Developing and validating a hierarchical model of service quality of retail banks

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Abstract

Like other service institutes, developing and managing quality service is a challenging issue in retail banks. Recent studies established that retail banks' customer satisfaction can be managed with total quality management approach. It is accepted by prior literature that service quality (SQ) is a multilevel and multidimensional construct; however, SQ dimensions of retail banking are still considered as one-dimensional. The purpose of this study is to develop theoretical conceptualizations and validate a SQ model for retail banks. Positivist epistemology using mixed method research approach has been adopted for this study. A research model has been developed from literature which was contextualized by a cross-country qualitative field study. The model is validated with Partial Least Square (PLS)-based Structural Equation Modelling (SEM). The results of this study summarises that retail banks' SQ is a third-order reflective model where SQ can be explained by station, interaction, and outcome quality. Furthermore, these three dimensions reflect nine sub-dimensions in total. This paper focused on managing total quality issues of a retail bank through service quality tools. With the objective of acquiring total quality, bank managers and other management-personnel may develop strategies and policies using the findings of this study.

1. Introduction

The quality of a service, that means service quality (SQ), drives to total quality management (TQM); TQM is the methodological concept that examines the process of managing the quality of a service or a product while SQ demonstrates the detail nature of the service. Therefore, SQ is considered as an important indicator for achieving total quality and hence is a serious issue in TQM. Recent investigations in TQM established that high SQ plays an important role forming the customer perceptions on perceived quality of brands (van Iwaarden & van der Valk, 2013) which indirectly influence for the TQM measures. Realising the important in TQM, a significant number of studies have been produced examining SQ dimensions and consequents (Jun & Cai, 2010; Saravanan & Rao, 2007) which is not undermined in banking studies whatsoever (e.g., Caruana, 2002). However, most of the researches in this field are primarily obsessed defining and measuring its dimensions, and looking at the outcome variables - with the aim of improving the context-oriented quality of service (Dabholkar, Shepherd, & Thorpe, 2000). Garcia and Caro (2010) reported that measuring SQ is a recurrent topic in recent management literature.

However, SQ is more complex than is perceived (Dagger, Sweeney, & Johnson, 2007; Krishnamurthy, SivaKumar, & Sellamuthu, 2010). And therefore, to simplify the SQ concept, various researches have conceptualized it as a higher order model. Different industries offer different services and the services are context-oriented which justify and necessitate separate SQ models. As a response, scholars continuously put effort developing context-based SQ dimensions and models. Among various effort, scholars argue that hierarchical models represent sound ontology; a complex real-life problem can be nest presented with hierarchical models. For example, Dagger et al. (2007), Akter et al. (2010, 2013) developed multi-order hierarchical models explaining SQ in health and mobile-health. Currently, Ganguli & Roy (2013) developed a "hybrid", third-order SQ model. Nevertheless, a few attempt is made developing SQ models in online banking (e.g., Jun & Cai, 2001; Santouridis, Trivellas, & Reklitis, 2009). However, traditional retail banking offers some different (and tangible) services than online banking and hence demands separate research model. For example, *ease of use* is an essential service component in online banking which not necessarily offers a similar importance in traditional banking (Santouridis et al., 2009). Moreover, a major cluster of customers (especially older and people who perceive them as with less self-efficacy and/or are not technology-savvy) still rely on retail banking than online banking which is even more acute in developing countries. Therefore, studying the service management in retail banking is worthwhile.

From prior initiatives it is established that SQ can be better explained as a multi-dimensional construct. However, researchers in retail banking consider SQ as a one-dimensional but multi-faceted concept. Moreover, their emphasis is on the constructs and dimensions; this approach cannot evaluate the respective impacts when each dimensions influences together (Aldlaigan & Buttle, 2002 for example). Such paucity in literature lacks the researchers and practitioners having a model that combines and presents similar dimensions under relevant concepts. The current study attempts to close this research gap which has a significant implication to practice as well. To conduct the research this study develops a higher order hierarchical model in SQ for retail banking.

This paper is organized as follows: the next section presents the theoretical background followed by describing the research methodology. Then, the empirical

analysis and findings are presented. Finally, the interpretation of the findings and both theoretical and practical implications are described. This paper concludes with the research limitations and proposing the future research.

2. Literature Review

Service Quality (SQ) is defined as the customer's subjective judgment about a service's *"overall excellence"* or (Zeithaml 1987). It is believed that service quality improves overall quality of a service and assists for achieving business excellence (Ganguli & Roy, 2013; Huang, 2009). Hence, an increasing number of research has been observed in quality management area especially for attaining *total quality management and business excellence* (Lo & Chai, 2012). Prior studies found that better customer satisfaction can be ensured through total quality management (TQM) approach (Lenka, Suar, & Mohapatra, 2010; Saravanan & Rao, 2007). Along this pathway, several initiatives have been made offering a unified understanding on managing service quality; service quality (SERVQUAL) model is one of the popular. The current study uses SERVQUAL model as the "lighthouse" for explaining service quality of retail banks.

Ziethaml et al.'s (1996) service quality model (SERVQUAL) indicates various dimensions of SQ namely *tangibles, reliability, responsiveness, empathy*, and *assurance* (Zeithaml et al., 1996). Over the period of time and "recurrent" research many other variables of SERVQUAL are explored including price/cost of service, employee competence, security, technology reliability, convenience and so on (Ganguli & Roy, 2013; Miguel-Dávila, Cabeza-García, Valdunciel, & Flórez, 2010). Because of the "context-specific" nature of service quality, there is no unison regarding the variables, however.

In bank services, "*Everything that banking institutions do to serve their customers*" (Johnston, 1995, p. 2164). Unlike other industries, the banking industry is highly competitive; where the banks are not competing only among each other, but also with non-banking and other financial institutions such as finance and leasing firms (Kaynak & Kucukemiroglu, 1992; Saravanan & Rao, 2007). More challengingly, each branch of a same bank needs to compete with the other branches. Moreover, due to the policies of the central bank, all commercial banks offer nearly the same services. Therefore, over a period of time they become nearly the same – which is called 'institutional isomorphism' (DiMaggio & Walter, 1983). As a result, compared with the past, it is difficult for the banks to attain a competitive advantage which is even more difficult to sustain because most of the services are re-producible. Hence, banks should not only serve the needs but also have to surpass the expectations of the customers by understanding their perceived needs (Johnston 1995). SERVQUAL model explains the expectations and perceptions of the customers regarding service quality. Palmer and Cole (1995) proposed that service quality is the core element that helps in satisfying the needs of the customers and gain a competitive edge in services industry. Similarly, Zeithaml et al. (1996) suggest that companies today can compete more effectively by distinguishing themselves with respect to SQ. Therefore, Newman (2001) believes that "*the increasing competition, technology, social and cultural factors are the chief drivers of service quality initiatives*" – which once again underscores the necessity for looking at the service quality mechanisms and dimensions. To the best of the authors' knowledge there is no higher-order hierarchical model developed in the

context of retail banking. Therefore, the current study uses the similar from other industries, and contextualises and explores industry-specific dimensions from a qualitative field study.

3. Research Model Development

The study identifies *service quality* as a notion of customers' perception on bank's overall excellence or superiority which is consistent with the generic definitions in service literature (Brady & Cronin, 2001). Fewer unsuccessful attempts were made to develop a generic SQ model (Dagger et al., 2007). Hence, scholars suggest that SQ should be viewed as a domain-specific concept and 'one shoe does not fit all' (Akter, D'Ambra, & Ray, 2010; Dabholkar et al., 2000; Dagger et al., 2007). In order to develop the dimensions of SQ model in bank this study investigates SQ literature in banking service as well as conducted a field study in Australia and Bangladesh. It is assumed in this study that exploring (or contextualizing) factors from a field study would assist developing a domain-specific model.

This study obtained qualitative data from two focus group discussions (FGD) conducted with bank customers in Perth (Western Australia), and Dhaka (Bangladesh). FGD in Perth involved nine discussants whereas eleven were involved in Dhaka. Participants were ranged in age from 18 to 61 years and both genders had almost equal participation. Each session was conducted by one moderator which lasted about 40 minutes. In both cases, participants were recruited using conventional and convenient sampling. Reliability was achieved by using the same interview-protocol for each case. With the permission of the participants, the discussions were recorded which were later transcribed and analyzed. The following semi-structured open-ended questionnaire has been followed while moderating the sessions:

a. What are minimum services you expect from your bank?
b. What value-added services you suggest that can make you loyal to your bank?

Dimensions of service quality

There is unison among the researchers thinking *service quality* as a multidimensional construct which involves more than one dimension at multiple levels (W.W. Chin, 2010; Minjoon Jun & Cai, 2010). However, the agreement on 'multilevel' is not obvious; some researchers believe that SQ is a second order construct (e.g., Grönroos, 1984; Kim & Jin, 2002; Powpaka, 1996); however, many other argue that SQ is a third-order construct (e.g., Akter et al., 2010; Akter, D'Ambra, & Ray, 2013; Dagger et al., 2007). Second or third order, this approach argues that SQ is a multidimensional construct considering concepts from various perspectives. Therefore, merely presenting the list of SQ does not provide a clear and right picture of SQ; rather, the relevant concepts have to be grouped up under umbrellas with different colours – which is one of the motivations of multi-level hierarchical model. MacKenzie et al. (2005) recommend that hierarchical constructs allow for more theoretical parsimony and less model complexity. Influenced by the previous literature, the current study adapts the SQ model for banking as a multidimensional (third-order) model.

Moreover, there is an emerging debate on the reflective or formative nature of the dimensions and sub-dimensions of SQ. Dagger et al. (2007) propose their SQ model as a third-order formative model while Akter et al. (2010, 2013) argued as a third-order reflective model. The current study espoused the latter approach - the specification of measurement model supports the rationality (Edwards & Bagozzi, 2000; Wetzels,

Odekerken-Schroder, & Van Oppen, 2009). First, all the dimensions and sub-dimensions of SQ share a common theme (Jarvis, MacKenzie, & Podsakoff, 2003; Petter, Straub, & Rai, 2007). Second, Petter et al. (2007) suggest that when measures (e.g., station, interaction, and outcome quality) are used to examine an underlying construct that is unobservable (service quality), the measures can be referred to as reflective indicators. Third, the third-order construct (service quality) is "causing the indicators" of second-order constructs (Petter et al., 2007). Finally, if a dimension is dropped the definition of the upper-level construct is not affected (Jarvis et al., 2003).

After examining SQ literature especially in banking as well as conducting qualitative surveys in two different countries support that SQ is a multidimensional, hierarchical and context specific construct (Akter et al., 2010). The third order hierarchical SQ model has been divided into three dimensions (second-order), which are again 'reflected' to form nine sub-dimensions (first-order). It is emphasized here that the SQ dimensions are not the antecedents but rather explains "the complexity of the construct" (García & Martinez Caro, 2010). Same analogy is true for the sub-dimensions.

The three primary dimensions are:

i.   **Station Quality**- the quality of the retail bank mainly from where the services are offered - *corporate image, tangibles,* and *accessibility*

ii. **Interaction Quality**- quality of service delivery system in terms of *reliability, assurance, empathy,* and *responsiveness*

iii. **Outcome Quality**- signifies the *functional* and *tactical benefits*

Station Quality

Stations quality refers to the physical aspect of the service provider (Huang, 2009). In retail banking, s*tation quality* is the perceptions of the customers about the bank itself that includes corporate image, tangible factors, and accessibility.

First, *image* is vital dimension of service quality (Ganguli & Roy, 2013). Specifically, *corporate image* of a bank is the "first access point" and involves the perceptions of the (existing and potential) customers about the bank's image. Hence, corporate image (or sometimes image of a local bank) "*is of utmost importance to most service-firms*" (Grönroos, 1984, p. 39). After having a negative experience from a teller a customer may still not feel negative because of the brand/corporate image and vise versa. The field study proposes that a bank's commitment in corporate social responsibility (CSR) increases its image. For instance, Dutch-Bangla Bank Limited is renowned for its largest participation in CSR activity in Bangladesh. Moreover, past record on financial scandal influences brand image.

Next, the *tangibles* focus on the elements that represent the physical tidiness of the bank and its employees. Modern technologies and equipments convey a positive message to the customers. Moreover, customers prefer to have soft music (in lieu of unpleasant noise) and TV at the waiting area.

Finally "the bank is to be located in an accessible location" "not like shop in a shopping mall" (obtained from the field study: FS) (Miguel-Dávila et al., 2010). Also,

the customers expect dedicated parking for the bank customers (Aldlaigan & Buttle, 2002). Moreover, they expect that most of the "structured" services should be accessible through 'self-service console' or Web (Miguel-Dávila et al., 2010). Moreover, the operating hours should be convenient to "all" customers (Krishnamurthy et al., 2010; Miguel-Dávila et al., 2010) and hence should be accessible during after-hours and/or weekends, at least in a limited form (FS). These reflect the *accessibility* sub-dimension.

Interaction Quality

Interaction quality refers to the quality of interaction between the customers and the bank staff. Personal interaction of the service-providers with the service-seekers is a very important ensuring SQ (Huang, 2009). Four respondents appreciate the service offered by a bank in Australia where one or two dedicated employee(s) welcome(s) each customer and ask(s) what service the customer wants to access. Past studies and the field studies suggest that a bank can offer better interaction in four ways: *reliability, assurance, empathy,* and *responsiveness.*

Reliability is one of the strongest factors of SQ (Huang, 2009) which refers to the ability to deliver the promised service accurately (Krishnamurthy et al., 2010; Newman, 2001; Yavas, Benkenstein, & Stuhldreier, 2004). Customers feel a bank reliable if they find that the staff are sincere at solving problems, and keep the records safely for future reference.

Assurance focuses on the ability to inspire trust and confidence (Bahia & Nantel, 2000; Miguel-Dávila et al., 2010) using reliable techniques and technologies (Ganguli & Roy, 2013). Prior studies found that knowledge of the employees as well as use of security camera and other contemporary monitoring-devices instils assurance among the customers (Aldlaigan & Buttle, 2002).
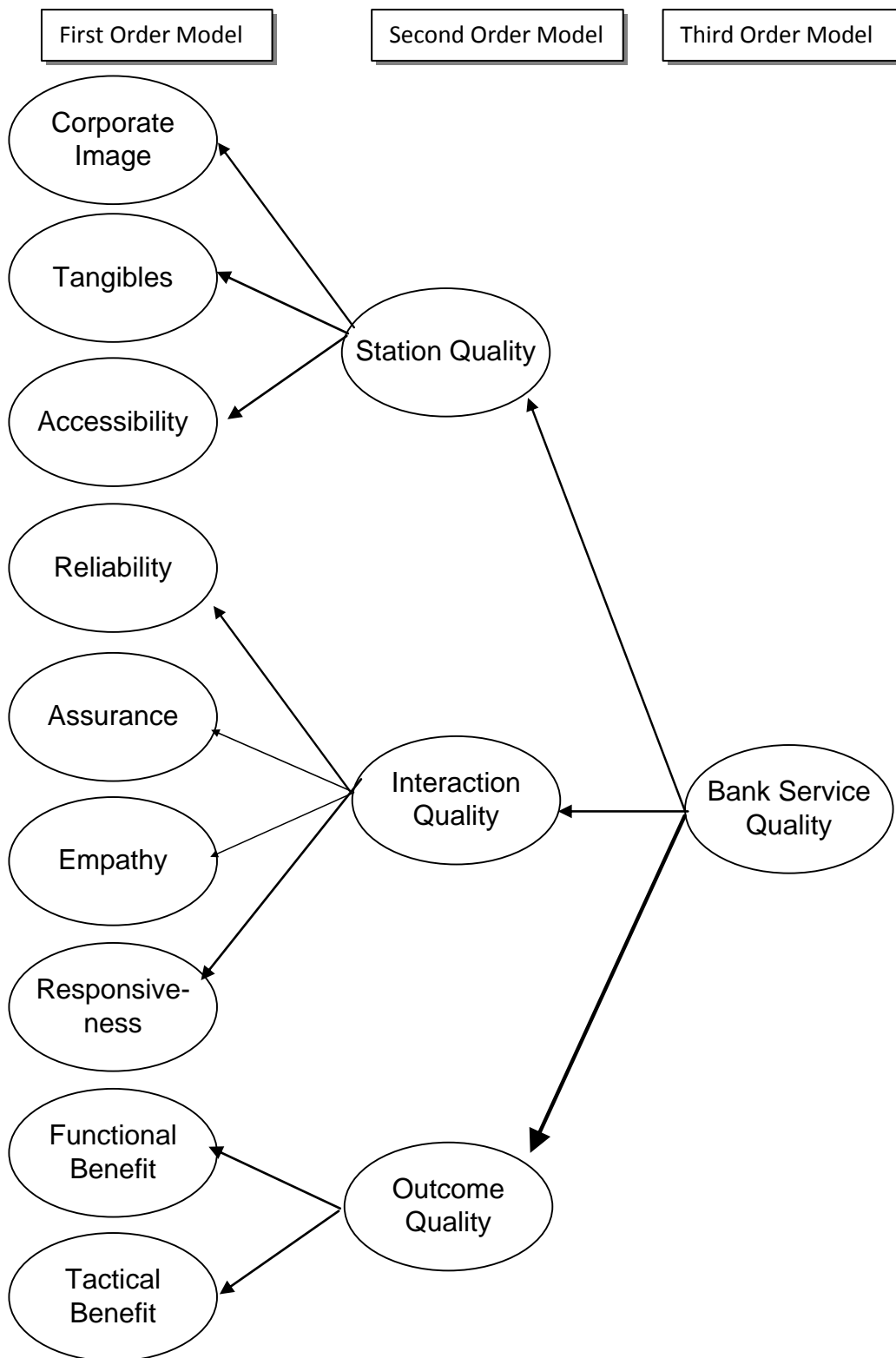
Empathy refers to the emotional aspect of service providers and the resultant responsiveness and willingness helping the customers. Empathy is one of the factors that is expected by each participant and "can make the whole difference". The customers expect that the bank would show empathy in case of any error – regardless who is responsible (e.g., "the solution is another part... first, I need to be assured that I am in a safe hand who can take an initiative solving the problem").

Finally, *responsiveness* refers to the prompt service or less waiting period (Jun & Cai, 2001). "[In Bangladesh] tellers of a private bank reply a query happily... public banks even do not care to look at you" – refers lack of *responsiveness.*

Outcome Quality

Outcomes are the ultimate services that a customer intent to receive; it refers to the services a bank offer with a mortgage, for instance (Powpaka, 1996). However, Dagger et al. (2007) argue that "*outcome does not refer to ultimate result but rather to the outcomes experienced over a series of service encounters*". For instance, the maximum economic benefits from a mortgage-loan (outcome) might not be offered by a bank but provides the services that would assist the customer to achieve maximum benefit. The current study considers the both – result as well as the experience. Hence, *outcome quality* refers to the quality of service that is received by a customer as a result of his/her visit to a bank (adapted from Akter et al., 2010) and consists of *functional* and *tactical* benefits (Akter et al., 2010, 2013).

Corporate Image

Tangibles

Accessibility

Station Quality

Reliability

Assurance

Empathy

Interaction Quality

Bank Service Quality

Responsive-ness

Functional Benefit

Outcome Quality

Tactical Benefit

Figure 1   Research model explaining service quality of retail banks

Functional benefit refers to the degree to which bank's services serve its actual purpose and whether it is useful to the customer. A bank needs to understand the needs of the customers (Krishnamurthy et al., 2010; Yavas et al., 2004) and offer a range of products for every segment of the society (Miguel-Dávila et al., 2010).

Tactical benefit is whether the customers are being provided with reasonable attractive services. For example, transacting a payment is a functional benefit while the interest rate reflects tactical benefits. *Tactical benefits* in the context of a bank include reasonable service charges (Bloemer, De Ruyter, & Peeters, 1998), affordable interest rates for credits (Miguel-Dávila et al., 2010), attractive interest rates for savings ; and the policies have to be stable for a reasonable time-period (FS).

According to the discussion on previous sections a research model has been developed. Following the guideline of Whetten (1989) "*[j]ust as a list of variables does not constitute a theory. ... [rather, r]elationships are the domain of [a] theory*" (Whetten, 1989, p. 492-3). Figure 1 shows the hierarchical multi-dimensional SQ *variables* and their *relationship* with the other relevant variables by a "*visual representation*" "*with boxes and arrows*".

Research Methodology

This research adopted positivist epistemology. A research can be called positivist if there is evidence of formal propositions, quantifiable measures of variables, formulation of hypothesis, hypothesis testing, and drawing of inferences about a phenomenon from the sample to a stated population (Orlikowski & Baroudi, 1991). Methodologically, the mixed method - a combination of qualitative and quantitative approaches within different phases of the research process is considered. Creswell (2008) asserted that the mixed method enhance the validity of research measurements.

Measurement Instruments
Most of the items used in this research are previously developed and well-accepted by other researchers. Many of the items have been adapted from the SERVQUAL model (Parasuraman, Zeithaml, & Malhotra, 2005) while taking help from other studies as well. All the items used in this study are reflective. Table 1 presents the items and relevant source.

The service quality model developed in this study consists nine (9) first-order reflective latent variables (LV) which are related to their respective 35 manifest variables (MV). Then, the second order constructs (station quality, interaction quality, and outcome quality) are comprised of their respective first order constructs. Hence, *station quality*, for example, constructed by using 14 manifest MVs of first three LVs. Finally, the third order construct (service quality of bank) is comprised of three second-order LVs and consists all 35 items. For a detail analysis of the process of handling a higher-order model see Akter et al. (2010, p. 215-6).

Table 1: The variables of the current study from existing literature in banking

Constructs	Dimensions	Items	Reference
Station Quality	Corporate Image	IMG1. Reputation of the bank	(Bahia & Nantel, 2000; Ganguli & Roy, 201 Dávila et al., 2010)
		IMG2. Involvement in CSR	Field study
		IMG3. Past history on financial scandal	Field study
		IMG4. Financial solvency	(Miguel-Dávila et al., 2010)
		IMG5. Overall brand image	(Grönroos, 1984)
	Tangibles	TAN1 Visually appeal of Bank's physical facilities	(Bahia & Nantel, 2000; Caruana, 2002; Kri 1991; Yavas et al., 2004)
		TAN2 Modern equipment and instrument	(Bahia & Nantel, 2000; Caruana, 2002; Kri 1991; Miguel-Dávila et al., 2010; Newman,
		TAN3 Employees are well-dressed and appear neat	(Caruana, 2002; Krishnamurthy et al., 201 al., 2010; Newman, 2001; Yavas et al., 200
		TAN4 TVs at waiting queue	Field study
	Accessibility	ACC1 Convenient branch-locations	(Lewis, 1991; Miguel-Dávila et al., 2010)
		ACC2 Online banking facility	(Miguel-Dávila et al., 2010)
		ACC3 Availability of ATM	(Aldlaigan & Buttle, 2002; Bahia & Nantel, Dávila et al., 2010)
		ACC4 Convenient operating hours to customers	(Aldlaigan & Buttle, 2002; Bloemer et al., 1 Krishnamurthy et al., 2010; Lewis, 1991; M 2001)
		ACC5 The parking lot is sufficient	(Aldlaigan & Buttle, 2002; Lewis, 1991)
Interaction Quality	Reliability	RLB1 Provides service as they promise	(Aldlaigan & Buttle, 2002; Caruana, 2002; Krishnamurthy et al., 2010; Lewis, 1991; N
		RLB2 Shows sincere interest at problems	(Huang, 2009; Krishnamurthy et al., 2010;
		RLB3 The bank is dependable	Field study; Hung 2009
	Assurance	ASN1 The behaviour of employees instils confidence	(Bahia & Nantel, 2000; Caruana, 2002; Kri Dávila et al., 2010)
		ASN2 Feel safe in transactions	(Krishnamurthy et al., 2010; Lewis, 1991)
		ASN3 Employees have knowledge to answer questions	(Aldlaigan & Buttle, 2002; Caruana, 2002; Krishnamurthy et al., 2010; Lewis, 1991; N 2001; Yavas et al., 2004)
		ASN4 Security/monitoring devices	(Ganguli & Roy, 2013; Miguel-Dávila et al.,
	Empathy	EM1 Bankers give individual attention	(Bloemer et al., 1998; Caruana, 2002; M. J al., 2010; Lewis, 1991; Miguel-Dávila et al.
		EM2 Employees put effort understanding customers' specific needs	Field study
		EM3 Employees are polite/courteous	(Aldlaigan & Buttle, 2002; M. Jun & Cai, 2 Miguel-Dávila et al., 2010; Yavas et al., 200
	Responsiveness	RNS1 Information easily obtainable	(Lewis, 1991)
		RNS2 Prompt services/short waiting period	(Bahia & Nantel, 2000; Bloemer et al., 199 2001; Miguel-Dávila et al., 2010; Yavas et a

		RNS3 Willingness to help of branch staff	(Miguel-Dávila et al., 2010)
		RNS4 Employees happily reply to query	Field study
Outcome Quality	Functional Benefit	FB1 Wide range of products and services	(Miguel-Dávila et al., 2010)
		FB2 Overall, the services are useful	Field study
		FB3 Understanding customer needs	(Krishnamurthy et al., 2010; Yavas et al., 2
	Tactical Benefit	TB1 The policies are stable	Field study
		TB2 Attractive interest rates for savings	(Bloemer et al., 1998)
		TB3 Reasonable service charges	(Bahia & Nantel, 2000; Bloemer et al., 199 Krishnamurthy et al., 2010)
		TB4 Reasonable interest rates for credits	(Krishnamurthy et al., 2010; Miguel-Dávila

Preparing the Questionnaire

The questionnaire was primarily developed in English. However, for the Bangladeshi respondents, the questionnaire has been translated into Bengali. A professional translator from English-to-Bengali certified by National Accreditation Authority for Translators and Interpreters (NAATI) has translated the questionnaire. The survey used Likert based questionnaire ranging from 1= "Strongly Disagree" to 5= "Strongly Agree." The questionnaire consisted positive statements while the last statement was reversed coded to check the common method bias (CMB).

Sampling

Data were collected from both Australia and Bangladesh. To be precise, 150 questionnaires have been distributed in five suburbs of Perth, Western Australia. In Bangladesh, a total of 250 questionnaires were distributed among random customers of three banks (in Dhaka, and Sylhet). Data screening method eliminated 42 incomplete questionnaires which resulted 358 useful sample.

Among the respondents 57% were male; 42% were between 31 and 50 years, 39% were between 18 and 30 years; 43% were business people, 34% were students (See Table 2).

Table 2: Demographic profile of the respondents

Gender	Categories	Statistic (%)
Gender	Male	57
	Female	43
Age	18-30	38.8
	31-50	42.5
	Above 50	18.8
Profession	Business	43.8
	Service	33.8
	Student	16.3
	Jobless	6.3

Data Examination

This study split the responses into Wave 1 (Australian responses) and Wave 2 (Bangladeshi responses). Independent sample *Mann-Whitney U Test* was performed to test the significant differences between the two waves. The test revealed there is non-significant (at $p<0.05$) difference between these two samples. This meant that the response for Wave 1 and Wave 2 samples could be combined for data analysis.

Data Analysis Technique

Empirically, data were analyzed using PLS-graph. Component-based structural equation modelling (SEM) using PLS has been used for path modelling and hypotheses test. PLS is adopted considering its suitability over covariance-based SEM with regard to model complexity, sample size, and distributional properties (Akter et al., 2010; Wynne W Chin, 2010).

As par the PLS procedure (Barclay, Higgins, & Thompson, 1995), both assessment of the measurement model and structural model have been examined. While assessing the measurement model, the model was tested for convergent validity (at construct level as well as at item level) and discriminant validity. Convergent validity includes item reliability, and internal consistency (by measuring composite reliability (CR) and average variance extracted (AVE)). For assessment of the structural model, path coefficient (β value), the value of t-statistics, and the explanatory power of the independent variable (R^2) were checked.

4. Results

Assessment of Measurement Properties

Referring to Igbaria et al. (1995) this study considered 0.6 as acceptable item-loading. Three items (IMG3; TAN4; TB3) failed to meet this cut-off point and were discarded (see Table 3). PLS was again run without these five items and then all the items satisfied the acceptable cut-off point which proves that all the individual items we used are reliable.

Then, the composite reliability (CR) and average variance extracted (AVE) were checked to assess the internal consistency of the model. In this study, all the constructs exceeded acceptable 0.7 CR and 0.5 AVE values. Table 3 shows the loading of the items, CR, and AVEs of the first-order constructs.

Table 3: Results of psychometric properties for first order constructs

Constructs	Dimensions	Items	Loadings	CR	AVE
Station Quality	Corporate Image	IMG1	0.781	0.781	0.57
		IMG2	0.641		
		IMG3	0.32d		
		IMG4	0.723		
		IMG5	0.69		
	Tangibles	TAN1	0.704	0.804	0.676
		TAN2	0.825		
		TAN3	0.612		
		TAN4	0.373d		
	Accessibility	ACC1	0.676	.802	0.577
		ACC2	0. 868		
		ACC3	0.721		
		ACC4	0.674		
		ACC5	0.774		
Interaction Quality	Reliability	RLB1	0.746	0.777	0.538
		RLB2	0.683		
		RLB3	0.768		
	Assurance	ASN1	0.792	0.799	0.571
		ASN2	0.711		
		ASN3	0.762		
		ASN4	0.611		
	Empathy	EMP1	0.872	0.866	0.763
		EMP2	0.876		
		EMP3	0.716		
	Responsiveness	RNS1	0.772	0.862	0.611
		RNS2	0.778		
		RNS3	0.738		
		RNS4	0.835		
Outcome Quality	Functional Benefit	FB1	0.687	0.865	0.685
		FB2	0.885		
		FB3	0.894		
	Tactical Benefit	TB1	0.690	0.971	0.841
		TB2	0.85		
		TB3	0.576d		
		TB4	0.855		

d- discarded item

To check the discriminant validity, Table 4 has been prepared. The diagonal values of the table are the square root of the AVE of the constructs. These values are compared to the inter-construct correlations (the off-diagonal values). From the table, we can see that the square root of AVE for each construct is higher than the variance shared between a construct and other constructs in the model which confirms discriminant validity (Wynne W Chin, 2010).

Table 4: Inter-correlations of the first order constructs

Construct	IMG	TAN	ACC	RLB	ASS	EMP	RES	FB	TB
Image	0.755*								
Tangibles	0.452	0.822							
Accessibility	0.443	0.443	0.76						
Reliability	0.276	0.276	0.713	0.733					
Assurance	0.412	0.412	0.385	0.538	0.756				
Empathy	0.400	0.400	0.500	0.719	0.437	0.873			
Responsiveness	0.482	0.482	0.607	0.677	0.600	0.505	0.782		
Functional Benefit	0.482	0.482	0.607	0.571	0.623	0.505	0.738	0.828	
Tactical Benefit	0.472	0.472	0.485	0.653	0.548	0.442	0.645	0.732	0.917

* Bold diagonal values are square root of AVE of relevant construct

Assessment of the Higher Order Model

Now, the measurement properties of the second and third order constructs are evaluated. Table 5 depicts that all have achieved acceptable CR and AVE. Figure 2 shows that the amount of variance explained of the third order construct (service quality) is reflected in the second order dimensions: *station quality* (84.7%), interaction quality (87.3%), and outcome quality (81.5%). Similarly, the variance of the second order constructs are reflected by corresponding first-order constructs, for instance, *station quality* is explained by *corporate image* (51.3%), *tangibles* (67.6%), and *accessibility* (71.8%). Moreover, all the path coefficients and *t*-values from service quality to second-order and first-order constructs are significant at p<0.01 (Table 5).

Table 5: Reliability of higher-order constructs

Hierarchical Model	Path Coefficient (β)	t-value
Station Quality → Corporate Image	0.652	9.5*
Station Quality → Tangibles	0.822	32.77*
Station Quality → Accessibility	0.847	14.85*
Interaction Quality → Reliability	0.787	15.5*
Interaction Quality → Assurance	0.676	12.29*
Interaction Quality → Empathy	0.885	36.70*
Interaction Quality → Responsiveness	0.934	76.09*
Outcome Quality → Functional Benefits	0.937	94.16*
Outcome Quality → Tactical Benefits	0.924	64.67*
Service Quality → Station Quality	0.921	29.59*
Service Quality → Interaction Quality	0.937	53.66*
Service Quality → Outcome Quality	0.924	36.61*
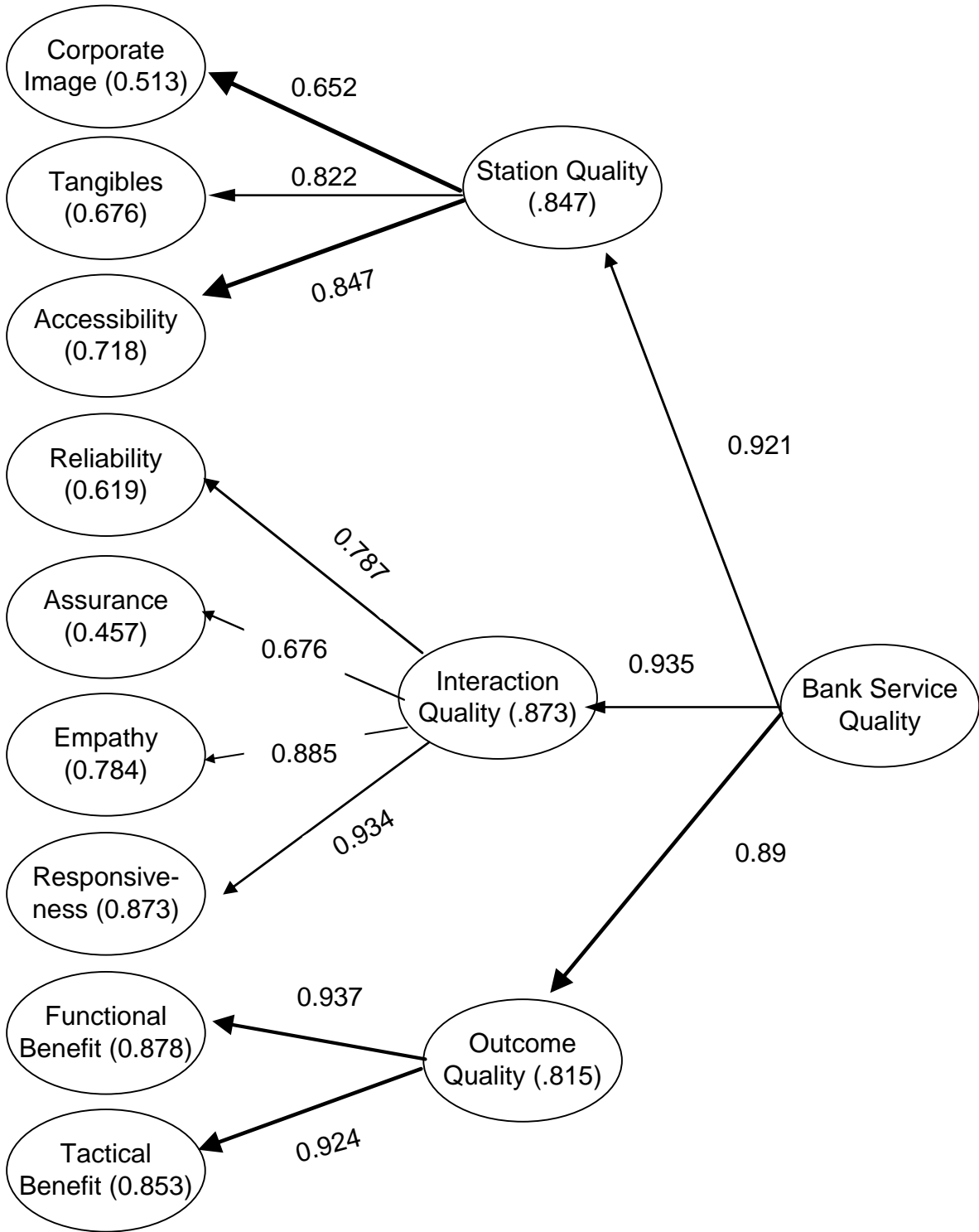
Figure 2 Service Quality hierarchical model for retails banks

5. Discussion and Implications

Summary of Findings

Service quality of banks can be examined as a third-order hierarchical model which is reflected by *station quality* (β=0.92), *interaction quality* (β=0.93), and *outcome quality* (β=0.89); the difference in magnitude is minimal. However, *interaction quality* has the greatest impact and hence a bank needs to offer the best service at different touch-points. Moreover, the second-order dimensions of SQ are reflected by three first-order dimensions. For example, *station quality* is reflected by *corporate image* (β=0.65), *tangibles* (β=0.82), and *accessibility* (β=0.85). This finding implies that bank customers consider bank's image later but first consider its accessibility and then its tangible features. Similar interpretation can be made for other dimensions too. Regarding *interaction quality,* from customers' perspective, employees' *responsiveness* enjoys highest priority followed by *empathy, reliability,* and *assurance.* The implication of this finding advocates for prompt response from the banks and showing empathy to the customers. Finally, functional and tactical benefits are considered with almost-similar importance. That means, bank customers seriously consider *outcome qualities.* Therefore, banks should develop competitive outcomes (e.g., interest rates), consistent banking policies, and wide range of products.

Implications

As a theoretical contribution this study is a first initiative explaining *service quality* of banking services as a hierarchical reflective model. This model is the first methodological initiative that presents the dimensions of retail banks attaining and managing its total quality. The current study argues that to achieve total quality of bank's services, banks should look at three main dimensions that include station quality, interaction quality, and outcome quality. The current study further details the variables showing their respective significance.

As practical implications overall, this study assists the management personnel of a bank to develop its management strategies and policies related to service quality that eventually can drive them to achieve total quality. They can look at the detail picture – which constitutes the service quality perceptions of the customers with what weight. Our study guides that, for instance, banks can provide better accessibility to retain their customer by offering dedicated car parking, easily visible appearance (e.g., not like a shop on a corner of a market).

Limitations and Future Research Directions

Several limitations are worthwhile to mention and covered in a future study. The qualitative and be empirical surveys of this study have been conducted in two countries in three cities. However, the research could cover more cities to get a more-generic result. Like other perception-based studies the perceptions of the respondents are the more driving contributors of this study (Cronin Jr & Taylor, 1992). However, objective research could test the model and explore the discrepancies, if any. Finally, perceptions of service quality are dynamic processes. Therefore, longitudinal studies can be conducted on the same domain. Furthermore, multi-group analysis could examine the role of education, gender and other demographic variables on the service quality perceptions and its outcome variables. Finally, this study is not a complete prescription for achieving total quality; however, it is a 'step stone' in such research.

6. Conclusion

This research proposes and validates a model that examines customers' perspective on service quality of a retail bank. Using structural equation modelling technique, this research established a third-order reflective hierarchical model with nine dimensions. The strength of this study lies on assisting service providers with a clearer picture of the customer's perceptions that would assist them for achieving total quality in retail banking.

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