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Retail Service Quality Scale: Examining Applicability in a Transition Economy

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## **ABSTRACT**

With the emergence of Western-style retailing in the Commonwealth of Independent States (CIS), retail market structure has observed a significant change. Both the evolving demand of customers and the intensified competition among the domestic and foreign companies have created a pressure for the need of innovation of goods and services in the emerging market. Measuring service quality has thus come in a way to examine the areas in which one has to improve and compete successfully. This study evaluates applicability of a widely accepted scale, Retail Service Quality Scale (RSQS) in Kazakhstan, a CIS country. Confirmatory factor analyses of the component structures indicate good fit of the RSQS dimensions and the items. The scale has the diagnostics ability to identify areas requiring strategic focus. Retailer of CIS countries would be able to measure their service quality and identify areas for improvement.

**Track:** Service Operations

**Keywords:** Service Quality, Commonwealth of Independent States (CIS), Transition Economy, Kazakhstan, Retail Service Quality Scale, Scale Validation, Component Structures.

## INTRODUCTION

Service quality is one of the most highly discussed and debated concept in the research literature because of the difficulties in both defining it and measuring it with no overall consensus emerging on either (Wisniewski, 2001; Schneider and White, 2004). The most commonly used definition of service quality is the extent to which a service meets customers' needs or expectations and it involves a comparison of customer expectations with customer perceptions of actual service performance (Parasuraman *et al.*, 1985, 1988; Lewis and Mitchell, 1990). Companies need to provide services with such a quality that meet or exceed customer expectations. Customers, satisfied with service quality are most likely to remain loyal (Wong and Sohal, 2003). Service quality is considered as a vehicle to increase value for the consumer and ensure consumer satisfaction (Sivadas and Baker-Prewitt, 2000). It also helps positioning in a competitive environment (Mehta *et al.*, 2000); and retention and patronage (Yavas, *et al.*, 1997). The same situation is also true for the customers of transition economies. The countries in Commonwealth of Independent Countries (CIS) have moved or are moving from a 'command' to a 'market' economy. The service sector in transition economies was neglected during the Soviet era and has been growing rapidly from a low base. One such economy is the former Soviet Republic of Kazakhstan, which has tremendous economic growth since its independence in 1991 and many service providers from abroad have entered or are entering to tap the increased disposable income of people (Low and Freeman, 2007). Retail service is such a sector in Kazakhstan where many foreign companies are already competing to acquire and retain higher market share. To satisfy the increasing demand of the customers in Kazakhstan and in other transition economies, retailers need to measure their service quality and identify appropriate areas for improvement. For measuring retail service quality there are some scales available in the literature and Retail Service Quality Scale (RSQS), developed by Dabholkar *et al.*, (1996) is one of them which was tested

in many developed and developing countries and found applicable in most of the countries. However none of scales were tested in the context of a transitional economy. This research evaluates the applicability of the RSQS scale for measuring retail service quality in the context of department stores, discount stores and supermarkets in Kazakhstan. This research measures the validity and reliability of the RSQS scale and finds it applicable in the context of Kazakhstan and other transition economies.

### **THE RETAIL INDUSTRY IN KAZAKHSTAN AND OTHER CIS COUNTRIES**

Kazakhstan is one of the Commonwealth of Independent States (CIS), a grouping of independent states formerly part of Soviet Union (USSR), and is comprised of Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Republic of Georgia, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Kazakhstan, located in Central Asia, is the world's ninth largest country with an area approximately 28 percent the size of the USA but with only slightly more than 5 percent of the population (estimated in July 2007 at 15,284,929 (CIA Factbook, February 2008). Kazakhstan's economy is larger than those of all the other Central Asian states combined, largely due to the country's vast natural resources and a recent history of political stability. As a contribution of its booming energy sector, economic reform, good harvests, substantial shifting of assets into the private sector and foreign investment, Kazakhstan enjoyed double-digit growth in 2000-01 and 8% or more per year in 2002-07. Aided by strong growth and foreign exchange earnings, Kazakhstan aspires to become a regional financial center and has created a banking system comparable to those in Central Europe (CIA Factbook, February 2008). The increasing average income of more than USD 11,000 per year, highest in CIS countries after Russia and increased disposable income of citizens attracted foreign companies to sell their goods and services in Kazakhstan. A number of departmental stores and discount stores have been opened as joint

ventures/subsidiary between local investors and foreign retail chains named: Turkey's Migros, France's Intergros, Germany's Metro Cash & Carry. Other retail chains like Wal-Mart, Kmart, Tesco are eyeing the opportunity to expand their business in Kazakhstan and in other CIS countries. The retailing outlets in Kazakhstan and in other CIS countries can be broadly structured as follows (Robinson, 1998).

**Department stores:** The concept of a department store is relatively new in this part of the world. However due to the increased disposable income of people, department stores are being popular to the people in these countries. Some of the retail grocery chains, named: Ramstore, Gros, Interfood, City Center, City Plus, Skif, Cash & Carry, Smak, are some of the most popular department stores in Kazakhstan. Most of the department stores are the joint ventures of the Turkish, British, European or American retailers. The sales volume in these retail chains is about 25-30% of total retail market in Kazakhstan.

**Kiosks:** The kiosk is very much a part of the former Soviet retailing scene and they are to be found everywhere in city centers and the suburbs as single kiosks, kiosks around open air markets and whole streets of kiosks. The kiosks are privately owned and managed mostly by the members of the family.

**Street traders and markets:** Besides the department stores and kiosks, formal markets do exist to some extent and small markets exist around bus stations and at suburban road junctions with the attendant kiosks and individual street traders. These street traders and markets sell almost all merchandise according to the demand of their customers.

## **MEASURES OF SERVICE QUALITY**

Measuring service quality is difficult due to its unique characteristics: Intangibility, heterogeneity, inseparability and perishability (Bateson, 1995). Service quality is linked to the concepts of perceptions and expectations (Parasuraman *et al.*, 1985, 1988; Lewis and Mitchell, 1990). Customers' perceptions of service quality result from a comparison of their before-service expectations with their actual-service experience. The service will be considered excellent, if perceptions exceed expectations; it will be regarded as good or adequate, if it only equals the expectations; the service will be classed as bad, poor or deficient, if it does not meet them (Vázquez *et al.*, 2001).

Based on this perspective, Parasuraman *et al.* (1988, 1991) developed a scale for measuring service quality, which is mostly popular as SERVQUAL. This scale operationalizes service quality by calculating the difference between expectations and perceptions, evaluating both in relation to the 22 items that represent five service quality dimensions known as 'tangibles', 'reliability', 'responsiveness', 'assurance' and 'empathy'. The SERVQUAL scale has been tested and/or adapted in a great number of studies conducted in various service settings, cultural contexts and geographic locations like the quality of service offered by a hospital (Babakus and Mangold, 1989), a CPA firm (Bojanic, 1991), a dental school patient clinic, business school placement center, tire store, and acute care hospital (Carman, 1990), pest control, dry cleaning, and fast food (Cronin and Taylor, 1992), banking (Cronin and Taylor, 1992; Spreng and Singh, 1993; Sharma and Mehta, 2004) and discount and departmental stores (Finn and Lamb, 1991; Teas, 1993; Dabholkar *et al.*, 1996, Mehta *et al.*, 2000, Vázquez *et al.*, 2001; Kim and Byoungho 2002). All these studies do not support the factor structure proposed by Parasuraman *et al.* (1988). The universality of the scale and its dimensions has also been the subject of criticisms (Lapierre *et al.*, 1996) and it is suggested that they require

customization to the specific service sector in which they are applied (Vázquez *et al.*, 2001). In SERVQUAL, both - store service performance and consumer expectations of the store service, are explicitly measured to assess the 'gap'. Several researchers find the performance perceptions to be sufficient in assessing service quality as compared to the gap (Carman, 1990; Angur *et al.*, 1999). This resulted in the adoption of the SERVPERF (Cronin and Taylor, 1992) scale instead of the gap based measure of SERVQUAL.

### **MEASURES OF RETAIL SERVICE QUALITY**

Service quality in retailing is different from any other product/service environment (Mehta *et al.*, 2000; Vázquez *et al.*, 2001; Finn, 2004; Gagliano and Hathcote, 1994). Because of the unique nature of retail service, improvements and measurements of quality in retailing cannot be approached in the same way as that of the services perspective. In retail service, it is necessary to look at quality from the perspective of services as well as goods and derive a set of items that accurately measure this construct (Mehta *et al.*, 2000). For this reason, Dabholkar *et al.* (1996) developed and empirically validated the Retail Service Quality Scale (RSQS) to capture dimensions important to retail customers based on the triangulation qualitative research technique. They conducted qualitative research using three different methodologies - phenomenological interviews, exploratory depth interviews, and tracking the customer through the store. Combining these qualitative findings with the existing literature and SERVQUAL, Dabholkar *et al.* (1996) proposed that retail service quality has a hierarchical factor structure comprising five basic dimensions, namely 'physical aspects', 'reliability', 'personal interaction', 'problem solving', and 'policy', with first three basic dimensions having two sub-dimensions each and overall service quality as a second order factor. The sub-dimensions of the basic dimension 'physical aspects' are: 'appearance' and 'convenience'; the sub-dimensions of the basic dimension 'reliability' are: 'promises' and

‘doing it right’; and the sub-dimensions of the basic dimension ‘personal interaction’ are: ‘inspiring confidence’ and ‘courteousness/helpful’. Three SERVQUAL tangible items are used for measures of appearance.

Studies assessing the applicability of the RSQS have reported encouraging results. Dabholkar *et al.* (1996) replicated their own study and found all the RSQS dimensions and sub-dimensions to be valid in the U.S. Mehta *et al.* (2000) found the RSQS scale was superior within the context of a ‘more goods and less services’ environment, i.e. a supermarket, while SERVPERF was better for a retailing context where the service element becomes more important, i.e. an electronic goods retailer. Kim and Jin (2002) report the RSQS a useful scale for measuring service quality of discount stores across two different cultural contexts of U.S. and South Korea, though they did not find distinct personal interaction and problem solving dimensions or support for a distinct policy dimension. Boshoff and Terblanche (1997), in a replication of the Dabholkar *et al.*, (1996) study, report highly encouraging results for the RSQS applicability in the context of department stores, specialty stores and hypermarkets in South Africa. However, the applicability of the RSQS or other scales has never been tested in the context of transition economies.

## **CONTEXT OF THIS STUDY**

The retail sector in transition economies is experiencing a phenomenal growth comparing to other sectors. As the numbers of retail outlets are increasing, customers’ expectations of service quality are growing. So it is necessary to identify or develop a reliable and valid scale to measure the retail service quality for the transition economies so that the retail service providers can assess their level of service quality and identify the quality gaps for improvements. This study tests the applicability of the RSQS in the context of Kazakhstan

where large format retail stores were introduced and consequently has a greater degree of stability in consumer expectations as compared to other CIS countries (Verme, 2006).

## **RESEARCH OBJECTIVES**

The dimensions of service performance assessment are the outcome of research using factor analysis (Finn, 2004). Initially, exploratory factor analysis (EFA) (e.g., Parasuraman *et al.*, 1988) has been used to identify the constructs. As many contributions to the service quality literature using EFA have not recognized the problematic nature of its use, Some more recent research has taken a more conceptually driven approach to the issue of dimensionality, and used CFA to test a priori specified factor structure, or even to compare the fit of first and higher order factor models (e.g., Dabholkar *et al.*, 1996; Brady and Cronin, 2001) (Finn, 2004). Assessing a service quality scale requires examining the model component structure comprising the associations between overall service quality, the dimensions and the subdimensions. The RSQS, a hierarchical model (Figure 1) proposed by Dabholkar *et al.*, (1996) will be applicable in the Kazakhstan context if the dimensions and sub-dimensions are reliable and valid in measuring retail service quality.

The objective of this research is to assess the applicability of the RSQS for measuring service quality in Kazakhstan. This is achieved by examining the reliability, validity and component structures of the RSQS. To assess the applicability of the RSQS both exploratory Factor Analysis (EFA) and Confirmatory Factor Analyses (CFA) have been used. As the RSQS is a third order factor model, the model has been tested in three stages – a test of the five basic dimensions, a test of the second order factor, and the test of the subdimensions (Dabholkar *et al.*, 1996). These tests would reveal whether the RSQS structure was supported in part or

whole in the context of Kazakhstan. The following four component structure models are tested using CFA:

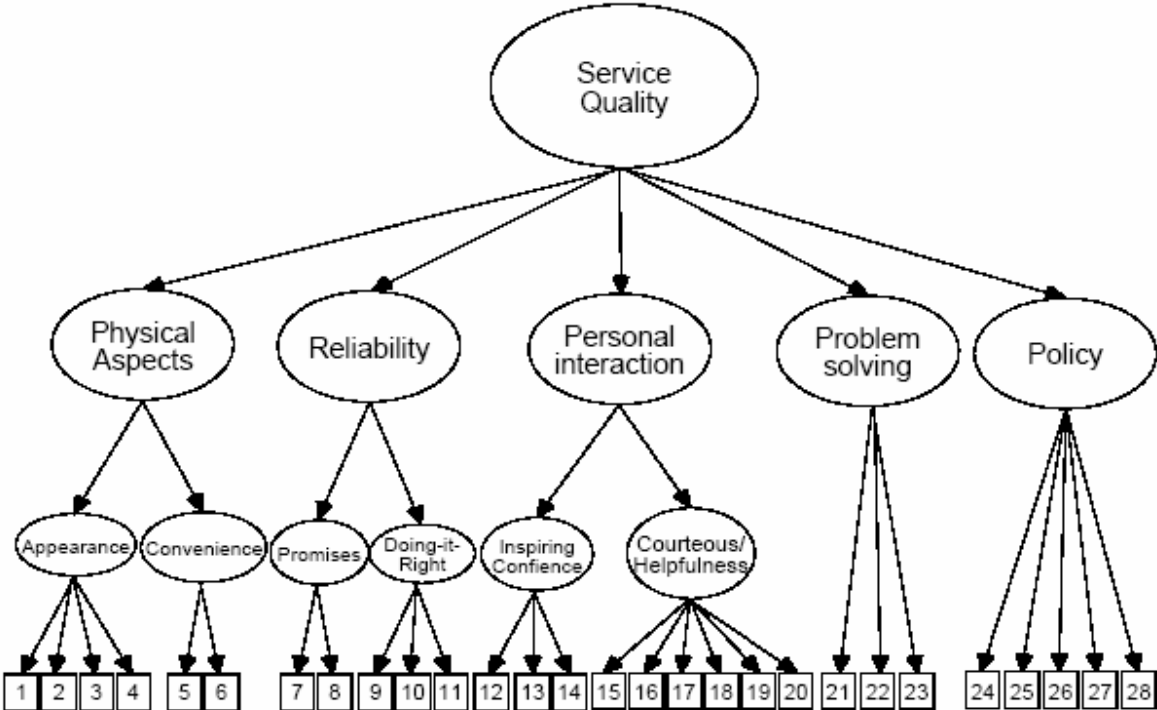
Model I (five basic dimensions of retail service quality as first-order factors): This model tests whether the five basic dimensions namely ‘physical aspects’, ‘reliability’, ‘personal interaction’, ‘problem solving’, and ‘policy’ are well supported as the descriptors of retail service quality (Figure 2). At this stage the subdimensions are not tested. If an assessment of this model yields positive results, then retailers in Kazakhstan and in other transition economies can apply the same five dimensions to define strategic service focus areas.

Model II (retail service quality as a second-order factor of the five basic dimensions): This is the basic retail service quality model which has resulted in RSQS being labeled as a five-dimension scale (Figure 3). In this model the service quality construct is a second order factor which comprises the five basic dimensions as first-order factors. If this model is supported, one can conclude that customers in Kazakhstan and in other transition economies evaluate retail service quality on the five basic dimensions but they also view overall retail service quality as a higher order factor that captures a meaning common to all the dimensions.

Model III (six sub-dimensions of retail service quality as first-order factors): The third model tests the six sub-dimensions/first-order factors of three basic dimensions (Figure 4). This model would examine if the shopper in Kazakhstan and in other transition economies is able to distinguish between different aspects of service within the dimensions and perceives separate sub-dimensions. If this is true, retailers will be able to better focus on specific service aspects for ensuring and monitoring improvement in quality.

Model IV (six sub-dimensions of retail service quality with corresponding dimensions as second-order factors): This model tests the association between the dimensions and the sub-dimensions (Figure 5). The six sub-dimensions are modeled as first-order factors and corresponding (three) dimensions as second-order factors.

Figure 1: Hierarchical Structure of the Retail Service Quality Scale (RSQS)



Note: Items 1-28 as given in Appendix II. All dimension and sub-dimensions are correlated amongst each other -not depicted in diagram for sake of clarity.

**METHODOLOGY**

**Sample selection, procedure and size**

Based on the literature review and expert opinion, this research study tests the applicability of the RSQS for measuring retail service quality in Kazakhstan and in other transition economies. Consequently, assessing a service quality scale requires examining the model component structure comprising the associations between overall service quality, the

dimensions and the subdimensions. The population was defined as in similar studies - comprising retail shoppers in supermarkets and discount stores (Dabholkar, *et al.*, 1996; Boshoff and Terblanche, 1997; Mehta *et al.*, 2000; Vázquez *et al.*, 2001; Kim and Jin, 2002).

The sample was collected from the Almaty city of Kazakhstan. Almaty is the biggest city and the financial capital of Kazakhstan. Almaty was selected because it is among the first cities in CIS countries where large format retail stores were introduced and consequently has a greater degree of stability in consumer expectations as compared to other cities. Kazakhstan has emerged during the past few years as one of the fastest growing countries in the world (Verme, 2006). In the four consecutive years between 1999 and 2002, the country enjoyed a GDP growth rate of 2.7% in 1999, 9.8% in 2000, 13.5% in 2001 and 8% or more per year in 2002-07 (Verme, 2006, CIA Factbook, February 2008).

Data were collected by means of a structured questionnaire. The questionnaire consisted of two sections, A and B. Section A contained questions pertaining to respondent profile and section B required respondents to evaluate the service components of their regular retailer and additional items to assess the predictive, convergent and discriminant validity of the retail service quality questionnaire respectively. The questionnaire was self-administered at the store location. The rationale for this data collection method is based on the theory that respondents are more attentive to the task of completing a questionnaire and provide more meaningful responses when they are contextualized in the environment that they are evaluating (Dabholkar *et al.*, 1996). Research Assistants were assigned to the stores to help customers to administer the questionnaires. Detailed instructions and a supply of questionnaires, in English and Russian languages are made available to the Research

Assistants. The sample consisted of total 220 respondents was obtained. The profile of these respondents is given in Appendix I.

### **Instrument**

This research used similar procedure as Dabholkar *et al.*, (1996) for examining face validity of the items of RSQS. Opinion from three experts, an independent expert with extensive academic and consulting experience in retailing; one retailer; and one senior executive of a consumer goods manufacturer in Kazakhstan has been taken on the RSQS. Based on their opinion some changes were made in wording of the instrument. All of the experts and the researchers have agreed on the 28 items of RSQS (Appendix II). The questionnaire was developed in English. As the questionnaire survey was targeted at the retail customers of Kazakhstan and all people of Kazakhstan can speak, read or write in Russian, it was necessary to translate the questionnaire into Russian by a translator experienced in translation in the service quality management field. To reduce any translation bias, the Russian version of the questionnaire was again translated into English by a fellow researcher who was undertaking research in quality management. Finally, the English version of the questionnaire was made available to reduce any confusion that might arise in the respondents.

The final instrument consisted of these 28 items and three additional items to assess the predictive, convergent and discriminant validity of the retail service quality questionnaire. These items are based on the study by Boshoff and Terblanche (1997). All items were measured using a five point Likert scale, from '1-Strongly disagree' to '5- Strongly agree'.

### **Partial disaggregation**

To test the scale, confirmatory factor analysis with partial disaggregation was used (Bagozzi and Heatherton, 1995; Dabholkar, *et al.*, 1996). The traditional structural equations approach

(or total disaggregation), which uses each item as a separate indicator of the relevant construct, provides the most detailed level of analysis for construct testing, but in practice it can be unwieldy because of likely high levels of random error in typical items and the many parameters that must be estimated (Bagozzi and Heatherton, 1995; Dabholkar *et al.*, 1996). In contrast, total aggregation of items within dimensions does not offer much advantage over traditional multivariate analysis, although it does provide fit indices. The partial disaggregation technique is seen as a compromise between these two extremes. It allows researchers to proceed with meaningful research by combining items into composites to reduce higher levels of random error and yet it retains all the advantages of structural equations, including accounting for measurement error, allowing for multiple, multidimensional variables and testing for hierarchical factor structure (Dabholkar *et al.*, 1996). In this research partial disaggregation was accomplished by randomly aggregating items that relate to a given construct so that there are two combined indicators instead of all single-item indicators. Random combination of items is justified as all items or indicators related to a latent variable should correspond in the same way to that latent variable; thus any combination of these items should yield the same model fit (Dabholkar, *et al.*, 1996).

## **EMPIRICAL ASSESSMENT OF THE CONSTRUCTS OF RSQS**

A statistically reliable and valid scale of a construct can be applied by different researchers/practitioners in different studies. Without assessing reliability and validity of scale, analysis can possibly lead to incorrect inferences and misleading conclusions.

### **Reliability analysis**

Reliability is concerned with the dependability, stability, predictability, consistency and accuracy, and relates to the extent to which any measuring procedure yields the same results

on repeated trials (Kerlinger, 1986). This research used the internal consistency method for reliability estimation. Cronbach's alpha computes internal consistency reliability among a group of items combined to form a single scale. It can also be computed for any subset of items. Nunnally (1978) advocates that new developed measures can be accepted with Cronbach's alpha of more than 0.60, otherwise 0.70 should be the threshold. The measure with Cronbach's alpha 0.80 or more is significant and highly reliable.

Table 1 summarizes the Cronbach's alpha for overall and individual RSQS constructs. The results indicate that the RSQS is a reliable instrument, returning an overall Cronbach's alpha of 0.88. All underlying dimensions/sub-dimensions are reliable except the Reliability dimension (alpha = .60); its two subdimensions: Promises (alpha = .68) and Doing it right (alpha = .63); and Policy dimension (alpha = .66). This compares to the findings of Boshoff and Terblanche (1997) and Mehta *et al.* (2000). Boshoff and Terblanche (1997) found Cronbach's alpha 0.93 for the overall RSQS and all dimensions reliable except the Policy dimension (alpha = 0.68). Mehta *et al.* (2000) found Cronbach's alpha 0.52, 0.68 and 0.54 respectively for Reliability, Problem Solving and Policy dimensions. The high construct reliabilities suggest that the service quality analysis could be appropriately conducted at the dimension or sub-dimension level.

Table 1: Construct Reliability Results of the RSQS

Dimensions	No. of Items	Construct reliability (Cronbach's alpha)	Sub-Dimensions	No. of Items	Construct reliability (Cronbach's alpha)
Overall Scale	28	0.88			
1. Physical Aspects	6	0.82	1.1 Appearance	4	0.82
			1.2 Convenience	2	0.74
2. Reliability	5	0.60	2.1 Promises	2	0.68
			2.2 Doing it right	3	0.63
3. Personal interaction	9	0.84	3.1 Inspiring Confidence	3	0.74
			3.2 Courteousness/ Helpfulness	6	0.80

4. Problem Solving	3	0.71
5. Policy	5	0.66

### Detailed Item analysis

Nunnally (1978) developed a method to evaluate the assignment of items to scales. This method considers the correlation of each item with each construct. Specifically, the item-score to construct-score correlations are used to determine whether an item belongs to the construct as assigned, belongs to some other construct, or if it should be deleted. If an item does not correlate highly with any of the constructs it should be deleted. Hair *et al.*, (2005) suggest a correlation  $\pm .40$  are considered more important and  $\pm .50$  or greater are considered practically significant. In this study, all the items were assigned appropriately; the item scores were higher to their respective constructs compared to other constructs. Table 2 shows the item to construct correlation (Pearson correlation) matrix for the TQM constructs.

Table 2: Item to construct correlation matrix for RSQS constructs (Pearson correlation)

<u>RSQS Dimensions</u>	<u>Item number</u>								
	1	2	3	4	5	6	7	8	9
1. Physical Aspects	0.79	0.79	0.79	0.62	0.67	0.69			
2. Reliability	0.49	0.64	0.71	0.62	0.63				
3. Personal interaction	0.66	0.73	0.61	0.71	0.62	0.75	0.66	0.64	0.55
4. Problem Solving	0.78	0.81	0.80						
5. Policy	0.66	0.65	0.65	0.69	0.62				
<u>RSQS Sub-dimensions</u>									
1.1 Appearance	0.85	0.85	0.81	0.69					
1.2 Convenience	0.89	0.90							
2.1 Promises	0.86	0.88							
2.2 Doing it right	0.76	0.78	0.74						
3.1 Inspiring Confidence	0.82	0.83	0.79						
3.2 Courteousness/ Helpfulness	0.75	0.66	0.77	0.72	0.68	0.63			

Note: Item numbers in the table are same as the item numbers in the instrument.  
Correlation is significant at the 0.01 level

### Validity analysis

Validity is concerned with how well the concept is defined by the measure(s), whereas reliability relates to the consistency of the measure(s).

The constructs for RSQS should have content validity, as the measurement items were developed based on both an extensive review of the literature and detailed evaluations by academicians and practicing managers. Moreover, the pretest subjects indicated that the content of each construct was well represented by the measurement items employed.

Convergent validity can be examined by the correlation of each item with their related construct. The convergent validity of the RSQS scale tested from the correlation shown in the Table 2. All the items loaded highly on the factors to which they are assigned. The correlations of the items are low for the constructs other than their related construct. This confirms the discriminant validity of the RSQS.

A measure has construct validity, if it measures the theoretical constructs that it was intended to measure. Factor analysis helps analyze the interrelationships among a large number of variables and explains these variables in terms of their common underlying dimensions (constructs). This study used both EFA and CFA methods to identify the underlying constructs. Table 3 shows that EFA, using principal components analysis (PCA) resulted in total eight constructs. The same method also was employed for the five individual dimensions. Table 4 shows that the first three composite dimensions formed two factors each, and the other two dimensions formed a single factor each. To explore further into the RSQS structure and to examine if the scale can be used for diagnostic purposes, we conducted confirmatory factor analysis of the component structures.

Table 3: Rotated Component Matrix for RSQS

	Constructs							
	1	2	3	4	5	6	7	8
Physical Aspects, Appearance 1		0.81						
Physical Aspects, Appearance 2		0.86						
Physical Aspects, Appearance 3		0.69						
Physical Aspects, Appearance 4		0.64						
Physical Aspects, Convenience 1					0.72			
Physical Aspects, Convenience 2					0.71			
Reliability, Promises 1								0.84
Reliability, Promises 2								0.74
Reliability, Doing it right 1						0.67		
Reliability, Doing it right 2						0.75		
Reliability, Doing it right 3						0.46		
Personal interaction Inspiring Confidence 1							0.69	
Personal interaction Inspiring Confidence 2	0.42						0.60	
Personal interaction Inspiring Confidence 3			0.38				0.59	
Personal interaction, Courteousness/Helpfulness 1	0.64							
Personal interaction, Courteousness/Helpfulness 2	0.59							
Personal interaction, Courteousness/Helpfulness 3	0.67							
Personal interaction, Courteousness/Helpfulness 4	0.76							
Personal interaction, Courteousness/Helpfulness 5	0.60							
Personal interaction, Courteousness/Helpfulness 6	0.59		0.40					
Problem Solving 1			0.77					
Problem Solving 2			0.71					
Problem Solving 3			0.67					
Policy 1				0.58				
Policy 2				0.58				
Policy 3				0.69				
Policy 4				0.67				
Policy 5				0.52				

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 (Values less than 0.35 did not showed in the table)

Table 4: Results of factor analysis of the RSQS and its dimensions

RSQS Constructs		Number of factors	Eigenvalues	% of variance
Overall Scale		8	1.06 - 6.92	63.22 <sup>a</sup>
Dimensions	Sub-Dimensions			
1. Physical Aspects	1.1 Appearance	2	3.16	41.36
	1.2 Convenience		1.03	70.01 <sup>b</sup>
2. Reliability	2.1 Promises	2	1.95	34.99
	2.2 Doing it right		1.35	65.89
3. Personal interaction	3.1 Inspiring Confidence	2	3.94	29.64
	3.2 Courteousness/ Helpfulness		1.06	55.59
4. Problem Solving		1	1.89	63.08
5. Policy		1	2.14	42.80

<sup>a</sup> Cumulative for all 8 dimensions / sub-dimensions

<sup>b</sup> Cumulative for two sub-dimensions

In this study, predictive validity or criterion-related validity was a measure of how well the RSQS dimensions and subdimensions in a retail service are related to increase customer base through return customers and word of mouth from the satisfied customers. Similar to Dabholkar *et al.* (1996), data has been collected on two dependent variables – intension to shop at this store again and intension to recommend the store to others. The respondents were asked to rate (on a seven point scale, 1 = definitely would; 7 = definitely would not) about their intension to shop at this store again and intension to recommend the store to others. Predictive validity or criterion-related validity was ascertained using correlations between RSQS (at dimensions, subdimensions, or overall scale level) and these two dependent variables. The results presented in Table 5, show strong predictive validity or criterion-related validity for the RSQS at the dimensions, subdimensions, or overall scale level.

Table 5: predictive validity or criterion-related validity

Dimensions	Predictive validity with correlations		Sub-Dimensions	Predictive validity with correlations	
	Intension to shop	Intention to recommend		Intension to shop	Intention to recommend
Overall Scale	0.87	0.86			
1. Physical Aspects	0.68	0.69	1.1 Appearance	0.61	0.60
			1.2 Convenience	0.57	0.59
2. Reliability	0.65	0.66	2.1 Promises	0.43	0.42
			2.2 Doing it right	0.56	0.57
3. Personal interaction	0.73	0.67	3.1 Inspiring Confidence	0.72	0.62
			3.2 Courteousness/ Helpfulness	0.61	0.59
4. Problem Solving	0.47	0.47			
5. Policy	0.46	0.52			

### CROSS-VALIDATION OF THE RSQS MODEL OF SERVICE QUALITY

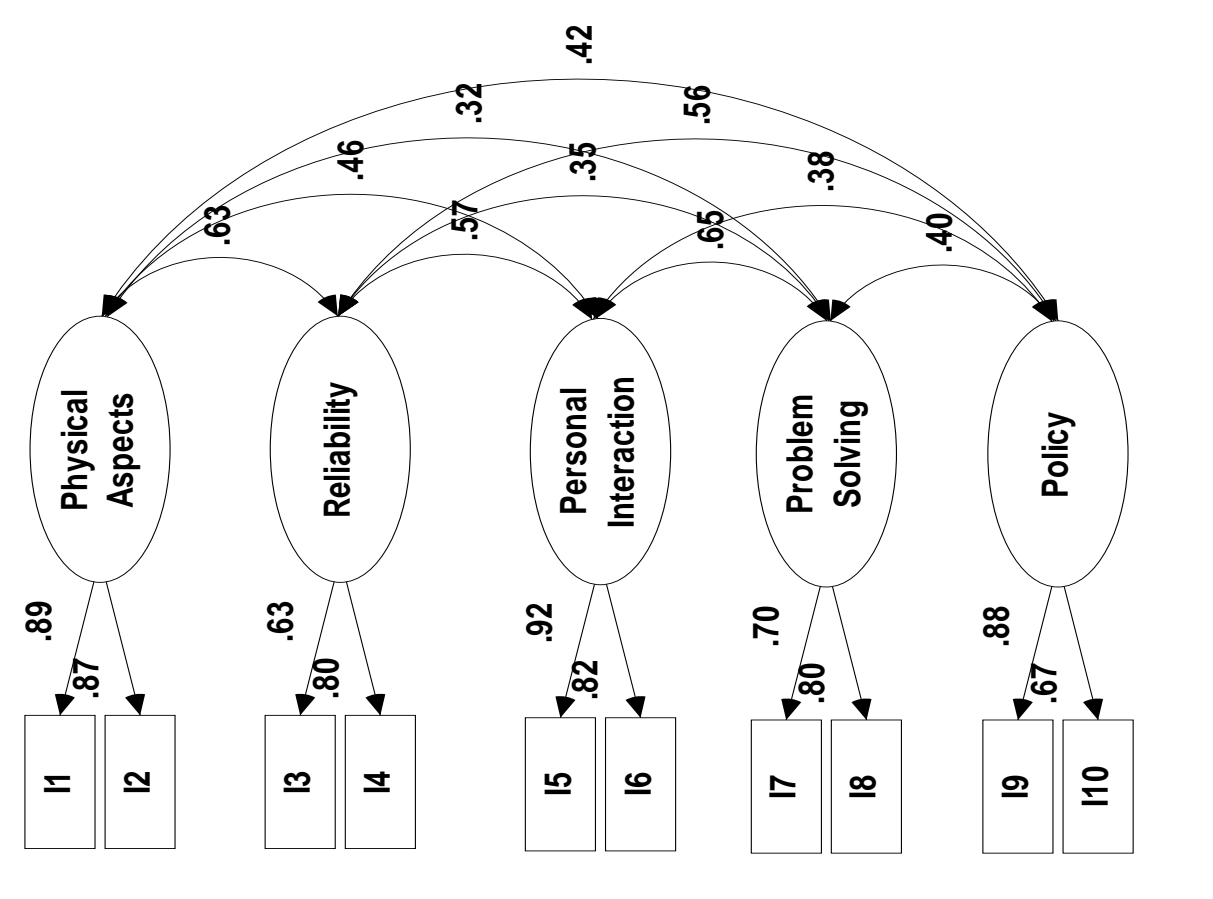
To assess the factor structure of the RSQS scale, the four component models were subjected to confirmatory factor analysis (CFA) using AMOS 7.0. The items were combined (see key at end of each Figure) using the key/procedure as detailed by Dabholkar *et al.* (1996) so results would be comparable (Boshoff and Terblanche, 1997).

#### Model 1 (five basic dimensions of retail service quality as first-order factors):

This model tests whether the five basic dimensions are well supported as the descriptors of retail service quality. In this model we did not test subdimensions. All the items under each dimension have been combined to two composite indicators in a random manner for that dimension. Partial disaggregation of this model yielded an excellent fit ( $\chi^2 = 31.522$ ,  $df = 25$ , GFI = 0.972, AGFI = 0.939, CFI = 0.992, RMR = 0.023, RMSEA = 0.035), as shown in table 6. The factor loadings and covariances obtained from the test of the model 1 are shown in figure 2. As the model is supported by all indicators, it may be concluded that the five basic dimensions named ‘physical aspects’, ‘reliability’, ‘personal interaction’, ‘problem solving’,

and ‘policy’ are suitable for measuring retail service quality in the context of Kazakhstan and in other transition economies.

Figure 2: Model I – five basic dimensions of retail service quality as first-order factors



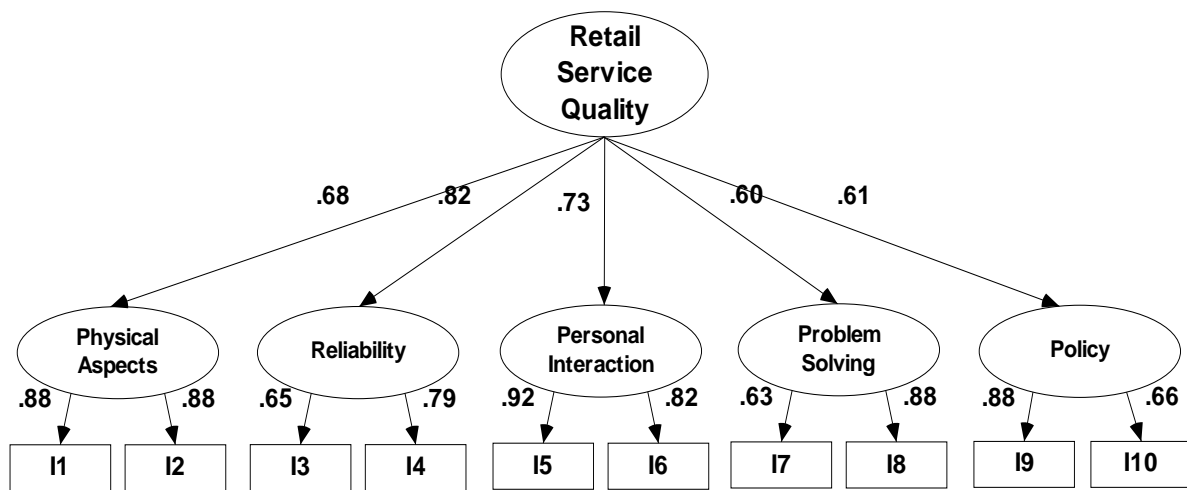
**Key:** I<sub>1</sub> = P1 + P3 + P5      I<sub>5</sub> = P12 + P14 + P15 + P17 + P19      I<sub>9</sub> = P24 + P26 + P28  
 I<sub>2</sub> = P2 + P4 + P6      I<sub>6</sub> = P13 + P16 + P18 + P20      I<sub>10</sub> = P25 + P27  
 I<sub>3</sub> = P7 + P9      I<sub>7</sub> = P21 + P23  
 I<sub>4</sub> = P8 + P10 + P11      I<sub>8</sub> = P22

**Model II (retail service quality as a second-order factor of the five basic dimensions):**

This is the basic retail service quality model which has resulted in RSQS being labeled as a five-dimension scale. In this model the service quality construct is a second order factor which comprises the five basic dimensions as first-order factors. In this model first order factors (five basic dimensions) were allowed to correlate as model 1 and the inclusion of the second order factor resulted in lower correlations among the five basic dimensions. Partial

disaggregation of this model yielded an excellent fit ( $\chi^2 = 60.199$ ,  $df = 30$ ,  $GFI = 0.949$ ,  $AGFI = 0.907$ ,  $CFI = 0.965$ ,  $RMR = 0.042$ ,  $RMSEA = 0.068$ ), as shown in table 6. The factor loadings and covariances obtained from the test of the second order model are shown in figure 3. The results indicate that the customers view overall retail service quality as a higher order factor and evaluate it with five basic dimensions.

Figure 3: Model II -retail service quality as a second-order factor of the five basic dimensions



**Key:** I<sub>1</sub> = P1 + P3 + P5      I<sub>5</sub> = P12 + P14 + P15 + P17 + P19      I<sub>9</sub> = P24 + P26 + P28  
 I<sub>2</sub> = P2 + P4 + P6      I<sub>6</sub> = P13 + P16 + P18 + P20      I<sub>10</sub> = P25 + P27  
 I<sub>3</sub> = P7 + P9      I<sub>7</sub> = P21 + P23  
 I<sub>4</sub> = P8 + P10 + P11      I<sub>8</sub> = P22

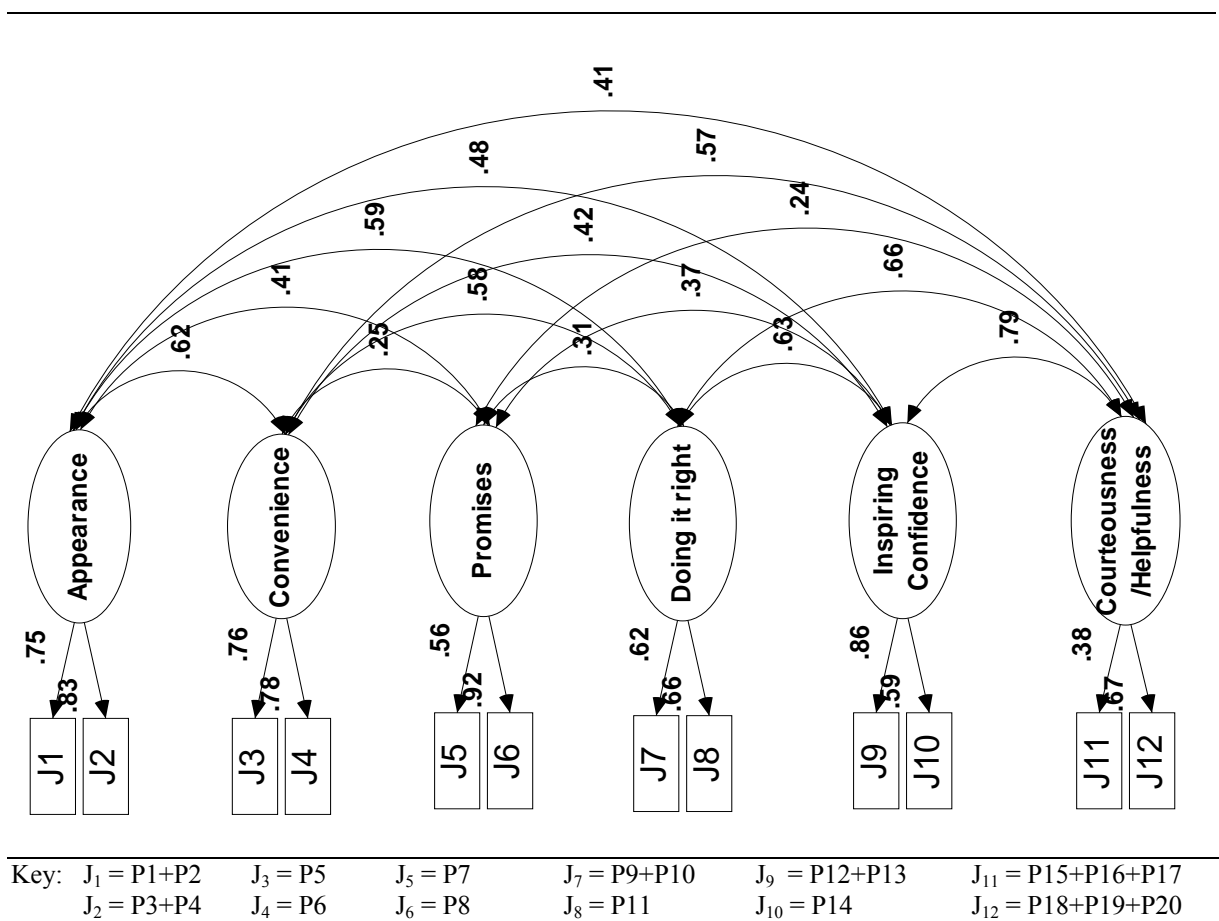
Table 6: Summary results of Confirmatory factor analysis for the factor structure of the RSQS

	$\chi^2$	$df$	p	GFI	AGFI	CFI	RMR	RMSEA
Model I (five basic dimensions of retail service quality as first-order factors)	31.52	25	.172	0.972	0.939	0.992	0.023	0.035
Model II (retail service quality as a second-order factor of the five basic dimensions)	60.20	30	0.001	0.949	0.907	0.965	0.042	0.068
Model III (six sub-dimensions of retail service quality as first-order factors)	66.80	39	0.004	0.953	0.907	0.958	0.036	0.057
Model IV (six sub-dimensions of retail service quality with corresponding dimensions as second-order factors)	76.149	45	0.003	0.948	0.910	0.953	0.038	0.056

**Model III (six sub-dimensions of retail service quality as first-order factors):**

The third model tests the six sub-dimensions of three basic dimensions as first-order factors. All the indicators of each sub-dimension were randomly combined into two composite indicators. Partial disaggregation of this model yielded an excellent fit ( $\chi^2 = 66.800$ ,  $df = 39$ ,  $GFI=0.953$ ,  $AGFI=0.907$ ,  $CFI=0.958$ ,  $RMR=0.036$ ,  $RMSEA=0.057$ ), as shown in table 6. The factor loadings and covariances obtained from the test of the first order model are shown in figure 4. The results indicate that the customers in Kazakhstan are able to distinguish between different aspects of service within the dimensions and perceive separate sub-dimensions.

Figure 4: Model III - six sub-dimensions of retail service quality as first-order factors



**Model IV (six sub-dimensions of retail service quality with corresponding dimensions as second-order factors):**

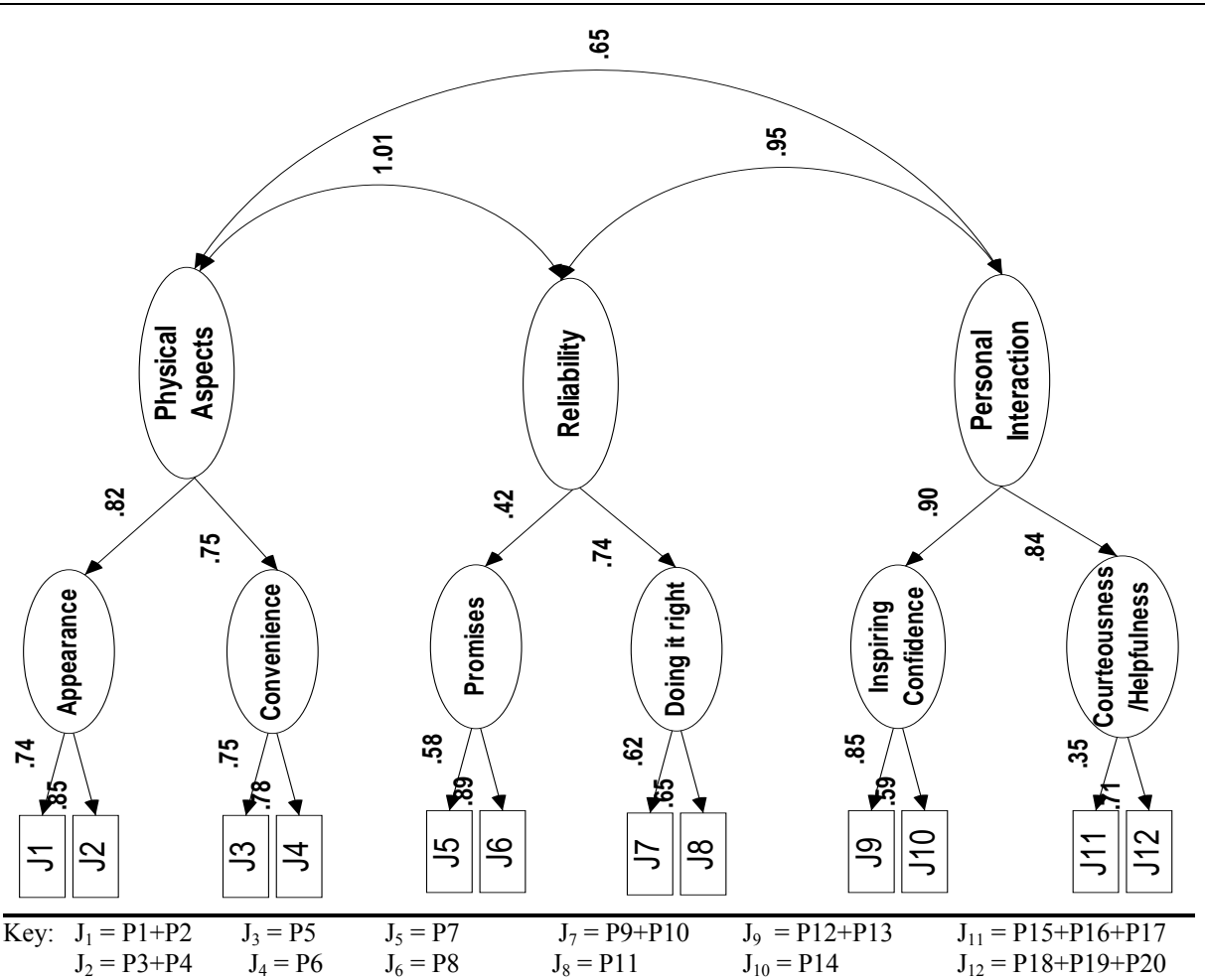
This model tests the association between the dimensions and the sub-dimensions. The six sub-dimensions are modeled as first-order factors and corresponding (three) dimensions as second-order factors. This model used the same keys as the model III. Partial disaggregation of this model yielded an excellent fit ( $\chi^2 = 76.149$ ,  $df = 45$ , GFI=0.948, AGFI=0.910, CFI=0.953, RMR=0.038, RMSEA=0.056), as shown in table 6. The factor loadings and covariances obtained from the test of the second order model are shown in figure 5. The correlation between the dimension Physical aspect and reliability is more than 1, indicating multicollinearity when these two dimensions are tested as second order factor. However, these two dimensions did not show multicollinearity when those were tested as first order factors with different keys.

**DISCUSSION AND CONCLUSION**

This study finds that RSQS model fit for measuring retail service quality in the context of Kazakhstan. Data has been collected from the department stores, discount stores and supermarkets. So the research could be generalized for all related services. By using this model retailers can identify the areas that are weak and need attention. If the retailers are concerned with parsimony, they may use only the model with five basic dimensions (model I). As no additional items are necessary to run the model with sub-dimensions (model III), retailers may test this model to get additional information on sub-dimensions obtained by further partitioning the variance. Retailers can capture the extent of common variance or the extent to which the basic dimensions represent overall service quality by using this second order factor model. This scale may also be used without using the structural models. Service quality analysis can be performed at the overall level (using the full scale in an additive

fashion), at the factor level (using items within a given sub-dimension in an additive fashion). By analyzing data at these different levels, managers of retail services can evaluate the overall quality and dimension quality for identifying problem areas within their stores to concentrate resources on particular aspects of service quality.

Figure 5 - six sub-dimensions of retail service quality with corresponding dimensions as second-order factors



As Kazakhstan shares the same economic, social and political background, the retail sectors in other CIS countries have the similar characteristics. As the customers are having more choices now, they are becoming more quality conscious. They are more demanding in terms of service quality. Retailers need to assess their position in meeting customer expectation on a

regular basis. Retailers in other CIS countries may also use the RSQS for evaluating their retail service quality and identify problem areas for improvement.

Retailers and researchers in other emerging countries in Asia may test the applicability of this scale and compare results with the results of CIS countries.

## Appendix I: profile of respondents

### Gender

	Frequency	Percent	Cumulative Percent
Male	98	44.5	44.5
Female	122	55.5	100.0
Total	220	100.0	

### Age

	Frequency	Percent	Cumulative Percent
Under 30 years	104	47.3	47.3
30-34 years	33	15.0	62.3
35-39 years	26	11.8	74.1
40-49 years	34	15.5	89.5
Over 50 years	23	10.5	100.0
Total	220	100.0	

### Occupation

	Frequency	Percent	Cumulative Percent
Student	62	28.2	28.2
Teacher	24	10.9	39.1
Businessman	36	16.4	55.5
Officers	37	16.8	72.3
Others	43	19.5	91.8
Information not provided	18	8.2	100
Total	220	100.0	

## Appendix II: Factor Structure of RSQS

Dimension	Sub-Dimension	Perception Item	Mean	SD
<b>Physical Aspects</b>	<b>Appearance</b>	P1. The store has modern-looking equipment and fixtures	3.65	1.08
		P2. The store and its physical facilities (trial rooms and restrooms) are visually attractive	3.65	1.05
		P3. Materials associated with this store's service (such as shopping bags, loyalty cards and catalogs) are visually appealing	3.55	1.14
		P4. The store has clean, attractive and convenient physical facilities (restrooms, fitting rooms)	3.53	1.07
	<b>Convenience</b>	P5. The store layout at this store makes it easier for customers to find what they need	3.40	1.06
		P6. The store layout at this store makes it easier for customers to move around in the store	3.47	1.12
<b>Reliability</b>	<b>Promises</b>	P7. When this store promises to do something (such as repairs, alterations) by a certain time, it will do so	3.14	0.85
		P8. This store provides its services at the time it promises to do so	3.20	0.90
	<b>Doing-it-Right</b>	P9. This store performs the service right the first time	3.40	0.94
		P10. This store has merchandise available when the customers want it	3.74	1.05
		P11. This store insists on error-free sales transactions and records	3.49	0.98
<b>Personal interaction</b>	<b>Inspiring Confidence</b>	P12. Employees in the store have the knowledge to answer customers' questions	3.30	1.14
		P13. The behavior of employees in this store instills confidence in customers	3.22	1.11
		P14. Customers feel safe in their transactions with this store	3.28	1.22
	<b>Courteousness/ Helpfulness</b>	P15. The employees in this store give prompt service to customers	3.27	1.24
		P16. Employees in this store tell customers exactly when services will be performed	3.10	1.07
		P17. Employees in this store are never too busy to respond to customer's requests	3.26	1.12
		P18. This store gives customers individual attention	3.10	1.12
		P19. Employees in this store are consistently courteous with customers	3.21	1.11
		P20. Employees in this store treat customers courteously on the telephone.	3.26	1.01
		<b>Problem Solving</b>	P21. This store willingly handles returns and exchanges	2.86
P22. When a customer has a problem, this store shows a sincere interest in solving it	3.04		1.08	
P23. Employees of this store are able to handle customer complaints directly and immediately.	3.00		1.08	
<b>Policy</b>	P24. This store offers high quality merchandise	3.58	1.14	
	P25. This store provides plenty of convenient parking for customers	3.20	1.26	
	P26. This store has operating hours convenient to all their customers	3.86	1.06	
	P27. This store accepts all major credit cards	3.50	1.06	
	P28. The store has its own credit card	3.01	1.19	

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