criteria, thus criterion-related validity was established for all scales. Collectively, the results of the factor analysis and all above examinations are encouraging regarding the reliability and validity of the scale.

Following this analyses for validity, these researchers focused on the factorial structure of service quality and conducted a Pearson correlation to analyze the correlation among the seven factors (Table 5).

As Table 5 demonstrated, there is a synergistic relationship between bank service quality factors in such a way that increasing perception of quality in one factor resulted in increasing perceived service quality for the other factors.

Table 2. Exploratory factor analysis for perceived service quality.

Factors and items	Loading
General process quality (α= 0/7902)	
Procedures and regulations are easy and clear.	0.550
This bank serves to all social classes and economic categories.	0.451
The branches are easily accessible.	0.573
Delivery of services is flexible and without unnecessary rigidness.	0.579
This bank provides customers with appropriate and precise information.	0.623
This bank uses the feedback from customers to improve service standards.	0.708
General outcome quality (α= 0/7145)	
This bank credits its customers.	0.549
Money is available every time.	0.538
Services are designed according to religious and ethical values.	0.495
This bank serves customers with respect to their past transactions.	0.669
Diversity of services (α=0/7079)	
Statements and other information are available and sent (if requested.)	0.449
Diversified e-banking services are available.	0.646
Complete range of services is provided at this bank.	0.693
Behaviors (α= 0/7133)	
Employees have good speaking and other communication skills.	0.733
Employees are polite and courteous.	0.671
The behaviors of employees instill confidence in customers.	0.450
Speed (α= 0/7021)	
Services are provided promptly.	0.776
Waiting is not too long and queues move rapidly.	0.549
Adequate number of employees is always available for serving.	0.507
Servicescape (α= 0/6984)	
The employees of this bank are neat and well dressed.	0.478
Equipment, facilities, and other tangibles are visually attractive.	0.627
Counter and equipment layout is comfortable and secure for conducting interactions.	0.832
Accuracy (α= 0/7219)	
Employees of this bank provide error-free services.	0.776
Services are accurate and exact.	0.456
Errors are recognized and recovered, promptly.	0.497

Discussion and conclusion

The current study revealed that the notion of service quality is a multidimensional concept. There are conflicting empirical findings as to whether customers recognize the differential nature of service quality drivers (Babakus and Boller, 1992; Davis, 1991; Parasuraman et al., 1988). However, the findings of the current study provide additional insights concerning the dimensions of bank service quality. Moreover, results seem to provide additional evidence in congruence with the research stream that dimensions of service quality are not only industry but also culture-specific (Avkiran, 1994).

Concerning the findings of the study, these researchers have developed and validated a new scale for the retail banking industry. Specifically, these researchers pursued a long and thorough qualitative and quantitative investigation, which resulted in a measure of service quality in Iran's private commercial banks. This measure includes 25 items that belong to the seven dimensions of service quality including general process quality, general outcome quality, skills and behaviors, speed, accuracy,

Table 3. Confirmatory factor analysis result.

Scale items	Standardized loading	T-value
General process quality		
Procedures and regulation are easy and clear.	0.54	9.82
This bank serves all social classes and economic categories.	0.68	12.71
The branches are easily accessible.	0.52	9.36
Delivery of services is flexible and without unnecessary rigidness.	0.61	11.21
This bank provides customers with appropriate and precise information.	0.73	14.34
This bank uses the feedback from customers to improve service standards.	0.66	12.00
General outcome quality		
This bank credits its customers.	0.55	9.15
Money is available every time.	0.58	9.83
Services are designed according to religious and ethical values.	0.59	10.12
This bank serves customers with respect to their past transactions.	0.64	10.68
Diversity of services		
Statements and other information are available and sent (if requested.)	0.63	10.86
Diversified e-banking services are available.	0.64	11.30
Complete range of services is provided at this bank.	0.65	11.46
Behaviors		
Employees have good speaking and other communication skills.	0.62	11.49
Employees are polite and courteous.	0.51	9.17
The behaviors of employees instill confidence in customers.	0.81	15.66
Speed		
Services are provided promptly,	0.66	11.37
Waiting is not too long and queues move rapidly.	0.58	10.02
Adequate number of employees is always available for serving.	0.63	10.92
Servicescape		
The employees of this bank are neat and well dressed.	0.69	11.58
Equipment, facilities, and other tangibles are visually attractive.	0.59	9.92
Counter and equipment layout is comfortable and secure for doing interactions.	0.54	8.92
Accuracy		
Employees of this bank provide error-free services.	0.51	8.97
Services are accurate and exact.	0.64	11.50
Errors are recognized and recovered, promptly.	0.74	13.65

Model fit statistics: X^2 = 688.20; RMSEA= 0.072; GFI= 0.90; d.f= 254; CFI= 0.98; AGFI=0.88.

servicescape, and diversity of services. Of note, these seven dimensions show similarities to other bank service quality measures (Bahia and Nantel, 2000; Aldlaigan and Buttle, 2002; Karatepe et al., 2005).

Limitations and further research

This study had some limitations, which are suggestive for future research:

1. The data was collected from retail banking customers; hence, the findings of this study may not be generalizable to corporate customers.
2. This study focused on customers living in the six largest cities of Iran. Therefore, these researchers suggest an examination of residents from smaller towns or other countries.
3. This study did not consider service quality of non-private commercial banks and their factorial structure

Table 4. Correlations among the seven factors of service quality and the criteria.

Dimension	Overall SQ	Satisfaction	Loyalty	Recommendation
GPQ*	0.54*	0.50*	0.43*	0.39*
GOQ*	0.57*	0.55*	0.51*	0.47*
Behaviors	0.59*	0.58*	0.51*	0.48*
Speed	0.54*	0.52*	0.44*	0.40*
Servicescape	0.48*	0.43*	0.42*	0.38*
Diversity	0.52*	0.44*	0.43*	0.41*
Accuracy	0.66*	0.65*	0.56*	0.51*

*GOQ: General Outcome Quality. *GPQ: General Process Quality

Table 5. Correlation coefficients between factors.

Factors	GPQ	GOQ	Diversity	Behavior	Speed	Servicescape	Accuracy
GPQ	1.00						
GOQ	0.68	1.00					
Diversity	0.72	0.76	1.00				
Behaviors	0.76	0.57	0.78	1.00			
Speed	0.81	0.58	0.74	0.65	1.00		
Servicescape	0.46	0.64	0.66	0.71	0.48	1.00	
Accuracy	0.83	0.69	0.78	0.85	0.72	0.52	1.00

Significant at the 0.01 level (two-tailed).

differences.

4. It should be mentioned that the demographic characteristics of customers are crucial to their perception of service quality. In the present study, no analysis was undertaken to determine differences in the factorial structure between customers of different demographic characteristics.

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