Determinants of Service Quality and Their Relationship with Behavioural Outcomes: Empirical Study of the Private Commercial Banks in Bangladesh

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Abstract

Service quality is one of the critical success factors that influence the competitiveness of an organization. The relationship between service quality and behavioural outcomes in the retail banking environment has been the focus of a number of studies. This study examines the relationship between service quality, satisfaction, and loyalty in the private commercial banks in Bangladesh. The Nordic perspective model developed by Gronroos (1984) is used. The sample size was 335 customers of bank located in Dhaka city. The determinants of service quality were categorized into product features, physical aspects, customer services, and technology and security aspects. The factor analysis with SPSS and the structural equation models with AMOS program were used to test the hypotheses of the research which is followed by Davila et al (2010). It has been proved service quality, satisfaction, and loyalty is strongly and positively related to each other.

Keywords: Service quality, Satisfaction, Loyalty, Bank

1. Introduction

Service quality is an increasingly important factor for organizational performance, success, and survival in the banking sector. It has received wide recognition by the researchers over the last decade in the retail banking sector (Aldlaigan & Buttle, 2002; Angur et al. 1999; Bath, 2005; Sharma & Mehta, 2004; Bahia & Nantel, 2000). The interest is largely driven by the realization that high service quality results in customer satisfaction and loyalty (Levesque & McDougall, 1996; Magi & Julander, 1996; Zeithaml et al., 1996; Danaher, 1997). Furthermore, customer loyalty is a primary determinant of the long-term financial performance of firms. This is especially vital for service firms where increased loyalty can significantly increase profits (Reichheld, 1996). Despite this understanding, defining the notion of service quality and its measures have been the most controversial and debated topic in the service quality literature. Currently, there are two school of thought of service quality – the Nordic and the American, while the former explains service quality on image model i.e. functional, technical, and image quality (Gronroos, 1984); the later defines service quality on five-dimension SERVQUAL model (Parasuraman, et al., 1988). There have been a number of empirical studies of retail bank service quality. Most of these have measured service quality by replicating or adapting the SERVQUAL model. The model was criticized by Cronin & Taylor (1992) as the SERVQUAL scale measures customer satisfaction on perception-expectation model and not on attitude model. The authors developed the SERVPERF model to measure service quality by considering only the customer perceptions dimension. In Bangladesh perspective, an extensive research on service quality of commercial banks with the SERVQUAL model is made by Siddiqi (2010). The present study, however, is based upon the Nordic perspective and the image model used by Gronroos, 1984; Aldlaigan & Buttle, 2002; and Davila et al., 2010.

This paper further expands current knowledge by empirically testing the service quality, satisfaction, and loyalty relationship within the Bangladesh banking industry. The financial system of Bangladesh is mainly bank dependent. After the liberation, the whole banking system faced a wide ranging of banking reforms. Perhaps, the biggest reform took place in 1996 when the Banking Reform Committee under the Bangladesh Bank decided to give license to private commercial banks (PCBs) to meet the growing customers' demand. The banking industry is now a mixed one comprising nationalized, private, and foreign commercial banks. In the last decade, a significant number of PCBs started their operations and faced tremendous growth due to the dismissal performance of the government banks. In Bangladesh, customers in the banking sector are in a strong bargaining position due to the significant growth of banks (roughly there are about 35 PCBs). This is also leading to stiff competition among the commercial banks which calls for paying more attention to customer satisfaction by carefully improving the service quality of banks.

Thus, the objectives of the research are as follows:

- To identify the determinants of service quality in the commercial banking sector in Bangladesh;

- To identify the interrelationships among the determinants of service quality;
- To identify and determine the nature of relationships between service quality, satisfaction, and loyalty

In order to achieve the above objectives, the paper is organized as follows: the first section addresses the problems and issues related to the current research topic; the second section briefly describes the existing literature on the research topic; the third section explains the research methodology; the forth section discusses the results of the empirical analyses; and finally, the fifth section draws the major conclusions.

2. Literature Review

2.1 Defining Service Quality

Service quality is a multi-dimensional and abstract concept. It is associated with some unique features e.g. inseparability of production and consumption, intangibility, and heterogeneity. In the absence of objective measures, the measurement of quality is a very complex issue and firms often need to rely on customers' perception of service quality (Parasuraman et al., 1985). Gronroos (1984) proposed that customer compared their expectations to their experience of service quality in forming judgments. The author defined service quality as:

> *"... the perceived quality of a given service will be the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives he has received, i.e. he puts the perceived service against the expected service. The result of this process will be the perceived quality of the service"* (Gronroos, 1984, p.37)

Gronroos (1993) later developed the three dimensions in defining service quality-

a) Functional quality: The dimension consists of the seven attributes that are process related – behaviour, attitude, accessibility, appearance, customer contact, internal relationship, service-mindedness;

b) Technical quality: The dimension consists of five output-related attributes – employees' technical ability, employees' knowledge, technical solutions, computerized systems, and machine quality;

c) Image of the service provider: The dimension described customer's general perception of the supplier. The author stated –

> *"...if the image of the firm is good in the mind of a given customer, problems with the outcome, or the process, which this customer may have, are likely to some extent to be excused by the image perception. If the problems continue to occur, the image will eventually suffer. If the image is negative, quality problems are more likely to be perceived as worse than they in reality are"* (Gronroos, 1993, p.52)

The author has been consistent in defining service quality as an exchange process in which technical dimension is what is received by the customer, functional quality is how the service is provided, and image dimension is how the customer perceived the service provider.

2.2 Bank Service Quality

Interestingly, most of the service quality literature was based on retail banks. In the banking sector, service quality results from the difference between the customers' perceptions for the services offered (received) by the bank and their expectations vis-a-vis the banks that offer such (expected) services (Bahia & Nantel, 2000). A number of determinants had been developed over the years in measuring the service quality of banks. Sasser et al (1978) describes levels of material, facilities, and personnel are the determinants of service quality. Lehtinen & Lehtinen (1982) consider physical quality (environment), corporate quality (company image), and interactive quality (interaction between personnel and customers) are the determinants of service quality. Stafford (1996) identified seven attributes in assessing bank service quality – bank atmosphere, customer-employee relationship, interest rates and charges, available and convenient services, availability of ATMs, reliability, adequate tellers.

2.3 Satisfaction and Behavioural Outcomes

Customer satisfaction is the feeling or attitude of a customer towards a product or service after it has been used. According to Oliver (1980), the customer satisfaction model explains that when the customers compare their perceptions of actual products/services performance with the expectations, then the feelings of satisfaction have arisen. Any discrepancies between the expectations and the performance create the disconfirmation. Previous research in services acknowledges a strong positive relationship between service quality and satisfaction (Parasuraman et al., 1988; Bahia & Nantel, 2000). Lassar et al. (2000) demonstrated that a technical/functional quality-based model of service quality is a reliable predictor of satisfaction. Jamal and Nasser (2002) also confirmed that core and relational dimensions of service quality are causal antecedents of customer satisfaction. In the relationship-marketing literature, the outcome of customer satisfaction is strongly associated with customer loyalty. Oliver (1997, p.13) defined loyalty as:

> *". . . a deeply held commitment to re-buy or re-patronise a preferred product consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behaviours."*

Research conducted in the domain of financial services showed satisfied customers are more likely to concentrate their business with one bank (Reichheld, 1996), provide recommendations for the bank and invariably, reduce a bank's cost of providing services because there are fewer complaints to deal with. Customer satisfaction is, thus, not only linked to loyalty, but is also linked to bank revenue generation (Winstanley, 1997).

2.4 Description of the Hypotheses

The literature review concluded that the antecedence of service quality is the satisfaction and loyalty. Following

the Gronroos's (1984) model and considering the exploratory nature of the current research, it was necessary to categorize service quality into four dimensions. Firstly, the product features that include the range of products and services offered to the customers with the latest innovations. Secondly, the physical aspects that enable customers to assess tangible element i.e. the physical environment of the bank. Thirdly, customer services that include the attitudes and capacities of the employees while rendering services to customers. Fourthly, technological and security aspects that include the automated services and the assurance of security while providing bank services. Thus, the hypotheses proposed were:

H1a: Products features influence the quality of service provided by banks

H1b: Physical aspects influence the quality of service provided by banks

H1c: Customer services influence the quality of service provided by banks

H1d: Technology and security influence the quality of service provided by banks

Since the above proposed four dimensions expected to influence the service quality of banks, it may be reasonable to assume they correlate with each other. Therefore, another proposed hypothesis was:

H1e: Determinants of service quality positively correlate with each other

The next sets of hypotheses were proposed for the behavioural outcomes and they were:

H2: Service quality directly and positively influences customer satisfaction

H3: Customer satisfaction directly and positively influences customer loyalty

The graphical view of the proposed conceptual framework with the hypotheses can be seen in ***Figure-1***:

3. Methodology

Data for this study were collected through self-administrated questionnaires from the residents of Dhaka City. Due to the tremendous visibility of banking services and the customers flow around the capital, Dhaka was selected as the sample area. The commercial banks that are incorporated under the Bank Companies Act 1991 and have licensed from Bangladesh Bank to carry out banking business were taken into account in this research.

A pilot study was conducted to ascertain the suitability and validity of the construct in the banking setting in Bangladesh. After the pilot study, to enhance clarity, the questions were changed to statements and the wordiness was reduced. The final questionnaire had two parts with closed questions. The first part queried about the respondent's demographic and basic bank service related information, e.g. age, gender, occupation, account type, and banking policy. The information set of the first part of the questionnaire was expected to provide insight about how customers evaluate the services of banks (Bath, 2005). The second part had 29 items and they were scaled with the global measure of service quality, the Likert-scale. In this study, respondents were asked to rate their level of satisfaction on a seven-point scale (1 indicating strongly disagree and 7 indicating strongly agree). All intermediate numbers were accompanied with a lexical portrayal. The scale was used to determine the perceived rating made by the customers to the developed determinants and to recognize the behavioural outcomes expressed by the customers in receiving services from their banks. The developed determinants of service quality are widely available in the work of Parasuraman et al. 1988; Angur et al. 1999; Aldlaigan & Buttle, 2002; Jamal & Nasser, 2002; Jabnoun & Al-Tamimi, 2003; Sharma & Mehta, 2004.

A total of 400 questionnaires were distributed to potential respondents satisfying the following condition – the respondent has his/her primary bank account in a commercial bank in the city and the service quality assessment is made towards that bank. The survey produced 335 valid questionnaires. The frequency distribution percentage of the background components can be seen in ***Figure-2***.

To identify the different determinants of quality services, the factor analysis of the principal component was applied, and to test behavioural outcomes of quality services, the structural equation models (SEM) were used.

3.1 Independent Variables

The independent variables of the research were the determinants that make up the service quality and the background characteristics of the respondents. The determinants of service quality were operationalized from the existing literature. Variables, V1 to V6 were grouped to the product features component which manifests the traditional banking services offered to customers. Variables, V7 to V12 were grouped to the physical aspects component that detail physical facility of the bank. Variables, V13 to V17 were grouped to customer services component and they indicate employee engagement in rendering services to customers. Finally, variables, V18 to V20 were grouped to technology and security component that assess the latest technology and security instruments employed to serve the customers.

3.2 Dependent Variables

The dependent variables included quality, satisfaction, and loyalty. Each of these three endogenous variables was assessed with nine dimensions. Variables, V21 to V23 were clustered into quality, V24 to V26 were clustered into satisfaction, and V27 to V29 were clustered into loyalty. Both independent and dependent variables are shown in *Table-1*.

3.3 Reliability and Validity

It is important to refine the measurement scale for it to conform to a series of human characteristics that identify and describe attributes of an instrument, such as its reliability and validity for use in a particular circumstance.

The Cronbach's α coefficient (suggested for Likert-scale (Gliem & Gliem, 2003) and the correlation matrix (*Table-2*) was employed to validate reliability. None of the variable was found to score low and they were highly correlated with each other. The Cronbach's α coefficient was 0.844 which is good as it achieved the reasonable score of reliability (George & Mallery, 2003).

The validity of a scale shows to what extent we are measuring what we actually intend to measure, which is done through the content and construct validity. Content validity was applied to estimate the appropriateness of the measurement scale developed for this research. The general requirement to do that is to ensure the availability of the measurement scale in the existing literature. This research had made an extensive review of the related literature on the scale developed and carried out a pilot test on 30-person sample which is adequate to assume the validity of content (ibid).

3.4 Construct Validity

The construct validity refers to the degree to which presumption can legitimately be made from procedures in the current study to the theoretical constructs on which those procedures were based. Explicitly, it generalizes the measures proposed for the current research to the concept available in the existing literature (Churchill, 1979). The convergent and discriminating validities of the scale were analyzed to measure the construct validity.

The convergent validity exists when the measurement strongly and positively correlates with other measurements of the same construct (Churchill, 1979). The exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were applied to measure the convergent validity; the former tries to find out the nature of the constructs influencing a set of responses, the later tests whether a specified set of constructs is influencing responses in an estimated way (DeCoster, 1998).

The EFA was determined with the factor analysis and with the aid of the SPSS 19.0 statistical package. The orthogonal rotation method i.e. varimax was used to extract the factors from the principal component analysis. Since the goal was to explain as much variance as possible using as few factors as possible (Norusis, 2003), the first five factors with eigenvalues greater than one were extracted which altogether give 57.484% (above 50% is good) of the total variance of the original values. The variable, V6 was eliminated because of its low correlation with other variables. The CFA was estimated by means of structural equation model through SPSS AMOS 19.0. It was verified that standardized coefficients of variables making up the scale were above 0.5 and significant ($p<0.05$), which allowed to accept the existence of convergent validity.

The discriminant validity exists when the relationship between measures from different constructs should be very low, i.e. it should discriminate between dissimilar constructs. The correlation matrix developed in **Table-2** showed the high and low measures which indicate convergent and discriminant correlations, respectively, i.e. the absence of a correlation with the value of 1. The result confirmed there was discriminating validity in the quality measurement scale.

4. Results and Discussions

To measure the service quality, the variables of this study were categorized into four areas. Then the influence of service quality on customer satisfaction and loyalty was analyzed. The use of SEM for this research was appropriate as it tests the causal relationships among variables and tests hypothesis where the pattern of inter-relationships among the study constructs are specified a priori and based on established theory. By modelling relationships among multiple predictor and criterion variables, the model statistically tests a priori theoretical assumptions against empirical data through CFA. (Chin, 1998).

With the assistance of AMOS 19.0 program, the path diagram was developed (**Figure-3**) where CFA would be seen. The hypotheses, H1a, H1b, and H1d, referred to the exogenous variables were verified using the values (shown in the path diagram) and H1c could be not verified because it had no significant values. The hypothesis of the H1e was verified to be positive and moderate, i.e. the four components of service quality were positively and moderately related to each other. Product features (H1a) with structure coefficients of 0.83 proved to be the most significant factor influencing the service quality of banks. Review of the background data shown in Figure-1 might give insights to the low loadings of H1c, i.e. customer services. Most (74.9%) of the respondents were savings account holders and above 50% of them are visiting banks once in a month or less. Observation of the queues in the commercial banks in Dhaka revealed that most customers come to get quicker services as opposed to customized services, e.g. transferring and depositing cash to accounts. The items developed under the customer service component, thus, have little to contribute to improve the service quality of banks. The negative correlation between technology and security and service quality resulted for many reasons. For instance, though most of the commercial banks have the automated cash counting machine, majority of them repeat the task of counting cash manually which not only waste time of the customers but also reduces their confidence on technology. Moreover, most of the commercial banks propagate the facility of doing online banking services which according to them mean banking services are not limited to the branch where the customer opened the account but can be carried over to all branches around the city and for some to other cities. In reality, many branches of a bank refused to provide online banking services to the customers by saying such services are limited to selected branches. Last but not the least, bank statements are mostly given from the branch where the account was created. Again, if customers request for a copy of bank statement for a period before the respective branch was established in a particular area, then they are asked to get it from the head office due to the technical incapability of the server.

Three variables, V22, V24, and V26, were eliminated from the quality, satisfaction, and loyalty respectively because of their high regression weights. The hypotheses of the H2 and H3 endogenous variables were verified with structural coefficients exceeding 0.90.

The chi-square (χ^2/df) 3.326 was acceptable with the current sample size of 335. The values of the parameters of the goodness indexes are good if they are close to one. The SEM model of this research gave values of GFI: 0.819, TLI: 0.676, IFI: 0.712, CFI: 0.708. The RMSEA was 0.083 which was acceptable but the value close to 0.05 usually indicates a good fit model.

To reach to the standard indexes, the best alternative was to carry out a modified model. The modified model developed with 16 variables can be seen in Figure-4. The indexes of the new model improved significantly in comparison with the original model (Table-4). Product features persisted to be the dominating factor influencing the service quality. The correlations among the three factors influencing service quality continued to be positive. The relationships of the endogenous variables remained to be verified above 0.90, suggesting service quality positively and strongly influences customer satisfaction and satisfaction at the same extreme influence customer loyalty.

5. Conclusions and Implications

The importance of this study can be viewed from two dimensions: theoretical and practical implications. The current study had shown the interrelationships among service quality, customer satisfaction and customer loyalty in the retail banking sector in Bangladesh. The study also suggested that the conceptual framework employed for this study i.e. Gronroos's (1984, 1993) model was suitable for measuring the service quality of banks. Moreover, the modelling of structural equations with the AMOS program to test the conceptual framework or the hypotheses was appropriate.

Among the determinants the product features were proved to be strongly and positively correlated with service quality. The physical aspects were positively and moderately related to service quality. The customer services determinant had insignificant relationship with service quality. The possible explanation given to this peculiarity is the urgency attitude of customers in receiving customer services. Explicitly, the more customized services are requested the more time is required to receive the services. Furthermore, the urgency attitude of the customers might be linked to the structural behaviour of the sample area. Being the capital of Bangladesh, most of the trading activities take place in Dhaka city and thus, customers have urgency to carry out the banking activities as quickly as possible i.e. within office hours. This proposition can also be applied to the dimension of technology and security. While the technological advances are supposed to increase the efficiency of rendering the banking services, it has been observed, repeating the tasks manually are delaying the service delivery. The inter-correlations among the determinants of service quality had produced positive results. Interestingly, the relatively high correlation between customer services and technology and security determinants evidence the proposition stated above. Finally, as regards to H2 (quality and satisfaction) and H3 (satisfaction and loyalty), the high values achieved indicated that, to a great extent, customers who perceive service quality will be satisfied and will remain be loyal with the bank. Since the study developed 29 variables appropriate with the nature of the banking services of Bangladesh, the bank managers can use this instrument to assess the bank service quality. Moreover, the positive correlations among the four determinants of service quality indicated that bank managers should emphasise all the service quality determinants in maintaining and improving the service quality that they provide.

6. Limitations and Future Research Recommendations

The findings of the study were generalized to the statistical analysis and the design of the research methodology was based on existing literature available on the current research topic. An alternative model can be considered where all the exogenous variables (product features, physical aspects, customer services, technological and security aspects) will be tested against the endogenous variables (satisfaction and loyalty). Since strong positive relationship between satisfaction and loyalty was found, the alternative model is expected to bring interesting and useful insights to the bank managers. Furthermore, it can also be of interest to replicate the study in other financial-related services e.g. non-banking-financial institutions, insurance etc.

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Table 1. Description of the variables that make up the measurement instrument

Variable Name	Statement
V1	The bank offers wide range of products and services with latest innovations
V2	The deposit interest rates are satisfactory
V3	The loan interest rates are satisfactory
V4	The services are personalized and customized
V5	The bank is creative in offering products and services
V6	The bank is solvent to meet your needs
V7	The location of bank is suitable
V8	The internal environment of the bank is neat and clean
V9	The decoration of the bank is attractive
V10	Proper security and surveillance methods are used inside the bank
V11	The bank has sufficient sitting arrangement for the customers
V12	The bank has sufficient branches around the city
V13	The bank has sufficient customer service representatives
V14	Customer representatives are friendly and well behaved
V15	Customer representatives are knowledgeable about banking services
V16	Customer representatives provide information in understandable manner
V17	Customer representatives provide error-free services
V18	The bank uses latest technology to provide banking services
V19	The technology oriented services save your time
V20	The bank guarantees secure transaction processing of all services
V21	Total service quality is combination of product features, physical aspects, customer services, and technology & security advancement
V22	Bank ensures quality in the said four areas equally
V23	The quality of service delivery is good
V24	Service quality meets your expectations
V25	Service quality exceeds your expectations
V26	Service quality satisfies you
V27	You consider the bank as your first choice
V28	You will recommend others to open account in the bank
V29	You will continue banking services with the bank

Table 2. Correlation matrix

	V1	V2	V3	V4	V5	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20
V1	1.000																		
V2	0.204	1.000																	
V3	0.215	0.245	1.000																
V4	0.186	0.307	0.259	1.000															
V5	0.177	0.239	0.351	0.391	1.000														
V7	0.172	0.066	0.171	0.188	0.079	1.000													
V8	0.165	0.216	0.154	0.370	0.134	0.245	1.000												
V9	0.120	0.061	0.183	0.097	0.207	0.094	0.102	1.000											
V10	0.087	0.022	0.284	0.076	0.187	0.022	0.038	0.546	1.000										
V11	0.091	0.290	0.154	0.313	0.266	0.067	0.304	0.088	0.131	1.000									
V12	0.269	0.153	0.221	0.391	0.193	0.221	0.483	0.217	0.100	0.359	1.000								
V13	0.130	0.372	0.337	0.334	0.361	0.161	0.279	0.192	0.134	0.299	0.228	1.000							
V14	0.124	0.201	0.202	0.297	0.292	0.213	0.308	0.151	0.080	0.356	0.243	0.447	1.000						
V15	0.125	0.267	0.135	0.280	0.125	0.206	0.276	0.137	0.118	0.280	0.334	0.473	0.470	1.000					
V16	0.004	0.178	0.189	0.261	0.167	0.076	0.305	0.023	0.016	0.309	0.147	0.350	0.270	0.326	1.000				
V17	0.093	0.136	0.323	0.322	0.307	0.113	0.233	0.162	0.241	0.166	0.356	0.343	0.311	0.429	0.399	1.000			
V18	0.170	0.357	0.322	0.284	0.197	0.245	0.443	0.077	0.093	0.181	0.385	0.338	0.188	0.320	0.303	0.418	1.000		
V19	0.128	0.370	0.279	0.324	0.202	0.196	0.416	0.186	0.170	0.198	0.347	0.264	0.210	0.298	0.307	0.385	0.567	1.000	
V20	0.164	0.273	0.262	0.305	0.164	0.221	0.403	0.180	0.146	0.302	0.423	0.238	0.303	0.434	0.196	0.332	0.495	0.605	1.000

Note: Determinant = 0.003; KMO measure of sampling adequacy = 0.832

Note: Figures in bold represent correlations which are significant at the 5 percent level.

Table 3. Component Score Coefficient Matrix

	Component			
	1	2	3	4
V1	.088	-.270	.424	-.026
V2	-.001	.023	.305	-.234
V3	-.030	-.057	.294	.131
V4	.005	.047	.234	-.082
V5	-.198	.073	.390	.068
V7	.194	-.132	.067	-.046
V8	.247	-.014	-.063	-.085
V9	.002	-.050	-.037	.480
V10	-.046	-.022	-.026	.500
V11	-.075	.197	.081	-.060
V12	.233	-.090	.022	.030
V13	-.150	.267	.121	-.006
V14	-.112	.284	.010	-.011
V15	.029	.269	-.184	.009
V16	-.048	.339	-.185	-.062
V17	.031	.193	-.141	.146
V18	.274	-.054	-.041	-.040
V19	.284	-.055	-.093	.034
V20	.289	-.045	-.119	.037

Note: Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalisation.

Table 4. Comparison of original model with re-specified model

	Original Model			Modified Model		
	β/γ			β/γ		
Product Features	0.83			0.70		
Physical Aspects	0.27			0.26		
Customer Services	-0.1			-		
Technology & Security	-0.17			-0.15		
Quality-Satisfaction	0.94			1.02[I]		
Satisfaction-Loyalty	0.95			1.23		
Adjustment Indexes [II]						
χ^2/df		3.326				2.525
GFI		0.819				0.915
TLI		0.676				0.836
IFI		0.712				0.864
CFI		0.708				0.862
RMSEA		0.083				0.068
PCLOSE		0.000				0.003

I. If the factors are correlated (oblique), the factor loadings are regression coefficients and not correlations and as such they can be larger than one in magnitude. The structural coefficient of above 1 suggests that there is a high degree of multicollinearity in the data (Joreskog, 1999).

II. There is no global standard that assure a good-fitting model, like SEM, will have certain parameters. However, in the existing literature on the SEM model is deliberately found to look at the parameters included in Table-4. For models with 200+ cases, the chi square is almost always statistically significant. There are no consistent standards for what is considered an acceptable model. The value of χ^2/df below 5 is usually acceptable and below 3 is good. The Goodness of Fit Index (GFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI) depend on the average size of the correlations in the data i.e. high correlation between variables will generate high values of the parameters (negative values indicate that the model is worse than the null one). Root Mean Square Error of Approximation (RMSEA) is based on non-centrality and computes the 90% confidence interval. RMSEA of 0.8 is acceptable and close to 0.5 is good (Kenny, 2010). PLCLOSE is a p value for testing the null hypothesis with that of RMSEA of 0.05. It gives a test of close fit (Browne & Cudeck, 1989).
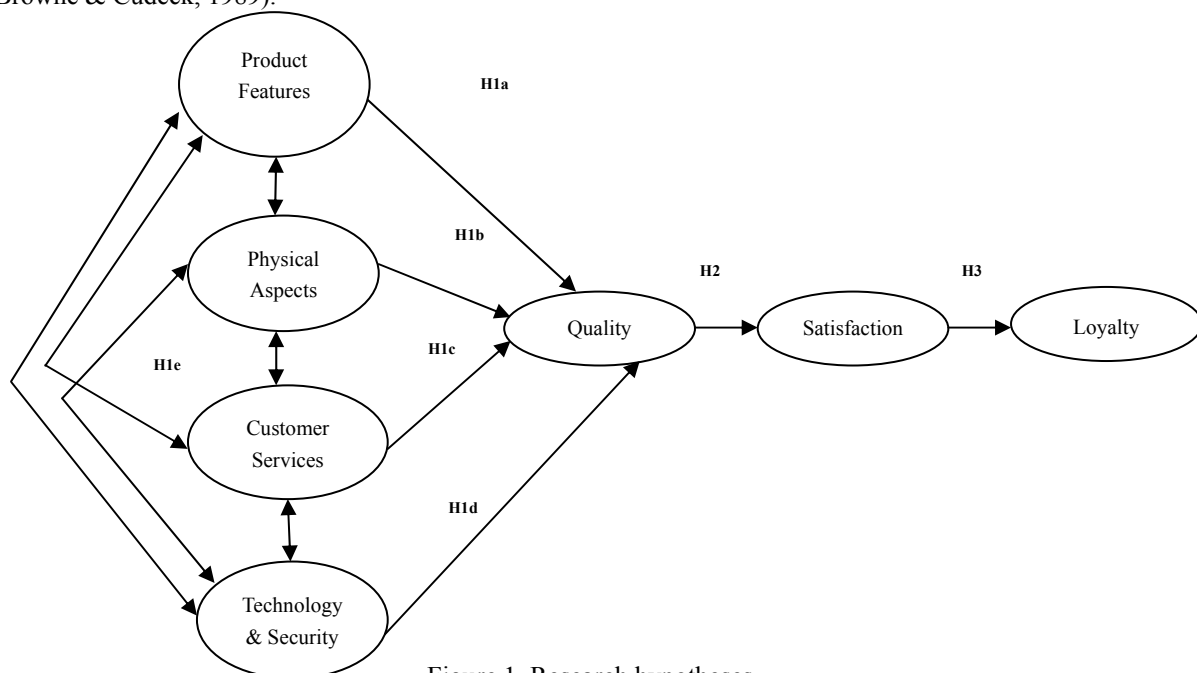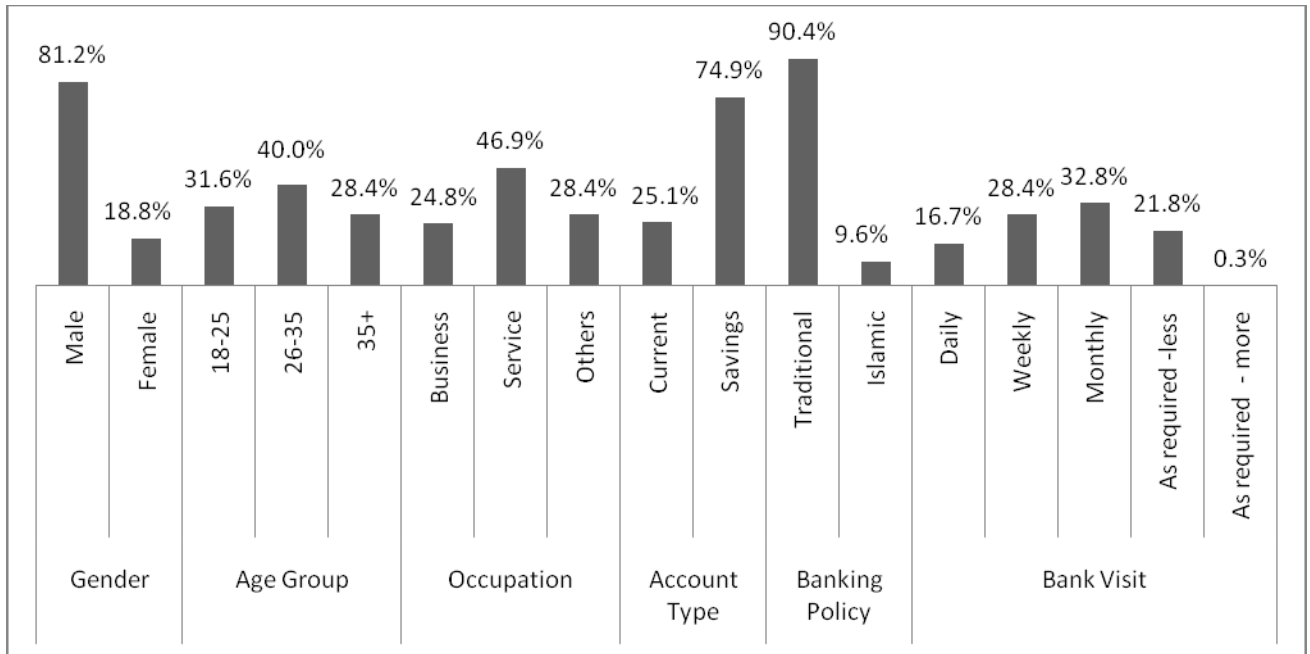

Figure 1. Research hypotheses

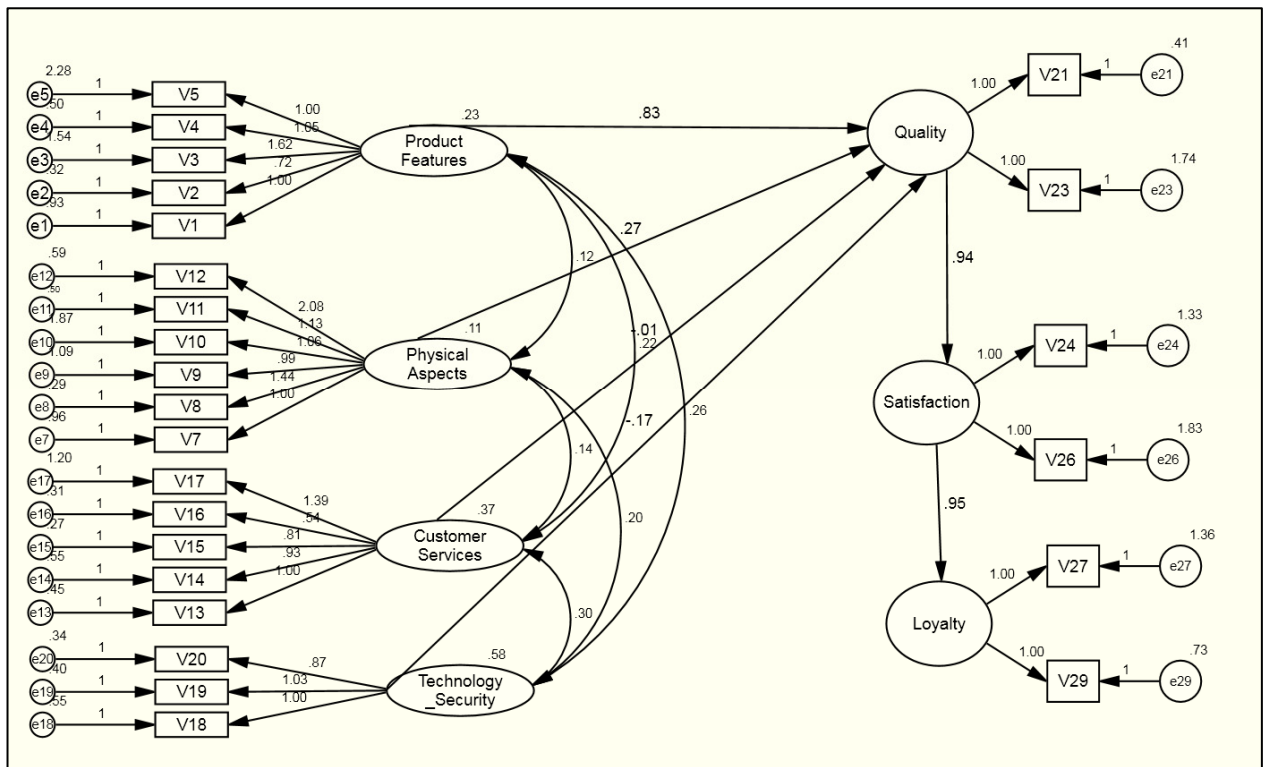Figure 2. Frequency distribution of percentage of customer profile

Figure 3. Path diagram of the structural model with the result of causal model
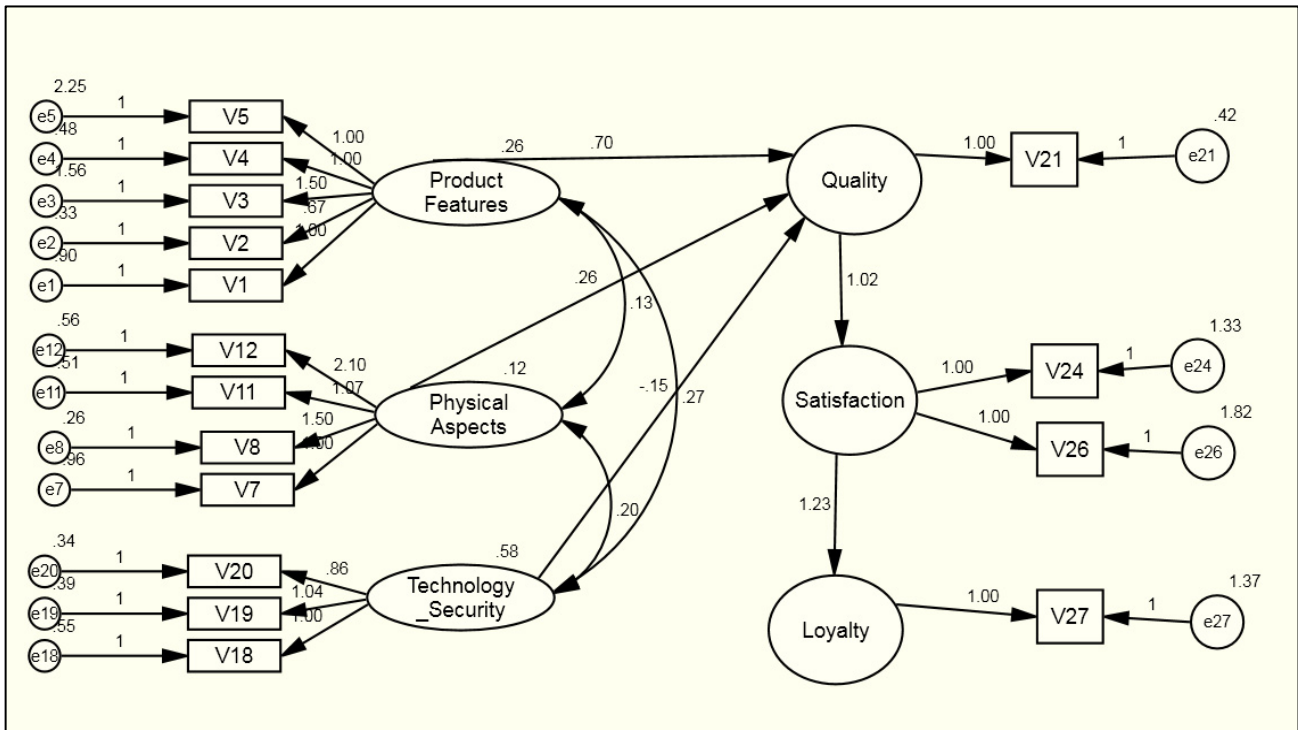
Figure 4. Modified model