User's Perceived Service Quality and Satisfaction with Internet Banking: Experience from United Bank S.C.

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Abstract

In the last years we have witnessed a substantial growth of Internet –based services, both from pure Internet businesses and from traditional companies developing online services. One of the key challenge of Internet as a service delivery channel is how service quality is managed, which holds a significant importance to final customer satisfaction. The purpose of this research is to deepen the understanding of the service quality dimensions affecting customer satisfaction in the Internet banking sector from the consumer point of view. Based on a detailed literature review, a frame of reference was developed for make the study as much reliable as possible. Five service quality dimensions were selected to be tested in the Internet banking sector in the company case, in order to explore the relationship between service quality and customer satisfaction. A quantitative research approach was used to get a better understanding of this issue. Data presentation and analysis were done in accordance with the research questions and the frame of reference. Finally, in the last chapter findings and conclusions were drawn by answering the research questions. Seven service quality dimensions in internet banking were identified in this study (i.e., reliability and service performance, responsiveness, fulfillment, privacy, website characteristics and customization, organizational issues, and efficiency). Factor and reliability (Cronbach Alpha coefficients) analysis were carried out to determine the validity and unidimensionality of the construct. Furthermore, associations between the users' satisfaction and service quality dimensions was explored, and found to be statistically non significant. However, overall satisfaction is significantly depending by overall service quality.

Introduction

When judging the quality of the provided E-banking services, customers consider a lot of factors which compose their judgment. For some customers the response and efficiency of the service providers would be of greatest importance, for others the security and privacy issues might be more important, and still for others what matters most may be the website design and ease of use. So we can say that in reality, customers have different expectations and requirements. They deem different aspects of the service delivery process as essential, in order for them to be satisfied with the service. Nevertheless, there should be some common requirements among users of online banking services, some overall valid expectations, which are considered in this study.

As the service delivery process on the Internet differs significantly from that in the traditional brick-and-mortar banks' environment, mainly because of the lack of direct contact between the employees and the customers, even the attributes for defining a high-quality service delivery are expected to differ in the two contexts. According to Li, et Al., (2002), because of the existing difference between online and traditional services, real challenges in measuring the quality of online services do exist. Although there is a lot of research on evaluation of traditional banking services quality (Johnston, 1995), the correspondent on online services quality, also online banking services quality, is still in its infancy (Santos, 2003). As the use of online banking steadily increases over the years (Fredriksson, 2003), knowledge about defining high-quality service delivery over the Internet becomes crucial for banks, which want to stay competitive on the marketplace. If banks have knowledge about the quality attributes they can use to measure the quality of their online services and the overall satisfaction of their customers with each of these attributes, it would be much easier for them to take necessary measures and steps to improve the overall service quality. For example, if the efficiency of the service provider is deemed very

important for the quality of the delivered online services and customers turn out to be unsatisfied with this aspect of the service delivery, it means that banks and their managers should consider that issue carefully and try to improve it. Additionally, this knowledge will also help banks allocate their resources in a way that maximum service quality improvement is achieved. This will eventually lead to gaining competitive advantage, which will help them in retaining their customers and increase their profitability (Bennett & Higgins, 1988).

Finally, looking at the Ethiopian context in general and the United bank context in particular, the issue mentioned above seems to be very important and relevant as Internet banking is the most recent banking service in Ethiopia started by United Bank S.C. two years ago, during 2000 E.C. Furthermore the adoption rate of the new banking service by users also decreases from time to time according to unpublished documents from the bank. Taking these facts into consideration, looking at the problem of how to measure the quality of online banking services and customers' perception of their quality seems quite appropriate and reliable to be conducted in Ethiopia in general, and to the United Bank S.C. reality in particular. Based on problem area discussions the research problem is formulated as to gain a better understanding of the service quality dimensions, affecting customer satisfaction in Internet banking sector in Ethiopia. Therefore, the main objective of the research is to study the user's perceived quality and customer satisfaction with Internet banking services in United Bank. More over the research has the following specific objectives:

1. To assess customer perceptions of Internet banking service quality at United Bank S.C.

2. To examine the relationship between Internet banking quality and customer satisfaction.

3. To describe the role of Internet banking service quality dimensions in estimating overall customer satisfaction.

4. To identify the factors affecting the adoption of Internet banking in the Ethiopian context.

Review of Literature

Service quality has been found to be an important input to customer satisfaction (Caruana & Malta 2002). Cronin and Taylor (1992) originally hypothesized that satisfaction is an antecedent of service quality. Yang & Fang (2004) identified online service quality dimension and their relationship with satisfaction. These service quality dimensions are reliability, responsiveness, ease of use, competence. Jayawardhena and Foley (2000) mentioned some service quality of Internet banking website are important to increase customer satisfaction. These are download speed, content, design, interactivity, navigation, security. A number of academics such as Parasuraman et al. (1985); Gronroos (1990); Johnston (1995) and other have tried to identify key determinants by which a customer assesses service quality and consequently results in satisfaction or not.

Yang & Fang (2004) in particular identified five online service quality dimensions include responsiveness, reliability, competence, access and security and their relationships with satisfaction. Several items within these dimensions are critical for customers to evaluate service quality and their own satisfaction level. The first important attribute is prompt order execution and relative confirmation, which requires adequate system capacity as well as staff support. The second important aspect is accuracy of the online trading system, including accurate order fulfillment and accurate record keeping. The third important aspect is the accessibility of the web site. The fourth important aspect is e-mail response, besides traditional communication means such as phone calls, online customers in fact are particularly keen for prompt response to their inquiries and prompt confirmation through e-mail. Finally, transaction security and personal

information privacy are major concerns for online customers (Yang & Fang 2004).

Wolfinbarger and Gilly (2002) found that different dimensions of their measure of e-service quality have varying effects on the consequences. They found that reliability and fulfillment are the strongest predictor of customer satisfaction. Griffith and Krampf, referred by Zeithaml (2002), found that access and responsiveness of the website are the key indicators of service quality delivered through the web. In their study access was operationalized as the provision of a hot-link e-mail address and telephone number of customer service agents. Responsiveness was measured by the promptness of the e-tailored responses to customers' e-mail.

Liu and Arnett (2000) identified five key dimensions critical to web site success with customers. First, quality of information consists of relevant, accuracy, timely, customized and complete information presentation. Second important factor is the service includes quick response, assurance, empathy, and follow-up. Third, system use includes security, correct transaction, and customers' control on transaction, order-tracking facilities and privacy. The five service quality dimensions have been selected from the study done by Zethaml et al (2002). These dimensions are also mentioned by different authors (Jun & Cai (2001); Yang & Fang (2004); Liu & Arnett (2000) in their studies to determine online service quality dimensions. This is the main reasons behind selection of these five dimensions.
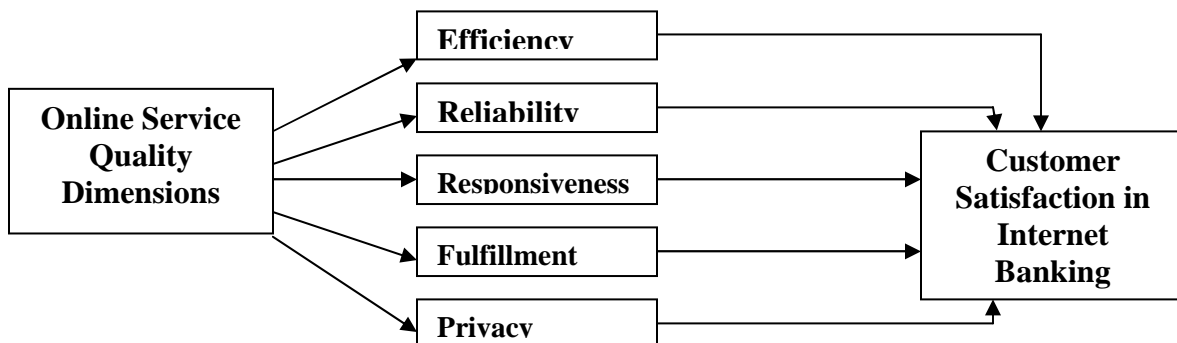

Figure 1: Conceptual Framework for the Study

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In this conceptual model, According to Yi (1990) customer satisfaction is defined as "a collection outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service". According to Zeithaml et al., (2002) online service quality is defined as "the extent to which a web site facilitates and make more effective shopping, purchasing, and delivery of product and services" (p.363). The following table describes the measurement criteria used in this research for service quality dimensions and their sources of conceptualizations.

Table 1: Summary of Literature Reviewed

Online Service Quality Dimension	Measurement Criteria	Supportive articles
Efficiency	The ability of the customers to get to a website, find their desired product and information associated with it.	Zeithaml et al., 2002;
Reliability	The technical functioning of the site, information that are provided are accurate.	Zeitham et al, 2002; McKinney et al, 2002
Responsiveness	The ability of e-staff to provide appropriate information to customers when a problem occurs, willingness to help customers and provide prompt service.	Zeithaml et al., 2002;Parasuraman et al., 1988;Berry et al., 1985
Fulfillment	Accuracy of service promises, delivering the product in the promised time.	Zeithaml et al., 2002;
Privacy	Personal information are not shared, credit card information is secure.	Zeithaml et al., 2002; Berry et al., 1985

Research Methodology

This section describes different research methods and deepens the chosen method of this study and the reasons for this choice. Furthermore, this chapter describes the chosen sampling technique, the way the data for

the study has been collected and the statistical techniques used to analyze the data. In addition, the issue of the reliability and validity of the presented study is discussed.
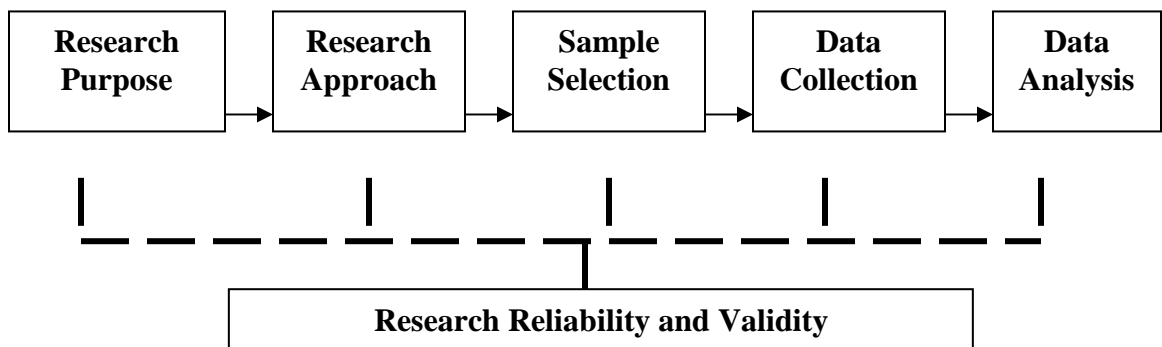
Research Purpose	Research Approach	Sample Selection	Data Collection	Data Analysis

Research Reliability and Validity

Figure 2: Presentation of the Methodology.

Research Purpose

The purpose of the research is mainly descriptive and explanatory. Descriptive because descriptive data has been collected through detailed interviews and it is also explanatory since it will explain the relationship between the service quality variables and customer satisfaction and how these dimensions affect customer satisfaction.

Research Approach

For the underlying study a quantitative approach was chosen

Population and Sampling

The population of the study maintains 400 Internet banking service subscribers/customers of the United Bank located in Addis Ababa city of Ethiopia. Surveying the entire Internet banking users of the bank was ensuring full representation of the population but found to be non-feasible in terms of time and cost. Therefore, a sample of 100 respondents, representing one-fourth of the total Internet banking service clients of the

bank, was drawn by using judgmental sampling. As the purpose of this research is to gain a better understanding of service quality dimensions affecting customer satisfaction with Internet banking services, the sample was drawn from the Addis Ababa city considering the availability of majority of the respondents, convenience of the researcher, and time limit to complete the study. Respondents for the study were selected by using judgmental sampling procedures through the following criteria:

▪ Sample should be more familiar with use of Internet.

▪ Should have experience of using Internet banking for at least one year.

Therefore, based on the literature review and conceptual framework, a questionnaire with 42 statements/items were developed and distributed.

Table 2: Items pertaining to each dimensions and their position on the original questionnaire

Items/ Questions	Content of each question	New dimension label
Q7*	Once a user managed to login into account, the bank's website does not ask him to re-login/logout after a while	Reliability & Service Performance
Q8*	The website supports a fast logout mechanism from the user's account	
Q9*	The bank's website links are reliable as they take me to the place where I want.	
Q10*	The website supports a 24x7 access to the Internet banking services	
Q11*	Once secured the information from a user, usually the bank's website doesn't freeze itself	
Q13*	The bank's website provides trust-worthy information	
Q14*	Information contents such as text messages and pictures on the website are easy to understand	
Q15*	The website maintained by the bank provides appropriate information/directions to the users when a problem occurs	

Q16*	The bank helps customers by providing prompt customer support services through website	
Q17*	The bank compensates for any logical problem that occurs while managing web based/e-accounts	
Q29*	The bank's website maintains updated profiles of currency rates, interest rates, and commission charges to support online clients	
Q32*	The website's section on "Frequently asked questions" serves mostly to all the queries placed by the users/clients	
Q41*	The bank supports the customers/clients to be competent in using Internet banking services facilitated by it.	
Q3*	The website maintains relevant/important information to assist the users/clients	Fulfillment
Q21*	The website provides quick confirmation messages on all Internet banking services	
Q22*	The bank's website performs the service right at the first time	
Q23*	The website correctly performs, every time, all Internet banking related services	
Q5*	The bank's website is easy & secured to navigate on the Internet banking options	Privacy
Q25*	The bank's website avoids cookies (unwanted software programs) to collect any sort of information	
Q26*	I believe that all my transactions (financial) through website are secure	
Q27*	The website assures the users about non-misusage (for the purpose) of the information provided by them	
Q6*	The website maintains a section dealing in service policy and relevant notices	Website characteristics & Customization
Q12*	The website maintains links those are supportive and can be downloaded quickly	
Q24*	The bank's website contains a section for giving assurance on the security issues while collecting personal data from the client/user	
Q30*	The information provided on the website about banking	

	products/services is solving the purpose what for it is being placed	
Q33*	The bank website maintains a section that supports physically disabled/handicapped (blind, deaf etc) clients by providing special services	
Q35*	The bank's website provides various language options other than English	
Q36*	The website offered by the bank to perform Internet banking operations, welcomes me with my name	
Q37*	The bank offers all required products/services (credit card, fund transfer etc.) which a client wants under Internet banking	
Q42*	Being a client of the bank, I don't see any risk while maintaining web-based financial transaction	
Q43*	The banks website provides me consistent and proper Internet banking services whenever I am in need off	
Q38*	Internet banking is attractive as it maintains less interaction with service facilitators (front-desk people)	Organizational Issues
Q39*	The bank maintains experienced staff to carry out Internet banking service related operations	
Q18*	The bank supports a live call/chatting to be maintained by a user to online customer support executive for clearing any doubts or gathering information on the service	Responsiveness
Q19*	The bank, promptly, takes care of problems associated with Internet banking services	
Q31*	The bank's website provides all relevant contact details (e-mail/physical addresses, telephone numbers etc.) of various authorities, departments and branches	
Q1*	The bank's website is simple to use	Efficiency
Q2*	The bank's website supports fast/quick login to users' account	

Data Collection

For the purpose of the thesis, primary and secondary data were collected. Primary data include a survey with customers of online banking services for which adhoc questionnaire has been designed. Secondary data include data from academic literature, books, journals, reports and Internet sources. Taking into consideration the time- and resource- limits of this study, the author has decided to measure directly the divergence between customers' expectations and perceptions using only one scale. This approach had made the questionnaire much easier to construct, administrate and analyze. In addition, it is thought to be easier for the customers to respond to such questionnaire including only one scale. For this purpose, the author has used the five-point Likert-type scale, ranging "1=strongly disagree" to "5=strongly agree".

Before the questionnaire was distributed, it went through a pre-testing. The modified questionnaire was given to 100 Internet banking users. The administration of the questionnaire was carried out through distribution of each questionnaire to the convenient place of each user's after taking their phone number from the bank. The bank first asks their willingness before provide their phone contact. The collection of the questionnaire was made immediately after the users fill all the questions of the questionnaire by checking their progress via cellular and office telephone. The time gap between questionnaire distribution and collection ranges from two days to ten days. The questionnaire consists of 42 items and demographic profile of the respondents (gender, age, length of service usage and income per month).

Data Analysis

The collected data in the study has been presented and analyzed using Descriptive Statistics, Cronbach's Alpha Test of Reliability and Factor Analysis with Principal Component Analysis as an extraction method, correlation and finally multiple regressions. In order to prove the internal reliability of the instrument used, Cronbach's Alpha Test of Reliability was

performed, by grouping the different items (questions) pertaining to the different quality dimensions and test each dimension. Applying this test specifies whether the items pertaining to each dimension are internally consistent and whether they can be used to measure the same construct.

Furthermore, using the Principal Component Analysis (PCA) helps to decide whether the division and description of the initial dimensions pertaining to the theoretical model are appropriate. With the help of the PCA, some of the items of the initial theoretical model were removed and the number of dimensions was increased to seven. Using the above stated techniques resulted in modification of the initial model. Finally, descriptive statistics, correlation coefficient, and multiple regressions were applied. Descriptive statistics like mean and standard deviation was used to measure the level of customer satisfaction on Internet banking service of the bank. Correlation coefficient was employed to see the relationship between service quality dimensions and overall satisfactions. Multiple regressions was used to see the extent of effect that each service quality dimensions has on overall customer satisfaction and overall service quality on customer satisfaction.

Reliability and Validity

When developing and evaluating an instrument and when conducting research in general, there are two important issues that have to be examined - the reliability and validity of the study. In this thesis, the face validity and internal reliability have been applied, where the validity of the study has been proven through pre-testing, rewording and reevaluation of the instrument used.

Data Analysis and Findings

Descriptive statistics were applied to summarize mean scores of various dimensions predicting service quality, and demographic profile of the respondents. Factor analysis was carried out to assess the

unidimensionality and validity of the constructs for the subsequent analysis. Additionally, multivariate analysis was performed to determine the contribution of each of the model dimensions in estimating overall service quality.

Scale Validity and Reliability

Validity Test

The principal components method of extraction (based on Eigenvalue>1) with oblique rotation was employed, considering all the dimensions are conceptually linked (Hair et al, 1998), to perform factor analysis. In order to test for convergent and discriminant validity of the constructs, factor analysis with varimax rotation was used. According to Hair et al (1998) to determine the minimum loading necessary to include an item in its respective construct, variables with loading greater than 0.3 were considered significant; loading greater than 0.4, more important; and loadings 0.5 or greater were very significant. Thus, this study accepts items with loading of 0.4 or greater. Two rounds of factor analyses were performed (see Appendix 3 and 4 for detail understanding of the two rounds). The initial solution suggested that eleven factors can be extracted. However, four items (Q4*, Q20*, Q28* and Q39*) were loaded below 0.4 and removed from further analysis. After removing these items the second round of factor analysis were performed, varimax rotation with factor loadings was then generated, as summarized in table 3.

A total of seven factors with eigenvalues greater than 1.0 were identified. The seven factors accounted for about 79.154% of the total variance. It suggested that the items/variables in the questionnaire address more than 79% of the problem area raised by the researcher, while the remaining 19% of the problem is contributed by other factors. The items belongs to the identified dimensions are measuring reliability and service

performance (1 through 13); Fulfillment (1 through 4); Privacy (1 through 4); website characteristics and customization (1 through 10); organizational issues (1 and 2); responsiveness (1 through 3); and efficiency (1 and 2). Thus, all the scale items were found to be loaded into 7 factors (representing 79.154% of cumulated variance explained), with a factor loading of 0.487 and above, and perceived to be as service quality dimensions in Internet banking service (Table 3).

Table 3: Exploratory Factor Analysis (Loadings)

Items	Reliability &service Performance (RLSP)	Fulfillment (FULL)	Privacy (PRIV)	Website Characteristic & Customization (WBCU)	Organizational Issues (ORGI)	Responsiveness (RESP)	Efficiency (EFFI)
RLSP1	-0.544						
RLSP2	0.735						
RESP3	0.708						
RLSP4	0.753						
RLSP5	0.662						
RLSP6	0.627						
RLSP7	0.594						
RLSP8	0.615						
RLSP9	0.634						
RLSP10	0.721						
RLSP11	0.611						
RLSP12	0.506						
RLSP13	0.556						
FULL1		0.846					
FULL2		0.749					
FULL3		0.668					
FULL4		0.487					

PRIV1	0.538			
PRIV2	0.784			
PRIV3	0.760			
PRIV4	0.667			
WBCU1		-0.508		
WBCU2		0.663		
WBCU3		0.581		
WBCU4		0.572		
WBCU5		0.664		
WBCU6		0.688		
WBCU7		0.717		
WBCU8		0.796		
WBCU9		0.695		
WBCU10		0.632		
ORGI1			0.810	
ORGI2			0.532	
RESP1				0.798
RESP2				0.575
RESP3				0.665
EFFI1				
EFFI2				

Note: EFFI1 value 0.552 and EFFI2 value 0.663 appear in an additional column.

Reliability Test

Prior to the data analysis, the research instruments were tested for reliability, to check the degree to which the observed variable measures the "true" value and whether they are "error free." Thus, the constructs were

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tested for reliability, using Cronbach alpha test. The generally agreed upon lower limit for Cronbach's alpha is 0.7 (Robinson, et. al.; 1991), although it may decrease to 0.6 in an exploratory research (Hair et. al., 1998), suggested that the score for each construct should be greater than 0.6 for it to be reliable. Hence, a score of 0.6 and above were accepted in this study. Therefore, to review the internal consistency of the modified scale items, Cronbach coefficient (alpha) were computed and found to be 0.932 (Table 8), another indication of acceptability of the items, moreover, all the service quality dimensions were demonstrated internal consistency between 0.670 for 'efficiency' and 0.878 for 'reliability and service performance'. This indicates that all the seven dimensions maintain reasonable reliability. Furthermore, the statistics for "alpha if item deleted" is the Cronbach coefficient for the rest of the scale, after the corresponding item is excluded from the construct. The "alpha if item deleted" should increase only when the first item from 'reliability and service performance' dimensions is deleted. Furthermore, "alpha if item is deleted" were not calculated for both 'organizational issues' and 'efficiency' dimensions as both contain only two dimensions.

Table 4 Scale Reliability (Cronbach Alpha)

Dimensions	Items	Alpha Coefficients for dimensions	Alpha Coefficients if Item deleted
Reliability & Service Performance	RLSP1	0.878	0.919
	RLSP2		0.863
	RESP3		0.859
	RLSP4		0.862
	RLSP5		0.865
	RLSP6		0.862
	RLSP7		0.864
	RLSP8		0.865
	RLSP9		0.864
	RLSP10		0.857
	RLSP11		0.868
	RLSP12		0.874
	RLSP13		0.863
Fulfillment	FULL1	0.827	0.818
	FULL2		0.805
	FULL3		0.743
	FULL4		0.746
Privacy	PRIV1	0.854	0.831
	PRIV2		0.823
	PRIV3		0.797
	PRIV4		0.800
Website Characteristics & Customization	WBCU1	0.803	0.788
	WBCU2		0.773
	WBCU3		0.780
	WBCU4		0.770
	WBCU5		0.795
	WBCU6		0.783
	WBCU7		0.794

	WBCU8		0.792
	WBCU9		0.798
	WBCU10		0.782
Organizational Issues	ORGI1	0.789	
	ORGI2		
Responsiveness	RESP1	0.715	0.596
	RESP2		0.623
	RESP3		0.657
Efficiency	EFFI1	0.670	
	EFFI2		
Reliability of the total scale		0.932	

Demographic characteristics of the respondents

From Table 5 below, it can be seen that 12% of the respondents are aged between 18 and 25, 36% are in the age between 26 and 35, 44% of respondents are aged between 36 and 45, and 8% 0f respondents are above and equal to 46 aged, which is understandable all of the questionnaires were distributed in the business area where the majority or all of people are aged above 25. In the studied sample 47% are male and 53% are female. According to the table above, from all respondents only 7% are 10th/12 grade complete, 17% of respondents are college diploma holder, 70% of the respondents are first degree holder, and 6% of the respondents are holders of masters and above. This is helps the researcher to obtain valid information hence most of the respondents can easily understand the language on the questionnaires. As for the occupation of the respondents, 10% of them are government employees, 45% are private organization employees, 34% are running their own business, 6% are students, and 5% of them are employed in other sector. This also shows that Internet banking is preferred by employees and business men than students. When we see the monthly income of the respondents from the above table again, 10% of the respondents get less than 2,000 birr, 17% get between 2,001 and 5,000 birr,

44% get between 5,001 and 10,000 birr, 6% get between 20,001 and 30,000 birr, and no respondents who earn more than 30, 000 birr per month. According to the table again, from all respondents only 8% have been using online banking services for less than 6 months, 33% have been using such services between 6 and 12 months and the majority of the respondents – 59% have been using online banking services for more than a year. This is quite satisfactory as most of the people seem to have been using Internet Banking for more than 12 months, so they have enough experience to judge the quality of the provided online Internet banking services and their overall satisfaction with those services.

Table 5: Personal Profile of the Respondents

Characteristics	Percentage
Age (in years):	
18-25	0.12
26-35	0.36
36-45	0.44
> 45	0.08
Sex:	
Male	0.47
Female	0.53
Education:	
$10^{th}/12^{th}$	0.07
College Diploma	0.17
First Degree	0.70
Masters and above	0.06
Occupation:	
Government Employee	0.10
Private Organization Employee	0.45
Running own business	0.34
Student	0.06
Other	0.05
Income (in ETB):	
<2,000	0.10
2,001-5,000	0.37
5,001-10,000	0.44
10,001-20,000	0.06
20,001-30,000	0.03
Number of years of service usage	
<6 months	0.08
6 months-1 year	0.33
>1 year	0.59

Mean Scores of Performance Rating

The average service performance, as computed for Internet banking service quality on the seven identified dimensions, together with the overall service quality and satisfaction is given in Table 6. Mean scores reveal that the Internet banking is poorly performed, as maintaining below average (less than 2.5 on a 5-point scale), on most of service quality dimensions and specific to 'overall service quality' (2.010), and 'overall satisfaction' (2.100). However the service maintain above average performance on 'efficiency' (4040), and 'fulfillment' (2.595) as perceived by the respondents.

Table 6: Descriptive Statistics for Service Quality Dimensions, Overall Service quality and Satisfaction

Dimensions/ Variables	Mean	Standard deviation
Reliability & Service Performance	2.397	0.657
Fulfillment	2.595	0.662
Privacy	2.363	0.771
Website Characteristics & Customization	2.241	0.542
Responsiveness	2.253	0.716
Organizational Issues	2.290	0.789
Efficiency	4.040	0.597
Overall Service Quality	2.010	0.893
Overall Satisfaction	2.100	0.859

Modeling Overall Service Quality and Satisfaction

Before attempting to regression analysis, correlation coefficients between independent Internet banking service quality dimensions and dependant variables (overall service quality and satisfaction) were computed (Table 7). Most of the perceived dimensions of service quality were found to be significantly ($p<0.01$), others perceived dimensions of service quality were found to be significantly ($p<0.05$), while the rest are not significant at

all with each other and overall service quality. Also, strong positive association (r=0.828, p<0.001) was reported between overall service quality and satisfaction. Similarly, significant associations between the modified service quality dimensions and satisfaction reported ranging from a low with the dimension of 'efficiency' (0.209) to a high with 'website characteristics and customization' (0.732).

Table 7: Summary of Correlation Coefficient

	RLSP	FULL	PRIV	WBCU	ORGI	RESP	EFFI	ORSQ	ORST
RLSP	1								
RLSP	.521**	1							
RLSP	.585**	.496**	1						
RLSP	.642**	.653**	.683**	1					
RLSP	.418**	.285**	.485**	.502**	1				
RLSP	.500**	.372**	.247*	.412**	-.123	1			
EFFI	.033	-.016	.097	.070	.163	-.252*	1		
ORSQ	.638**	.686**	.548**	.793**	.354**	.533**	.084	1	
ORST	.570**	.583**	.524**	.732**	.404**	.625**	.209*	.828**	1

** Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed).

The existence of significantly higher correlation coefficients for overall satisfaction and perceived service quality with all modified Internet banking model dimensions shows that the constructs are both conceptually and empirically distinct from each other and determines strong predictive power in the present study. Furthermore, the predictive power validity of each scale dimension/item was checked by using regression analysis. For this purpose, the data were exposed to multiple regression analysis; by using SPSS 13.0 the system was given command to perform the analysis by applying hierarchical approach of testing significant interaction effects over and above the simple effects of the independent variables. As suggested by statistician, if a correlation coefficient matrix demonstrates the degree of

association between variables about 0.75 or higher, there may be the condition of multicollinearity that must be rectified before using such variables as predictors in regression analysis. Accordingly, the level of associations in the study, as given in Table 8, was found to reach such value, thus multicollinearity analysis was carried out before the regression analysis.

Multicollinearity refers to high correlations among the independent variables. According to Gujarati (1995), occurrences of this effect violate some of the basic assumptions for regression analyses. To test for multicollinearity, Kleinbaum et. al. (1988) suggests calculating the Variance Inflation Factor (VIF) for each independent variable. According to them, as a rule of thumb, if the (VIF) for each independent variable exceeds 10, that variable is said to be highly collinear and will pose a problem to regression analysis. As Table 8 shows, the variables together with their respective VIF values are between the range of 1.200 and 3.990, well below 10. Therefore, there was no problem of multicollinearity.

Table 8: Computed VIF value for each independent variable

Overall service quality	VIF (Variance Inflation Factor)
RLSP	3.805
FULL	2.123
PRIV	2.121
WBCU	3.990
ORGI	1.874
RESP	2.231
EFFI	1.200

Dependent Variable: Overall, how satisfied are you with the Internet banking services of the United Bank?
Source: Author's calculation

The entire service quality dimension except 'reliability and service performance' (ß=0.076), and 'organizational issues' (ß=0.044) emerged as a critical determinant to overall service quality. From all service quality dimensions, 'website characteristics & customization' (ß=0.640), emerged as the most critical determinant of overall service quality. That means, website sections, links information, appearance, layout, language, service package, updated data, support maintained by the service provider, and effective customization are the aspects those Internet banking service users used in their assessment of Internet banking service quality. On its behalf, the service recovery process, if well done, can have positive impact on the development of trusting relationships with customers and can lead to increased customer satisfaction (Grönroos, 2000). Furthermore, the prompt response to customers' requests by email is becoming more and more important for improving the overall quality of online services (Jun & Cai, 2001).

Secondly, 'fulfillment' (ß=0.264), is found as a strong determinant of overall service quality. Items like assistance, quick confirmation, right service, and continuality of the right service are the second aspects which are used by the users in evaluating the quality of Internet banking service. All these factors are related to the theoretical perspectives of fulfillment, which according to Zeithmal et al. (2002) are accuracy of service promises, and delivering the product in the promise time.

The third important dimensions according to the users is 'responsiveness' (ß=0.253). Responsiveness measures the ability of e-staff to provide appropriate information to customers when problem occurs (Zeithmal et al., 2002), timeliness of service that means mailing a transaction slip immediately, calling the customer back quickly, giving prompt services (Berry et al., 1985), this responsiveness criteria can be comparable to what the respondents selects as important determinants of overall service quality measurement dimensions. As per the users perception of service quality

dimensions, 'efficiency' (ß=0.126) is related to simplicity use and fast logout that contribute to their overall service quality measurement.

Additionally, an attempt was made to identify the contribution of each modified Internet banking model dimensions together with overall service quality in predicting overall customer satisfaction (Figure 4.1). On the part of the independent dimensions of Internet banking quality model, no item contribute significantly to overall customer satisfaction. However, overall service quality was reported as the most significant determinant of users satisfaction in Internet banking services (ß=0.706, p<0.001).
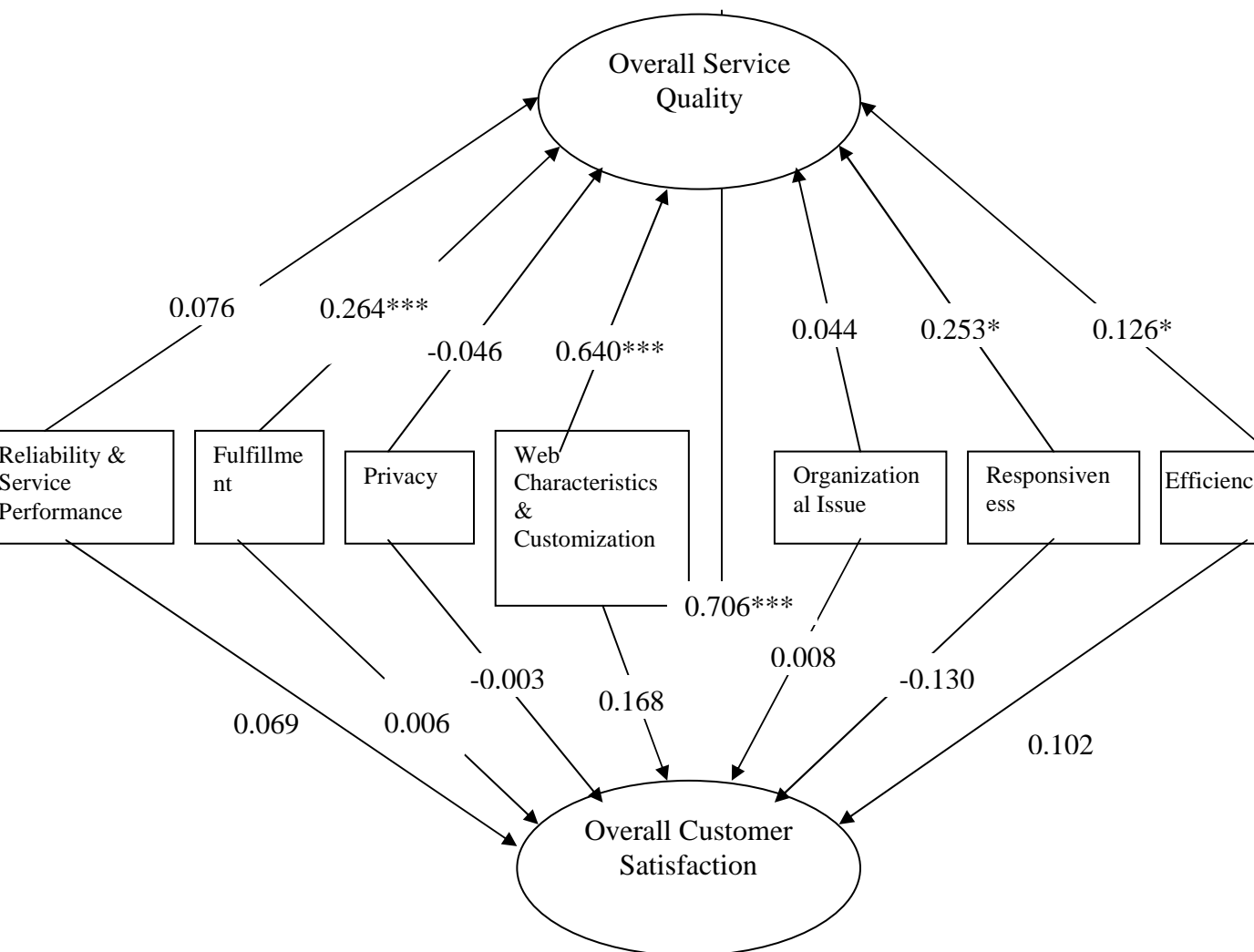

Figure 3 Framework for Overall Service Quality and Satisfaction

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Conclusion and Managerial Implication

The purpose of the present research is to determine customer satisfaction with Internet banking service through customer perceived service quality. Regarding the result, the majority of the findings of the study supported the applied theory indicating that there is strong relationship between overall service quality and satisfaction in Internet banking of United bank, Addis Ababa, Ethiopia. The study adapted the SERVPERF approach in the context of Internet banking services. By examining factor analysis, dimensional structure of reliability and service performance, fulfillment, responsiveness, privacy, website characteristics and customization, organizational issues, and efficiency were identified. Empirical results show that more than 79% of the variance is explained by the identified seven dimensions of service quality. Also the study suggests that New Internet banking dimensions have major implications in determining overall service quality.

The research results offer important insights. Relating to the overall service quality and satisfaction, as measured using a five point Likert scale, the study revealed that there is a moderately low perceived service quality and users were somehow dissatisfied with the service provided by the United Bank S.C. as noted by participants of the study, lack of online financial transaction service, password errors, lack of concern in keeping users' interest by the bank, delay in responding to customer problems, and the presence of inexperienced staff are some of the factors contributing negatively to users overall satisfaction. Hence service provider need to do a lot with respect to these aspects of service quality in order to improve the overall level of service and ensure more customers' satisfaction.

In order to study the relationship of overall quality of service with users satisfaction, correlation and regression analysis were undertaken. The

standard regression analysis depicted a significant contribution in estimating overall service quality and satisfaction through independent new dimensions of Internet banking model. When all the seven dimensions are allowed to develop a model estimating overall service quality, website characteristics and customization was reported to be the most significant contributor followed by fulfillment, responsiveness, and efficiency respectively. However, the remaining dimensions (reliability and service performance, privacy, and organizational issues) were identified as non-significant contributors to estimate overall service quality. On the other hand, overall service quality emerged as most significant determinant (ß=0.706, p<0.001) to users satisfaction with Internet banking service. Surprisingly, all the dimensions of service quality were found non-significant to satisfaction. Therefore, the bank should display it's concern on overall service quality such as introducing ATM and VISA card, adding online financial transaction services, prompt response to customer problems, and upgrading the knowledge of its staff to further ensure both a high quality service and users' satisfaction. Additionally, they should be able to provide the service to the users dependently and accurately, while maintaining sincere interest for solving users' problems.

Managerial Implication

Implications for Practitioners

With Internet and Web technologies development, customers can have unlimited access to the financial information they require and may enjoy a wider range of financial transaction from banking site. Therefore, it is not easy for Internet banking or traditional banking to gain and sustain competitive advantages based only on a cost strategy in Internet banking market. Rather, defining customers' needs and preference, and their related quality dimensions have increasingly become a key driving force in

enhancing customers' satisfaction and attract more customers. Identification and measurement of customers, expectations of the Internet banking services provide a frame of reference for banks' assessment of their quality. This study identified a total of seven service quality dimensions. Obviously, in order to maintain a high level of overall service quality, the banks providing Internet banking services should pay attention to all these dimensions tested in this study. However to strengthen competitiveness in the extremely competitive market, given limited organizational resources, it is recommended that the Internet banking should focus on the main four key dimensions, *website characteristics, efficiency, fulfillment, and responsiveness*, in order to achieve high level of service quality, and on *overall service quality* to create customer satisfaction customer satisfaction.

Implications for Theory

The main purpose of the study is to gain a better understanding of the relationship between service quality and customer satisfaction in Internet banking and aim to describe and explore a phenomenon within this specific research area by answer four research questions. Theoretically this study extends the knowledge body of service quality and customer satisfaction by enriching the content of service quality dimensions applicable for Internet banking sector, and based on existing theories, this study tested seven key service quality dimensions in Internet banking context.

Implication for Further Research

With the development of e-commerce and Internet banking, some areas which are not covered in this study are interesting and need to explore. In addition, the limitation and shortcoming of this study also provide implications for future research. Future research could make several extensions of the current study. First, future research needs to verify the service quality dimensions in Internet banking derived in this study. Also

this study was conducted to find the linkage between service quality dimensions and satisfactions from the consumer's viewpoint. The study could, in the future, be conducted to explore and include the providers' view. In other words, it could assess the bank and other financial institutions' viewpoints and their instance regarding what they might identify as service quality variables to satisfy their customers. This could further confirm or disconfirm the presence of the seven variables identified in this study.

Second, the research findings need to be enhanced and validated by using more diversified random samples and employing online survey or content analysis method, since the main limitation for quantitative data collection that restricts the developments of the new findings is the number of samples, which are only 100. Therefore, a greater number of samples might give a more reliable and different finding. However, since the results obtained through this study were through quantitative methods and qualitative ones were used simply to have a secondary confirmation of the findings, a larger sample size should not affect the conclusions drawn from this research.

Finally, since the time and cost limitation, the study was conducted only at United bank in Addis Ababa area. Future research can be conducted at different banks and a different picture might be offered.

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