

Electronic banking services in South Africa: Service quality scale development and validation

by

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2015

DECLARATION

I declare that the thesis titled

**Electronic banking services in South Africa: Service quality scale development
and validation**

is my own work, and that all the resources used or quoted have been duly acknowledged by means of in-text citations and complete references, and that I have not previously submitted the thesis for a degree at any other university.

Ephrem Habtemichael Redda

October 2015

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DEDICATION

This thesis is dedicated to my mother, Zaid, and my late father, Habtemichael, who instilled in me the value of education, and for their prayers.

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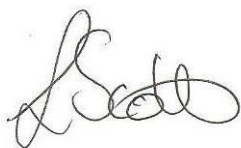
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The responsibility of implementing the recommended language changes rests with the author of the thesis.

Yours truly,

A handwritten signature in black ink, appearing to read 'Linda Scott', with a stylized, cursive script.

Linda Scott

ABSTRACT

Keywords: Electronic banking service quality, customer value, customer satisfaction, customer loyalty, scale development and validation, dimensions

The rapid advancement in technology-based systems, especially those related to the Internet and World Wide Web, has led to fundamental changes in how banks interact with customers. These developments have propelled banks to be innovative and use alternative delivery channels such as electronic banking with a view to attract more customers, create value for customers, enhance customer satisfaction and ultimately obtain customer loyalty. Within the South African context, a gap in research was identified that dealt with the conceptualisation and measurement of electronic banking service quality. Furthermore, no single empirical or conceptual study could be found that put up the four constructs identified in this study that tested the causal relationships of these constructs. Against this backdrop, the study's principal objective was to develop and validate a measuring scale of electronic banking service quality for the South African banking sector. The study also sought to determine the causal relationships amongst the four constructs of the study, namely electronic banking service quality, customer value, customer satisfaction and customer loyalty.

To address these research objectives, the study applied a two-phase design in conducting the research in an effort of enhancing and maximising the outcome of this research endeavour. Phase I of this study comprised a literature review and focus group interviews (qualitative research). An extensive literature review was conducted as an inductive method to build the theoretical foundation of the study, generate the initial pool of items, and define and conceptualise the constructs. Using a deductive method, the focus group interviews were used to generate original items for the development of the scale. Phase II of the study comprised scale refinement and validation of the scale through various interactive statistical applications such as exploratory factor analysis (EFA) and structural equation modelling (SEM) (quantitative method).

Using an exploratory factor analysis, eight determinant dimensions were extracted that constitute electronic banking service quality (EBSQ). These dimensions in accordance of their importance are reliability, system availability, privacy and security, website aesthetics, ease of use, functionality, efficiency, and contact and responsiveness. The Pearson's correlation coefficient between each of the eight dimensions and EBSQ was above 0.6 at $p < 0.01$ level of significance showing practical significance. Similarly, the Pearson's correlation coefficient among the four constructs, namely EBSQ, customer value, customer satisfaction and customer loyalty, revealed that there are evidence positive linear correlations among these constructs. T-test statistics and non-parametric correlations were computed to determine the influence of

demographic variables such as gender, age, education and income on the perceptions of customers of electronic banking service quality dimensions, electronic banking service quality as a whole, customer value, customer satisfaction and customer loyalty.

Employing comprehensive and best practice (inductive and deductive research methods), a measuring scale has been developed and validated for the South African banking sector (primary objective of this study). The purification and validation of the scale involved rigorous statistical methods including exploratory factor analysis followed by confirmatory factor analysis through structural equation modelling (SEM) to ensure the reliability, validity and robustness of the scale. Moreover, the study endeavoured to contribute to the theoretical conceptualisation of electronic banking service quality (EBSQ), which is a relatively new concept in South Africa, and indeed, globally. Eight dimensions of EBSQ have identified and operational definition provided for. The dimensions identified in this research can be used to better understand EBSQ, and to measure and improve service quality levels in the banking sector.

Ultimately, a model has been proposed providing South African banks with an instrument to measure, manage, and improve their electronic banking service quality. The model has established the building blocks of electronic banking service quality by identifying the main dimensions or attributes of electronic banking service quality that can be used to improve service quality levels. Furthermore, the study determined the causal relationships among four constructs, namely (I) electronic banking service quality (EBSQ), (II) customer value, (III) customer satisfaction and (IV) customer loyalty through regression path estimates (coefficients), mediation analysis and standardised regression weights. Understanding the intricate relationships among these constructs will definitely enhance the banks' approach to customer relationship management (CRM) in this digital era in their quest to provide quality services and devise appropriate customer service solutions.

In light of the findings of this research, several managerial implications and recommendations are offered. Amongst others, the research revealed that reliability, privacy and security are the top concerns customers have with regard to electronic banking. Therefore, it is recommended that banks invest in the robustness of the websites for banking transactions by using cutting-edge technology to protect their customers from illicit criminal activity, as security and trust are of crucial importance to customers when engaging in online transactions. The sample size (310) used in this research is consistent with previously developed and validated scales and sufficiently meets the requirements of sample adequacy for the study of this nature. Using the scale developed and validated in this study, future research endeavours are recommended to use a bigger sample size to test the robustness of this scale, and obtain more exact and organisation-specific customer perceptions of electronic banking services. It may be worthwhile

for future studies to consider developing a measuring instrument from a different perspective, that is, from other customer groups, namely internal customers (employees) of the banks.

OPSOMMING

Sleutelwoorde: Gehalte van elektroniese bankdienste, kliëntewaarde, kliëntetevredenheid, kliënteloyaliteit, skaalontwikkeling en –geldigheidsbepaling

Die vinnige ontwikkeling in tegnologie-gebaseerde stelsels, veral dié wat met die Internet en wêreldwye web verband hou, het tot grondliggende veranderinge gelei in hoe banke met kliënte omgaan. Hierdie ontwikkelinge het banke genoodsaak om innoverend te wees en alternatiewe dienslewingskanale soos elektroniese bankdienste te gebruik met die oog daarop om meer kliënte te lok en kliëntetevredenheid te verhoog om ten einde kliënteloyaliteit te bou. Daar is in die Suid-Afrikaanse konteks 'n gaping in navorsing oor die konseptualisering en bepaling van gehalte elektroniese bankdienste geïdentifiseer. Daar kon verder geen enkele empiriese of konseptuele studie gevind word wat die vier konstrakte wat in hierdie studie geïdentifiseer word se kousale verband toets nie. Met dit in gedagte is die studie se hoofdoel om 'n skaal te ontwikkel wat die gehalte diens van elektroniese bankdienste meet vir die Suid-Afrikaanse banksektor en om die geldigheid daarvan te toets. Die studie het ook gepoog om die kousale verband tussen die vier konstrakte van die studie, naamlik die gehalte van elektroniese bankdienste, kliëntewaarde, kliëntetevredenheid en kliënteloyaliteit te bepaal.

Ten einde hierdie navorsingsdoelwitte aan te spreek, is 'n tweefase-ontwerp toegepas om sodoende die uitkoms van hierdie navorsingspoging te versterk en vergroot. Fase 1 van hierdie studie sluit 'n literatuuroorsig en fokusgroeponderhoude (kwalitatiewe navorsing) in. 'n Uitgebreide literatuuroorsig is uitgevoer as 'n induktiewe metode om die teoretiese basis van die studie te vestig, die aanvanklike poel items te genereer en te definieer en die konstrakte te konseptualiseer. Met die gebruik van 'n deduktiewe metode is die fokusgroeponderhoude gebruik om oorspronklike items vir die ontwikkeling van die skaal te genereer. Fase II van die studie het die verfyning en geldigheidsbepaling van die skaal deur verskeie interaktiewe statistiese toepassings soos ondersoekende faktorontleding (OFO) en strukturele vergelykingsmodellering (SVM) (kwantitatiewe metode) behels.

Agt bepalende dimensies wat die gehalte van elektroniese bankdienste (GEB) uitmaak is deur middel van ondersoekende faktoranalise geïdentifiseer. Hierdie dimensies is, in volgorde van belangrikheid, betroubaarheid, stelselbeskikbaarheid, privaatheid en sekuriteit, webblad-estetika, gemak van gebruik, funksionaliteit, doeltreffendheid en kontak, en reaksievermoë. Die Pearson se korrelasiekoëffisiënt tussen elkeen van die agt dimensies en GEB was bo 0.6 teen 'n $p < 0.01$ vlak van beduidendheid, wat op praktiese beduidendheid dui. Net so dui die Pearson se korrelasiekoëffisiënt vir die vier konstrakte, naamlik GEB, kliëntewaarde, kliëntetevredenheid en kliënteloyaliteit, daarop dat daar bewyse is van 'n positiewe liniêre korrelasie tussen die

konstrukte. T-toetstatistieke en nie-parametriese korrelasies is bereken om die invloed van demografiese veranderlikes soos geslag, ouderdom, onderrig en inkomste op die persepsies van kliënte met betrekking tot dimensies van gehalte elektroniese bankdienste, gehalte van bankdienste in geheel, kliëntewaarde, kliëntetevredenheid en kliënteloyaliteit te bepaal.

Die toepassing van omvattende en beste praktyk (induktiewe en deduktiewe navorsingsmetodes) het gelei tot die ontwikkeling en die geldigheidsbepaling van 'n skaal vir die Suid-Afrikaanse banksektor (primêre doel van die studie). Die suiwering en geldigheidsbepaling van die skaal het deeglike statistiese metodes ingesluit, naamlik ondersoekende faktorontleding, gevolg deur bevestigende faktorontleding deur middel van strukturele vergelykingsmodellering (SVM) om die betroubaarheid, geldigheid en robuustheid van die skaal te verseker. Die studie het origens gepoog om by te dra tot die teoretiese konseptualisering van die gehalte van elektroniese bankdienste (GEB), wat 'n betreklike nuwe begrip in Suid-Afrika, en inderwaarheid wêreldwyd, is. Agt dimensies van GEB is geïdentifiseer, asook 'n operasionele definisie. Die dimensies wat in hierdie studie geïdentifiseer is kan gebruik word om GEB beter te verstaan en om vlakke van diensgehalte in die banksektor te bepaal en te verbeter.

'n Model is uiteindelik voorgestel wat aan Suid-Afrikaanse banke 'n instrument voorsien om die gehalte van hulle elektroniese bankdienste te bepaal, bestuur en verbeter. Die model het die boublokke van die gehalte van elektroniese bankdienste vasgestel deur die kern dimensies en eienskappe van gehalte elektroniese bankdienste wat gebruik kan word om vlakke van diensgehalte te verbeter, te identifiseer. Die studie het verder die kousale verbande tussen die vier konstrukte bepaal, naamlik (I) gehalte van elektroniese bankdienste (GEB), (II) kliëntewaarde, (III) kliëntetevredenheid en (IV) kliënteloyaliteit, deur regressiekromme beramings (koëffisiënte). Die begrip van die ingewikkelde verhouding tussen hierdie konstrukte sal verseker banke se benadering tot bestuur van kliëntebetrekkings (BKB) verbeter in hierdie digitale era in hulle poging om gehalte diens te lewer en geskikte oplossings te bied.

In die lig van die bevindinge van hierdie studie word verskeie bestuursimplikasies en aanbevelings aangebied. Die studie het onder andere aangedui dat betroubaarheid, privaatheid en sekuriteit kliënte se belangrikste bekommernisse aangaande elektroniese bankdienste is. Daarom word aanbeveel dat banke in die robuustheid van die webblad vir banktransaksies belê deur die nuutste tegnologie te gebruik om hulle kliënte van kriminele aktiwiteite te beskerm, aangesien sekuriteit en vertroue van uiterste belang vir kliënte is wanneer hulle aanlyntransaksies doen. Die steekproefgrootte (310) wat in hierdie studie gebruik is, is konsekwent met vorige ontwikkelde en geldigbepaalde skale en voldoen aan die vereistes vir steekproefgeskiktheid vir 'n studie van hierdie aard. Toekomstige navorsingstudies word

aanbeveel, na aanleiding van gebruik van die skaal wat ontwikkel is en geldig bepaal is in hierdie studie, om 'n groter steekproef te gebruik om die robuustheid van die skaal te toets en om meer spesifieke en organisasiespesifieke kliëntepersepsies van elektroniese bankdienste te verkry. Dit mag ook die moeite werd wees om in toekomstige studies te oorweeg om 'n meetinstrument te ontwikkel uit 'n ander perspektief, dit wil sê, van ander kliëntegroepe, naamlik interne kliënte (werknemers) van die bank.

TABLE OF CONTENTS

DECLARATION	i
ACKNOWLEDGEMENTS	ii
DEDICATION	iii
LANGUAGE EDITING	iv
ABSTRACT	v
TABLE OF CONTENTS	xi
LIST OF TABLES	xxi
LIST OF FIGURES.....	xxiii
LIST OF ACRONYMS.....	xxiv
CHAPTER 1 INTRODUCTION AND PROBLEM ORIENTATION	1
1.1 INTRODUCTION	1
1.2 TRADITIONAL SERVICE QUALITY	3
1.3 SERVICE QUALITY OF ELECTRONIC BANKING SERVICES	4
1.4 THE RESEARCH CONSTRUCTS	4
1.5 PROBLEM STATEMENT	7
1.6 OBJECTIVES OF THE STUDY	8
1.6.1 Primary objective	8
1.6.2 Theoretical objectives	8
1.6.3 Empirical objectives	8
1.7 RESEARCH QUESTIONS.....	9
1.8 HYPOTHESES	10
1.9 RESEARCH DESIGN AND METHODOLOGY	11
1.9.1 Literature review	11
1.9.2 The empirical study.....	11
1.9.2.1 Population	11

1.9.2.2	Sampling technique	12
1.9.2.3	Sample size	12
1.9.2.4	Measuring scale and data collection	12
1.10	STATISTICAL ANALYSES	13
1.11	RELIABILITY AND VALIDITY	13
1.12	CONTRIBUTION OF THE STUDY	13
1.13	CHAPTER CLASSIFICATION.....	14
1.14	CLARIFICATION OF CONCEPTS	15
1.15	SYNOPSIS	16
	CHAPTER 2 INDUSTRY PROFILE AND SERVICE QUALITY	17
2.1	INTRODUCTION	17
2.2	OVERVIEW OF THE FINANCIAL SYSTEM.....	17
2.3	THE ROLES AND FUNCTIONS OF THE BANKING SECTOR.....	18
2.3.1	Financial intermediation	18
2.3.2	Transmission of economic policies	19
2.3.3	Financial innovation	19
2.4	THE STRUCTURE OF THE BANKING SECTOR	20
2.5	THE BANKING SECTOR'S CONTRIBUTION TO THE ECONOMY.....	21
2.6	TRENDS IN THE BANKING SECTOR	22
2.7	THE IMPORTANCE OF TECHNOLOGY IN BANK OFFERING	23
2.7.1	Choice and convenience for customers	23
2.7.2	Attracting high value customers	23
2.7.3	Enhanced image.....	23
2.7.4	Increased revenue	24
2.7.5	Easier expansion	24
2.7.6	Load reduction on other channels.....	24

2.7.7	Cost reduction	24
2.7.8	Organisational efficiency.....	25
2.8	TRADITIONAL SERVICES	25
2.8.1	Definition of services.....	25
2.8.2	Characteristics of services	26
2.8.2.1	Intangibility	26
2.8.2.2	Inseparability	28
2.8.2.3	Heterogeneity	29
2.8.2.4	Perishability	29
2.8.2.5	Lack of ownership.....	30
2.8.3	Classification of services.....	30
2.8.4	Service value mix.....	31
2.9	TRADITIONAL SERVICE QUALITY	32
2.9.1	Development and definition of service quality	33
2.9.2	Dimensions of service quality	36
2.10	MODELS OF SERVICE QUALITY	38
2.10.1	The disconfirmation of expectations model	38
2.10.2	The SERVQUAL model	39
2.10.2.1	Gap 1: The listening gap.....	44
2.10.2.2	Gap 2: The service design and standard gap.....	45
2.10.2.3	Gap 3: The service performance gap.....	46
2.10.2.4	Gap 4: The communication gap	46
2.10.2.5	Gap 5: The customer gap	47
2.10.2.6	Criticisms of the SERVQUAL instrument	48

2.10.3	Performance-only measures of service quality (SERVPERF)	49
2.10.4	The Nordic model of service quality	53
2.10.4.1	Technical quality	54
2.10.4.2	Functional quality	54
2.10.4.3	The corporate image	54
2.10.5	The three-component model	55
2.10.5.1	The service product	56
2.10.5.2	The service delivery	56
2.10.5.3	The service environment	56
2.11	SYNOPSIS	57
	CHAPTER 3 ELECTRONIC BANKING SERVICE QUALITY	58
3.1	INTRODUCTION	58
3.2	ELECTRONIC SERVICE QUALITY	58
3.2.1	Development and definition of electronic services quality	58
3.2.2	Dimensionality of the electronic service quality construct	60
3.2.2.1	Reliability/fulfilment	66
3.2.2.2	Responsiveness	66
3.2.2.3	Ease of use/usability	66
3.2.2.4	Privacy/security	67
3.2.2.5	Web design	67
3.2.2.6	Information quality/benefit	67
3.2.3	Electronic service quality models	67
3.2.3.1	The E-S-QUAL scale	67
3.2.3.2	E-service quality	72

3.2.3.3	Web Quality Instrument (WebQual)	74
3.3	ELECTRONIC BANKING SERVICE QUALITY	77
3.3.1	Background and development of electronic banking	77
3.3.2	Definition of electronic banking service quality	78
3.3.3	Dimensionality of electronic banking service quality construct	78
3.4	CUSTOMER VALUE	80
3.5	CUSTOMER SATISFACTION	83
3.5.1	The disconfirmation paradigm.....	84
3.5.2	Transaction versus cumulative perceptions	85
3.6	CUSTOMER LOYALTY.....	88
3.7	PROPOSED RESEARCH MODEL.....	93
3.8	SYNOPSIS	94
	CHAPTER 4 RESEARCH DESIGN AND METHODOLOGY	96
4.1	INTRODUCTION	96
4.2	RESEARCH PARADIGMS.....	96
4.2.1	Qualitative approach.....	100
4.2.1.1	Focus group interviews	100
4.2.1.2	Sampling of focus groups	101
4.2.1.3	Data collection	101
4.2.1.4	Data analyses.....	102
4.2.1.5	Role of the researcher in qualitative research.....	103
4.2.1.6	Validity in qualitative research.....	104
4.2.1.7	Reliability in qualitative research.....	104
4.2.2	Quantitative approach.....	105
4.2.3	The sampling design process	105

4.2.3.1	Target population.....	106
4.2.3.2	Sampling frame	106
4.2.3.3	Sampling technique	106
4.2.3.4	Sample size	107
4.2.3.5	Execution of the sampling process	109
4.2.4	Measuring scale	109
4.2.5	Data preparation.....	109
4.2.5.1	Editing	110
4.2.5.2	Coding	110
4.2.5.3	Entering data	111
4.3	STATISTICAL ANALYSES	111
4.3.1	Factor analysis	111
4.3.2	Reliability	112
4.3.3	Validity.....	113
4.3.3.1	Content validity	113
4.3.3.2	Construct validity	114
4.3.3.3	Criterion validity	114
4.3.4	Descriptive statistics	115
4.3.4.1	Measures of central tendency	115
4.3.4.2	Measures of variability	115
4.3.4.3	Measures of shape	115
4.3.5	Correlation analysis	116
4.3.6	T-test statistics.....	117

4.3.7	Structural equation modelling (SEM).....	117
4.3.7.1	Defining individual constructs	117
4.3.7.2	Developing and specifying the measuring model.....	118
4.3.7.3	Designing a study to produce empirical results	118
4.3.7.4	Assessing measurement model validity	118
4.3.7.5	Specifying the structural model.....	120
4.3.7.6	Assessing the structural model validity	120
4.4	ETHICAL CONSIDERATIONS	120
4.5	SYNOPSIS	121
	CHAPTER 5 QUALITATIVE ANALYSIS AND SCALE DEVELOPMENT	122
5.1	INTRODUCTION	122
5.2	ANALYSIS OF FOCUS GROUP INTERVIEWS	122
5.2.1	Thematic evidence of focus group interview	122
5.2.2	Tabulation scores of themes.....	123
5.2.2.1	Theme 1: Electronic banking service quality	124
5.2.2.2	Theme 2: Customer value.....	127
5.2.2.3	Theme 3: Customer satisfaction	128
5.2.2.4	Theme 4: Customer loyalty	128
5.3	SCALE DEVELOPMENT PROCEDURE.....	129
5.3.1	Determine the information sought.....	129
5.3.2	Determine the type of questionnaire	129
5.3.3	Determine content of individual questions.....	130
5.3.4	Determine form of response of each question.....	130
5.3.5	Determine wording of questions.....	130

5.3.6	Determine the sequence of each question.....	130
5.3.7	Design physical appearance of questionnaire.....	130
5.3.8	Revise if necessary.....	130
5.3.9	Pre-test the survey.....	131
5.4	ITEM GENERATION FOR THE FOUR CONSTRUCTS	131
5.5	QUESTIONNAIRE LAYOUT	134
5.6	SYNOPSIS	135
	CHAPTER 6 ANALYSIS AND INTERPRETATION OF EMPIRICAL FINDINGS	136
6.1	INTRODUCTION	136
6.2	PILOT TESTING OF THE QUESTIONNAIRE	136
6.3	DEMOGRAPHIC INFORMATION	139
6.3.1	Gender composition.....	141
6.3.2	Participant's age	141
6.3.3	Educational qualification	141
6.3.4	Income category	141
6.3.5	Rate of usage	142
6.3.6	Duration of usage	142
6.3.7	Accessing electronic banking.....	142
6.3.8	Purpose of usage	142
6.4	EXPLORATORY FACTOR ANALYSIS (EFA)	143
6.4.1	EFA on Section B: Electronic banking service quality (EBSQ)	144
6.4.1.1	Naming and interpretation of dimensions.....	146
6.4.1.2	Relative importance of dimensions	148
6.4.2	EFA on Section C: Customer value (CV)	149
6.4.3	EFA on Section D: Customer satisfaction (CS)	150

6.4.4	EFA on Section E: Customer loyalty (CL)	150
6.5	DEMOGRAPHIC VARIABLES' INFLUENCE ON CUSTOMER PERCEPTION	151
6.5.1	T-Test statistics	151
6.5.2	Non-parametric correlations.....	152
6.5.3	Correlation among eight dimensions of EBSQ	155
6.5.4	Correlation between eight dimensions and EBSQ.....	155
6.5.5	Correlation between EBSQ and customer value	155
6.5.6	Correlation between EBSQ and customer satisfaction.....	155
6.5.7	Correlation between EBSQ and customer loyalty	156
6.5.8	Correlation between customer value and customer satisfaction.....	156
6.5.9	Correlation between customer value and customer loyalty	156
6.5.10	Correlation between customer satisfaction and customer loyalty	156
6.6	HYPOTHESES TESTING.....	157
6.7	STRUCTURAL EQUATION MODELLING (SEM)	158
6.7.1	Measurement model specification.....	158
6.7.2	Reliability and validity of the measurement model	160
6.7.3	Assessment of goodness-of-fit indices.....	160
6.7.4	Structural model and mediation effects	161
6.8	SYNOPSIS	168
	CHAPTER 7 CONCLUSION AND RECOMMENDATIONS.....	170
7.1	INTRODUCTION	170
7.2	OVERVIEW OF THE STUDY	170
7.3	MAIN FINDINGS OF THE STUDY	172
7.4	CONTRIBUTION OF THE STUDY	174
7.5	RECOMMENDATIONS	175

7.6	LIMITATIONS AND FUTURE RESEARCH ENDEAVOURS	177
7.7	CONCLUDING REMARKS AND REFLECTION	177
	BIBLIOGRAPHY	178
	ANNEXURE A INSTRUCTIONAL QUESTIONS TO FACILITATE FOCUS GROUP INTERVIEWS	197
	ANNEXURE B QUESTIONNAIRE	198

LIST OF TABLES

Table 2.1	List of banks in South Africa.....	21
Table 2.2	Service quality dimensions and descriptions	37
Table 2.3:	Selected empirical studies on service quality	51
Table 3.1:	Selected studies on electronic service quality scale development	63
Table 3.2:	Dimensions of E-S-Q	68
Table 3.3:	E-S-QUAL scale.....	70
Table 3.4:	E-RecS-QUAL.....	71
Table 3.5:	The WebQual 4.0 instrument	75
Table 3.8:	The meaning of value.....	81
Table 3.9:	Alternative satisfaction definitions	85
Table 3.10:	Record of previous studies that attempted to establish relationships amongst service quality, customer value, customer satisfaction and customer loyalty	93
Table 4.1:	Features of the two main paradigms	97
Table 4.2:	Instructional questions to facilitate the focus group interviews.....	102
Table 4.3:	Sample size	107
Table 4.4:	Goodness-of-fit indices	119
Table 5.1:	Tabulation scores of themes	124
Table 5.2:	Illustration of compilation of questions: Section B.....	131
Table 5.3:	Compilation of question for Section C	133
Table 5.4:	Compilation of question for Section D	133
Table 5.5:	Compilation of question for Section E.....	134
Table 6.1:	Summary of the pilot testing results	136
Table 6.2:	Item tabulation scores and descriptive statistics.....	137
Table 6.3:	Sample profile	140

Table 6.3:	KMO and Bartlett's test of sphericity	144
Table 6.4:	Pattern matrix of factors: Electronic banking service quality	145
Table 6.5:	Relative importance of dimensions.....	148
Table 6.6:	Component matrix: Customer value	149
Table 6.7:	Component matrix: Customer satisfaction	150
Table 6.8:	Component matrix: Customer loyalty.....	150
Table 6.9:	Independent sample t-test for gender.....	151
Table 6.11:	Correlation matrix.....	154
Table 6.13:	Goodness-of-fit indices for the competing models	160
Table 6.15:	Standardised regression weights: EBSQ, CS and CL for Model B	164
Table 6.16:	Standardised regression weights: EBSQ, CV, CS, CL for Model C	166
Table 6.17:	Standardised regression weights: EBSQ, CV, CS, CL for Model D	167

LIST OF FIGURES

Figure 2.1	Tangibility and intangibility of market entities.....	28
Figure 2.2	Lovelock's four-way classification scheme	31
Figure 2.3	Disconfirmation of expectations model.....	39
Figure 2.4	The zone of tolerance	41
Figure 2.5	The SERVQUAL model.....	43
Figure 2.6	Gaps model of service quality	44
Figure 2.7	Perceived service qualities.....	55
Figure 2.8	The three-component model of service quality	56
Figure 3.1:	E-service composition and corresponding quality constructs.....	62
Figure 3.2:	A conceptual gaps model for E-S-Q	68
Figure 3.3:	A model of e-service quality	73
Figure 3.4:	A model of portal quality.....	80
Figure 3.5:	Proposed research model	94
Figure 4.1:	Steps employed in the development and validation of the scale.....	99
Figure 5.1:	Electronic banking service quality: Themes and subthemes.....	123
Figure 5.2:	Electronic banking service quality scale development.....	129
Figure 6.1:	Specified measurement model	159
Figure 6.2:	Structural Model A.....	162
Figure 6.3:	Structural Model B.....	163
Figure 6.4:	Structural Model C	165
Figure 6.5:	Structural Model D	167
Figure 7.1:	Modelling of electronic banking service quality (EBSQ).....	175

LIST OF ACRONYMS

ABSA	Amalgamated Banks of South Africa
AGFI	Adjusted Goodness-of-fit Index
AVE	Average variance extraction
BSQ	Bank service quality
CFI	Comparative fit index
CL	Customer loyalty
CR	Composite reliability
CS	Customer satisfaction
CV	Customer value
E-consumer	Electronic consumer
E-banking	Electronic banking
EBSQ	Electronic banking service quality
E-commerce	Electronic commerce
E-loyalty	Electronic loyalty
E-satisfaction	Electronic satisfaction
E-services	Electronic services
E-S-Q	Electronic service quality
E-S-QUAL	Electronic service quality
GDP	Gross domestic product
GFI	Goodness-of-fit index
NFI	Normal fit index
RMSEA	Root mean square error of approximation
SARB	South African Reserve Bank
SEM	Structural equation modelling
SERVPERF	Service performance
SERVQUAL Scale	Service quality scale
TLI	Tucker Lewis index
WebQual	Website quality

CHAPTER 1

INTRODUCTION AND PROBLEM ORIENTATION

1.1 INTRODUCTION

Banks are in the business of rendering services, which include services such as savings, cheque and investment accounts. Due to technological advancements and innovation, electronic banking has gained importance as an alternative means of providing services to customers. As a result, the understanding and measuring of service quality of electronic banking has become an indispensable marketing management imperative to bank managers. Various studies (Santos, 2003; Al-Alawi, 2005; Bauer *et al.*, 2005; Akinyele & Olorunleke, 2010; Narteh, 2013) have been conducted on the service quality of electronic banking.

According to the Banking Association of South Africa (2012:1) South Africa has a well-developed and regulated banking system that compares favourably with many industrialised countries. Traditionally the banking service market has been highly concentrated. Standard Bank, Amalgamated Banks of South Africa (ABSA), First National Bank (FNB) and Nedbank dominated the banking sector. However, the sector has transformed immensely because of mergers, consolidations, technological advances and changes in legislation. Many foreign banks have also entered the South African banking sector. Capitec Bank and African Bank have also emerged as important local players in the banking sector targeting the low-income and the previously unbanked markets.

Singh (2004:190) states that Internet banking in South Africa started in 1996. Initially the beginning was fairly slow, but soon clients were attracted by the benefits offered, such as convenience, safety and the low costs of online banking. Concurring with Singh (2004), Maduku (2013:77) is of the view that in recent years (particularly since 1995) many South African banks have embraced electronic banking in order to make banking easier for their customers and also to allow them to offer new services. Maduku (2013:78) posits that banks in South Africa, like elsewhere, are crafting and implementing various strategies to attract new customers and also to increase existing customers' use of Internet banking services. Currently, a significant number of clients are using electronic banking facilities in South Africa. The shift from branch banking to electronic banking is likely to make significant leaps in the near future with the current push to increase access to broadband in South Africa.

Extensive research on service and service quality measurement has been done over the past few decades on traditional forms of businesses, generally referred to as 'brick and mortar' firms (Ladhari, 2008:70; Adil, 2013:53). Many early models of service quality, including those of Grönroos (1982) and Parasuraman *et al.* (1988) were based on the disconfirmation model used

in the physical goods' literature (McColl-Kennedy, 2003:79). The disconfirmation model is based on the premise that service quality is perceived through a comparison between expectations and experiences of a number of service quality dimensions (Grönroos, 2007:82). Service quality has been measured in businesses ranging from financial services to restaurants (Mehta *et al.*, 2000:63). Many of the studies used the service quality (SERVQUAL) instrument to measure service quality delivered through regular offline channels (Han & Baek, 2004:208).

With globalisation, technological advancement, financial innovation, changing information systems and deregulation, an alternative avenue has opened up through electronic technologies such as the Internet with a view of providing superior service compared to competitors (Hamadi, 2010:1). In search of a competitive advantage many firms, banks in particular, have focused on shifting its delivery towards self-service channels such as electronic banking services (Pikkarainen *et al.*, 2004:224). These developments have changed the way banks and clients interact in conducting business. As banks compete in the market place with generally undifferentiated products, the focus on e-service quality has become a primary competitive strategy in an attempt to win customers (Kumar *et al.*, 2010:352).

The challenging business environment has also propelled banks to be innovative and use alternative delivery channels with a view to attracting more customers, improving customers' perceptions and instilling customer loyalty (Bauer *et al.*, 2005:153). The measurement of service quality in electronic banking, however, has received little attention, particularly in a South African context. This is primarily because managers often disregarded its importance, and secondly, because service quality in online technologies is so difficult to conceptualise and to measure (Du Plessis & Rousseau, 2007:320).

Internet banking, electronic banking, e-banking and online banking are terms often used to describe online technology-driven electronic offerings of services (Dhurup *et al.*, 2014:588). Electronic banking is a generic term used to describe the process by which a customer may perform banking transactions electronically without visiting a particular bank (Ombati *et al.*, 2010:156). Electronic banking, in the context of this study, is defined as an Internet portal through which customers can use different kinds of banking services, ranging from account payments to making investments (Pikkarainen *et al.*, 2004:224). Thus, online banking includes services such as accessing accounts, transferring funds and buying financial products or services online. Therefore, banks whose websites offer only information on their pages without the possibility of making any transactions are excluded as online banking services for the purpose of this study.

An overview of the literature on service quality in industries and service quality pertaining to electronic banking services is discussed in the next section in order to place the study in perspective.

1.2 TRADITIONAL SERVICE QUALITY

A service generally is perceived in a subjective fashion. According to Grönroos (2007:54), services are usually described by customers as an experience, trust, feeling and security. These descriptions are highly abstract ways of formulating what a service is. Unlike the quality of goods, which can be measured with some objectivity, service quality is abstract and elusive to measure and understand. The unique features of services, such as inseparability of production and consumption, intangibility, and heterogeneity, make the measurement of quality a complex task (Parasuraman *et al.*, 1985:42). In the absence of objective measures, service organisations such as banks have to rely on the clients' perceptions of service quality to identify their strengths or weaknesses in product or service offerings (Karatepe *et al.*, 2005:373).

Researchers have developed various models to measure service quality. Grönroos (1984:39), for example, developed a service quality model with three dimensions, namely technical quality (what the consumer gets), functional quality (how the consumer gets it) and corporate image (how the consumer perceives the firm and its services). The service quality scale (SERVQUAL) developed by Parasuraman *et al.* (1988), which has formed the cornerstone of the measuring of service quality, is one of the most widely used approaches for assessing service quality. The scale comprises 22 items that measure consumers' perceptions and expectations of service quality, using the following dimensions, namely reliability, responsiveness, assurance, empathy and tangibles. Another scale that was developed by Cronin and Taylor (1994) is the performance-only measure of service quality (SERVPERF). In this scale, the expectation component of the SERVQUAL is completely discarded and it aims to measure service quality only on the basis of service performance.

With regard to the applicability of the SERVQUAL model across a broad range of service categories, Dabholkar *et al.* (1996:14) argue that a single measure of service quality across industries is not feasible. The authors suggest that future research on service quality should involve the development of industry-specific measures of service quality. Such arguments have meant a move from attempts to adapt SERVQUAL as is to the development of alternative industry-specific measures. Service quality in respect of electronic banking services is discussed in the following section.

1.3 SERVICE QUALITY OF ELECTRONIC BANKING SERVICES

The concept of service quality from an electronic service perspective is described as the clients' overall evaluation and judgement of excellence and quality of electronic service offerings in the virtual marketplace (Santos, 2003:235). This description entails that unlike the evaluation of traditional service offerings, customers in an electronic environment are less likely to evaluate each sub-process in detail during a single visit to a bank's website. Clients in an electronic banking environment are likely to perceive the service as an overall process and outcome (Van Riel *et al.*, 2001:362).

There is increasing evidence of variation in the outcomes of studies on the dimensions of electronic service quality that have surfaced in an attempt to address the key attributes of service quality of online services, directly or indirectly (Jun & Cai, 2001:276; Barnes & Vidgen, 2003:298; Santos, 2003:241; Han & Baek, 2004:209; Yang & Fang, 2004:305; Parasuraman *et al.*, 2005:230, Narteh, 2013:78). Barnes and Vidgen (2003:298) developed the web quality instrument (WebQual) with 24 items specifically for online service quality measurement. Seven dimensions were established, namely reliability, competence, responsiveness, access, credibility, communication and understanding of the individual. The model developed by Santos (2003:243) divides electronic service quality into two phases – before and after the launching of a website and identified six determinants in order of importance. These determinants are reliability, efficiency, support, communication, security and incentives. The scale developed by Parasuraman *et al.* (2005:230) referred to as the electronic service quality instrument (E-SQ), is comprised of seven dimensions, namely efficiency, fulfilment, system availability, privacy, responsiveness, compensation and contact.

A discussion of the research constructs of this study is presented in the next section.

1.4 THE RESEARCH CONSTRUCTS

Blanche *et al.* (2006:142) describe constructs as qualities that have been conceptualised and defined in language, and which have been explained theoretically as to how they are related to other constructs. According to Hair *et al.* (2009:233), research constructs are described as unobservable abstract concepts that are measured indirectly by a group of related variables. Hair *et al.* (2009:233) further elaborate that variables are measurable elements of an object and are measured directly. In practice, the term variable is used as a synonym for constructs, or the property being studied, and in this context a variable is a symbol to which numerals or values are assigned (Cooper & Schindler, 2006:44). Electronic banking service quality, customer value, customer satisfaction and customer loyalty will constitute the main constructs of this study.

The first construct of this study is electronic banking service quality. Parasuraman *et al.* (1985:42) are of the view that perceived service quality results from a comparison of customers' prior expectations about a service and their perceptions after the actual experience of the service encounter. If expectations are greater than performance, then perceived quality is less than satisfactory and may result in customer dissatisfaction. For purposes of this research, service quality is defined as "the consumer's evaluative judgement about an entity's overall excellence or superiority in providing desired benefits" (Arnould *et al.*, 2002:327). Numerous researchers and academics have tried to uncover the general attributes of services that can be used in the measurement of service quality. The most notable study conducted that determined the dimensions of service quality is the research conducted by Parasuraman *et al.* (1988). The dimensions identified in this scale are tangibles, reliability, responsiveness, assurance and empathy (Parasuraman *et al.*, 1988:23). Similarly, the scale developed by Parasuraman *et al.* (2005:230) for electronic services (the E-SQ) is comprised of seven dimensions, namely efficiency, fulfilment, system availability, privacy, responsiveness, compensation and contact. As stated previously, several other researchers have identified different sets of dimensions in the process of conceptualisation and measurement of both electronic and traditional forms of services. For the purpose of this research, electronic banking service quality is described as the customers' overall evaluation and judgement of excellence and quality of electronic banking service offerings.

The second construct of this research is customer value. Zeithaml (1998:14) describes customer value as "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given". The four ways in which customers view customer value as elucidated by Zeithaml *et al.* (2009:537) are:

- Value is low price
- Value is everything I want in a service
- Value is the quality I get for the price I pay
- Value is all that I get for what I give.

In this context value, therefore, is a trade-off between what the customer received such as quality, benefits, worth or utilities and what the customer gave up to acquire and use the product, for example, price or any other sacrifice. Customers broadly use the term value in four different ways as mentioned by Zeithaml *et al.* (2009:537).

Customer satisfaction is the third construct identified for this research. In the services marketing literature there has been a long-standing debate on the concept of satisfaction (Levy & Weitz, 2001:152; Dong, 2003:45; Arbore & Busacca, 2009:271). Bloemer and De Ruyter (1998:501)

and Lovelock and Wright (1999:88) define satisfaction as “the outcome of the subjective evaluation that the chosen alternative meets or exceeds expectations”. Thus, the two variables that determine satisfaction are expected and perceived service. The basis of this definition stems from the disconfirmation paradigm as a post-purchase evaluation (Torres *et al.*, 2001:206). Satisfaction is also considered from a perspective of cumulative satisfaction and is defined as the customers’ overall experience with the service provider after a series of service encounters (Johnson *et al.*, 2001:218). The majority of the past studies view satisfaction from a cumulative perspective to measure the construct (Gupta & Zeithaml, 2006:718; Ganguli & Roy, 2010:172).

The fourth construct of this study is customer loyalty. Loyalty can be described as the consumer’s inclination to patronise a given firm or chain of firms over time (Knox & Denison, 2000:34). The literature suggests that loyalty consists of two dimensions, namely attitudinal and behavioural aspects. The behavioural aspect of loyalty focuses on a measure of the proportion of purchase of a specific brand, while attitudinal loyalty is measured by a psychological commitment to a firm (Dong, 2003:45). Koo (2006:127) conducted a study to identify the variables that determine customer loyalty. The study reveals that customers’ favourable perceptions of website design, visual appeal, well-organised hyperlinks, information quality, product assortment and after-sale services are positively associated with online store loyalty.

Part of the outcome of this research is intended to empirically determine the relationships amongst the constructs of service quality, customer value, customer satisfaction and customer loyalty of electronic banking services in a South African context. Previous studies established that service quality is a precondition for customer satisfaction (Newman, 2001:138; Ladhari, 2008:70; Boshoff & Du Plessis, 2009:37). The literature also suggests that there is a direct link between service quality and customer loyalty (Harris & Goode, 2004:142; Koo, 2006:121). Previous studies also suggest a direct link between customer satisfaction and customer loyalty (Bearden, 1977:19; Dong, 2003:49).

Patterson and Spreng (1997:414) highlight that one of the major interests to marketing scholars and practitioners alike is customers’ perceptions of value and satisfaction. These constructs are particularly important as they are related to market share, relationship marketing and future (re)purchase intentions. Patterson and Spreng (1997:416) established that each performance dimension is positively linked to perceived value. In turn, the researchers also determined a positive association of perceived value and customer satisfaction. Similarly, the researchers further identified perceived value as antecedent of (re)purchase intentions.

Kuo *et al.* (2009) conducted a study on the relationships among service quality, perceived value, customer satisfaction, and post-purchase intention of mobile value-added services. The

researchers also determined the relationships among service quality, perceived value, customer satisfaction, and post-purchase intention of mobile value-added services. The findings established that service quality positively influences perceived value and customer satisfaction, suggesting that when companies provide good service quality, perceived value and customer satisfaction can be improved. Thus, perceived value positively influences customer satisfaction. In other words, higher perceived value can lead to higher customer satisfaction. Their findings further indicated that perceived value and customer satisfaction directly and positively influence customer loyalty. The effect of perceived value on customer loyalty was the largest, followed by that of customer satisfaction. However, service quality showed no direct positive effect on post-purchase intention. While service quality has no direct effect on post-purchase intention, service quality could indirectly influence purchase intention through perceived value and customer satisfaction (Kuo *et al.*, 2009:894-95).

In the following section, the problem statement of this research is formulated.

1.5 PROBLEM STATEMENT

Despite the fact that in recent years the number of banks offering electronic banking services and the number of electronic bankers has grown, there is evidence suggesting the lack of measurement of electronic banking service quality (Pikkarainen *et al.*, 2004:225; Zarei, 2010:6). Owing to the nature and characteristics of services, measurement of service quality in electronic banking is often difficult and may vary from one customer to another (Ombati *et al.*, 2010:157). For example, for some customers trust and efficiency of a bank may be viewed as more important service attributes, while for others security, response and ease of use may be viewed as more important service attributes (Kenova & Jonasson, 2006:3). In addition, the electronic service delivery process may differ considerably from that of branch banking environment mainly because of the lack of direct contact between employees and customers (Li *et al.*, 2002:690).

In view of the differences between electronic services and traditional services, it is apparent that the traditional SERVQUAL model does not constitute a comprehensive instrument for assessing electronic service quality. Several studies have attempted to develop specific measurement scales for online service quality, but the task is neither simple nor straightforward (Ladhari, 2010:465). Parasuraman *et al.* (2005) acknowledge this when they suggest that studying electronic service quality requires scale development that extends beyond merely adapting offline scales.

While a large number of research studies have been documented globally on the dimensions of service quality, for example, the SERVQUAL, SERVPERF and Grönroos' Nordic models, research on electronic banking service quality has not been as comprehensive and extensive

given its relatively short existence. Knowledge of the determinants of electronic banking service quality is essential for banks as they seek to become more competitive in the marketplace (Kayabas *et al.*, 2013:320). A sound measure of electronic service quality is necessary for identifying those attributes of services that require performance improvement and for assessing how much improvement is needed in each service attribute in improving service quality (Zeithaml *et al.*, 2009:151). It is also vital for banks to understand the causal relationships amongst service quality, customer value, customer satisfaction, and customer loyalty so that they can devise appropriate customer service solutions. Within the South African context, there is a gap in the research in the conceptualisation and measurement of electronic banking service quality. Furthermore, no single empirical or conceptual study could be found that put up the four constructs identified in this study that tested the causal relationships of these constructs. It is against this background the study was conceived. Accordingly, the objectives of the study are formulated in the following section.

1.6 OBJECTIVES OF THE STUDY

1.6.1 Primary objective

The primary objective of this research was to develop and validate a scale for the measurement and management of electronic banking service quality for the banking sector in South Africa.

1.6.2 Theoretical objectives

In order to achieve the primary objective, the following theoretical objectives have been formulated for the study:

- I. To provide an industry profile of the banking sector
- II. To review the literature on service marketing
- III. To review the literature on service quality scales of traditional 'brick and mortar' firms
- IV. To critically study and review the literature service quality scales of electronic services in general and banking services in particular
- V. To review the literature on the relationships among service quality, customer satisfaction, customer value and customer loyalty.

1.6.3 Empirical objectives

The following empirical objectives have been formulated to support both the primary and the theoretical objectives.

- I. To identify the service quality dimensions that influence electronic banking services in the banking sector
- II. To determine the relative importance of each dimension of electronic banking service quality as perceived by banking clients
- III. To determine the relationship between electronic banking service quality and customer value
- IV. To determine the relationship between electronic banking service quality and customer satisfaction
- V. To determine the relationship between electronic banking service quality and customer loyalty towards electronic banking services
- VI. To determine the relationship between customer value of electronic banking services and customer satisfaction
- VII. To determine the relationship between customer value of electronic banking services and customer loyalty
- VIII. To determine the relationship between customer satisfaction and loyalty towards electronic banking services.

1.7 RESEARCH QUESTIONS

Research findings on the relationship between e-service quality and customer satisfaction are varied, as results show that not all e-service quality dimensions are critical to customer satisfaction (Khan *et al.*, 2009:36). Service quality is found to be a strong predictor of customer satisfaction (Cronin *et al.*, 2000:200; Dabholkar *et al.*, 2000:141). Within the banking industry, where service quality dimensions were tested as predictors of customer satisfaction, it was established that not all dimensions are strong predictors of e-service quality (Webb *et al.*, 2000; Ganguli & Roy, 2010:180). In other sectors such as telecommunication and mobile services, researchers have proved a positive relationship between customer value and loyalty (Ishaq, 2012:27). In addition, various researchers have established mixed relationships with service quality dimensions, customer value, customer satisfaction and loyalty. Against the background, the following key questions were developed to guide the study:

- I. What are the dimensions that determine electronic banking service quality in South Africa?
- II. Which dimensions are more important to customers as far as electronic banking service quality is concerned?
- III. What is the relationship between electronic banking service quality and customer value?

- IV. What is the relationship between electronic banking service quality and customer satisfaction?
- V. What is the relationship between electronic banking service quality and customer loyalty towards electronic banking services?
- VI. How is customer value of electronic banking services related with customer satisfaction?
- VII. How is customer value of electronic banking services related with customer loyalty? and
- VIII. What is the relationship between customer satisfaction and customer loyalty towards electronic banking services?

Based on the empirical objectives and the research questions, six main hypotheses were proposed, as outlined in the following section.

1.8 HYPOTHESES

The null and alternative hypotheses for this research were stated as follows:

H₀₁: Electronic banking service quality does not influence customer value.

H_{a1}: Electronic banking service quality positively influences customer value.

H₀₂: Electronic banking service quality does not influence customer satisfaction.

H_{a2}: Electronic banking service quality positively influences customer satisfaction.

H₀₃: Electronic banking service quality does not influence customer loyalty.

H_{a3}: Electronic banking service quality positively influences customer loyalty.

H₀₄: Customer value does not influence customer satisfaction.

H_{a4}: Customer value positively influences customer satisfaction.

H₀₅: Customer value does not influence customer loyalty.

H_{a5}: Customer value positively influences customer loyalty.

H₀₆: Customer satisfaction does not influence customer loyalty.

H_{a6}: Customer satisfaction positively influences customer loyalty.

The following section provides a description of the research design and methodology followed in this study.

1.9 RESEARCH DESIGN AND METHODOLOGY

Malhotra (2010:102) describes a research design as a map or framework details of the procedures involved in obtaining the required data to solve marketing research problems. The study employed a two-phase design in conducting the research. In line with the practice of service quality scale development and validation, a qualitative approach was applied in the initial phase of the process (Churchill, 1979; Parasuraman *et al.*, 1988, Avkiran, 1994; Ekiz, & Bavik, 2008; Blankson *et al.*, 2009; Jayawardhena, 2004; Ho, & Lin, 2010). Following a critical study of the extant literature and initial generation of items, focus group interviews with electronic banking users were conducted to generate original items and descriptions of what constitutes service quality of electronic banking in a South African context. The second phase employed a quantitative approach, which involved the use of a questionnaire to collect data, and refining and validating of the scale was performed through various interactive statistical applications. Essentially, the study comprised a literature review, focus group interviews and the administration of the questionnaire (an empirical study).

1.9.1 Literature review

An extensive literature study was undertaken in the field of service quality in general and service quality in electronic banking in particular, using textbooks, academic journals, magazines, conferences, newspapers and web-based sources such as Science Direct and Emerald.

1.9.2 The empirical study

In the case of empirical research, the sampling process takes a centre stage. Wegner (2000:110) maintains that the sampling process guides the selection of a sample to ensure that it is representative of its target population so that the sample findings provide information which is relevant to the study's objectives. The following steps were used in the sample design process:

1.9.2.1 Population

The population is the larger pool from which the sampling elements are drawn (Blanche *et al.*, 2006:133; Malhotra, 2010:372). Customers who made use of electronic banking services from South African banks were sampled for the research study.

1.9.2.2 Sampling technique

While the research design is a plan of the information required to answer research problems and how it should be collected, sampling addresses the question, “From whom do we need to obtain this information?” (Frazer & Lawley, 2000:9). McDaniel and Gates (2002:401) are of the view that sampling methods can be grouped under probability and non-probability sampling methods. Probability samples are selected in such a way that every element of the population has a known, non-zero likelihood of selection, whereas non-probability samples are those in which specific elements from the population are selected in a non-random manner. Malhotra (2010:372) argues that non-probability samples yield good estimates of the population characteristic citing some limitation on the objective evaluation of the precision of the sample results. It was not possible to obtain a sample frame for the study and, therefore, probability sampling was not a feasible method for the research study. Snowball and convenience sampling, both non-probability techniques were selected to conduct the research.

1.9.2.3 Sample size

The sample size for the study was determined based on a historical approach (Malhotra, 2010:374). The sample size for this research was set at 310 electronic bank customers. This figure is consistent with those in similar studies conducted on electronic banking services using a non-probability sampling technique (Santos, 2003:237; Pikkarainen *et al.*, 2004:228; Akinyele & Olorunleke, 2010:215; Ombati *et al.*, 2010:158).

1.9.2.4 Measuring scale and data collection

It has been noted that several studies have been documented globally in areas of electronic services. After critically studying and evaluating other research studies as well as having conducted focus group interviews, a questionnaire was developed to address the stated research objectives. The questionnaire was designed in such a way that it was able to measure and determine the relationships amongst the research constructs of the study, namely electronic banking service quality, customer value, customer satisfaction and customer loyalty.

The questionnaire contained five sections. Section A – biographic data; Section B – consumer perceptions of electronic banking service quality, Section C – customer value, Section D - customer satisfaction, and Section E – customer loyalty (refer to Annexure B). The questionnaire was pre-tested to check whether any changes were needed to the questionnaire. Furthermore, the questionnaire was pilot tested to establish the initial reliability of the scale before it was fielded in the main study. A mall-intercept and Survey Monkey were used to collect data from respondents.

1.10 STATISTICAL ANALYSES

Descriptive analyses in the form of tabulations, frequencies, and mean were used to analyse the composition of the sample. Exploratory factor analysis (EFA) was used to extract the dimensions of electronic banking service quality at the initial stage in the process of developing and validating of scale. Correlation analysis and structural equation modelling (SEM) were conducted to examine the relationship among the following variables, namely electronic banking service quality, customer value, customer satisfaction and loyalty. The statistical programs IBM SPSS and AMOS, version 22 for Microsoft Windows, were used to perform the data analysis.

1.11 RELIABILITY AND VALIDITY

Reliability refers to the ability of a scale to produce consistent results if repeated measurements are conducted (McDaniel & Gates, 2002:297). Cronbach alpha and composite reliability (CR), tools for assessing the reliability of scales, were used to establish the reliability of the scale. A reliability benchmark value of 0.70 and above was regarded as acceptable for this research. A measure or instrument is said to be valid if it measures what it is supposed to measure (Welman & Kruger, 2005:142). Various validity measures including content, construct, convergent, discriminant, and nomological validity were undertaken in this research.

1.12 CONTRIBUTION OF THE STUDY

The contribution of the study to the body of knowledge is two-fold. While traditional service quality and its antecedents have been widely researched globally, research on electronic banking service quality has not been as extensive and holistic. Research in areas of service quality of electronic banking in South Africa is scant and limited in scope. The main contribution of the study was to develop and validate a scale for electronic banking services in South Africa. The research model in this study proposes an examination of the causal relationships amongst service quality dimensions of electronic banking, customer value, customer satisfaction and customer loyalty. Thus, the study seeks to make a contribution to the body of knowledge on the conceptualisation, understanding, measurement and management of service quality of electronic banking in South Africa. Similarly, the study also aims to provide a practical contribution to marketing practitioners who could benefit from the findings of the research by utilising appropriately technology-supported services as a competitive edge in today's fast-paced business environment where consumers are becoming increasingly demanding and sophisticated.

Chapter 1: This chapter provided a background and introduction to the study. The objectives and problem statement for the research were developed. Key research questions were formulated. The contribution of the study was elucidated. The research design and methodology to be followed were also outlined briefly. Key concepts used in the study were clarified.

Chapter 2: This chapter has two sections. In section one, a review of the industry profile of the banking sector is presented. A review of the literature on the general overview of financial systems with specific focus on the role and function of the banking sector in the South African economy is presented to gain an insight into the industry. In the second section, a review of the literature on service quality of traditional ‘brick and mortar’ firms is provided. The conceptualisation and measurement of service quality has drawn heated debates among several researchers and practitioners over the past few decades. The focus, therefore, is placed on review of the literature of selected models of service quality such as the disconfirmation of expectations model, the SERVQUAL, the SERVPERF and the Nordic model.

Chapter 3: A comprehensive and critical review of the extant literature on electronic service quality in general and service quality of electronic banking in particular are presented in this chapter. Electronic service quality models such as the E-S-QUAL scale, E-service quality, web quality instrument (WebQual) and a model of portal quality are reviewed. Particular attention is devoted to scales that attempted measuring electronic banking service thus far. The theoretical relationships amongst the constructs of electronic banking service quality, customer value, customer satisfaction and loyalty comprised the main focus of the literature study.

Chapter 4: This chapter focuses on the research design and methodology followed in this research. The chapter also elaborates on the sampling techniques, methods of data collection and the statistical analysis employed in this research study.

Chapter 5: This chapter reports on the analysis and interpretation of the qualitative part of the study, and the development of the scale through an intricate process of literature analysis and analysis of focus group interviews. The chapter presented the actual development of items for the scale through a synthesis of initial items from the literature and original items from the focus group interviews.

Chapter 6: An analysis and interpretation of the empirical research findings are presented in this chapter in light of the research objectives, research problem and research questions.

Chapter 7: This chapter presents the conclusion and recommendations of the research study. The conclusions arrived at systematically addresses the research objectives of the study, the

research problem and research questions. Limitations and implications for further research are also outlined.

1.14 CLARIFICATION OF CONCEPTS

For the purposes of this research, the following definitions and descriptions are applicable.

Service is defined as a process of consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in the interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to consumer problems' (Grönroos, 2007:52).

Service quality is "the consumer's evaluative judgement about an entity's overall excellence or superiority in providing desired benefits" (Arnauld *et al.*, 2002:327).

E-service quality is defined as "the consumer's overall evaluation and judgement of the excellence and quality of e-service offerings in the virtual marketplace" (Santos, 2003:235).

Electronic banking is defined as "an Internet portal through which customers can use different kinds of banking services ranging from bill payment to making investments" (Pikkarainen *et al.*, 2004:224).

Electronic banking service quality is described as the customers' overall evaluation and judgement of excellence and quality of electronic banking service offerings.

Customer value is described as the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1998:14).

Customer satisfaction is defined as the customer's overall experience with the service provider after a series of service encounters (Johnson *et al.*, 2001:218).

Customer loyalty is defined as a consumer's "inclination to patronise a given firm or chain of firms over time" (Knox & Denison, 2000:34).

E-loyalty represents behavioural intention on the part of the user and is conceived as a consumer's intention to buy through an organisation's website (Cyr *et al.*, 2009:852).

SERVQUAL is "a concise, multiple-item scale that organisations can use to better understand the expectations and perceptions, and as a result, improve service" (Parasuraman *et al.* 1988:30).

E-S-QUAL is broadly defined to encompass all phases of a customer's interactions with the website; the extent to which a website facilitates efficient and effective shopping, purchasing and delivery scale (Parasuraman *et al.*, 2005:5).

Validity is the ability of an instrument to measure what it is intended to measure (Zikmund *et al.*, 2013:303).

Reliability refers the extent to which a scale can produce the same or similar results in repeated trials (Hair *et al.*, 2010:165).

A bank is a public company registered as a bank in terms of the Banks Amendment Act (19 of 2003). The business of a bank is the solicitation and advertising for and the acceptance of deposits from the general public on a regular basis and the utilisation of deposits accepted.

1.15 SYNOPSIS

In today's fast-paced business environment, rendering quality service to customers has become crucially important to any organisation and banks are no exception. The rapid advancement in technology-based systems, especially those related to the Internet, has led to fundamental changes in how banks interact with customers. To benefit from this technological advancement, South African banks have decided to invest in self-service delivery channels such as Internet banking, telephone banking and ATMs. The body of literature suggests that service quality and its antecedents in service industries have been extensively researched. However, research on electronic banking service quality has not been as extensive and holistic. It was emphasised that a sound measure of service quality is key to banks as they seek to become competitive in their attempts to keep customers satisfied and loyal.

The objectives of the study, problem statement and research questions were formulated. The contribution of the study was elucidated. The research design and the sampling process were outlined. Finally, the outline of the study and definition of important concepts was provided. In the next chapter, an overview of the banking sector is provided. Emphasis is placed on the extant literature on traditional services, service quality scales and electronic banking services scales.

CHAPTER 2

INDUSTRY PROFILE AND SERVICE QUALITY

2.1 INTRODUCTION

This chapter aims to achieve the following theoretical objectives as set out in Chapter 1. These objectives are:

- I. To provide an industry profile of the banking sector
- II. To review the literature on service marketing
- III. To review the literature on service quality scales of traditional 'brick and mortar' firms.

First, an industry profile of the banking sector is presented (theoretical objective I). A review of the literature on the general overview of financial systems with specific focus on the role and function of the banking sector in the economy as well as the structure of the banking sector are presented to provide an insight into the industry. Secondly, a review of the literature on service marketing and service quality of traditional 'brick and mortar' firms is provided (theoretical objectives II and III). The conceptualisation and measurement of service quality has drawn heated debates among several researchers and practitioners over the past few decades. The focus, therefore, is to review the literature with regard to selected scales of service quality.

An overview of the financial system is presented in the next section.

2.2 OVERVIEW OF THE FINANCIAL SYSTEM

Van Zyl *et al.* (2003:3) define the financial system as a set of arrangements embracing the lending and borrowing of funds by non-financial economic units and intermediation of funds by financial institutions in order to facilitate the transfer of funds, to create additional money when required, and to create markets in debt instruments so that price and allocation of funds are determined efficiently. This definition identifies five essential fundamentals of a financial system:

- First, lenders and borrowers, such as the non-financial economic units
- Secondly, financial institutions, which intermediate (to a large degree) the lending and borrowing process
- Thirdly, financial instruments, which are created to satisfy the needs of the various participants
- Fourthly, the creation of money when required, *inter alia* the unique ability of money-creating ability of banks in the economy

- Finally, financial markets, *inter alia* the institutional arrangements and conventions that exist for the issue and trading (dealing) of financial instruments.

Within the financial system, the banking sector plays an important role that cannot be performed by other players in the industry such as insurance and pension businesses. These roles and functions are discussed in the following section.

2.3 THE ROLES AND FUNCTIONS OF THE BANKING SECTOR

The roles and functions of the banking system are stated briefly from a South African context to highlight its significance in the economy. The role and functions of the banking sector is summarised under the following sub-headings as described by Mishkin (1995:10).

2.3.1 Financial intermediation

Financial intermediation is the primary business of banks. Banks' key role in the financial system is the channelling and facilitation of funds from surplus units to deficit units in an efficient and effective manner.

Financial intermediation is an important activity in the economy because it allows funds to be channelled from people who might otherwise not put them to productive use to people who will. In this way, financial intermediaries help to promote a more efficient and dynamic economy (Mishkin, 1995:10). It is unlikely that savings of non-economic units will be matched by desired investments. Some economic units may find that their savings out of income exceed their planned investment, while others may find themselves in a position where their savings are insufficient to meet desired internal investment. Given the existence of surplus and deficit economic units, or a supply of and a demand for loanable funds, some financial conduit is necessary if the excess funds of surplus units are to be transferred to deficit units (Fourie *et al.* 2001:4-5).

Van Zyl *et al.* (2003:5) state that the needs of surplus units and deficit units may be reconciled either through direct financing or through financial intermediaries (indirect financing). In the case of direct financing, a clash of interest exists between borrowers and lenders, such as it is rare that ultimate lenders and borrowers are able to do a deal by themselves. This is because lenders tend to require investments that differ from those that borrowers prefer to issue, and the differences involve characteristics such as size, term to maturity, quality and liquidity of investments.

Financial intermediaries performing the so-called indirect financing, assist in resolving the conflict between lenders and borrowers by creating markets in two types of financial instruments, such as one type for borrowers and another for lenders. They offer claims against

themselves, tailored to the liquidity and maturity needs of the lenders, and in turn acquiring claims on the borrowers. The former claims usually are referred to as indirect securities and the latter as primary securities (Fourie *et al.* 2001:5).

Banks and other financial institutions are what make financial markets work. Without them, financial markets would not be able to move funds from people who save to people who have productive investment opportunities. Thus, banks play a key role in channelling and facilitating funds from surplus units to deficit in units in an efficient and effective manner.

2.3.2 Transmission of economic policies

The second role played by the banks is the transmission of economic policies. Banks play a critical role in the creation of money, not by printing currency, but by lending. A bank's loan creates chequing account deposits, a large component of the money supply in the market. The manner in which banks decide to make loans is studied because such loans influence the money supply in the market. This makes designing and implementing a monetary policy a complicated task (Mishkin, 1995:10).

It is agreed commonly that the stability in the general price level is a vital prerequisite to fostering sustainable economic growth. In essence, this is the primary concern of a monetary policy. The South African Reserve Bank (SARB) currently uses the repo rate to influence market prices. The bank's repo rate influences the interest rates charged by banks to consumers, the general level of interest rates in the economy and consequently, other economic aggregates such as money supply, bank credit extension and ultimately, the rate of inflation. In this way, the Reserve Bank transmits its policy prescription to the market economy via the banks.

2.3.3 Financial innovation

Banks are engaged in innovation to meet the ever-changing consumer behaviour. In the process of their innovation, banks use cutting-edge information technology to satisfy their sophisticated consumers. From branch banking, banks are shifting towards electronic banking services. The external environment, evidenced by volatile economic conditions, new regulations, and technological developments, creates the opportunity for innovation in the banking sector (Koch & Macdonald, 2003:20).

In the following section the structure of the banking sector and the forces of change within the sector from local and international perspectives are discussed.

2.4 THE STRUCTURE OF THE BANKING SECTOR

Loonam and O'Loughlin (2008:759) and Haenlein *et al.* (2007:221) are of the view that in the past decade the retail banking industry across the world started to face a set of radically new challenges that have impacted negatively on industry margins and profitability. For the major part, these challenges have been caused by advances in modern information and telecommunication technologies, which have ultimately resulted in higher cost, transparency and brand-switching behaviour (Haenlein *et al.*, 2007:221). The increased competition has led to the commoditisation of basic banking products, such as deposit-taking, mortgages and credit facilities. This has further been fuelled by a rising number of new entrants in the retail banking sector coming from other sectors such as insurance and motor vehicle production. From a South African perspective, Fourie *et al.* (2001:90) assert that banks today are no longer the only providers of banking services; there are many traditional activities of banks that can now be undertaken equally well by non-banking financial institutions and non-financial companies. Examples of such activities include providing micro-credit facilities and payments systems by other retailers.

The South African banking industry currently faces several strategic challenges with significant consequences for untapped markets (Maumbe, 2006:72). With the re-entry of South Africa into the world economy in 1994, the South African banking industry has experienced a number of fundamental forces of change. Globalisation, technological advancement, financial innovation, regulation and deregulation are some of the most important of these forces. Globalisation and regulatory developments, for instance, are changing the platform of competition in the industry. Firms from other industries, for example, Virgin Mobile are entering the banking business and banks are forced to compete globally because South Africa has opened its doors to international players.

The Global Competitiveness Report 2012-2013 indicates that South African banks were rated second out of 144 countries in terms of soundness, and the country was rated third in terms of financial sector development. The South African banking industry is currently made up of 17 registered locally controlled banks, two mutual banks, 12 local branches of foreign banks, and 41 foreign banks with approved local representative offices. The banks are listed in Table 2.1.

Table 2.1 List of banks in South Africa

Category	Bank
Registered banks – locally controlled	ABSA Bank Limited; African Bank Limited; Bidvest Bank Limited; Capitec Bank Limited; FirstRand Bank Limited; Grindrod Bank Limited; Investec Bank Limited; Nedbank Limited; Regal Treasury Private Bank Limited (In liquidation); Sasfin Bank Limited; Ubank Limited; The Standard Bank of South Africa Limited.
Registered banks – foreign controlled	Albaraka Bank Limited; Habib Overseas Bank Limited; HBZ Bank Limited; Islamic Bank Limited (In Final Liquidation); Mercantile Bank Limited; The South African Bank of Athens Limited.
Mutual banks	GBS Mutual Bank; VBS Mutual Bank
Local branches of foreign banks	Bank of Baroda; Bank Of China Limited Johannesburg Branch (trading as Bank Of China Johannesburg Branch); Bank of Taiwan South Africa Branch; China Construction Bank Corporation-Johannesburg Branch; Citibank N.A.; Deutsche Bank AG; JPMorgan Chase Bank N.A. (Johannesburg Branch); Société Générale; Standard Chartered Bank - Johannesburg Branch; State Bank of India; The Hong Kong and Shanghai Banking Corporation.

Source: South African Reserve Bank (2012)

The competition, in providing quality services (be it through branch or electronic banking service) to customers, is becoming increasingly intense in today's fast-paced changing business environment and banks need to design appropriate marketing strategies in selling their services to their customers. The proliferation of, and rapid advances in technology-based systems, especially those related to the Internet, have led to fundamental changes in how banks interact with customers (Ombati *et al.*, 2010:152). This trend is well established in the services sector, where service providers are urged to invest in technology to secure a competitive advantage in an electronic age (Zhang & Prybutok, 2005:462).

From a global perspective, services are becoming crucial to the world economy in terms of job creation and its contribution towards the gross domestic product (GDP) of countries. The next section provides a discussion of the banking sector's contribution towards the economy.

2.5 THE BANKING SECTOR'S CONTRIBUTION TO THE ECONOMY

The service sector is growing in importance. Almost two-thirds of the world's economic output is accounted for by services (Malhorta *et al.*, 2005:271). Zeithaml *et al.* (2009:6-7) are of the opinion that service concepts and strategies have been developed in response to the

tremendous growth of service industries. Coinciding with the tremendous growth in the global service economy, the demand for individuals who provide service marketing expertise is expanding (Hoffman & Bateson, 2006:13).

Since the Second World War, Western Europe has seen a steady and unrelenting decline in its traditional manufacturing sector. The supremacy of this sector's position has been overtaken by numerous service-based enterprises, which were quick to spot the opportunities created by both organisational needs and increased personal affluence and the consequent raising of the lifestyle expectations of the population. This shift in emphasis has been so pronounced that some observers refer to it as the second industrial revolution (Mcdonald & Payne, 2006:1).

In South Africa, the services sector (particularly the financial sector) is becoming increasingly more important in the economy. The sector's contribution towards gross domestic product (GDP) and job creation is significant. In the following section, a brief discussion of the trends in the banking sector is provided.

2.6 TRENDS IN THE BANKING SECTOR

Fourie *et al.* (2001:73) assert that like any business, banks exist for one of two basic generic reasons:

- They are able to perform services that cannot be provided by other means or types of firms and/or
- They have a comparative advantage in the provision of these services.

The authors further assert that without exception all of the traditional functions of banks have been subjected to increased competition since the early 1980s. Banks are losing traditional monopolies and some their historical competitive advantages. The 1980s have already proven that other service providers have taken significant slices of banking businesses away. The main reasons are:

- Technology/innovation for example computer driven information systems
- Globalisation (putting international pressure on local banking business)
- Deregulation often forced by innovation and globalisation, but always resulting in increased competition.

Technology has become the main driving force of change in the banking sector, as is the case in other industries. This is because technology enables banks to better serve their customers and derive enormous benefits for themselves. In the next section, the importance of technology in bank offering is discussed.

2.7 THE IMPORTANCE OF TECHNOLOGY IN BANK OFFERING

Banks are undergoing a paradigm shift on the way they conduct their businesses. To remain relevant and competitive, banks are embracing technology and innovation to deliver superior services to their customers. Internet banking, telephone banking and ATM banking have become the new channels through which banks offer their services to customers.

Understanding electronic banking is essential for several stakeholders, not least of which is management of banking related organisations, since it helps them to derive benefits from it. South African banks have already implemented or are planning to implement electronic banking in their offering because of its potential benefits. Some of the major benefits of electronic banking as enumerated by Shah and Clarke (2009:4) are described briefly.

2.7.1 Choice and convenience for customers

Customers enjoy choice and convenience of electronic banking. Providing a unique and excellent experience is the compelling reason that will retain customers in today's competitive business environment. All the banking transactions can be performed from the comfort of the home or office or from the place a customer wants to (Shah & Clarke, 2009:4; Chavan, 2013:22).

2.7.2 Attracting high value customers

Shah and Clarke (2009:4) are of the opinion electronic banking often attracts high profit customers with higher than average income and education levels, which help to increase the size of revenue streams for banks. For a retail bank, electronic banking customers are therefore of particular interest, and such customers are likely to have a higher demand for banking products. Most of electronic banking customers are using online channels regularly for a variety of purposes, and for some there is no need for regular personal contacts with the bank's branch network, which is an expensive channel for banks to run (Berger & Gensler, 2007).

2.7.3 Enhanced image

Electronic banking helps to enhance the image of the businesses as a customer-focused innovative organisation. This was especially true in early days when only the most innovative businesses were implementing this channel. Despite its common availability today, an attractive banking website with a large portfolio of innovative products still enhances a bank's image (Shah & Clarke, 2009:5).

2.7.4 Increased revenue

South African retail banks are investing substantial amounts of capital into the provision of electronic banking services to generate revenues from such services (Maduku, 2014:67). Chavan (2013:21) claims that the financial products and services have become available over the Internet and this channel has helped banks to address revenue, cost and competitiveness concerns. Concurring with Chavan (2013:21), Shah and Clarke (2009:5) believe that electronic banking has changed the traditional retail banking business model in many ways, for example by making it possible for banks to allow the production and delivery of financial services to be separated into different areas of businesses. This means that banks can sell and manage services offered by other banks (often foreign banks) to increase their revenues.

2.7.5 Easier expansion

Internet and access to cell phones are on the rise. Dagada (2013) reports that the ownership of cell phones in South Africa has reached almost 100 percent of the population and South African banks are benefiting enormously from expansion of these services. Traditionally, when a bank wanted to expand geographically it had to open new branches, thereby incurring high start-up and maintenance costs. Electronic channels, such as the Internet, have made this unnecessary in many situations. Banks with a traditional customer base in one part of the country or world can attract customers from remote areas, as most of the financial transactions do not require a physical presence near customers living/working place.

2.7.6 Load reduction on other channels

Electronic channels are largely automatic, and most of the routine activity such as account checking or account payments may be carried out using these channels. This usually results in load reduction on other delivery channels, such as branches or call centres. Shah and Clarke (2009:6) believe that this trend is likely to continue as more sophisticated services such as mortgages or asset finance are offered using electronic banking channels. In some countries such as South Africa, routine branch transactions such as cash/cheque deposit-related activities are being automated. This helps banks to reduce the workload of branch staff, and enabling the time to be used for providing better quality customer services.

2.7.7 Cost reduction

The main economic argument of electronic banking so far has been reduction of overhead costs of other channels such as branches, which require expensive buildings and a staff presence. It also seems that the cost per transaction of electronic banking often falls more rapidly than that

of traditional banks once a substantial number of customers is achieved (Chavan, 2013:22; Dagada, 2013).

2.7.8 Organisational efficiency

Electronic banking certainly does help banks to attain organisational efficiency. Dagada (2013) argues that the cost-to-income ratio is arguably one of the most important items in any bank's annual reports. It shows how much of every rand earned is used to pay for the costs of running the business, and therefore, how efficient the bank is in the process of creating value for shareholders. One of areas that banks are focusing on in their quest to improve the ratio is to reduce customer reliance on branches and to encourage customers to start using cheaper self-service channels. The growth of cell phone ownership and Internet access in South Africa has provided banks with a window of hope to further reduce their costs and improve their cost-to-income ratios.

As alluded to earlier, the conceptualisation and measurement of service quality have drawn heated debates among several marketing scholars and practitioners over the past few decades. The literature review herein aims to achieve theoretical objective II and III. Thus the focus, therefore, is on review of the extant literature on traditional services and selected models of service quality.

2.8 TRADITIONAL SERVICES

2.8.1 Definition of services

Zeithaml *et al.* (2009:4) broadly define services as deeds, processes and experiences, and performances provided or produced by one entity or person for another entity or person. Grönroos (2007:52) defines service as “a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in the interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to consumer problems”. Services usually deal with intangibles – things that you cannot hold, touch nor see before you use them. Lovelock and Wright (1999:5) and Kotler (2000:428) describe a service as any act or performance that one party can offer to another that is essentially intangible and does not result in ownership of anything. Its production may or may not be tied to a physical product. It is thus evident that services are not easy to define or classify.

According to Doyle (2002:339), another characteristic peculiar to service is that it is an act or benefit that does not result in the customer owning anything tangible. This definition expresses the central idea, but it is limited in that it does not sufficiently distinguish between the marketing

of goods and services. Goods also supply intangible benefits. The essence of the marketing concept is that customers do not want goods for their own sake, but for the benefits they provide. Consequently, there are rarely such things as pure goods or pure service. Most offers are a combination of tangible and intangible elements. Zeithaml *et al.* (2009:20) are of the view that services tend to be more heterogeneous, more intangible and more difficult to evaluate than goods. A discussion of the unique characteristics of services and their marketing implications is presented in the following section.

2.8.2 Characteristics of services

It is argued frequently that services have unique characteristics that differentiate them from goods or manufactured products. Woodruffe (1995:18), McDonald and Payne (2006:17) and Jobber and Fahy (2006:173) posit that services have certain important features, namely intangibility, inseparability, heterogeneity/variability, perishability and lack of ownership. There is growing consensus that the five characteristics discussed in the following sections are unique to services and that they greatly influence the way services are marketed and managed (Doyle, 2002:340-45; Kasper *et al.*, 2006:181). Zeithaml *et al.* (2009:20) are of the view that the characteristics of services have important implications for marketing practitioners in organisations.

2.8.2.1 Intangibility

The most basic distinguishing characteristic of services is intangibility (Zeithaml *et al.*, 2009:20). They are an experience or process. According to Doyle (2002:342), this characteristic has a number of implications for the consumer and the supplier. First, for the buyer, uncertainty is increased because services lack what psychologists call search qualities – tangible properties that the buyer can evaluate before purchase. At the same time, services are usually high in experience and credence qualities. Experience qualities are those properties that one assesses after purchase, such as quality, efficiency and courtesy, and credence qualities are those features that are difficult to evaluate even after purchase. For example, most people would find it difficult to evaluate how well a car is serviced even after the work is done on the car. Because services are low in search qualities and high in experience and credence qualities, consumers feel more at risk in their purchase. Secondly, consumers often seek tangible clues to judge the quality of service. Such clues include the appearance of the facility, the staff and the prices being charged.

Hoffman and Bateson (2006:6) are of the view that the distinction between goods and services is not always perfectly clear. In fact, providing an example of a pure good and a pure service is very difficult, if not impossible. An interesting perspective regarding the differences between goods and services is provided by the goods–service continuum/scale of market entities (Doyle,

2002:342; Hoffman & Bateson, 2006:6). The tangibility and intangibility of market entities presented in Figure 2.1 displays a continuum of products based on their tangibility, where goods are tangible dominant and services are intangible dominant. Tangibility and intangibility can be treated as dichotomous and it is clear that the dichotomy exists on a continuum (Laroche *et al.*, 2001:27). Zeithaml *et al.* (2009:6) refer to this as “the tangibility spectrum”.

The intangibility and tangibility of market entities reveals two important lessons for marketers and academics:

- First, there really may be no such thing as pure product or pure service. Products seemingly are a bundle of tangible and intangible elements that combine to varying degrees
- Secondly, the tangible aspects of an intangible dominant product and the intangible aspects of tangible dominant product are an important source of differentiation and new revenue streams.

While maintaining the above view, Hoffman and Bateson (2006:29), however, concur with Doyle (2002:342) that as a result of intangibility of services, a number of marketing challenges arise that are not normally faced when marketing tangible goods. More specifically, these challenges include the lack of service inventories, the lack of patent protection, the difficulties involved in displaying and communicating the attributes of the service to its intended target market and the special challenges involved in the pricing of services.

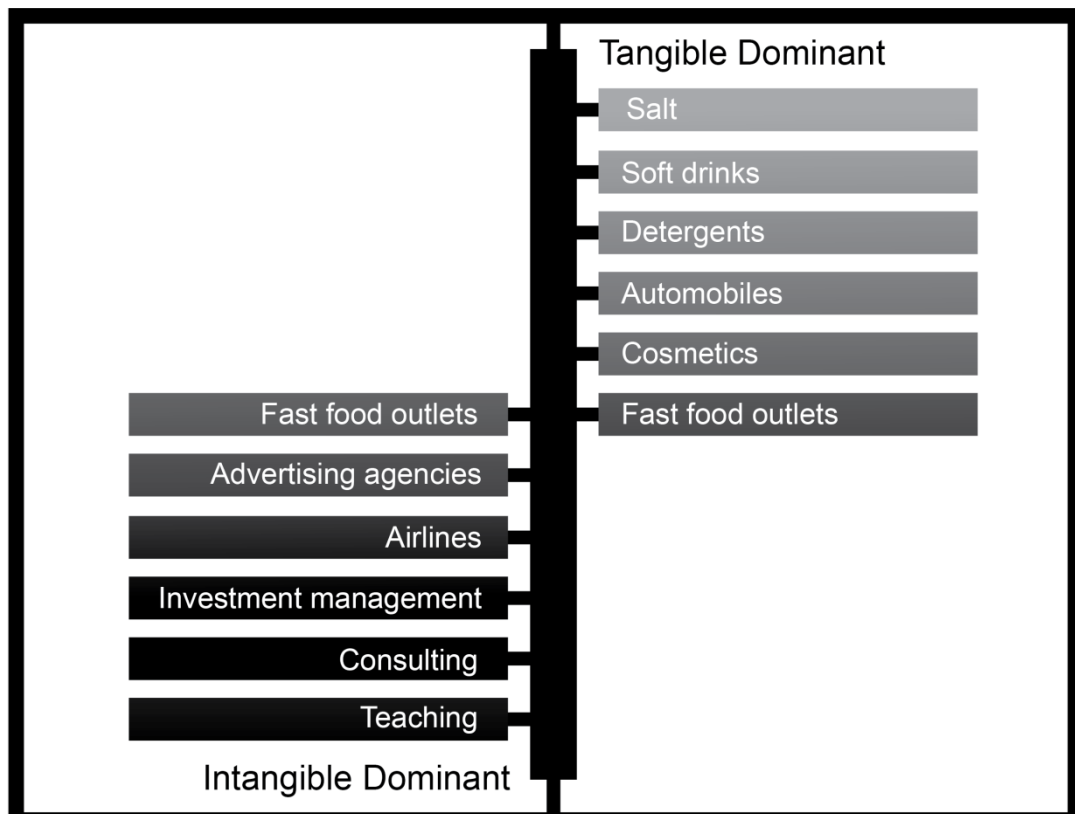


Figure 2.1 Tangibility and intangibility of market entities

Source: Hoffman and Bateson (2006:6)

2.8.2.2 Inseparability

Related to intangibility is inseparability. Services are normally produced and consumed at the same time and in the same place. Unlike services, goods are first produced then sold and then consumed. In the case of services, production and consumption takes place simultaneously. This means that the service provider becomes an integral part of the service itself (Doyle, 2002:343; Woodruffe, 1995:19).

Zeithaml *et al.* (2009:22) highlight the following marketing implications of this characteristic:

- Because services are often produced and consumed at the same time, mass production is difficult
- The quality of service and customer satisfaction will be highly dependent on what happens in 'real time', including actions of employees and interactions between employees and customers
- Clearly the 'real-time' nature of services also results in advantages in terms of opportunities to customise offerings for individual customers

- Simultaneous production and consumption means that it is not usually possible to gain significant economies of scale through centralisation
- Simultaneous production and consumption also means that the customer is involved in and observes the production process and thus may affect (positively or negatively) the outcome of the service transaction.

2.8.2.3 Heterogeneity

Heterogeneity has the potential to influence the variability in the quality and consistency of a service rendered (Doyle, 2002:344). For example, two successive visits to a bank or two campaigns run by the same advertising agency will not be identical in performance and appeal. This arises because services involve people at the production and the consumption end. The quality of the result will depend upon the individual staff members in charge of it, the individual consumers receiving it and the time at which it is performed. Referring to this characteristic, Woodruffe (1995:19) asserts that a service is always unique; it only exists once, and it is never exactly repeated.

Major obstacles presented by heterogeneity translate into the fact that service standardisation and quality control are difficult to achieve (Hoffman & Bateson, 2006:42). Concurring with this view, Zeithaml *et al.* (2009:21) emphasise the marketing implication of this characteristic. Because services are heterogeneous across time, organisations and people, ensuring consistent service quality is challenging. Quality actually depends on many factors that cannot be controlled fully by the service supplier, such as the ability of the customer to articulate his or her needs, the ability and willingness of personnel to satisfy those needs, the presence or absence of other customers, and the level of demand for the service (Zeithaml *et al.*, 2009:21). Because of these complicating factors, a service manager cannot always know for sure that the service is being rendered in a manner consistent with what was originally promised and planned. A third party may sometimes provide services, further increasing the potential heterogeneity of the service offering.

2.8.2.4 Perishability

Perishability means that services cannot be saved or stored. Woodruffe (1995:19) believes that perishability does not pose too much of a problem as long as the demand for service is steady. However, it can have severe difficulties in times of unusually high or low demand for services and managers of services must pay special attention to this important characteristic of services. A seat on an airplane or in a restaurant, an hour of a banker's time or a telephone capacity not used or purchased cannot be reclaimed and used or resold later. Thus, the primary issue that marketers face in relation to service perishability is the inability to take stock of the service

offering. Demand forecasting and creative planning for capacity utilisation are therefore important and challenging decision areas. The fact that services cannot typically be returned or resold also implies a need for strong recovery strategies when things go wrong (Zeithaml *et al.*, 2009:22).

2.8.2.5 Lack of ownership

Customers do not obtain ownership when they are provided with services. Perhaps the key distinction between goods and services lies in the fact that customers usually derive value from services without obtaining permanent ownership of any tangible element (Lovelock & Wright, 1999:14). With goods, buyers have full use of the product and the benefits it provides. They can consume it, store it or sell it. However, in the case of a service, a customer may only have personal access to it, for example, a hotel room, an airline trip, a bank account for a limited time (Doyle, 2002:345; Lancaster & Reynolds, 2005:107).

Doyle (2002:345) is of the view that to overcome the problem of ownership, service managers can employ the following strategies:

- Create membership associations to provide the appearance of ownership, for example, executive clubs for air travellers
- Stress the advantages of non-ownership, for example, providing easier payment terms, less risk of capital loss
- Provide incentives for frequent use, for example, discounts and free flights.

Hoffman and Bateson (2006:53) are of the opinion that because of the challenges posed by the unique characteristics of services, marketing plays a very different role in service organisations than it does in pure goods organisations. The unique characteristics of services provide ample evidence that the invisible and visible parts of a bank, the contact personnel, the physical environment, the Web browser in the case of Internet banking and the organisation and its customers, are bound together by a complex set of relationships. However, not all services are the same. In the following section, the classification of services is discussed.

2.8.3 Classification of services

McColl-Kennedy (2003:10) is of the view that although it can be demonstrated that services differ from physical goods in a number of ways, services should not be grouped together as one. It is important to recognise that there are different types of services and different ways of classifying services.

Figure 2.2 provides a four-way classification scheme and identifies the following groups:

- Tangible action directed towards people's bodies (people processing), including banking, transportation, hairdressing, facials and surgery
- Tangible actions directed at goods, including air freight, lawn mowing, vet services and car repair
- Intangible actions directed towards people's minds, such as bank advices, public broadcasting, sporting events and plays
- Intangible actions directed at things such as banking, insurance, legal and architectural services.

Who or what is the direct recipient of the service?	
	People Things
What is the nature of the service act?	Services directed at people's bodies -Health care -Passenger transport -Beauty salons -Exercise clinics -Restuarants -Haircutting Services directed at goods and other physical possessions -Freight transport -Industrial equipment repair & maintenance -Janitorial services -Laundry and dry cleaning -Landscaping/lawn care -Veterinary care
Tangible actions	
Intangible actions	Services directed at people's minds -Education -Broadcasting -Information services -Theatres -Museums Services directed at intangible assets -Banking -Legal services -Accounting -Securities -Insurance

Figure 2.2 Lovelock's four-way classification scheme

Source: McColl-Kennedy (2003:10)

2.8.4 Service value mix

The traditional marketing mix consists of product, price, promotion and place and is referred to commonly as the four Ps (Swartz & Iacobucci, 2000:21, Jobber & Fahy, 2006:173, Boshoff & Du Plessis, 2009:9). This way of describing marketing activities was coined first by Jerome McCarthy in the 1960s and was based on the original classification of marketing functions proposed by Borden (Boshoff & Du Plessis, 2009:9). All these elements are interrelated and depend on each other in the development of marketing strategies for products.

In the case of services, these elements are also crucial but because services are in some cases produced and consumed simultaneously, the customers interact with front-line staff of the organisation and customers become part of the services production process (Zeithaml *et al.*, 2009:25). The intangibility characteristic of services creates a void for the customer and they will often look for a tangible cue to provide them with some assurance of what they can expect from the service experience. Banks, hotels and insurance companies, for instance, have buildings, stationery and staff in corporate dress, décor, vehicles and equipment that create the element of tangibility to their service delivery (Boshoff & Du Plessis, 2009:9).

Given the important role of people in the delivery of services, as discussed previously, some marketing scholars have suggested the three aspects of service delivery (process, physical environment and people) call for an extension of the traditional four Ps paradigm to the so-called seven Ps of service marketing, namely product, price, place/distribution, promotion, process, physical environment and people (Lovelock & Wright, 1999:76, Jobber & Fahy, 2006:173, Lovelock & Wirtz, 2007:22).

Zeithaml *et al.* (2009:24) propose key strategic areas for each of the additional variable of service value mix. These are:

- Physical evidence: refers to the environment in which services are delivered. Physical evidence can include facility design, equipment, signage, corporate dress, annual reports and business cards. Thus, it is any tangible component that facilitates performance or communication of the service. The physical appeal of the Website design of a bank can serve as physical evidence for Internet bank customers.
- Process: refers the actual procedures, mechanisms and flow of activities and operations by which the service is delivered – the service delivery and operating systems.
- People: refers to all aspects of employee involvement in service delivery including interaction with customers, employee recruitment, training, motivation, rewards and teamwork. It concerns all the people playing a part in service delivery and who can influence customers' perceptions.

In the next section, a discussion of the service quality construct of traditional services is provided.

2.9 TRADITIONAL SERVICE QUALITY

Traditional service quality (Parasuraman *et al.*, 2005:2) refers to the quality of all non-internet-based customer interactions and experiences with companies.

2.9.1 Development and definition of service quality

Young (2005:295) is of the view that the concept of service quality and client care has become one of the key factors contributing to how well or badly a business does in its market. Furthermore, the author elaborates that although articles and debates about quality of service and customer care have been in circulation for many decades, it really became a focus of management's attention in the late 1970s and early 1980s as a result of number of significant forces:

- The then steady decline in the performance of much of Western manufacturing in the light of the success of certain Asian, particularly Japanese, companies
- Emphasis on aftercare and service in some sectors, particularly retail and computing
- The then powerful quality movement in manufacturing and its emphasis on just in time process and the zero defects policy of total quality management
- The publicity gained by several writers and speakers
- Certain well publicised, dramatic improvements in service which affected the share price of the firms involved
- The publication of a number of influential research reports.

Al-Hawari and Ward (2006:128) argue that in the broader context service quality has received much attention because of its obvious relationship with costs, financial performance, customer satisfaction and customer retention. Grönroos (2007:82) also believes that how service quality is perceived has been studied extensively during the past two decades. Most of these studies are based on the disconfirmation notion – that is, quality is perceived through a comparison between expectations and experiences over a number of quality attributes. Du Plessis and Rousseau (2007:320) are of the view that the measurement of service quality has, until recently, received little attention in the marketing literature, primarily because managers often disregarded its importance, and secondly because service quality is so difficult to conceptualise and measure.

Parasuraman *et al.* (1988:12) define service quality in terms of perceived service as the degree and direction of discrepancy between consumers' perceptions and expectations. Therefore, service quality is viewed as a global judgement of an attitude relating to the superiority of the service.

Services provided by restaurants, banks, airlines, hospitals, hotels, and many other service providers are easily characterised as theatre. Whether the customer realises it or not is immaterial; all components of a stage production are present in most service experiences

(Swartz & Iacobucci, 2000:21). Thus, the traditional four Ps of the marketing mix applicable to product marketing (product, price, place and promotion) are extended to seven to include people, process and physical features in the case of the service marketing mix (Jobber & Fahy, 2006:173). A service normally is perceived in a subjective manner. Unlike goods quality, which can be measured with some objectivity, service quality is abstract and elusive. The unique features of services, such as inseparability of production and consumption, intangibility, and heterogeneity, make measurement of quality a very complex issue. In the absence of objective measures, firms must rely on consumers' perceptions of service quality to assess their strengths and/or weaknesses, and design appropriate marketing strategies (Karatepe *et al.*, 2005:373).

Quality as a construct has been defined traditionally in terms of products, but it is not a definitive term. It means different things to different people. Defining quality in the services sector is even more difficult, given that customers often cannot see the service, making the recognition of quality a subjective process, and so-called objective quality does not exist (Du Plessis & Rousseau, 2007:318; Boshoff & Du Plessis, 2009:34). Owing to cultural and environmental effects in general, consumers of services in different countries have different perceptions of what service quality is (Glaveli *et al.*, 2006:381). In the service quality literature, it is noted that the quality of a product or a service is whatever the customer perceives it to be (Grönroos, 2007:73).

Lovelock and Wirtz (2007:407) and Kasper *et al.* (2006:34) observe that the word quality means different things to people according to the context in which it is used. The following perspectives of qualities are identified:

- The transcendent view of quality is synonymous with innate excellence; a mark of uncompromising standard and high achievement. The viewpoint is often applied to the performing and visual arts.
- The product-based approach sees quality as a precise and measurable variable. Differences in quality, it argues, reflect differences in the amount of an ingredient or attribute possessed by the product.
- The user-based definitions start with the premise that quality lies in the eyes of the beholder. These definitions equate quality with maximum satisfaction.
- The manufacturing-based approach is supply-based and is concerned primarily with engineering and manufacturing practices. In services, it is operations-driven.
- Value-based defines quality in terms of value and practice.

Despite the potential for conflict of these alternative views on service quality and predictable blind spots, companies can still benefit from such multiple perspectives of quality. Quality often

is considered one of the keys to success. The competitive advantage of a firm is said to depend on the quality and value of its goods and services. In service contexts, quality may be the foundation of the competitive edge, but which quality dimension (what or how) is the vital part of excellent total quality? If this question is not answered correctly, then wrong actions may be taken, and the company would lose its chance to achieve a stronger competitive position (Grönroos, 2007:75).

Al-Hawari and Ward (2006:128) believes that customer perceptions and preferences of service quality have a significant impact on a bank's success. Unfortunately, none of the unique features of service can be measured using traditional performance measures since they are based on manufacturing products that are tangible, homogeneous and separable from their production and consumption (Kang & Bradely, 2001:153). In retail banking, service quality is a crucial aspect of the customer experience and it is considered a critical measure of organisational performance (Al-Hawari & Ward, 2006:131).

Kasper *et al.* (2006:176) are of the view that a high-quality service has the following potential benefits to an organisation:

- Creating a competitive advantage by insulating customers from competitors
- Lowering customer recruitment costs due to positive word-of-mouth recommendation from existing customers who provide a free recruitment service for those organisations fortunate enough to have satisfied customers
- Promoting positive word-of-mouth endorsement and reputation as customers talk about the service to others
- Improved financial performance, which is a natural corollary of increased customer loyalty, reduced customer recruitment spend and positive word-of-mouth testimonials
- Reduced staff turnover, which although widely canvassed, has only limited empirical support.

Both academics and practitioners use the term service quality frequently. However, it is not defined in a way that could guide management decisions. Too often the term quality is used as if it were a variable itself, and not a function of a range of resources and activities. To state that service firms, for instance, will have to develop the quality of their services to be able to compete successfully in the future is meaningless, unless one can:

- Define how service quality is perceived by the consumers
- Determine in what way service quality is influenced (Grönroos, 2007:57).

Young (2005:300) is of the view that quality of service is so important for service companies that an explicit service strategy should be developed as part of the normal planning processes of the business. It should be based on market and client insights.

It is evident that quality is a multidimensional concept, which may have different meanings for different industries and different disciplines. It appears, therefore, as if quality in service context can hardly ever be assessed objectively, and that perceptions of quality are what are of importance. It also appears that it is impossible to capture the essence of the concept of quality in a few words and it might even be undesirable to do so. Another possible alternative may be to describe service quality in terms of characteristics or dimensions rather than to define it in a closed-ended manner. Irrespective of how quality of services is conceptualised and defined it has proven to be much more complex than for physical products (Boshoff & Du Plessis, 2009:35).

In the following section, the dimensions and models of service quality of traditional services are discussed. This is necessary in order to understand the essential differences in the measurement of 'brick and mortar' service quality as compared with electronic service quality.

2.9.2 Dimensions of service quality

When trying to plan service improvements, particularly in a large firm, it is necessary to break the offer into recognisable components, or features, which can be individually improved. By doing so, suppliers can understand which aspect of their service is deficient when compared with clients' expectations or competitor performance. They can then rank these services in terms of importance and calculate the real cost of any improvement. In this way, service improvement then becomes a practical and manageable programme and not a vague wish list (Young, 2005:305).

Numerous researchers and academics have tried to uncover the general attributes of services that contribute greatly in assessment of service quality (Young, 2005:308). Parasuraman *et al.* (1988:12) conducted qualitative interviews and produced a set of ten potentially overlapping dimensions, namely tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding. These ten dimensions and their descriptions served as the basic structure for the development of the SERVQUAL scale. The research continued into a second phase where the ten dimensions were collapsed into five (Parasuraman *et al.*, 1988:12). These five became dominant in service quality research. They often are referred to as the RATER dimensions (Kasper *et al.*, 2006:189). Table 2 provides descriptions of the most commonly used dimensions of service quality.

Table 2.2 Service quality dimensions and descriptions

Dimension	Description
Reliability	Ability to deliver the promised service dependably and accurately. For example, the consistency in meeting service promises which could include keeping schedules or appointment times, completing tasks on time, ensuring that outcomes are met.
Assurance	Knowledge and accuracy of employees who are able to inspire trust and confidence. These include competence, courtesy, credibility and security. This dimension would include staff training in the use of tools and knowledge of their service processes, customer interaction, and the perception that the service is competent and not going to harm anyone. This has also been seen to include brand names, and reputation.
Tangibles	Appearance of physical facilities, equipment, and personnel. The elements of the service environment impact upon perceived service quality; for instance, cleanliness of premises, staff appearance and the appropriateness of things like computers, phones and décor.
Empathy	Giving individual attention to customers; understanding and caring for the customer. This includes access, communication and understanding. This composite dimension is really about the communication style of the service organisation through its service personnel and its communications, including leaflets, instructions, signage and people management.
Responsiveness	Service provider's willingness to help customers and provide prompt service. This refers to the ability of the service to respond to individual customer requirements such as specifying delivery times, altering aspects of the delivery process, and ensuring that customers remain involved.

Source: Adapted from Parasuraman *et al.* (1988:15)

An ideal service quality scale is one that is not only psychometrically sound but is also diagnostically robust enough to provide insights to the managers for corrective actions in the event of quality shortfalls (Jain & Gupta, 2004:25). In the foregoing section discussion of the different service quality models will be pursued. The service dimensions relating to the different models of service quality will also be presented in detail.

2.10 MODELS OF SERVICE QUALITY

To date various researchers have developed a number of models of service quality. While it would be desirable to review all available models, the focus will be on those models, which are well known and are used widely in business and academic circles. Following is discussion of these models.

2.10.1 The disconfirmation of expectations model

The theoretical underpinnings of service quality are based on early product and satisfaction research (Olshavsky & Miller, 1972; Oliver, 1977). Much of the early service quality theory draws from research into how disconfirmed expectations influence perceptions of products. Many early models of service quality including those of Grönroos (1982) and Parasuraman *et al.* (1988) are based on the disconfirmation model used in the physical goods literature (McColl-Kennedy, 2003:79).

The disconfirmation of expectations models illustrated in Figure 2.3 proposes that there are three determinants of customer (dis)satisfaction, namely expectations, perceptions and (dis)confirmation. Expectations are beliefs about the level of service that will be delivered by a service provider and they are assumed to provide standards of reference against which the delivered service is compared (Hamer, 2006:32). Perceptions are the processes by which individuals select, organise and interpret information they receive from the environment (Boshoff & Du Plessis, 2009:40). Using adaptation level theory as a basis, Oliver (1980:460) argued that customers form expectations before the purchase of a product or a service with expectations acting as a standard or frame of reference against which service performance is measured. Thus, one has to make a comparative judgement in evaluating service performance.

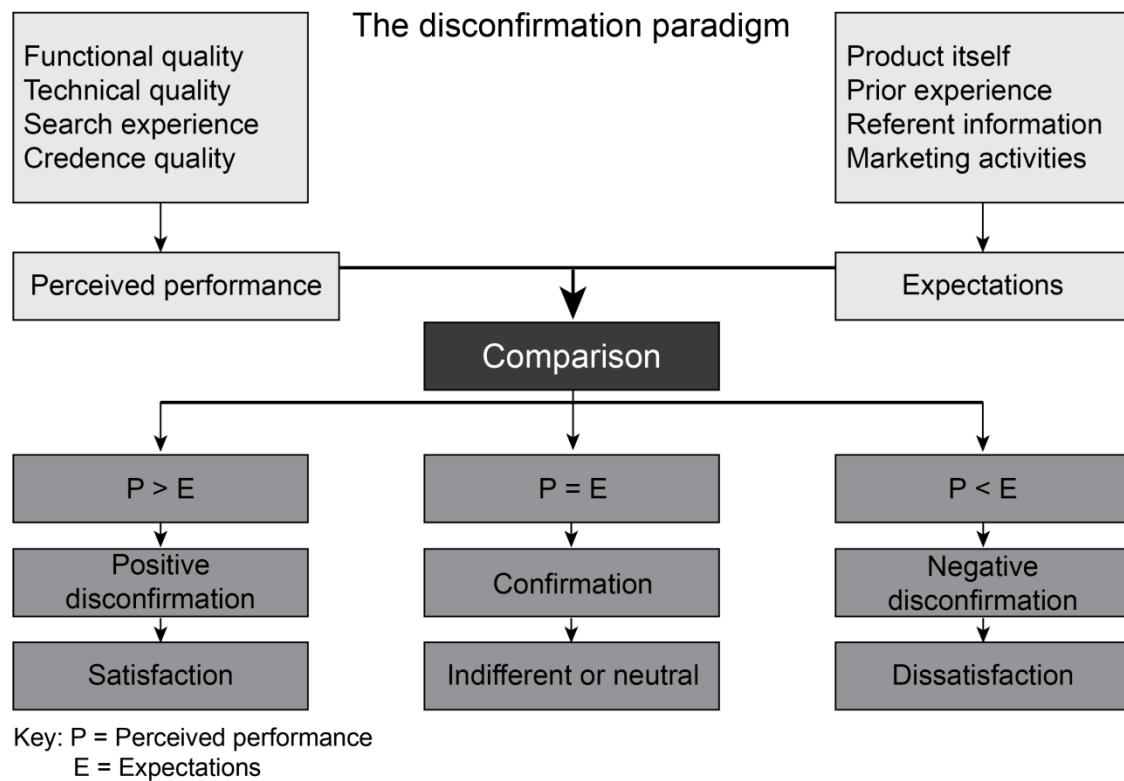


Figure 2.3 Disconfirmation of expectations model

Source: McColl-Kennedy (2003:80)

Tse and Wilton (1988:204) explain that within this model, expectations form a baseline for consumers' satisfaction level. According to this model, the higher the expectation in relation to the actual performance, the greater the degree of disconfirmation and the lower the level of satisfaction to be achieved. Conversely, the lower the expectation in comparison to actual performance, the smaller the degree of disconfirmation and the higher level of satisfaction.

Conceptually there are three possible outcomes of service in this model. The first outcome is that if service performance exceeds pre-purchase expectations, positive disconfirmations results and customers are likely to demonstrate a high level of satisfaction. In this case, customers are pleasantly satisfied. The second possible outcome occurs when a service experience simply meets customer's expectations; confirmation results and the customer is merely satisfied. Finally, if service experience does not meet or is below customers' expectations, negative disconfirmations results and costumers are dissatisfied (McColl-Kennedy, 2003:80).

2.10.2 The SERVQUAL model

The conceptual framework of most studies on service quality are based on the work of Parasuraman *et al.* (1985, 1988, 1991, 1994) which is the most widely used model of service

quality, namely the SERVQUAL model (McColl-Kennedy, 2003:82). Conceptually, the foundation of the SERVQUAL scale is the gaps model proposed by the same researchers (Parasuraman *et al*, 1985, 1988). The SERVQUAL model builds on the disconfirmation paradigm and maintains that satisfaction is related to the size and direction of disconfirmation of a person's experience *vis-à-vis* his/her initial experience (Jain & Gupta, 2004:27).

The basis of the SERVQUAL model is that customers are not blank sheets of paper but that they approach events, including purchases, with some expectation of what will unfold during the service encounter. According to this model, customers are satisfied if what they experienced was better than they expected; if it is worse than they expected then they are dissatisfied. This does not say much about the actual quality of the service experience itself, only its perceived performance relative to expectations. Nevertheless, expectations and the subsequent performance are fundamental aspects of service quality (Kasper *et al.*, 2006:183).

According to some early findings, service quality was accepted as a measure of how well the customer expectations were met by the delivered service. Relating to expectations, Berry and Parasuraman (1991:56) discuss two levels of expectations and conclude that customers' service expectations exist at two different levels, namely a desired level and an adequate level. The desired service level reflects the service the customer hopes to receive. It is a blend of what the customer believes can be and should be. The adequate service level reflects what the customer finds acceptable. It is, in part, a function of the customer's assessment of what the service will be, that is, the customer's predicted service level.

The concept of zone of tolerance is an important aspect of the SERVQUAL model. Figure 2.4, taken from Zeithaml *et al.* (2009:77) shows two expectation standards, namely the desired service level and the adequate service as the upper and lower boundaries for customer expectations respectively. The figure portrays the idea that customers assess service performance on the basis of two boundaries, what they desire and what they deem acceptable.

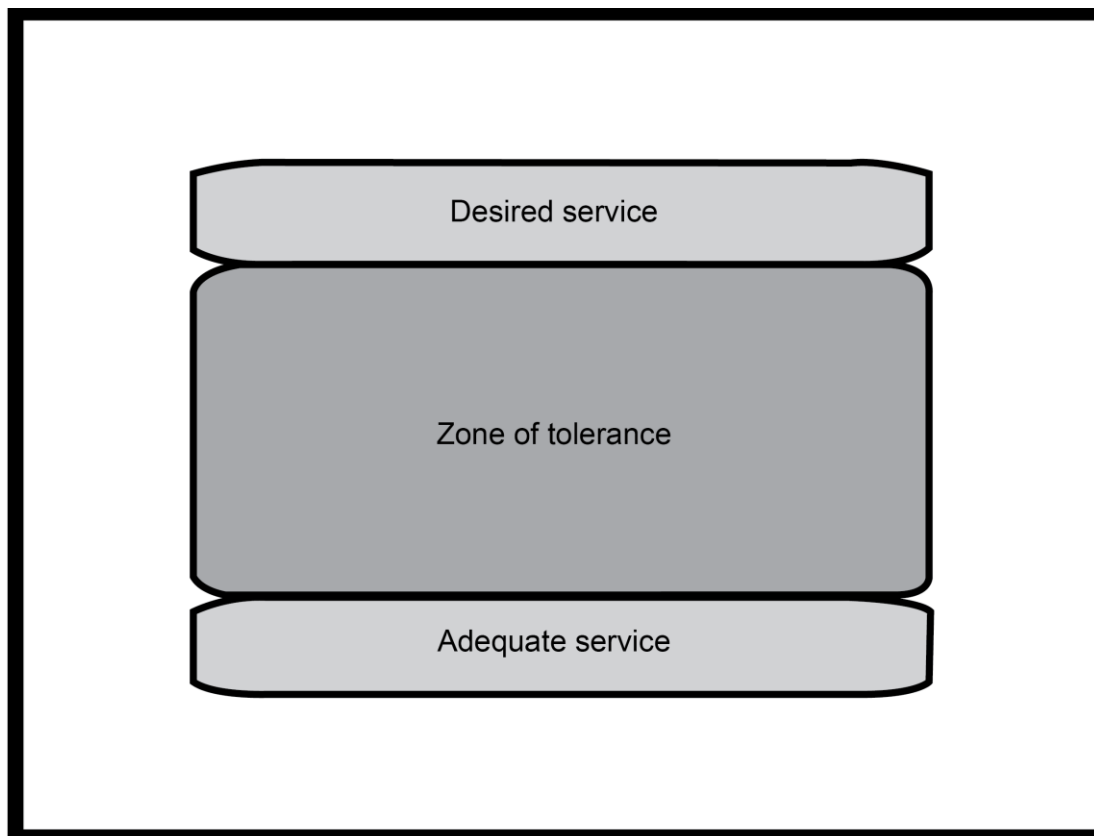


Figure 2.4 The zone of tolerance

Source: Zeithaml *et al.* (2009:81)

The difference between the desired service level and the adequate service level is called the zone of tolerance, which can be considered a zone of acceptability. Johnston (1995:47) describes this zone of tolerance in relation to loyalty. A performance below the zone of tolerance will cause customer frustration and decrease customer loyalty. A performance level above the tolerance zone will pleasantly surprise customers and strengthen their loyalty. The service quality/disconfirmation model has three outcome states on a variable scale. The three states are dissatisfaction, resulting from poor perceived quality (negative disconfirmation), delight as a result of high quality (positive disconfirmation) and satisfaction from adequate quality (confirmation) (Johnston, 1995:2).

Kasper *et al.*, (2006:186) explain these outcomes as follows:

- When expectations are exceeded ($E < P$), this is the most desirable state for an organisation. This provides the basis of positive confirmation, where the outcome is beyond satisfaction and closer to customer delight. Perceived service quality is high.
- When expectations are not met ($E > P$), perceived service quality is low and the organisation would expect to have a dissatisfied customer, apply to all.

- When expectations are met ($E=P$), the customer will assess the quality of the service as satisfactory.

Of all the models developed so far, the SERVQUAL model is by far the most widely used by academics and practitioners of marketing. The SERVQUAL scale involves a survey containing 22 service attributes, grouped into the five service quality dimensions of reliability, responsiveness, assurance, empathy, and tangibles (Zeithaml *et al.*, 2009:151; Kasper *et al.*, 2006:191). The SERVQUAL instrument highlights several points such as service perceptions and expectations that service providers should consider when examining service quality (Hoffman & Bateson, 2006:348).

According to Kang and Bradely (2001:153-4), SERVQUAL is a concise multiple-item scale that contains 22 pairs of Likert-type questions, where each item is recast into two statements. One half of these items are intended to measure customers' expectations about organisations in general within the service categories being investigated, and the other 22 matching items are intended to measure their perceptions about the particular organisation whose service quality is being assessed. The items are presented in a seven-point response format with anchors strongly agree and strongly disagree. Service quality is then measured by calculating the difference scores between corresponding items, the difference between customers' perception and expectation of service, along five dimensions of service, namely tangibility, reliability, responsiveness, empathy and assurance (Parasuraman *et al.* 1988).

The SERVQUAL model, shown in Figure 2.5, contains a large part of the disconfirmation paradigm – the disconfirmation between expected service and perceived service. The process is influenced by four externalities, namely word-of-mouth recommendation, personal needs, past experience and external communication, which influence the formation of expectations. In simplest terms, the SERVQUAL model defines quality as the difference between consumers' expectations and perceptions of the service delivered (Kasper *et al.*, 2006:190)

For each service dimension and for the total service, a quality judgement is computed according to the following formula:

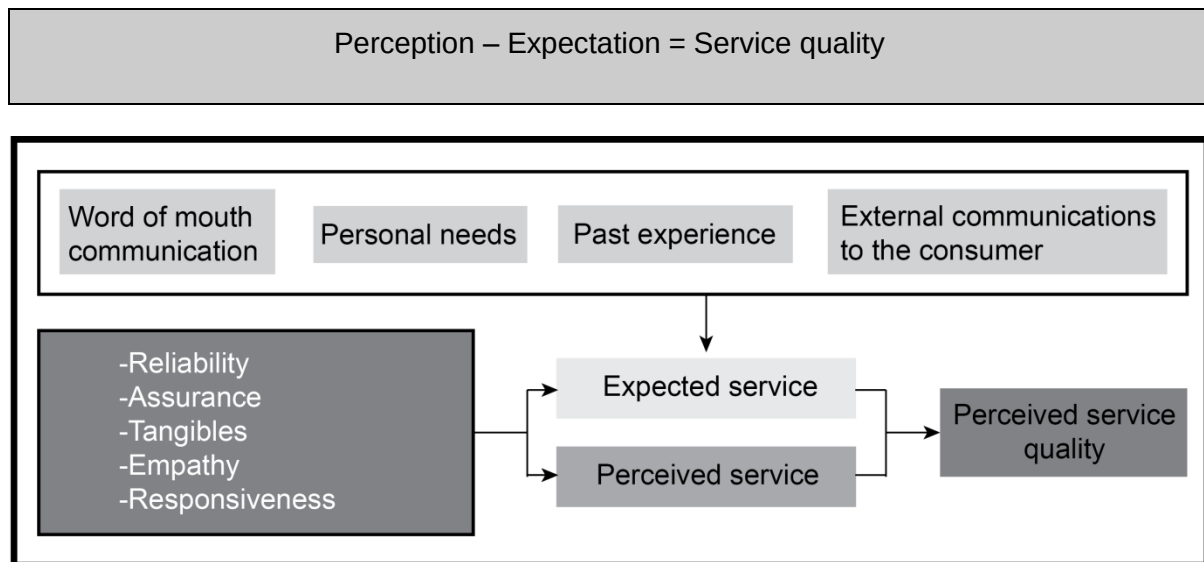


Figure 2.5 The SERVQUAL model

Source: Kasper *et al.* (2006:190)

Closely related to the concepts of desired service, adequate service and zone of tolerance is the gaps model. Their relation lies in the fact that both are based on what is expected of a service compared with what actually was received by customers during a service encounter.

Expectations are beliefs about how a product or service will perform. They can be described as desired product or service outcomes (Du Plessis & Rousseau, 2007:159). This brings in the concept of the customer gap. The customer gap, according to Zeithaml *et al.* (2009:32), is the difference between customer expectations and perception; customer expectations are standards or reference points that customers bring into service experience, whereas customer perceptions are subjective assessments of actual service experiences during service encounters. Zeithaml *et al.* (2009:75) elaborate further, stating that customers' expectations are beliefs about a service delivery that serve as standards or reference points against which performance is judged. Because customers compare their perceptions of performance with these reference points when evaluating service quality, sufficient knowledge about customer expectation is critical to services marketers. Customer expectations constitute an integral part of service quality evaluations. In order to manage service quality, a strategic effort should be made at company level to understand and manage their customer's expectations and perceptions regarding the quality of service delivered in daily interactions (Bick, Abratt & Moller, 2010:14).

The possible quality difference is captured in what is called the gaps model of service quality (Kasper *et al.*, 2006:192). The full conceptual model, shown in the Figure 2.6 serves as a framework for service organisations attempting to bring about improvement in the quality of their services. The key to closing the customer gap (difference between consumers' expectation and

management's perceptions of those expectations) is to close provider gaps 1 to 4 and keep them closed. To the extent that one or more of provider gaps 1 to 4 exist, customers perceive service quality shortfalls (Zeithaml *et al.*, 2009:43). Figure 2.6 illustrates the gaps model.

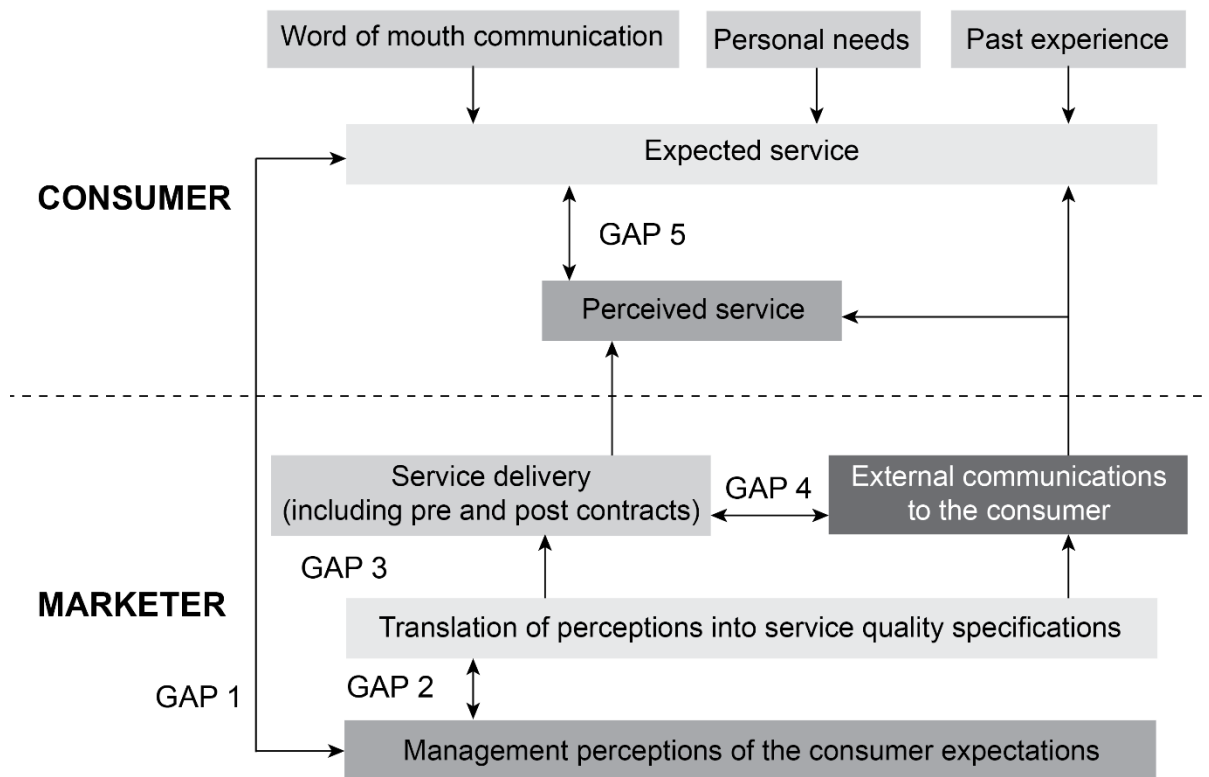


Figure 2.6 Gaps model of service quality

Source: Zeithaml *et al.* (2009:43)

A brief explanation of the different gaps as elucidated by Zeithaml *et al.* (2009:33-43) is pursued in the following section.

2.10.2.1 Gap 1: The listening gap

Gap 1 (the listening gap) is the difference between customer expectations of service and company understanding of those expectations (Zeithaml *et al.*, 2009:34). Key factors leading to this gap are:

- **Inadequate market research orientation:**
 - ❖ Insufficient marketing research
 - ❖ Research not focused on service quality
 - ❖ Inadequate use of market research.

- **Lack of upward communication:**
 - ❖ Lack of interaction between management and customers
 - ❖ Insufficient communication between contact employees and management
 - ❖ Too many layers between contact personnel and top management.
- **Insufficient relationship focus:**
 - ❖ Lack of market segmentation
 - ❖ Focus on transactions rather than relationships
 - ❖ Focus on new customers rather than relationship customers.
- **Inadequate service recovery:**
 - ❖ Lack of encouragement to listen to customer complaints
 - ❖ Failure to make amends when things go wrong
 - ❖ No appropriate recover mechanism in place for service failures.

2.10.2.2 Gap 2: The service design and standard gap

Gap 2 (the service design and standard gap) is the difference between company understanding of customer expectations and development of customer-driven service designs and standards (Zeithaml *et al.*, 2009:37). Key factors leading to this gap are:

- **Poor service design:**
 - ❖ Unsystematic new-service development process
 - ❖ Vague, undefined service designs
 - ❖ Failure to connect design to service positioning.
- **Absence of customer-driven standards:**
 - ❖ Lack of customer-defined service standards
 - ❖ Absence of process management to focus on customer requirements
 - ❖ Absence of formal process for setting service quality goals.
- **Inappropriate physical evidence and servicescape:**
 - ❖ Failure to develop tangibles in line with customer expectations
 - ❖ Servicescape design that does not meet customer and employee needs
 - ❖ Inadequate maintenance and updating of servicescape.

2.10.2.3 Gap 3: The service performance gap

Gap 3 (the service performance gap) is the discrepancy between development of customer-driven service standards and actual service performance by a company's employees (Zeithaml *et al.*, 2009:39). Key factors leading to this gap are:

- **Deficiencies in human resource policies:**
 - ❖ Ineffective recruitment
 - ❖ Role ambiguity and role conflict
 - ❖ Poor employee technology
 - ❖ Inappropriate evaluation and compensation systems
 - ❖ Lack of empowerment, perceived control and teamwork.
- **Failure to match supply and demand:**
 - ❖ Failure to smooth peaks and valleys of demand
 - ❖ Inappropriate customer mix
 - ❖ Over-reliance on price to smooth demand.
- **Customer not fulfilling roles:**
 - ❖ Customers lack knowledge of their roles and responsibilities
 - ❖ Customers negatively affect each other.
- **Problems with service intermediaries:**
 - ❖ Channel conflict over objectives and performance
 - ❖ Channel conflict over costs and rewards
 - ❖ Difficulty controlling quality and consistency
 - ❖ Tension between empowerment and control.

2.10.2.4 Gap 4: The communication gap

Gap 4 (the communication gap) illustrates the difference between service delivery and the service provider's external communications (Zeithaml *et al.*, 2009:42). Key factors leading to this gap are:

- **Lack of integrated service marketing communications:**
 - ❖ Tendency to view each external communication as independent
 - ❖ Not including interactive marketing in communication plan
 - ❖ Absence of strong internal marketing program.

- **Ineffective management of customer expectations:**
 - ❖ Not managing customer expectations through all forms of communication
 - ❖ Not adequately educating customers.
- **Overpromising:**
 - ❖ Over-promising in advertising
 - ❖ Over-promising in personal selling
 - ❖ Over-promising through physical evidence cues.
- **Inadequate horizontal communications:**
 - ❖ Insufficient communication between sales and operations
 - ❖ Insufficient communication between advertising and operations
 - ❖ Differences in policies and procedures across branches or units.
- **Inappropriate pricing:**
 - ❖ High prices that raise customer expectations
 - ❖ Prices that are not tied to customers' expectations of value.

2.10.2.5 Gap 5: The customer gap

Gap 5 (the customer gap) refers to the mismatch of expectations of service performance and outcome (Zeithaml *et al.* (2009:43); McColl-Kennedy, 2003:83). It is the difference between customer expectations and perceptions. Hoffman and Bateson (2006:334) refer to the customer gap as the service gap. This gap means that the perceived or expected service is not consistent with the expected service. This gap could result in negatively confirmed quality (poor quality), which in turn causes bad word of mouth, a negative impact on corporate image and a loss of business. However, this gap could also be positive, which leads to positively confirmed quality. The gap analysis model could therefore guide management in finding out where the reasons for quality problems lie and in discovering appropriate ways to close those gaps. Ultimately, the goal of the service firm is to close the service gap or at least narrow it as far as possible.

Since Parasuraman *et al.* (1985) operationalised service quality as being a gap between customers' expectations and perceptions of performance on these variables, their service quality measurement scale is comprised of a total of 44 items (22 for expectations and 22 for perceptions). Customers' responses to their expectations and perceptions are obtained on a 7-point Likert scale and are compared to arrive at (P-E) gap scores. The higher (more positive) the perception minus expectation score, the higher is perceived to be the level of service

quality. In an equation form, the operationalisation of SERVQUAL can be expressed as follows (Jain & Gupta, 2004:27):

$$SQ_i = \sum_{j=1}^k (P_{ij} - E_{ij})$$

where: SQ_i = perceived service quality of individual 'i'

k = number of service attributes/items

P = perception of individual 'i' with respect to performance of a service firm attribute 'j'

E = service quality expectation for attribute 'j' that is the relevant norm for individual 'i'

The SERVQUAL instrument, however, is not without criticism and has limitations in measuring service quality (Kasper *et al.*, 2006:196). These criticisms and limitations are highlighted in the following section.

2.10.2.6 Criticisms of the SERVQUAL instrument

Grönroos (2007:86) argues that the SERVQUAL scale should be applied carefully, and the determinants and attributes of the instrument should always be reassessed in any situation before the instrument is used. Service as well as markets and cultural environments are different. It may be necessary to add new aspects of the service to be studied to the original set of determinants and attributes and sometimes to exclude some from the measurement instrument used. Since the development of the SERVQUAL instrument, it has received its share of criticism. The major criticisms of the instrument involve the length of the questionnaire, the validity of the five service quality dimensions, and the predictive power of the instrument with regard to subsequent consumer purchase (Hoffman & Bateson, 2006:346). Kuo *et al.* (2009:888) also concur with the aforementioned argument. The model has drawn attention from academic and practical circles and many scholars have questioned the conceptual framework and measurement method of this model.

Of all the criticisms levelled against the SERVQUAL model, the review and critique of Buttle (1996:10) stands out. Notwithstanding its growing popularity and widespread application, SERVQUAL has been subjected to a number of theoretical and operational criticisms, which are detailed below (Buttle, 1996:10).

Buttle (1996:9) summarises some of the criticisms of the application of the instrument as follows: There is little evidence that customers assess service quality in terms of the perceptions expectations gap. Expectations may not exist or may not be formed clearly enough to serve as a standard for the evaluation of a service experience. Expectations may be formed simultaneously with service consumption. In some instances, expectations may attract a socially desirable response bias. Respondents may feel motivated to adhere to high expectations. A further criticism is that the SERVQUAL instrument fails to capture the dynamics of changing expectations. Consumers learn from experience and thus expectations may change over time. Babakus and Boller (1992:253) found that the dominant contributor to the gap score was the perception score because consumers generally rate their expectations higher than perceptions. The two administrations of the instrument cause boredom and confusion among respondents.

SERVQUAL's five dimensions are not universal, and items do not always load on to the factors, as one would expect. The number of dimensions is questionable and their stability differs from context to context. It is evident that not all SERVQUAL dimensions factored out when applied to different settings. When the SERVQUAL instrument was employed in a modified form, more than five dimensions were revealed in some cases (Dabholkar, Thorpe & Rentz, 1996:05, Buttle, 1996:13). Babakus and Boller (1992:253) reasoned that the domain of service quality may be factorially complex in some industries and simple in others. In fact, the authors claim that the number of service quality dimensions is dependent on the particular service offered.

Based on some of the criticisms of SERVQUAL, some researchers have advocated for performance-only measures of service quality, which do not incorporate the expectations of service delivery. In the next section, the performance-only measure of service quality is presented.

2.10.3 Performance-only measures of service quality (SERVPERF)

Cronin and Taylor (1992, 1994) were amongst the scholars who levelled maximum criticism on the SERVQUAL scale (Jain & Gupta, 2004:28). Researchers like Cronin and Taylor (1992, 1994) questioned the conceptual basis of the SERVQUAL scale and found it confusing with service satisfaction (Adil, 2013:53). Cronin and Taylor (1992, 1994) opined that expectation should be discarded altogether and instead performance component alone be used. Therefore, retaining the same items and dimensions as of SERVQUAL, Cronin and Taylor (1992) proposed a performance-only index, such as SERVPERF. SERVPERF's superiority over disconfirmation based SERVQUAL scale was corroborated by Cronin and Taylor (1992) by carrying out research in four industries, namely banks, pest control, dry cleaning and fast food (Jain & Gupta, 2004:28; Adil, 2013:53).

Boshoff and Du Plessis (2009:46) argue that the simplest approach to measure service quality is to request customers to rate the performance of a service. Very simple survey forms are handed out to customers to provide feedback on service quality. When this approach is used, customers rate a providers' performance, typically extending from strongly disagree (1) to strongly agree (5). This approach SERVPERF is based on the assumption that customer expectations change when they experience a service and, therefore, only service provider's performance is a valid assessment of service delivery.

Being a variant of the SERVQUAL scale and containing perceived performance component alone, 'performance only' scale is comprised of only 22 items. A higher perceived performance implies higher service quality. In equation form (Jain & Gupta, 2004:28) SERVPERF can be expressed as:

$$SQ_i = \sum_{j=1}^k P_{ij}$$

where: SQ_i = perceived service quality of individual 'i'

k = number of attributes/items

P = perception of individual 'i' with respect to performance of a service firm on attribute 'j'

Countless researches and innumerable dimensions have been proposed in the past few decades using SERVQUAL and SERVPERF models (Adil, 2013:52). Researchers tried to conceptualise service quality from different perspectives for different service applications, and thus, derived and proposed various service quality dimensions as illustrated in Table 2.3.

Table 2.3: Selected empirical studies on service quality

Researcher/ Country of study	Journal	Year	Title	Constructs studied									Scale	Findings
				1	2	3	4	5	6	7	8	9		
Cronin & Taylor	<i>Journal of Marketing</i>	1994	SERVPERF versus SERVQUAL: Reconciling performance-based and perceptions-minus-expectations measurement of service quality	√	√	√	√	√		√		√	SERVPERF & SERVQUAL	Observed that SERVPERF provides useful tool for measuring overall service quality
Angur <i>et al.</i> (India)	<i>International Journal of Bank Marketing</i>	1999	Service quality in the banking industry: An assessment in a developing economy	√	√	√	√	√					SERVQUAL & SERVPERF	Examined applicability of alternative measures of service quality in developing economy
Aldlaigan & Buttle (UK)	<i>International Journal of Service Industry Management</i>	2002	SYSTA-SQ: A new measure of bank service quality	√		√	√	√		√		√	SYSTA-SQ	Validated a new scale for the retail banking industry
Malhotra <i>et al.</i> (USA, India & Philippines)	<i>International Marketing Review</i>	2005	Dimensions of service quality in in developed and developing economies: Multi-country cross-cultural comparisons						√	√		√	Self-developed scale	Value of environmental between countries need to be understood
Arasli <i>et al.</i> (Cypus)	<i>International Journal of Bank Marketing</i>	2005	A comparison of service quality in the banking industry	√	√	√	√	√	√	√	√	√	SERVQUAL	Largest gap was found in empathy dimension while assurance dimension had the largest influence on customer satisfaction
Hazra & Srivastava (India)	<i>The IUP Journal of Marketing Management</i>	2009	Impact of service quality on customer loyalty, commitment and trust in the Indian banking sector	√	√	√	√	√	√	√		√	SERVQUAL	Assurance and empathy were most valued

Researcher/ Country of study	Journal	Year	Title	Constructs studied									Scale	Findings
				1	2	3	4	5	6	7	8	9		
Kumar <i>et al.</i> (Malaysia)	<i>International Journal of Quality & Reliability Management</i>	2010	Comparative evaluation of critical factors in delivering service quality of banks: An application dominance analysis in modified SERVQUAL model	√	√	√	√	√					Modified SEVQUAL model	Compared service quality between two types of banks in terms of common critical factors
Yap <i>et al.</i> (Australia)	<i>International Journal of Bank Marketing</i>	2010	Offline and online banking – where to draw the line when building trust in e-banking	√	√	√	√	√					89 items were adapted from past studies	Studied how traditional service quality and a bank's size and reputation influences trust in e-banking

Key:1=Tangibility, 2=Reliability, 3=Responsiveness, 4=Assurance, 5=Empathy, 6=Customer retention, 7=Customer satisfaction, 8=Difference from competitor, 9= Customer loyalty

Source: Adapted from Adil (2013:54)

Studies conducted using this performance-based measure indicate that SERVPERF explained more of the variance in an overall measure of service quality than did performance-expectation measures such as the SERVQUAL (Boshoff & Du Plessis, 2009:46; Adil, 2013:53). Jain & Gupta (2004:25) argue that methodologically, the SERVPERF scale represents marked improvement over the SERVQUAL scale. Not only is the scale more efficient in reducing the number of items to be measured by 50 percent, it has also empirically been found superior to the SERVQUAL scale for being able to explain greater variance in the overall service quality measured through the use of single-item scale. On the other hand, Jain & Gupta (2004:25) believe that when the research objective is to identify areas relating to service quality shortfalls for possible intervention by the managers, the SERVQUAL scale needs to be preferred because of its superior diagnostic power.

From a South African perspective, Boshoff and Du Plessis (2009:46) opine that ABSA, as one of South Africa's biggest financial services groups, aims to change the face of banking by striving towards excellence, using a performance-only measure of service quality. The authors further elaborate that by using this approach the bank encourages its customers to provide them with feedback by rating their service. Absa encourages customers to inform it if they have a positive experience of its services so the provider knows about what it is doing right. Moreover, the bank also encourages customers whose expectations were not met to give it an opportunity to solve the problem.

In the next section, the Nordic service quality model is discussed.

2.10.4 The Nordic model of service quality

The Nordic model of service quality was developed by Grönroos (1984) and is often referred as the Grönroos model. One of the first scholars who attempted a definition of service quality was Christian Grönroos (Boshoff & Du Plessis, 2009:37). His definition implied that the quality of service is determined by three variables, namely:

- What was delivered, termed technical quality
- How it was delivered, termed functional quality
- The image of the service organisation.

According to this model, the quality of service depends on three variables, namely expected service, perceived service and service image (Grönroos, 1984:37). Perceived service quality is the outcome of the comparison of what is perceived and expected of a service. This model (Figure 2.7) represents the service experience on the bases of functional and technical elements (McColl-Kennedy, 2003:81, Boshoff & Du Plessis, 2009:37).

2.10.4.1 Technical quality

Technical quality refers to a dimension, which describes what the customer gets as the outcome of interaction with the organisation (Kasper *et al.*, 2006:187; Boshoff & Du Plessis, 2009:37). Technical qualities include aspects such as technical solutions, know-how, machines and computer systems. For example, the actual haircut by a hairdresser or investment advice from a banker constitutes technical quality (McColl-Kennedy, 2003:81).

2.10.4.2 Functional quality

Functional quality refers to a dimension, which describes the process by which the technical quality is delivered to the customer (Kasper *et al.*, 2006:187). Aspects of functional quality can refer to customer contacts, behaviour, attitudes, service orientation, appearance, internal relations and accessibility. An example of functional quality is the friendliness of bank personnel or the amount of attention given to the customer (McColl-Kennedy, 2003:81, Boshoff & Du Plessis, 2009:37).

Based on the early satisfaction literature, the Grönroos model of perceived service quality (see Figure 2.7) reflects the effect of the disconfirmation of expectations model on the development of service quality models. Within this model, Grönroos contends that informing service quality perceptions, consumers compare the expected level of service and the actual service performance they receive (McColl-Kennedy, 2003:81). One interesting observation from this model is that an acceptable technical quality can be thought of as a prerequisite for a successful functional quality. On the other hand, it seems as if temporary problems with the technical quality may be excused if the functional quality is good enough (Kasper *et al.*, 2006:187). Functional quality is seen as more important to the perceived service quality than technical quality, as long as the technical quality dimension is at a satisfactory level.

2.10.4.3 The corporate image

The corporate image (service image) was also identified as a third dimension that affects perceived service quality (Grönroos, 1984:39). Both technical quality and functional quality determine the service organisation's quality image (Boshoff & Du Plessis, 2009:37). Grönroos (1984:39) asserts that consumers' perception of service quality is influenced by the view consumers' hold of the service supplier (corporate image). According to this assertion, the consumer will find the perceived service quality satisfactory even if the service itself was not that good. Normally the consumer will find excuses for the negative service experience because of a certain corporate image of the bank.

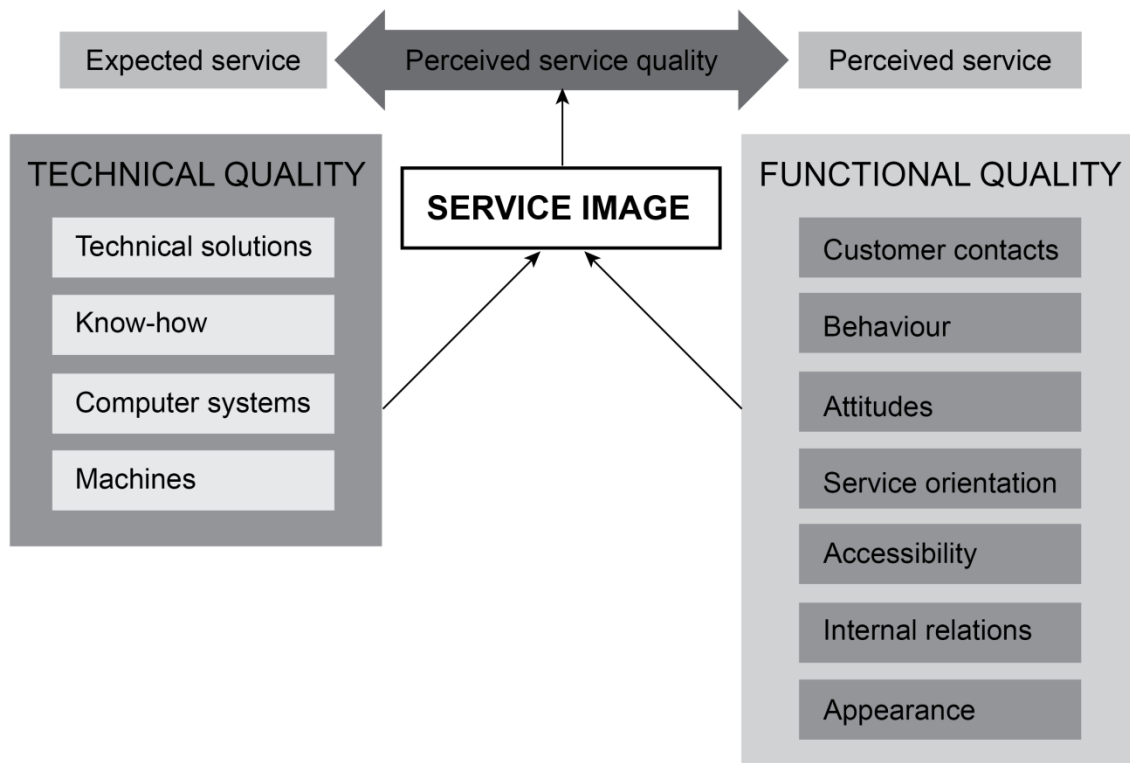


Figure 2.7 Perceived service qualities

Source: Grönroos (1984:37)

2.10.5 The three-component model

McColl-Kennedy (2003:88) explains that, following the decreasing popularity and criticism of the SERVQUAL model, there was renewed interest in the technical and functional quality dimensions developed by Grönroos (1982:298) in the Nordic model. This resulted in Rust and Oliver (1994:11) developing a three-component model of service quality. This model includes factors relating to service product, service delivery and service environment, as shown in Figure 2.8.

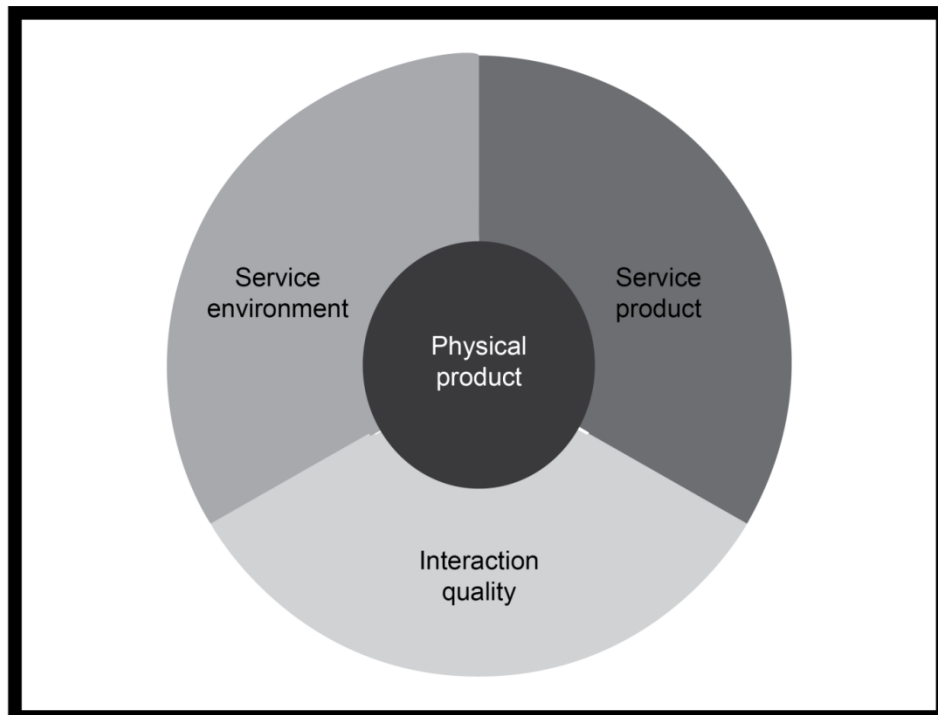


Figure 2.8 The three-component model of service quality

Source: Rust and Oliver (1994:11)

2.10.5.1 The service product

The service product is the consumer's overall perception of the service offering and outcome, including any additional services that accompany its delivery. The customer's assessment of the service product results from an evaluation of what the customer gets from the service as opposed to how it is received (McColl-Kennedy, 2003:88).

2.10.5.2 The service delivery

The service delivery is the interaction between consumers and organisation within the service setting. Because services are intangible, variable and inseparable, the communication between provider and customer shapes the way the customer perceives the service delivery. Service delivery, in this case, refers to the process of consuming a service. It involves all events and performances taking place during the delivery of a service (McColl-Kennedy, 2003:88).

2.10.5.3 The service environment

The service environment is the internal and external environment. While the internal environment refers to the organisational culture and philosophy of management, the external environment reflects the setting in which the service is delivered. The atmosphere, space and symbolic elements combine to form the entire external environment (McColl-Kennedy, 2003:88).

The implication of the three-component model is that organisations can target the three main elements of service quality to improve perceptions of overall service quality. The model helps to understand better, how service quality works and suggests the elements on which service managers should base service quality research.

2.11 SYNOPSIS

This chapter was set out to achieve theoretical objectives I, II and III of the study. In the first part of the chapter, an industry profile of the banking sector was provided. A review of the literature on the general overview of financial systems with specific focus on the role and function of the banking sector in the economy as well as structure of the banking sector was presented to gain an insight into the industry. The South African banking sector plays an important role that cannot be performed by other players in the industry such as insurance and pension businesses. These specific roles and functions are financial intermediation, transmission of economic policies and financial innovation to service the demands of the market. The re-admission of the republic into the world economy in 1994 meant that the South African banking industry had to experience a number of fundamental forces of change including globalisation, technological advancement, financial innovation regulation and deregulation of the sector. Globalisation and regulatory developments, for instance, are changing the platform of competition in the industry. Firms from other industries entering the banking business and banks are forced to compete globally because South Africa has opened its doors to international players.

Owing to the unique characteristics of services, namely intangibility, heterogeneity, inseparability, perishability and lack of ownership, the conceptualisation and measurement of service quality has proved to be elusive and difficult. In this chapter review of the literature on service quality of traditional 'brick and mortar' which are well known and have the widest use in business and academic circles were critically discussed. The models discussed were the disconfirmation of expectations model, the SERVQUAL model, the SERVPERF, the Nordic model of service quality and the three-component model. The conceptual basis of the SERVQUAL model is that customers are not blank sheets of paper but that they approach events, including purchases, with some kind expectation of what will unfold during the service provision. Conceptually, the SERVQUAL model builds on the disconfirmation paradigm and maintains that customer satisfaction is related to the size and direction of disconfirmation of a person's expectations and actual performance of the service. The SERVQUAL model has proved to be one that is widely applied and highly valued among marketing researchers and practitioners along with SERVPERF. The next chapter broadly discusses electronic services and electronic service quality. The main aim of the chapter, however, will be on electronic banking service quality.

CHAPTER 3

ELECTRONIC BANKING SERVICE QUALITY

3.1 INTRODUCTION

This chapter aims to achieve the remaining two theoretical objectives as set out in chapter 1. These objectives are:

- IV. To critically study and review the literature on service quality scales of electronic services in general and banking services in particular
- V. To review the literature on the relationships among service quality, customer satisfaction, customer value and customer loyalty.

The primary objective of this research is to develop and validate a scale of electronic banking service quality for the banking sector in South Africa. The focus of this chapter, therefore, is to critically study and review the extant literature on electronic service quality in general and service quality of electronic banking in particular (theoretical objective IV). This chapter also presents a review of the literature on the research constructs of this study, namely electronic service quality, customer value, customer satisfaction and customer loyalty and their theoretical relationships amongst these constructs (theoretical objective V).

A critical study and review of the literature regarding electronic service quality is presented in the following section.

3.2 ELECTRONIC SERVICE QUALITY

3.2.1 Development and definition of electronic services quality

In the last 15 years, a number of interrelated socio-economic and technological trends have led to the emergence and continuous growth of electronic forms of service. Electronic services, also known as high-technology services, can be defined as knowledge intensive services or composite service offers, interactively co-produced by the customer, through or with the help of electronic communication media (Kasper et al., 2006:326; Akinyele & Olorunleke, 2010:209). Santos (2003:233) asserts that electronic service has been recognised increasingly by both researchers and practitioners as one of the key drivers of success in e-commerce. Similarly, Lovelock and Wright (1999:45) observe that there is an industry-wide shift from high-contact bank branches to low-contact banking such as telephone and ATM banking.

McColl-Kennedy (2003:383) broadly defines e-services as those services made available over the Internet in a user-friendly way. Those services may be accessed through Web browsers,

mobile devices or even embedded services such as automobile navigation systems. Hoffman and Bateson (2006:69) offer a more generic definition and describe e-service as an electronic service, available via the net, which completes tasks, solves problems or conducts transactions. E-services can be used by consumers and businesses, and can be accessed via a wide range of applications. Similarly, Rowley (2006:341) defines e-service as deeds, efforts or performances whose delivery is mediated by information technology (including the Web, information kiosks and mobile devices), and as such includes the service element of e-tailing, customer support, service and service delivery. In respect of online banking, Hu and Liao (2011:3764) indicate that customers can receive financial services and perform transactions on the Internet through the website of a bank during off-office hours and from any place where Internet access is available.

Research into traditional service quality has been popular for more than two decades. However, only a limited number of scholarly articles deal directly with how customers assess e-SQ and its antecedents and consequences (Parasuraman *et al.*, 2005:2). Bressolles and Durrieu (2010:336) describe electronic service quality as a transactional quality and include elements of evaluation both pre and post service experience. According to this description, a transaction through e-services is seen as a goal-oriented activity.

Developed from Internet marketing and the traditional service quality literature, the concept of service quality in e-commerce (e-service quality) can be described as the consumers' overall evaluation and judgement of the excellence and quality of e-service offerings in the virtual marketplace (Santos, 2003:235). Similarly, Parasuraman *et al.* (2005:217) define e-SQ as the extent to which a website facilitates efficient and effective shopping, purchasing and delivery. This definition makes it clear that the concept of e-SQ extends from the pre-purchase phase (ease of use, product information, ordering information, and personal information protection) to the post-purchase phase (delivery, customer support, fulfilment, and return policy).

Parasuraman *et al.* (2005:2) draw three broad conclusions that are potentially relevant to defining, conceptualising, and measuring perceived e-SQ that emerge from the traditional service quality literature. These are:

The notion that quality of service stems from a comparison of actual service performance with what it should or would be has broad conceptual support, although some still question the empirical value of measuring expectations and operationalising service quality as a set of gap scores

The five SERVQUAL dimensions of reliability, responsiveness, assurance, empathy, and tangibles capture the general domain of service quality fairly well, although (again from an empirical standpoint) questions remain about whether they are five distinct dimensions

Customer assessments of service quality are strongly linked to perceived value and behavioural intentions.

Ladhari (2010:464) is of the view that online environment differs from the traditional retail context in several ways as summarised below:

- Convenience and efficiency: Consumers using the online environment have the convenience of saving time and effort in comparing the prices (and some technical features) of products more efficiently.
- Safety and confidentiality: Participation in the online environment involves users in distinctive issues regarding privacy, safety, and confidentiality.
- Absence of face-to-face contact: Customers in the online environment interact with a technical interface (Fassnacht & Koese, 2006:25). The absence of person-to-person interaction means that the traditional concepts and ways of measuring service quality, which emphasise the personal interaction of the conventional service encounter, are inadequate when applied to electronic service quality (Van Riel, Liljander & Jurriens, 2001:363; Bressolles & Durrieu, 2010:336).
- Co-production of service quality: Customers in the online environment play a more prominent role in co-producing the delivered service than is the case in the traditional retail context (Fassnacht & Koese, 2006).

In the following section, a discussion on the dimensionality of the electronic service quality construct is presented.

3.2.2 Dimensionality of the electronic service quality construct

In view of the differences between electronic services and traditional services, it is apparent that the traditional SERVQUAL model does not constitute a comprehensive instrument for assessing electronic service quality. Several studies have attempted to develop specific measurement scales for online service quality, but the task is neither simple nor straightforward (Ladhari, 2010:465). Parasuraman *et al.* (2005) acknowledge this when they suggest that studying electronic service quality requires scale development that extends beyond merely adapting offline scales.

As a result, over the past decade, there has been a growing body of work focusing on conceptualising, measuring, and managing of service quality and its effects in electronic environments. Akin to research on service quality in traditional (bricks and mortar) retail and service environments, the conceptualisation and measurement of quality in electronic services

(or e-service quality) has emerged as a strategic issue (Ladhari, 2010:464; Carlson & O'Cass, 2011:264).

Several of the researchers have identified different sets of dimensions for electronic service quality as they develop scales to measure electronic service quality. The important difference between traditional and electronic services has implications for the dimensions that should be used when evaluating electronic service quality. There is growing evidence of variation in the outcomes of different studies on the dimensions of e-service quality that have surfaced in the attempt to address the key dimensions of service quality, directly or indirectly, of electronic services (Han & Baek, 2004:209; Parasuraman *et al.*, 2005:230; Ladhari, 2010:465).

In an attempt to identify the features or dimensions that customers use to assess the quality of virtual services or operations, Madu and Madu (2002:249) proposed a set of dimensions that could be used to assess the quality of virtual services or operations. The authors define virtual services or operations as online operations that often involve business transactions through the Internet. The authors came up with these dimensions after reviewing and synthesising different research papers on quality and ancillary information on e-commerce. These 15 dimensions for electronic service quality are performance, features, structure, aesthetics, reliability, storage capability, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customisation, website policies, reputation, assurance and empathy. Wolfinbarger and Gilly (2003:193) on the other hand found only four relevant dimensions, namely website design, fulfilment/reliability, security/privacy and customer service.

By synthesising previous research in service operations and information systems, Ding *et al.* (2010) proposed a holistic framework of the fundamental roles of an online vendor and then use the framework to guide a scale development (e-SELFQUAL: A scale for measuring online self-service quality) that targets the quality of online self-services in e-retailing setting. The scale identifies different sets of dimensions. With respect to online services, the following qualities and corresponding constructs as shown in Figure 3.1 were identified:

- Information quality entails accuracy, completeness, timeliness, and/or effectiveness in presentation
- System quality embraces important characteristics of an information system, invariant of system usage or applications, such as accessibility, flexibility, integration, reliability, and timeliness
- Service quality represents another crucial quality dimension of online services.

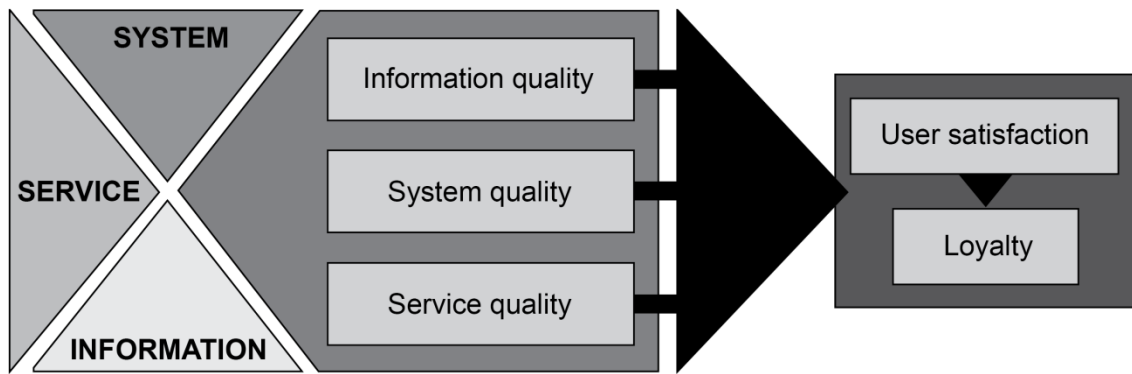


Figure 3.1: E-service composition and corresponding quality constructs

Source: Ding *et al.* (2010:510)

Ding *et al.* (2010:513) are of the view that from a marketing perspective, the proposed framework and developed scale (e-SELFQUAL) help clarify the debate about electronic service quality by moving away from the long-fought battle over quality measurements toward a theoretical and managerial quest for how such measurements may help firms create satisfied customers by fulfilling their needs and preferences. Furthermore, the authors are convinced that their research contributes uniquely to service research as an initial attempt to link the quality-satisfaction-loyalty constructs.

Ladhari (2010) conducted a comprehensive review of all scales that deal with electronic service to up to 2010. Lahdhari's (2010) critical review focuses on the methodological issues involved in developing measurement scales and issues related to the dimensionality of the electronic service quality construct. The methodological issues are discussed in Chapter 4: Research design. Issues relating to the dimensionality of the electronic service quality construct are presented in the section that follows. Table 3.1 shows records of some of the prior studies conducted on electronic service quality scales.

Table 3.1: Selected studies on electronic service quality scale development

Study	Domain of measure	Sample	Types of web site	Original items battery	Data analysis procedure for assessing factor-structure	Final items battery	Final number of dimensions (number of items)	Internal reliability coefficient alpha / Composite construct reliability
O'Neill <i>et al.</i> (2001)	Online library service quality	269 students, users of online library service	Online library service	18 items 5-point scale Offline administration	Exploratory factor analysis	18 items	4 dimensions: contact, responsiveness, reliability, and tangibles	Ranges from 0.68 to 0.86
Yoo and Donthu (2001)	Online retailers' Web site quality	69 students in the first stage (207 site evaluations) and 47 individuals for the second stage (187 site evaluations)	Wide variety of sites categories (such sites as books, music and videos, department stores, computers, apparel and accessories, travel and auto)	54 items 5-point scale Offline administration	Exploratory factor analysis; Confirmatory factor analysis	9 items	4 dimensions: ease of use (2), aesthetic design (3), processing speed (2), and security (2)	Ranges from 0.69 to 0.83 (study 2)
Barnes and Vidgen (2002)	Web site quality	376 students and staff of a university	Internet bookshops	22 items 7-point scale Online administration	Exploratory factor analysis	22 items	5 dimensions: usability (4), design (4), information (7); trust (4), and empathy (3)	Ranges from 0.70 to 0.90

Study	Domain of measure	Sample	Types of web site	Original items battery	Data analysis procedure for assessing factor-structure	Final items battery	Final number of dimensions (number of items)	Internal reliability coefficient alpha / Composite construct reliability
Loiacono <i>et al.</i> (2002)	Website quality	511 under-graduate students in round 1; 336 undergraduate students in round 2; and 307 undergraduate students in round 3. Respondents were asked to imagine that they are searching for a book.	12 selected web sites from a preliminary exploratory research	88 items	Exploratory factor analysis; Confirmatory factor analysis	36 items	12 dimensions: formational Fit-o-task (3), interactivity (3), trust (3), response Time (3), ease of understanding (3), intuitive operations (3), visual appeal (3), innovativeness (3), flow-emotional appeal (3), consistent image (3), on-line completeness (3), and better than alternative channels (3)	Ranges from 0.72 to 0.93 (round 3)
Long and McMellon (2004)	E-retail service quality	447 consumers about to purchase an item from a retail Internet site	NA	53 items 7-point scale Offline administration	Exploratory factor analysis	19 items	5 dimensions: tangibility (7), assurance (3), reliability (3), purchasing process (3), and responsiveness (3)	Ranges from 0.51 to 0.83
Parasuraman <i>et al.</i> (2005)	Electronic service quality	549 subjects for the development stage and 858 customers for the validation stage	A range of sites for the development stages (apparel, electronics, CDs, books, flowers, groceries, etc.) and two online stores for the validation stage (amazon.com and walmart.com)	113 items 5-point scale Online administration	Exploratory factor analysis; Confirmatory factor analysis	22 items	4 dimensions: efficiency (8 items), system availability (4), fulfillment (7), and privacy (3)	Ranges from 0.83 to 1.94 (validation stage)

Study	Domain of measure	Sample	Types of web site	Original items battery	Data analysis procedure for assessing factor-structure	Final items battery	Final number of dimensions (number of items)	Internal reliability coefficient alpha / Composite construct reliability
Bauer <i>et al.</i> (2006)	Service quality in online shopping	384 members of an online panel who completed product purchases online	NA	53 items 5-point scale Online administration	Exploratory factor analysis; Confirmatory factor analysis	25 items	5 dimensions: functionality/design (7), enjoyment (4), process (4), reliability (6), and responsiveness (4)	Ranges from 0.83 to 0.89
Ibrahim <i>et al.</i> (2006)	E-banking service quality	135 UK banking customers	e-bank services	26 items 5-point scale Offline administration	Exploratory factor analysis	25 items	6 dimensions: convenience/accuracy (8); accessibility/ reliability (4); good queue management (3); personalization (4); friendly/responsive customer service (4); targeted customer service (2)	Ranges from 0.33 to 0.84
Sohn and Tadisina (2008)	E-service quality	204 customers experienced with internet-based financial services	Internet –based financial services	30 items online and offline administration	Exploratory factor 25 items analysis; Confirmatory factor analysis	25 items	6 dimensions: trust (5), customized communication (4), ease of use (3), website content and functionality (6), reliability (5), and speed of delivery (2)	Ranges from 0.67 to 0.88

Source: Ladhari (2010:266-469)

The following important observations are made regarding the dimensionality and structure of the electronic service quality construct (Ladhari, 2010:473).

- That the electronic service quality construct is multidimensional. No consensus exists on the number and the nature of the dimensions in the electronic service quality construct but globally six dimensions recur more consistently. These are reliability/fulfilment, responsiveness, ease of use/usability, privacy/security, web design, and information quality/benefit,
- Some of the electronic service quality dimensions in this review are identical (or at least similar) to those reported for traditional service quality such as reliability and responsiveness,
- The studies reviewed here concentrate on functional quality. Only a few studies deal with outcome quality,
- Despite the general support for a hierarchical multi-dimensional model of service quality, little effort is made by the authors reviewed here to examine such a structure for electronic service quality and
- The dimensions mentioned in the various studies appear to be specific to particular electronic service contexts. These observations mirror the debate regarding generic or specific measures in assessing traditional/physical service quality.

A brief description of the six dimensions that appear consistently in most of the scales reviewed is presented in the section that follows (Ladhari, 2010:473).

3.2.2.1 Reliability/fulfilment

This dimension is one of the prominent dimensions in the traditional SERVQUAL instrument, refers to the performance of a promised service in an accurate and timely manner and to the delivery of intact and correct products (or services) at times convenient to customers.

3.2.2.2 Responsiveness

The second of the dimensions that appears consistently in the studies reviewed here is responsiveness, which refers to a willingness to help users.

3.2.2.3 Ease of use/usability

Ease of use/usability refers to user friendliness, especially with regard to searching for information.

3.2.2.4 Privacy/security

Privacy/security refers to the protection of personal and financial information.

3.2.2.5 Web design

The fifth common dimension, web design, refers to aesthetics features and content as well as structure of online catalogues.

3.2.2.6 Information quality/benefit

The sixth dimension, information quality/benefit, refers to the adequacy and accuracy of the information users get when visiting a web site.

In the following section, review of the literature on some of the prominent models of electronic service quality is conducted.

3.2.3 Electronic service quality models

As elucidated previously, a number of widely used instruments have been developed that measure the quality of electronic services, such as, E-SQ, E-RecS-Qual, E-service quality, WebQual (Loiacono, Watson & Goodhue, 2002:301; Barnes & Vidgen, 2003:298; Santos, 2003:233-246; Parasuraman et al., 2005:213-233). While it would be desirable to review all available models, the focus will be on those, which are well known and have the widest use in business and academic circles. In the following section, a discussion of these models is undertaken.

3.2.3.1 The E-S-QUAL scale

Prior to the E-S-QUAL scale, Parasuraman (2004:50) developed, through a qualitative research process, a conceptual gaps model for electronic services similar to the SERVQUAL gaps model. The conceptual gaps model for electronic services quality is depicted in Figure 3.2. The E-S-QUAL scale is based on what is expected of an e-service compared with what is actually received by customers during online service encounters.

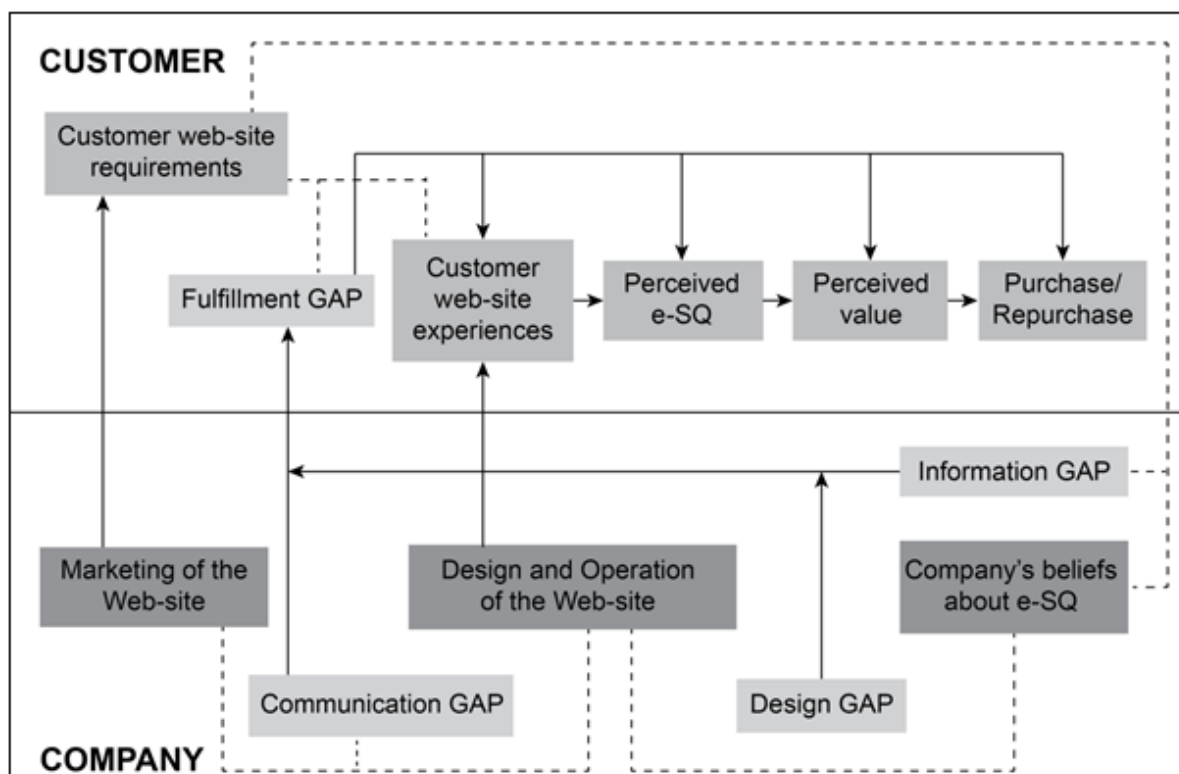


Figure 3.2: A conceptual gaps model for E-S-Q

Source: Parasuraman (2004:51)

In their study, Parasuraman *et al.* (2005:218) identified website features at the perceptual attribute level and categorised them in 11 e-SQ dimensions. Table 3.2 contains descriptions of these dimensions of e-service quality.

Table 3.2: Dimensions of E-S-Q

E-Service Dimension	Quality	Description
Reliability		Correct technical functioning of the site and the accuracy of service promises (having items in stock, delivering what is ordered, delivering when promised), billing, and product information
Responsiveness		Quick response and the ability to get help if there is a problem or question
Access		Ability to get onto the site quickly and to reach the company when needed
Flexibility		Choices of ways to pay, ship, buy, search for, and return items
Ease of navigation		Site contains functions that help customers find what they need without difficulty, has good search functionality, and allows the customer to manoeuvre easily and quickly back and forth through the pages
Efficiency		Site is simple to use, structured properly, and requires a minimum of information to be input by the customer
Assurance/trust		Confidence that the customer feels in dealing with the site due to the reputation of the site and the products or services it sells, as well as clear and truthful information presented

E-Service Quality Dimension	Description
Security/privacy	Degree to which the customer believes the site is safe from intrusion and personal information is protected
Price knowledge	Extent to which the customer can determine shipping price, total price, and comparative prices during the shopping process
Site aesthetics	Appearance of the site
Customisation/personalisation	How much and how easily the site can be tailored to individual customers' preferences, histories, and ways of shopping

Source: Parasuraman *et al.* (2005:218)

Parasuraman *et al.* (2005:5) define E-S-QUAL broadly as a scale, which encompasses all phases of a customer's interactions with the website; the extent to which a website facilitates efficient and effective shopping, purchasing and delivery.

The E-S-QUAL scale conceptualises, constructs, refines, and tests a multiple-item scale (E-S-QUAL) for measuring the service quality delivered by Web sites on which customers shop online. Two stages of empirical data collection revealed that two different scales were necessary for capturing electronic service quality. The basic E-S-QUAL scale developed in the research is a 22-item scale comprising four dimensions, namely efficiency, fulfilment, system availability, and privacy. The second scale, E-RecS-QUAL, is salient only to customers who had non-routine encounters with the sites and contains 11 items comprising three dimensions, namely responsiveness, compensation, and contact (Parasuraman *et al.*, 2005:1).

The purpose of E-S-QUAL is solely to measure the service quality of websites. Other experiential aspects such as fun or pleasure do not fall within the conceptual domain of service quality because such hedonic aspects are distinct benefits that may not be relevant in all contexts or to all customers (Parasuraman *et al.*, 2005:17). The first part of the E-S-QUAL Scale (relevant for a website's entire customer base) is a four-dimensional, 22-item scale, whereas the second part, RecS-QUAL (relevant for the portion of the customer base with recovery service experience), is a three-dimensional, 11-item scale.

The four core dimensions (E-S-QUAL Scale) that customers used to evaluate websites were:

- Efficiency: the ease and speed of accessing and using the site
- Fulfilment: the extent to which the site's promises about order delivery and item availability are fulfilled
- System availability: the correct technical functioning of the site
- Privacy: the degree to which the site is safe and protects customer information.

With respect to the quality of electronic service recovery (E-RecS-QUAL), the three dimensions that customers used to evaluate websites were:

- Responsiveness: effective handling of problems and returns through the site
- Compensation: the degree to which the site compensates customers for problems
- Contact: the availability of assistance through telephone or online representatives.

The third part contained multiple-item measures of two constructs, namely perceived value and loyalty intentions, which were used subsequently in assessing the scales' validity. Four items measured the perceived value construct and the loyalty intentions construct was measured through a five-item behavioural loyalty scale. Table 3.3 represents the original instrument (E-S-QUAL) developed by Parasuraman *et al.* (2005:230-231) with the four core dimensions and the corresponding questions that were used in evaluating e-services.

Table 3.3: E-S-QUAL scale

Dimension	Questions
Efficiency	• This site makes it easy to find what I need • It makes it easy to get anywhere on the site • It enables me to complete a transaction quickly • Information at this site is well organised • It loads its pages fast • This site is simple to use • This site enables me to get on to it quickly • This site is well organised
System availability	• This site is always available for business • This site launches and runs right away • This site does not crash • Pages at this site do not freeze after I enter my order information
Fulfilment	• It delivers orders when promised • This site makes items available for delivery within a suitable time frame • It quickly delivers what I order • It sends out the items ordered • It has in stock the items the company claims to have • It is truthful about its offerings • It makes accurate promises about delivery of products

Dimension	Questions
Privacy	• It protects information about my Web-shopping behaviour • It does not share my personal information with other sites • This site protects information about my credit card

Source: Adapted from Parasuraman *et al.* (2005:230-231)

Table 3.4 represents the second part of the scale (E-RecS-QUAL) developed by Parasuraman *et al.* (2005:230-231). The three dimensions with the corresponding questions were used in evaluating quality of e-services recovery

Table 3.4: E-RecS-QUAL

Dimension	Questions
Responsiveness	• It provides me with convenient options for returning items • This site handles product returns well • This site offers a meaningful guarantee • It tells me what to do if my transaction is not processed • It takes care of problems promptly
Compensation	• This site compensates me for problems it creates • It compensates me when what I ordered doesn't arrive on time • It picks up items I want to return from my home or business
Contact	• This site provides a telephone number to reach the company • This site has customer service representatives available online • It offers the ability to speak to a live person if there is a problem

Source: Adapted from Parasuraman *et al.* (2005:231)

Kim *et al.* (2006:55) view the E-S-QUAL dimensions provide more representative information regarding e-service quality. This is because the dimensions of E-S-QUAL were developed using data from qualified respondents who had sufficient online shopping experience in contrast with other studies, which used a convenience sample of students. The E-S-QUAL scale was tested with respect to the Internet buying of a wide variety of products, such as apparel, books, CDs, computer software and hardware, drugs, electronics, flowers, groceries and toys (Kasper *et al.*, 2006:334).

Akinci *et al.* (2010:233) undertook a re-assessment of E-S-Qual and E-RecS-Qual in a pure service setting and came up with some improvement to the model. Their findings show that efficiency and fulfilment have the strongest effects on service quality, followed by system

availability and then privacy. Similarly, Yang and Tsai (2007:120) found the results from E-S-Qual demonstrated that the pattern of effects is consistent across dependent variables and suggests that the factors representing efficiency, fulfilment, and responsiveness have the strongest effects, followed by contact and then privacy and compensation.

Boshoff (2007:101) is of the view that the absence of a valid and reliable instrument to measure service quality in this new environment has thrown confusion on endeavours by both scholars and practitioners to effectively measure and thus manage service-quality strategies. Furthermore, Boshoff (2007:101) opines that the first scale developed that effectively captured the nature of electronic service quality from the perspective of online shopping through a retail website was the E-S-QUAL scale. The author, who conducted a psychometric assessment of the E-S-QUAL scale, is of the view that the E-S-QUAL scale is the most effective scale to measure the quality of service to date. From a managerial perspective, the author opines that the E-S-QUAL instrument is an excellent instrument to measure electronic service quality. However, the author is of the opinion that more research is needed before any conclusions on the dimensionality of electronic service quality can be reached. The author is of the view that when the scale is used for managerial intentions by future researchers, examination and evaluation of the dimensionality of the data are of paramount importance.

Another important model developed as far as electronic service quality is concerned is the e-service quality by Santos (2003).

3.2.3.2 E-service quality

Santos (2003:233) proposed and discussed a model of virtual service quality dimensions: e-service quality. The model was developed using a consumer focus group study, which is a recommended methodology for generating hypotheses. Two dimensions are referred to in the model, namely the incubative and the active dimensions. The incubative dimension and the active dimension each consists of six related (and potentially) overlapping determinants. The findings of the author's research indicate that the active dimension is as important as the incubative dimension.

Figure 3.3 presents the sequence of the determinants in both the incubative and active dimensions according to their importance.

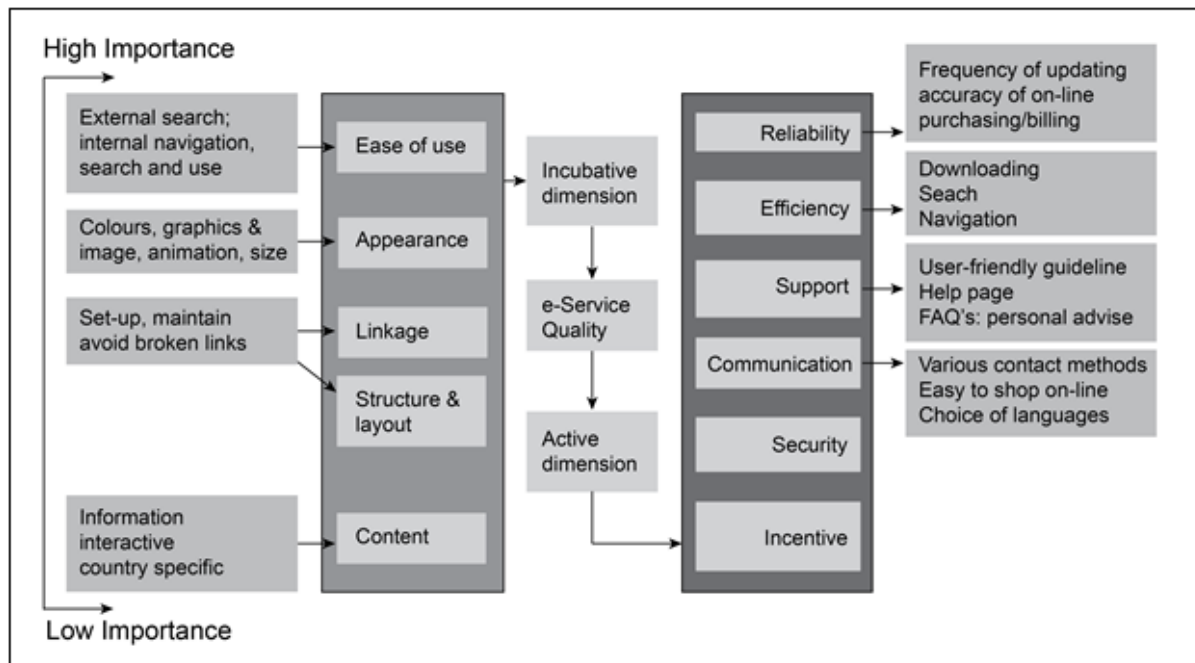


Figure 3.3: A model of e-service quality

Source: Santos (2003:239)

The incubative dimension is defined as the proper design of a website, how technology is used to provide consumers with easy access, understanding and attractions of a website. These determinants are ease of use, appearance, linkage, structure and layout, and content. A well-developed incubative dimension is believed to increase a website's hit rates. (Santos, 2003:238).

The active dimension encompasses the support, speed and attentive maintenance that a website can provide for its customers. The determinants of the active dimension are reliability, efficiency, support, communication, security and incentives. These determinants are believed to increase customer retention and encourage positive word-of-mouth recommendation (Santos, 2003:241).

The model divides e-service quality into two phases – before and after the launching of a website. During the design phase before launching the website, the author asserts that the incubative dimension must be considered. Service marketers and Web designers need to work as a team to ensure that:

- The website is easy to use, search and navigate
- It has an appealing appearance

- Links are set up and maintained and that broken links are avoided
- The site has a well-organised structure and layout
- There is an attractive presentation of factual content.

These determinants are presented in order of importance – from high importance to low importance.

Once the website is established the active dimension (second phase) needs to be maintained continuously because positive word-of-mouth recommendation and customer retention depend upon this active dimension. The determinants of active dimension in descending order of importance are:

- Reliability
- Efficiency
- Support
- Communication
- Security
- Incentives.

The Web Quality Instrument (WebQual) has also emerged as one of significant instrument in the conceptualisation, measurement and management of electronic services. In the next section discussions of this instrument are presented,

3.2.3.3 Web Quality Instrument (WebQual)

The WebQual scale was created by Loiacono *et al.* (2000:301). The WebQual scale rates websites on 12 dimensions, namely informational fit to task, interaction, trust, response time, design, intuitiveness, visual appeal, innovativeness, flow (emotional appeal), integrated communication, business processes, and substitutability.

This WebQual scale received the following criticisms from Parasuraman *et al.* (2005:216):

- The scale's primary purpose is to generate information for website designers rather than to measure service quality as experienced by customers.
- The research that produced the scale involved students visiting websites to evaluate them rather than actual purchasers evaluating their experiences. Therefore, although some WebQual dimensions might influence perceived service quality; other dimensions (for

example innovativeness, business processes, and substitutability) are at best tangential to it.

- The scale developers excluded a dimension called customer service because it could not be measured under the research methodology that was used.
- For the same reason, WebQual does not include fulfilment as a dimension.

Barnes and Vidgen (2003:298) developed a completely different scale, which is also called the Web Quality instrument (WebQual 4.0), with 23 items specifically designed for online service quality measurement. This WebQual is based on quality function deployment (QFD), which is a structured and disciplined process that provides a means of identifying and carrying the voice of the customer through each stage of product and/or service development and implementation.

In the WebQual scale, website users are asked to rate target sites against each of a range of qualities, using a seven-point scale. The questions are categorised according to the dimensions of usability, information quality, service interaction and overall quality as shown on Table 3.5.

Table 3.5: The WebQual 4.0 instrument

Category	WebQual 4.0 items
Usability	• I find the site easy to learn to operate • My interaction with the site is clear and understandable • I find the site easy to navigate • I find the site easy to use • The site has an attractive appearance • The design is appropriate to the type of site • The site conveys a sense of competency • The site creates a positive experience for me
Information quality	• Provides accurate information • Provides believable information • Provides timely information • Provides relevant information • Provides easy-to-understand information • Provides information at the right level of detail • Presents the information in an appropriate format

Category	WebQual 4.0 items
Service interaction	• Has a good reputation • It feels safe to complete transactions • My personal information feels secure • Creates a sense of personalisation • Conveys a sense of community • Makes it easy to communicate with the organisation • I feel confident that goods/services will be delivered as promised
Overall	• Overall view of the website

Source: Barnes and Vidgen (2003:299)

Similarly, Parasuraman *et al.* (2005:216) criticised the WebQual 4.0 on the following grounds:

- Data used in developing and testing the questionnaire were obtained from convenience samples of university students and staff who were directed to visit one of three bookstore sites, to collect some information about a book of their choice, and then to rate their experience on the scale items.
- The scale is designed to be answered without a respondent needing to complete the purchasing process and is therefore a transaction-specific assessment of a site rather than a comprehensive evaluation of the service quality of a site.

From the above discussions, it is evident that electronic services are different from traditional service encounters. The replacement of interpersonal contact with human-machine interaction implies that different approaches and methods are required for assessing service quality. The dimensions a customer seeks from electronic service are different and require different forms of understanding and attention. Electronic services are different from traditional goods and services in the way they are produced, used and consumed. Hence, the measurement of e-service quality requires adaptation depending upon the service setting.

In continuation and pursuit of achieving theoretical objective IV, in the sections that follow, emphasis is placed on a comprehensive review of the extant literature on service quality of electronic banking services.

3.3 ELECTRONIC BANKING SERVICE QUALITY

3.3.1 Background and development of electronic banking

Over the past three decades, the proliferation of new information and communication technologies (ICT) within the financial industry has impacted the way banks service their customers (Hoehle, Scornavacca & Huff, 2012:122). As an ICT, service providers have found alternative means of delivering services to their customers (Narteh, 2013:62).

Al-Alawi (2005:1) notes that banks have been providing services electronically to consumers for more than a decade. Examples include electronic funds transfers (EFT), whether for small payments or large corporate management systems, as well as automated teller machines (ATM) for withdrawing cash and convenient account access. Major banks around the world have invested and are still investing in providing Internet banking services. This is because as a new cost-effective delivery channel, driven by cost reduction, it increases market share and is used as a customer retention strategy (Centeno, 2004:300). In spite of the great benefits online banking provides, Al-Alawi (2005:1) advises that it is essential that banks consider the risks associated with it. One significant step that banks must take before going through any transformation is to ensure the proper handling of online banking risk.

Similarly, Han and Baek (2004:208) report that during the past decade, the electronic service industry has witnessed tremendous growth, much of which is spurred by the Internet revolution. The potential of the Web, especially as a commercial medium, is widely recognised and the growth in online service industries such as online banking has increased rapidly. This growing interest, according to Centeno (2004:300), is because Internet banking brings increased cost-efficiency and customer profitability leading to increased competition among banks and new products and services for consumers.

McColl-Kennedy (2003:373) believes that the financial services industry is generally responding to digital technology at varying levels, with some sectors adapting better than others as far as e-business is concerned. E-banking and brokering are making enormous advancements, while the insurance sector is lagging behind. The author refers to the term e-banking or online banking to describe the provision of banking services through means other than traditional branch banking. Akinyele and Olorunleke (2010:213) are of the view that technological developments have removed repetitive, time-consuming tasks, reduced human error and extended access to banking-related activities. Technology also provides customer information that would be much too expensive to provide on a person-to-person basis.

The financial services industry is changing rapidly. Technology, government regulation and increasing customer sophistication are forcing financial service institutions to re-evaluate their

current business practices. Financial institutions across the globe are re-examining how they are meeting their customers' needs today and developing business plans needed to align them strategically to remain competitive and profitable in the future (Abdullah *et al.*, 2011:542). Banks have integrated electronic service delivery channels to bring banking services to customers and this is said to have influenced how banks interact with their customers in the market space (Parasuraman & Zinkhan, 2002:286-95; Bauer *et al.*, 2005; Narteh, 2013:62).

3.3.2 Definition of electronic banking service quality

The terms Internet banking, e-banking or online banking are often used to describe online technology-driven electronic offerings of services. Electronic banking is a generic term used to describe the process by which a customer may perform banking transactions electronically without visiting a banking institution (Ombati *et al.*, 2010:156). Similarly, Sayar and Wolfe (2007) describe Internet banking from a customer's perspective as conducting transactions on the Internet. Online banking in this study is defined as an Internet portal through which customers can use different kinds of banking services, ranging from bill payment to making investments (Pikkarainen *et al.*, 2004:224). It involves the provision of services such as accessing accounts, transferring funds, and buying financial products or services online. Therefore, banks' websites that offer only information on their pages, without the possibility of making any transactions, are excluded as online banking services for the purpose of this study.

In this study, electronic banking service quality is defined as the consumers' overall evaluation and judgement of excellence and quality of electronic service offering through the Internet.

The dimensionality of the electronic banking service quality construct is discussed in the following section. Emphasis is made on those studies that attempted to conceptualise and measure electronic service quality in a banking sector.

3.3.3 Dimensionality of electronic banking service quality construct

Loonam and O'Loughlin (2008:766), in a study conducted in the Irish online banking sector, identified ten dimensions that are focal to e-service quality delivery, with the applicability of each of the proposed dimensions to e-banking. These dimensions are web usability, security, information quality, access, trust, reliability, flexibility, responsiveness, self-recovery and personalisation/customisation. Ho and Lin (2010) also conducted an empirical study and developed a scale for Internet banking service quality in an emerging economy of Taiwan. Their 17-item measurement scale comprises five dimensions for measuring Internet banking service quality. The dimensions for the Internet banking service quality context are web design, customer service, assurance, preferential treatment and information provision.

Abdullah *et al.* (2011:542) are of the view that previous studies have produced scales that bear a resemblance to SERVQUAL, a generic measure of service quality, which may not be totally adequate to assess the perceived quality in the banking sector. Subsequently, the researchers developed a Bank Service Quality (BSQ) index – an indicator of service performance. It is a national indicator reflecting the level of service quality within the banking sector. The study captured customers' evaluation of service quality in a 29-item questionnaire exclusively adapted to the unique nature of the banking sector. The authors report that the results confirmed that three dimensions, namely systemisation, reliable communication and responsiveness, were distinct and conceptually clear. Systemisation, which relates to such aspects as systematic and orderly arrangement of banks' service delivery, has significantly influenced the overall service quality perception. In other words, customers perceived systemisation of service delivery as more important than other dimensions in determining the quality of the service that they received. However, the findings suggest that banking institutions should also put emphasis on other service quality dimensions such as reliable communication and responsiveness.

Hu and Liao (2011:3767) found eleven criteria for evaluating electronic service quality of Internet banking using fuzzy multiple-criteria decision-making processes. These are efficiency, system availability, responsiveness, compensation, contact, tangibility, reliability, reputation, continuing improvement, personalisation and benefit.

The authors are of the opinion that those of greater concern to customers are efficiency, reliability, continuous improvement and tangibility. The analytic result with respect to reliability and tangibility indicates that providing useful, relevant and accurate financial information directly on the Internet banks is important.

Bauer *et al.* (2005:158) developed a scale called 'A model of portal quality'. The model proposes a three-dimensional service concept measuring the quality of electronic banking. The authors describe these three categories of portal services as core services, additional (supplementary) services and solution services. Consequently, the quality evaluations of these three service components together form the basis for assessing Web portal quality. The quality items were measured according to a performance-only scale developed by Cronin and Taylor (1992) using the service performance (SERVPERF) approach. The structure of the final measurement instrument is shown in Figure 3.4.

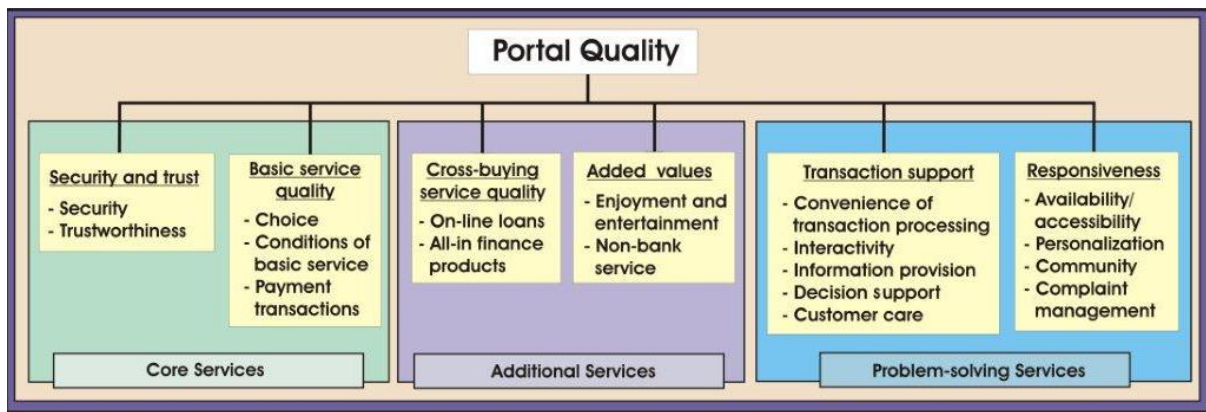


Figure 3.4: A model of portal quality

Source: Bauer *et al.* (2005:170)

It is set up hierarchically with six fundamental quality dimensions arranged on the uppermost level. The six main quality dimensions related to three generic service categories were identified; security/trustworthiness and basic services represent the basic demands of portal users that form the core service category. Attractive cross-buying services and added value constitute a second dimension representing the additional services that facilitate the use of the core products. A third dimension used for quality assessment consists of transaction support and responsiveness of the service provider, which are assured by personalised offers and content as well as interactive decision tools. Consequently, e-banking portal quality cannot be described as a one-dimensional customer rating. Instead, it represents a multi-dimensional and multi-factor construct that is composed of partial quality judgements with regard to the portal's diverse service categories.

In Chapter 1 of this thesis, four constructs were identified for this research. These constructs were service quality, customer value, customer satisfaction and customer loyalty. Theoretical objective V was set out to review and study the literature on the relationships among service quality, customer satisfaction, customer value, and customer loyalty. Service quality both in traditional form of service businesses and electronic services have been dealt with in Chapter 2 and Chapter 3 (Section 3.1 to 3.3) respectively. In the following section of this chapter a critical discussion of the remaining research constructs, namely customer value, customer satisfaction and customer loyalty is undertaken.

3.4 CUSTOMER VALUE

Any attempt by an organisation in providing quality service is to create value for customers so it can enable them to remain competitive and profitable in the long-run. Services are economic activities that create value and provide benefits for customers at specific times and places, as a result of bringing about the desired change on behalf of recipient of the service (Lovelock &

Wright, 1999:5). The centre of this definition lies in the fact services are rendered to create value and provide benefits for customers. Zeithaml (1998:14) defines customer value as “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given”. In this context value, therefore, is a trade-off between what the customer received such as quality, benefits, worth or utilities and what the customer gave up to acquire and use the product for example price or any other sacrifice.

Zeithaml *et al.* (2009:524) set the following questions amongst which service scholars need to ask in quest of creating value for customers.

- What do customers mean by value?
- How can one quantify perceived value in dollars for setting appropriate prices for services?
- How can value perceptions be influenced?

Providing quality service is one thing and creating value to customers may be a different thing altogether. This is because value has several different meanings to customers (Zeithaml *et al.*, 2009:524) as illustrated in Table 3.8. Customers broadly use the term value in four different ways (Lovelock & Wirtz, 2004; Zeithaml *et al.*, 2009:524; Boshoff & Du Plessis, 2009:90)

Table 3.8: The meaning of value

Value is low price	Value is everything I want in a service
Discounting Odd pricing Synchro-pricing Penetration pricing	Prestige pricing Skimming
Value is the quality I get for the price I pay	Value is all that I get for what I give
Value pricing Market segmentation pricing	Price framing Price bundling Complementary pricing Results-based pricing

Source: Zeithaml *et al.* (2009:537)

Value is low price

Some customers equate value with low price, indicating what they have to give up in terms of money is most salient in their perceptions of value (Zeithaml *et al.*, 2009:525). The lowest price becomes the best value for customers (Boshoff & Du Plessis, 2009:90).

Value is everything I want in a service

Rather than focusing on the money given up, some customers focus on the benefits received from a service as the most important component of value (Zeithaml *et al.*, 2009:525). In this case, value is defined in terms of the benefits received, rather than the price paid for the service. Boshoff and Du Plessis (2009:90) are of the view that the fact that a service provider offers better benefits than the other providers will encourage the customers to pay higher fees for these benefits. For example, some bank customers may be ready to pay higher fees for quality investment advice. Such customer customers put little emphasis on what they pay and more emphasis on the quality of consultation with the bank consultant.

Value is the quality I get for the price I pay

In this case, value is seen as trade-off between the money they give up and the quality experienced (Zeithaml *et al.*, 2009:524). The customer is prepared to pay a premium price to a service provider if the customer gets quality service.

Value is all that I get for what I give

Finally, some customers consider all the benefits as well as all sacrifice components (money, time, effort) when describing value (Zeithaml *et al.*, 2009:524). Customers' perceived value can be defined from the perspectives of money, quality, benefit, and social psychology (Kuo *et al.*, 2009:888).

These customers find value in the relationship between every benefit they experience in purchase, ownership, use and consumption of a product or service and the various sacrifices they make to enjoy those benefits (Boshoff & Du Plessis, 2009:90). Value is the customer's perception of the balance between the benefits received and sacrifices made to experience those benefits. Boshoff and Du Plessis (2009:90) are of the view that it is possible to present this definition in the form of an equation:

$$Value = \frac{Benefits}{Sacrifices}$$

The equation indicates that the customer's perception of value can be increased in two ways, namely by increasing the benefits they receive or reducing the sacrifices they make. Zeithaml *et al.* (2009:524) are of the opinion that the four consumer expressions of value can be captured in one overall definition consistent with the concept of utility in economics: perceived value is the consumer's overall assessment of the utility of a service based on perceptions of what is received and what is given.

Boshoff and Du Plessis (2009:107) indicate that research has shown that there is a positive association between customer satisfaction and shareholder value, which means that organisations that achieve higher customer satisfaction also create more shareholder wealth. This means loyal and satisfied customers represent a revenue-generating asset for the organisation that is costly to develop and maintain.

The customer satisfaction construct is discussed in the following section.

3.5 CUSTOMER SATISFACTION

According to Arbore and Busacca (2009:271), the relevance of customer satisfaction in financial services has been widely investigated and assessed over the years. Following an increase in positive evidence, the focus on customer satisfaction has become a primary goal, especially in the retail banking industry. A full understanding of its antecedents has therefore become a critical issue for both researchers and practitioners of service marketing.

Customer satisfaction has been debated considerably in services marketing literature (Dong 2003:45). A number of national and international customer satisfaction barometers or indices have been introduced over the last decades. For the most part, these indices are embedded within a system of cause and effect relationships or a satisfaction model. Yet there has been little in the way of model development (Johnson *et al.*, 2001:217).

Satisfaction is defined as the consumer's fulfilment response to a product or service. It is a judgement that a product or a service feature, or the product or the service itself, provides a pleasurable level of consumption-related fulfilment. Satisfaction may be associated with feelings of pleasure for services that make the consumer feel good or are associated with a sense of happiness. For those services that really surprise the consumer in a positive way, satisfaction may lead to delight (Zeithaml *et al.*, 2009:104). Jain (1997:382) asserts that satisfied customers are the only assets of an organisation and customer satisfaction is the only justification for an organisation's existence.

Parker and Mathews (2001:38) propose two basic approaches to define the concept of customer satisfaction. Customer satisfaction can be viewed as the outcome of a consumption activity or an experience, and it can also represent a process (what was received and what was expected). By defining the process leading to customer satisfaction, boundaries must be set, metrics determined and improvements targeted (Boshoff & Du Plessis, 2009:13).

To a large extent, service-based definitions equate quality with customer satisfaction, as defined by the formula:

$$Satisfaction = \frac{Perceived\ service}{Expected\ service}$$

The theory is simple. Service quality is the extent to which a service meets or exceeds customer expectations. If customers perceive the actual delivery of service as better than expected, they will be happy and loyal customers; if it is below expectations, they will be dissatisfied (Lovelock & Wright, 1999:88).

Boshoff and Du Plessis (2009:14) suggest the following steps to attain customer satisfaction:

- Communication with customers
- Manage the overall experience
- Handle difficult situations with empathy and in a dignified manner
- Cultivate a service culture with employees and task teams
 - Learn how to implement and control service processes

In the following section, the disconfirmation paradigm and the two approaches to assessment of customer satisfaction are discussed.

3.5.1 The disconfirmation paradigm

Although varieties of alternative definitions exist, the most popular definition of customer satisfaction/dissatisfaction is that it is a comparison of customer expectations regarding the actual service encounter. Bloemer and DeRuyter (1998:501) define satisfaction as “the outcome of the subjective evaluation that the chosen alternative meets or exceeds expectations”. The basis of this definition stems from the disconfirmation paradigm as a post-purchase evaluation (Torres, Summers & Belleau 2001:206). Szwarc (2005:6) is of the view that customer satisfaction is how customers view an organisation's product or services in light of their experiences with that organisation, as well as by comparison with what they have heard or seen about other companies that provide similar products and services.

Comparing customer expectations with their perceptions is based on what marketers refer to as the expectancy disconfirmation model (Hoffman & Bateson, 2006:304). The disconfirmation paradigm is the most central concept in the study of post-purchase satisfaction or dissatisfaction. Disconfirmation occurs when there is a discrepancy, either positive or negative, between prior expectations and the product or service's actual performance (Du Plessis & Rousseau, 2007:160). Hunt (1991:109) offers the following four alternative satisfaction definitions in terms of the disconfirmation paradigm (refer to Table 3.9).

Table 3.9: Alternative satisfaction definitions

Type of definition	Description
Normative deficit definition	Compares actual outcomes with those that are actually acceptable
Equity definition	Compares gains in a social exchange. If the gains are unequal, the loser is dissatisfied
Normative standard definition	Expectations are based on what the consumer believes should be received. Dissatisfaction occurs when the actual outcome is different from the standard expectation.
Procedural fairness definition	Satisfaction is a function of the consumer's belief that the consumer was treated fairly.

Source: Hunt (1991:109)

According to the disconfirmation paradigm, customers determine the level of their satisfaction or dissatisfaction by comparing their expectations of the service with their perceptions of the service. This can result in confirmed or disconfirmed expectations. Disconfirmed expectation can in turn result in positive or negative disconfirmation. Therefore, it is vital for any firm to seek information from its customers about how satisfied they are.

3.5.2 Transaction versus cumulative perceptions

Customer satisfaction research has developed around two types of evaluation, namely transaction-specific satisfaction and cumulative satisfaction (Johnson *et al.*, 2001:218; Kuo *et al.*, 2009:888; Zeithaml *et al.*, 2009:103). Zeithaml *et al.* (2009:103) highlight the fact that customers may have perceptions of satisfaction based on single, transaction-specific encounters as well as overall perceptions based on all their experiences.

In the case of the transaction-specific approach, a bank customer, for instance, will have a perception of how the customer was treated in a particular encounter with an employee at a branch and will form a perception of that particular transaction based on elements of the service experienced during that specific transaction (Zeithaml *et al.*, 2009:104).

Satisfaction is considered also from a cumulative perspective and is defined as customers' overall experience with the service provider after a series of service encounters (Johnson *et al.*, 2001:218). A majority of past studies on satisfaction view the construct from a cumulative perspective (Gupta & Zeithaml, 2006:718; Ganguli & Roy, 2010:172). In a cumulative approach, the same customer will have overall perceptions of the bank based on all his/her encounters over a period of time. The experiences might include multiple in-person encounters at the bank branch, online banking experiences and experiences using the bank's ATMs across different

cities. Even at a macro level, the customer may have perceptions of banking services or the whole banking industry as a result of all the customer's experiences with banks and everything the customer knows about banking (Zeithaml *et al.*, 2009:104).

Understanding perceptions at a transaction-specific level is critical for diagnosing service issues and making immediate changes. Cumulative experience evaluations are more likely to be better predictors of overall loyalty to a company. That is, customer loyalty most often results from a customer's overall assessment of all experiences and not just one single encounter (Zeithaml *et al.*, 2009:104). Concurring with the aforementioned authors, Jonson *et al.* (1996:165) state that although transaction-specific satisfaction may provide insights into particular product or service encounters, cumulative satisfaction is arguably a better predictor of future behaviour (customer retention) and firm performance (profitability).

Kasper *et al.* (2006:181) conducted an interesting investigation of service quality and satisfaction. In this respect, quality is referred to as some attribute of what is offered, provided or produced whereas satisfaction or dissatisfaction refers to a customer's reaction to that offer. In this sense, the two constructs are separate; quality is something that the organisation is responsible for, whereas satisfaction falls within a customer's domain. However, it must be noted that these two constructs are clearly interrelated in that the customer response (satisfaction or dissatisfaction) might be used as a means of assessing whether quality has been offered.

The level of customer satisfaction derived from quality service rendered determines the post-purchase intentions of a customer. Satisfied customers are more likely to do business with the same organisation and less likely to switch service providers (Hoffman & Bateson, 2006:306). The authors add that customer satisfaction has been associated with such benefits as repeat sales, more frequent sales, increased sales per transaction, positive word-of-mouth communications, insulation from price competition, and pleasant work environment for employees. In essence, this means that customer satisfaction is related positively to post-purchase intentions of a customer; satisfied customers become loyal to the organisation that satisfies them.

Evanschitzky *et al.* (2004:239) are of the view that, while the subject of satisfaction has been discussed extensively in the services and traditional retailing literature, the exploration of dimensions and determinations of satisfaction in the e-commerce context is at a relatively early stage. It is not clear whether the dimensions used to evaluate satisfaction in a traditional retail or service setting are relevant in evaluating satisfaction in the technology-mediated encounter. The most obvious difference between traditional and electronic retail services is the replacement of human-to-human interaction with human-to-machine interaction and therefore,

new or modified approaches to conceptualising and measuring satisfaction may be needed for an e-commerce setting.

A variety of independent and dependent constructs and measures have been employed to identify the drivers of e-satisfaction. However, there is no consensus on what drives online service quality and e-satisfaction (Anand, 2007:74). Anand (2007:74) proposed an e-satisfaction model based on prior literature on e-satisfaction. The model groups together eighteen factors representing five major contexts of e-satisfaction, namely convenience, merchandising, site design, security and serviceability. The author further documents that convenience, serviceability, site design and security have a statistically significant influence on e-satisfaction levels.

Herington and Weaven (2008:1220) applied the E-ServQual in an electronic retailing (E-retailing) banking setting to determine the relationship between service quality and customer satisfaction. The authors claim that four dimensions, namely efficiency, personal needs, user-friendliness and site organisation as determinants of e-retailing. The authors also established positive association of these dimensions with overall customer satisfaction. The overall level of satisfaction, however, is found to be considerably lower than the ratings of the E-ServQual dimensions as well as overall E-ServQual, indicating that some other unknown (and unmeasured) factor is impacting negatively on overall satisfaction (Herington & Weaven, 2008:1227). The authors are of the view that this warrants further investigation, as does the possible moderating influence of bank fees and charges as the price of banking service. The researchers are of a firm belief that this approach will assist banks in assessing their individual performance in relation to e-service quality, and provide a basis for researchers to further investigate alternative methods of customer interaction that will assist in improving customer satisfaction, loyalty and retention on e-retail banking sites.

Ding *et al.* (2011:508) developed e-SELFQUAL, a scale for measuring online self-service quality. The authors employed e-SELFQUAL (and each of its dimensions) to examine the relationship between online self-service quality and customer satisfaction, as well as customer loyalty in e-retailing. The results indicate that all extracted service quality dimensions, namely perceived control, service convenience, customer service, and service fulfilment have significant effects on customer satisfaction and loyalty.

Patterson and Spreng (1997:419) and Hoffman and Bateson (2006:333) offer an explanation on the relationships among the constructs of service quality, customer satisfaction and post-purchase intention. The authors indicate that most researchers agree that customer satisfaction is a short-term, transaction-specific measure, whereas service quality is an attitude formed by long-term, overall evaluation of performance. Customer satisfaction and service quality are

without a doubt intertwined. However, their relationship is unclear. Some believe that customer satisfaction leads to perceived service quality, while others believe that service quality leads to customer satisfaction. However, the authors assert that ample evidence exists that suggests that the provision of quality service delivers repeat purchases as well as new customers.

It is evident that customer satisfaction has become of crucial importance not only to the banking industry but also to any firm providing service to customers. Customer satisfaction remains crucial to a service firm, whether the service is provided over the counter or online. Not only do banks need to satisfy customers (whether branch or online customers) at any given time, but they also need to understand the dynamics of customer satisfaction as perceived and experienced by their customers from time to time.

From the literature reviewed, it is established that the concept of customer loyalty relates closely to service quality. If customers think that they receive good service, they will be loyal to the service supplier, returning repeatedly to buy. Loyalty and e-loyalty are discussed in the following section.

3.6 CUSTOMER LOYALTY

Loyalty is defined as “a consumer’s inclination to patronise a given firm or chain of firms over time” (Knox & Denison, 2000:34). According to this definition, loyalty is seen as a long-term feeling of attachment to a supplier of service or product, and is thought to occur when buyers are satisfied and have an investment in a relationship with a supplier, which is too great to sacrifice for a cheaper or lower-quality alternative. There is also evidence that people do become loyal at the point of purchase and return to buy from the same supplier (Young, 2005:303).

Loyalty is also viewed as a primary determinant of profit and growth because loyal buyers produce greater cash flow, cost less to service and spread positive word-of-mouth recommendations (Young, 2005:303). According to Harris and Goode (2004:139), loyal customers buy more, are willing to spend more, are easier to reach, and act as enthusiastic advocates for organisations. The authors further state that, given the prevalent acceptance of the link between loyalty and performance, it is perhaps not surprising to find that customer loyalty for ‘brick-and-mortar’ firms has been linked to antecedent factors ranging from customer relationship and service reliability to service attribute.

For these reasons, organisations have always sought to attain and maintain customer loyalty. Boshoff and Du Plessis (2009:14) argue that one of the purposes of customer retention strategy is to maximise an individual’s profitable lifetime value as a customer. Some of the reasons why customer retention can increase profits are as follows:

- Total acquisition costs decline
- Satisfied repeat customers refer new customers
- Word-of-mouth is free
- Long-established customers buy more than new customers
- Loyal customers are less price-sensitive
- Long-established customers cost less to serve because their likes and dislikes and their needs and their particular operations become known, which prevents costly errors.

Boshoff and Du Plessis (2009:14) further assert that a successful retention strategy also reduces the number of relationships a customer forms with competitors, thereby reducing the opportunities for a competitor to win away the customer. The authors raise the following issues in this regard:

- Does the firm know the lifetime value of its customers?
- Does the firm know its good customers?
- Does the firm follow up on customers who seem to have stopped buying from it?
- Does the firm use information from defecting customers to improve its service?

Previous studies have found a direct relationship between service quality and loyalty in different service settings, which leads to favourable behavioural responses (Harris & Goode, 2004:142). Koo (2006:121), however, is of the view that in terms of relationships between online store attributes and store loyalty, the results of previous studies have been mixed. In one situation, certain attributes are considered important, but not if the situation changes.

The literature suggests that loyalty consists of two dimensions, namely attitudinal and behavioural aspects. The behavioural aspect of loyalty focuses on a measure of proportion of purchase of a specific brand, while attitudinal loyalty is measured by a psychological commitment to a firm (Dong, 2003:45). Cyr *et al.* (2009:852) are of the view that e-loyalty represents behavioural intention on the part of the user and is conceived as a consumer's intention to buy through an organisation's website. Where there is no commitment in the consumer's repeat visit, the consumer becomes spuriously loyal (Dick & Basu, 1994:101). Commitment is a necessary condition for loyalty to occur. In addition, previous studies suggest a direct link between satisfaction and loyalty (Dong, 2003:49; Zeithaml *et al.*, 2009:109). However, the exact relationship between the service quality dimensions of satisfaction and loyalty remains inconclusive.

Harris and Goode (2004:146) state that there are four sequential levels of loyalty, namely cognitive, affective, conative and action loyalty. Cognitive loyalty refers to the existence of beliefs that (typically) a brand is preferable to others. Affective loyalty reflects a favourable attitude or liking based on satisfied usage. Conative loyalty constitutes the development of behavioural intentions characterised by a deeper level of commitment. Finally, action loyalty relates to the conversion of intentions into actions. Hence, contemporary researchers appear to support frameworks of loyalty that incorporate and integrate both behavioural and attitudinal components.

Koo (2006:127) conducted research on the fundamental reasons for e-consumers' loyalty to an online store. The author established that that customers' favourable perceptions of website design, visual appeal, well-organised hyperlinks, information quality, product assortment and after-sale services are positively associated with online store loyalty. Product assortment was found to be closely and positively related to online store loyalty.

Although banks attempt to mitigate consumer concerns through providing online accounts that typically attract reduced fees and higher interest, managing the ongoing tension between efficiency and human interaction represents a challenge to banking institutions wishing to encourage ongoing consumer loyalty and retention (Herington & Weaven, 2009:1221). Yang and Tsai (2007:116) are of the view that the importance of loyalty has been emphasised recently because loyal customers may be worth up to ten times as much as the average customer and bring many benefits to a seller; they are considered one of the critical indicators used to measure the success of a marketing strategy. Most companies try their best to satisfy their customers and develop long-term relationships with them. The authors assert that without customer loyalty, even the best-designed e-business model will soon fall apart.

Yang and Tsai (2007:121) applied the E-S-QUAL SCALE to websites' satisfaction and loyalty intentions. The generic E-S-QUAL and E-RecS-QUAL scales were found to be reliable and valid and could be used in an online loyalty model. Tests of the effects of the two second-order constructs on online satisfaction and loyalty indicated that both E-S-QUAL and E-RecS-QUAL have strong and significant effects on satisfaction, which, in turn, significantly affects customer loyalty. Overall, the most important dimension in influencing satisfaction and loyalty is fulfilment, followed by efficiency and responsiveness and then contact. Although system availability and compensation were the least critical of the seven e-SQ dimensions, the regression results showed that both these dimensions still have a statistically significant impact on customers' satisfaction with and loyalty to websites.

Xu *et al.* (2012:743) conducted a study on the effects of service and consumer product knowledge on online customer loyalty. The authors developed a theoretical model explaining

the antecedents of customer loyalty in an online setting by reviewing concepts of customer loyalty and social exchange theory, followed by a crucial antecedent of loyalty-service quality. The 3S theoretical model (service quality, sacrifice and service outcome) is explained as follows:

Service quality: First antecedent of online customer loyalty

Service quality is the overall evaluation and judgment made by a customer regarding the excellence of service he or she receives (Santos, 2003; Parasuraman, Zeithaml, & Berry, 1985, 1988). Service quality has been a long-standing and highly relevant construct with respect to customer service situations. Although typically applied to traditional offline contexts, it is also important for firms to provide service quality using technology and is identified as the first antecedent of online customer loyalty (Bitner, 2001; DeLone & McLean, 2003; Ding & Straub, 2008; Zeithaml *et al.*, 2002).

Sacrifice: A second antecedent of online customer loyalty

Perceived sacrifice as a construct that captures the time and effort that customers spend when receiving service, parallel with the service quality that captures the benefit of service delivery is identified as the second antecedent of online customer loyalty (Xu *et al.*, 2011:745).

Service outcome: A third antecedent of online customer loyalty

It has long been recognised that services have both process and outcome. Service quality typically captures aspects such as responsiveness, assurance, and empathy. Similar with the argument about the important role of sacrifice associated with service quality to predict loyalty, the researchers believe that it is important to examine the sacrifice dimension during the service process as well. Thus, the service process consists of two constructs, namely service quality and sacrifice (Xu *et al.*, 2011:746).

Similarly, Carlson and O'Cass (2011:280) developed a framework for understanding e-service quality, its antecedents, consequences and mediators. The study examined several important issues related to the conceptualisation and measurement of e-service quality. The authors' study focused on the e-retail domain by addressing the conceptualisation of e-service quality and the relationships between global e-service quality, satisfaction and behavioural intentions. The study demonstrated significant relationships among these constructs.

Patterson and Spreng (1997) conducted an empirical examination on modelling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business services context. The researchers claim that their research is the first empirical effort to examine the impact of perceived value in concert with satisfaction and repeat purchase intentions in a

business-to-business services context. Hence, the results represent an important step forward in unravelling the intricate relationship between these three key constructs. Patterson and Spreng (1997:414) highlight that among the many issues of prime interest to marketing scholars and practitioners alike are customers' perceptions of value and satisfaction. These concepts are particularly important as they are linked to market share, relationship marketing and future (re)purchase intentions. Patterson and Spreng (1997:416) established that each performance dimension is positively linked to perceived value. In turn, the researchers also determined a positive association perceived value and customer satisfaction. Similarly, the researcher further identified perceived value as antecedent of (re)purchase intentions.

Similarly, Kuo *et al.* (2009) conducted a research on the relationships among service quality, perceived value, customer satisfaction, and post-purchase intention of mobile value-added services. Through exploratory and confirmatory factor analyses, the researchers identified four dimensions of service quality, including customer service and system reliability, navigation and visual design, content quality and connection speed. Furthermore, the researchers also determined the relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. Service quality positively influenced perceived value and customer satisfaction, indicating that when telecom companies provide good service quality, perceived value and customer satisfaction can be enhanced. Perceived value positively influenced customer satisfaction. In other words, higher perceived value can lead to higher customer satisfaction. Perceived value and customer satisfaction directly and positively influenced post-purchase intention, where the effect of perceived value was the largest, followed by that of customer satisfaction. Service quality showed no direct positive effect on post-purchase intention. Although service quality has no direct effect on post-purchase intention, service quality could indirectly influence purchase intention through perceived value and customer satisfaction (Kuo *et al.*, 2009:894-95).

The relationships amongst service quality, customer value, customer satisfaction and customer loyalty or behavioural intentions have stimulated interest by marketing scholars in both online and offline service settings. Table 3.10 provides a record of empirical research conducted over the years that attempted to establish relationships amongst these constructs.

Table 3.10: Record of previous studies that attempted to establish relationships amongst service quality, customer value, customer satisfaction and customer loyalty

Researchers	Year	Research constructs considered			
		Service quality	Customer value	Customer satisfaction	Customer loyalty
Wu	2011	✓	✓	✓	✓
Xu <i>et al.</i>	2011	✓		✓	✓
Yoon	2010	✓	✓	✓	✓
Lee	2010	✓	✓	✓	✓
Kuo <i>et al.</i>	2009	✓	✓	✓	✓
Al-Hawari <i>et al.</i>	2009	✓			✓
Chang & Wang	2008	✓	✓	✓	✓
Han & Baek	2004	✓		✓	✓
Cronin <i>et al.</i>	2000	✓	✓	✓	✓
Andreassen	1998	✓	✓	✓	✓
Patterson & Spreng	1997		✓	✓	✓
Cronin & Taylor	1992	✓		✓	✓
Bolton & Drew	1991	✓	✓	✓	✓
Parasuraman <i>et al.</i>	1988	✓			✓

In the following section, the proposed research model is described.

3.7 PROPOSED RESEARCH MODEL

The empirical objectives of this study entail the identification of service quality dimensions that influence electronic banking services, and determining the relationship amongst the research constructs identified for the current study namely, service quality, customer value, customer satisfaction and customer loyalty in an electronic banking environment. In light of these empirical objectives and the literature reviewed, the proposed hypothesised research model is presented in Figure 3.5.

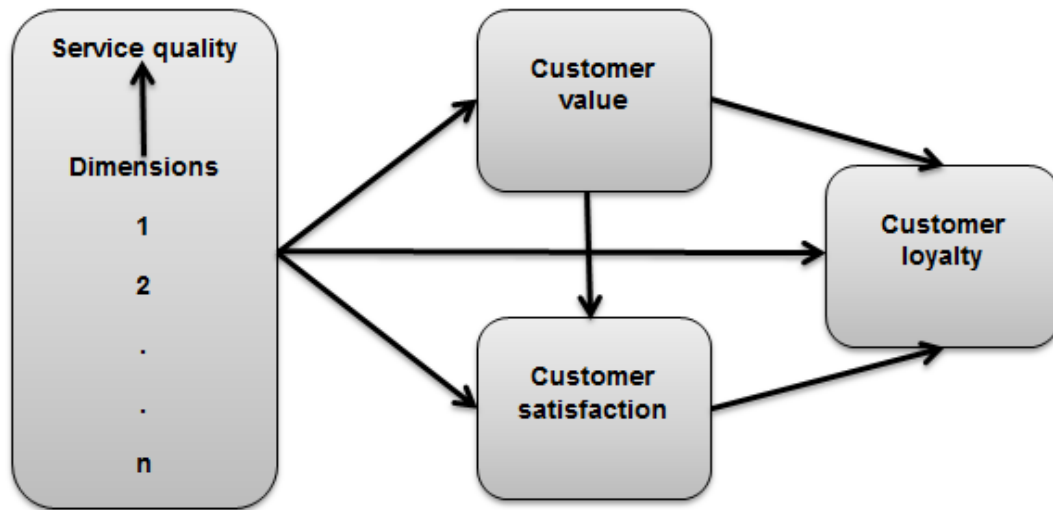


Figure 3.5: Proposed research model

The proposed research hypothesises a set (n) of dimensions determine electronic service quality in the South African banking sector. Service quality comprising this set of dimensions positively influences customer value, customer satisfaction and customer loyalty. The implication is that this set of dimensions individually or collectively may influence customer value, customer satisfaction and customer loyalty. Furthermore, the model also hypothesises customer value influence both customer satisfaction and customer loyalty; while customer satisfaction is perceived to be a predictor of customer loyalty.

3.8 SYNOPSIS

This chapter was set out to achieve theoretical objectives IV and V. Its focus was to review the literature on service marketing and service quality scales of electronic services. Research relating to service quality of electronic banking was discussed extensively. The body of literature covered the dimensionality of the electronic service quality construct. Special emphasis was placed on the studies that attempted to conceptualise and measure electronic banking service quality. Hence, the literature discussed widely used instruments that have been developed specifically to measure electronic services such as E-S-QUAL, E-RecS-Qual, E-service quality, WebQual, e-banking portal quality, (Barnes & Vidgen, 2003:298; Santos, 2003:233-246; Bauer *et al.*, 2005:172; Parasuraman *et al.*, 2005:213-233) (theoretical objective IV).

This chapter also presented a review of the literature on the research constructs of this study, namely customer value, customer satisfaction and customer loyalty and their theoretical relationships amongst these constructs (theoretical objective V). The chapter ended by providing a proposed research model for the current study. The bulk of the literature suggests that there are generally positive correlations amongst service quality, customer value, customer

satisfaction and customer loyalty. From the literature reviewed in this chapter, it is noted that service quality is of crucial importance not only to the banking industry but to any firm rendering service to customers. Banks need to understand the dynamics of service quality as perceived and experienced by their customers from time to time. Banks need to create value to their customers through their electronic offerings to satisfy their customers. Customer satisfaction, in turn, has a positive influence on customers' post-purchase intentions.

The next chapter (Chapter 4) describes the research design used in the study. The research approach, the sampling design process and the instrument used in collecting and analysing of the data are presented in detail. The conceptual framework applied in developing the questionnaire for this research is explained. Statistical methods, which are used to analyse the data of study are also discussed.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This chapter places emphasis on the research design of the study. Discussions, arguments and justifications of the research approach, the sampling design process and the instrument used in the collecting and analysing of the data are presented. Furthermore, the analyses applied in converting the data into meaningful information are elucidated.

Malhotra (2010:102) describe research design as a framework or a blue print for conducting a marketing research project that details the procedures necessary for obtaining the information needed to structure or solve marketing research problems. Walliman (2006:42) is of the view that the research design provides a framework for the collection and analysis of data and subsequently indicates which research methods are appropriate for the given research study. Similarly, a research design is viewed as the blueprint or plan of how the information to answer the research objectives will be gathered (Frazer & Lawley, 2000:8; Du Plessis & Rousseau, 2007:19).

The following section discusses the research approach employed in this study together with the motivation and reasoning supporting the approach.

4.2 RESEARCH PARADIGMS

The term paradigm refers to the progress of scientific practice based on people's philosophies and assumptions about the world and the nature of knowledge (Hussey & Hussey, 1997:47). Babbie (2013:57) claims that paradigms play a fundamental role in science, just as they do in life. Paradigms help us make sense of things by providing theories and explanations to the underlying issues in our daily lives.

Hussey and Hussey (1997:47) state that there are two main paradigms or approaches in conducting research. Although there is no consensus, the two paradigms can be labelled positivist and phenomenological. Some authors prefer to use other terms. Quantitative, objectivist, scientific, experimentalist and traditionalist can be used to describe a positivist paradigm while qualitative, subjectivist, humanistic and interpretivist can be used to describe a phenomenological paradigm.

Concurring with these authors, Zikmund *et al.* (2013:132-134) view qualitative as a technique that allow the researcher to provide elaborate interpretations of market phenomena without

depending on numerical measurement while quantitative is a techniques that uses numeric values to address research objectives .

Hussey and Hussey (1997:48) are of the view that although two main paradigms have been identified, it is best to regard them as two extremes of a continuum. As you move along the continuum, the features and the assumptions of one paradigm are gradually relaxed and replaced by those of the other paradigm. Table 4.1 shows the main features of the two paradigms.

Table 4.1: Features of the two main paradigms

Positivistic paradigm	Phenomenological paradigm
Tends to produce quantitative data	Tends to produce qualitative data
Uses large samples	Uses small samples
Concerned with hypothesis testing	Concerned with generating theories
Data are highly specific and precise	Data are rich and subjective
The location is artificial	The location is natural
Reliability is high	Reliability is low
Validity is low	Validity is high
Generalises from sample to population	Generalises from one setting to another

Source: Hussey & Hussey (1997:54)

Ladhari (2008:76) indicates that most researchers in service industries generated an initial pool of scale statements from a review of the literature. This initial pool was then refined through focus groups (for example, Mentzer *et al.*, 1999; Sower *et al.*, 2001; Vaughan & Shiu, 2001; Aldlaigan & Buttle, 2002; Khan, 2003; Wilkins *et al.*, 2007); and/or through individual interviews with providers or users of the service (for example, Aldlaigan & Buttle, 2002; Janda *et al.*, 2002; Getty & Getty, 2003; Karatepe *et al.*, 2005; Caro & Garcia, 2007). Furthermore, Ladhari (2008:76) asserts that in some cases, SERVQUAL an instrument itself was utilised at the earliest stage for the development of the item pool (for example, Dabholkar *et al.*, 1996; Frochot and Hughes, 2000; Sureshchandar *et al.*, 2002) or as the fundamental structure for new instruments (for example, Engelland *et al.*, 2000; Khan, 2003; Markovic, 2006).

Many scholars who developed and validated a scale in an electronic setting (Bauer *et al.*, 2004:160; Jayawardhena, 2004:189; Ho & Lin, 2009:7) commenced with individual, focus group and/or in-depth interviews (examples of qualitative method) and then moved to surveying using a questionnaire (an example of quantitative method). Many other scholars (Barnes & Vidgen,

2003:299; Herington & Weaven, 2008:1224; Kumbhar, 2012:19) opted to using only a questionnaire (quantitative method) in developing and validating a scale in an electronic setting.

The researcher in the present study has decided to apply the two methods, namely qualitative and quantitative methods, to enhance and maximise the outcome of this research endeavour (Zikmund *et al.*, 2013:133). Thus, the study applies a two-phase design in conducting the research. Phase I of this study comprises the literature review and focus group interviews, and Phase II comprises questionnaire development and refinement of the scale through various quantitative statistics.

Electronic service quality is a relatively new concept in South Africa and indeed globally (Ladhari, 2010:471). The researcher in this study, therefore, decided to generate items using both inductive method (such as the literature reviews) and deductive methods as exploratory research (such as focus group interviews). As a relatively new concept, it was crucially important to define and conceptualise the term electronic banking service quality in light of this study at the initial stage of Phase I. It also was deemed appropriate to provide definition and conceptualisation of the other research constructs of this study, namely customer value, customer satisfaction and customer value. This was particularly vital since no research study was found that put up these four constructs of the current study in an electronic banking context; certainly not in a South African context. Thus, the literature review was utilised as inductive method to build the theoretical foundation of the study and generate the initial pool of items, and define and conceptualise the constructs. This part of the study was achieved in Chapter 2 and 3. The second stage in Phase II, focus group interviews, an example of qualitative method, was employed to gain an insight into how South African electronic banking users feel about the service (*inter alia*, hear their voices). It was intended to generate original items for the scale. Conducting focus group interviews was informed by the fact that the main objective of this study was to develop and validate an electronic banking service quality scale specifically designed for the South African banking sector. At this stage, a deductive method is applied in generating items from the discussion of the focus group interviews.

The study progressed from Phase I, which employed a qualitative method, to Phase II, which applied a quantitative method. In Phase II, a questionnaire, an example of quantitative method, was used to collect data from a bigger sample size. Refining and validating of the scale was performed through various interactive statistical applications. Figure 4.1 shows the various steps employed in the development and validation of the scale.

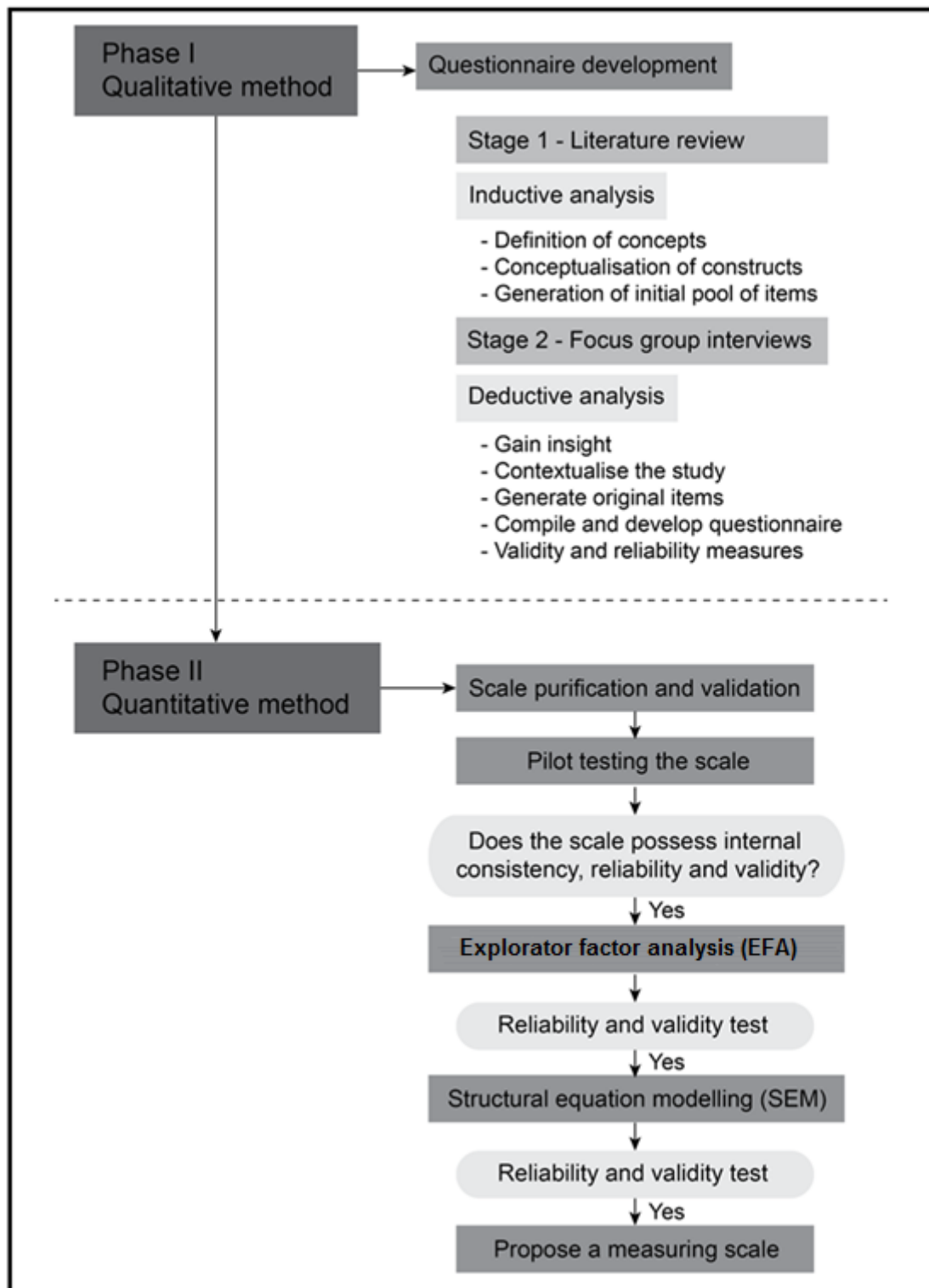


Figure 4.1: Steps employed in the development and validation of the scale.

Source: Researcher's own construction

The following section presents a detailed description of the qualitative approach.

4.2.1 Qualitative approach

According to Tylor, (2000:164) qualitative research study commences with the observation of the phenomenon followed by the recording and classifying of data. Du Plessis and Rousseau (2007:21) state that qualitative research tools are more unstructured, flexible, and diagnostic than quantitative research tools, and aim to obtain information from respondents in an indirect manner. Qualitative research tools are used often in exploratory research and are appropriate for hypothesis generation. Similarly, Pett *et al.* (2003:25) are of the opinion that the qualitative method is used to study facts, observations and experiences that can be used as empirical indicators when developing an instrument. Following definition and conceptualisation of the constructs of the study and generation of initial items through critical review of the literature, a focus group interview was conducted to get the perspective South African consumers of electronic banking services. The following section describes the implementation of the focus group interviews.

4.2.1.1 Focus group interviews

Malhotra (2010:173) is of the opinion that focus groups are the most important qualitative research procedure and claims that they are becoming so popular that many marketing practitioners consider this technique synonymous with qualitative research. Focus group, also called group depth interviews, is the most widely used qualitative research method (Hair *et al.*, 2013:82; Zikmund *et al.*, 2013:147), and it is extremely useful method for gathering ideas and insights (Iacobucci & Churchill, 2010:63). A focus group is interview conducted by a trained moderator in a non-structured and natural manner with a small group of participants (Malhotra, 2010:173).

Parasuraman *et al.* (2005:7) are of view that there are specific goals of the focus group interviews at the preliminary level of scale development. The goals of the focus group interview were to:

- To generate original items from South African perspective
- To understand respondents' reactions to alternative ways of phrasing scale items
- To reword items to improve clarity
- To eliminate redundant items
- To obtain feedback on the length, format, and clarity of the instructions and initial questionnaire draft.

The following procedures as recommended by Malhotra (2010:175) were adhered to during the planning and conducting of the focus group interviews in the current study:

- Determine the objectives of the marketing research project and define the problem (see chapter 1)
- Specify the goals of the qualitative research
- State the objectives and questions to be answered by focus groups
- Develop a moderator's outline
- Conduct the focus group interviews
- Review and analyse the data
- Summarise the findings and plan follow-up research or action.

4.2.1.2 Sampling of focus groups

A sample size of eight participants with in-depth knowledge and experience of electronic banking were prepared purposely for the focus group interviews as per the recommendations of Welman *et al.* (2005:202), Malhotra (2010:174) and Babbie (2013:349). The eight participants were of diverse age, gender and race with varied levels of education. This was to ensure that the samples selected are representative of the wider population so that findings obtained from such samples provide information which is relevant to the study's objectives.

4.2.1.3 Data collection

Semi-structured questions were designed for the focus group interviews to solicit their views regarding electronic banking services in South Africa. Semi-structured interview gives the researcher and the participant much more flexibility and the researcher is able to follow up a particular avenue that emerge in the interview while the participant is able to give a fuller picture (De Vos *et al.*, 2012:351). Table 4.2 displays a reduced size of the template used as instructional questions to facilitate the focus group interviews (refer to Annexure A).

Questions 1, 2 and 3 were designed to solicit information why customers use Internet banking. Collectively, the three questions were set to obtain information regarding the attributes of electronic banking service quality. In other words, they were set to determine the underlying service quality dimensions of electronic banking from a South African perspective. These three questions were used in generating items that describe the first construct of the study, electronic banking service quality.

Question 4 was set to identify whether Internet banking adds value to customers by drawing parallel to traditional form of banking. This question helped pool items that describe the second construct of the study, which is customer value. Question 5 was set to solicit information regarding the third construct of the study, customer satisfaction, by probing customer

expectations, and satisfaction and dissatisfaction levels. Question 6 and 6.1 were set to determine customer's post purchase intentions. These two questions collectively helped understand the customer loyalty construct. Question 7 was meant to obtain a general recommendation for the improvement of Internet banking service in South Africa.

Table 4.2: Instructional questions to facilitate the focus group interviews

Think of the service you receive when you use Internet banking and answer the following questions:	
1.	Why do you use Internet banking?
2.	What are the things you like about Internet banking?
3.	What are the concerns you have about Internet banking?
4.	Do you think it adds value to use Internet banking? How?
5.	Does Internet banking meet your expectation? Please describe your satisfaction level?
6.	Would you continue to use Internet banking?
6.1	Would you recommend Internet banking to family and friends?
7.	What improvement do you want to see regarding Internet banking?

4.2.1.4 Data analyses

Babbie (2013:496) is of the view that qualitative analysis depends more on the individual insights of the researcher than the tools available to support the analysis, and analysing qualitative data is as much art as science. Welman *et al.* (2005:211) suggest that the raw field notes need to be processed so they can be analysed. This entails converting the notes into write-ups, which should be understandable products that can be read, edited for accuracy, commented on and analysed. Neuman (2014:480) explains that qualitative data analysis involves the use of general ideas, themes and concepts as tool for generalising about observations. Creating codes, writing memos and mapping concepts graphically as recommended by Babbie (2013:396) were performed in analysing the focus group interviews.

The transcripts of the focus group interviews were content analysed using a qualitative data analysis (QDA) programme called ATLAS.ti (Babbie, 2013:403). The Atlas.ti programme helped in identifying data clusters and forming themes and subthemes of the study. The following six interactive procedures were performed to obtain the thematic evidences from the participants of the focus group interviews.

- **Opening a hermeneutic unit (HU)** – the HU was named electronic banking services in South Africa: Service quality scale development and validation, which is the title of the study.

- **Assigning of primary documents** – Three separate and one group interviews were assigned to the HU library.
- **Discovering relevant passages** – reading and re-reading of the transcript was performed to identify relevant sentences, phrases and concepts of the study. Sentences, phrases and concepts relating to the theoretical conceptualisation of electronic banking service quality were highlighted.
- **Creating codes and memos** – Coding and sometimes referred to as indexing of the sentences, phrases and concepts were the performed. Coding was made to those descriptions, phrases and concepts that repeated themselves and those relating to the theoretical conceptualisation of electronic banking service quality. Memos were created to define the codes that were created.
- **Generating items** – The descriptions, phrases and concepts identified were used in generating items for the scale
- **Visualising and reporting of results** - These visual maps (Atlas.ti networks) with the themes, subthemes and codes were used.

4.2.1.5 Role of the researcher in qualitative research

There are four roles that a researcher could assume during focus group interviews. These are complete participant, participant as observer, observer as participant, and complete observer (Merriam, 2009:124-125). During this phase of the research, the researcher assumed the role of complete observer while facilitating and moderating the focus group interview. During the analysis, the researcher, using the Atlas.ti programme, identified the themes and subthemes. These themes and subthemes essentially helped describe the four constructs of the study, namely electronic banking service quality, customer value, customer satisfaction and customer loyalty. Using a deductive method the researcher then drafted a questionnaire such that it addresses the objectives of the study. It must be noted that, the literature review was utilised as inductive method to build the theoretical foundation of the study and generate the initial pool of items. In consultation with the study leaders and a statistician, a final instrument (questionnaire) was developed.

In pursuit of conducting a trustworthy and credible study, certain measures were adhered to ensure the validity and reliability of the research. Validity and reliability measures are discussed in the following consecutive sections.

4.2.1.6 Validity in qualitative research

Validity has long been a key issue in debates over the legitimacy of qualitative research (Maxwell, 1992:279). Babbie (2013:407) is of the view that judging the quality of qualitative research is more elusive, though no less important. Credibility, a term preferred by some qualitative researchers in the place of validity is one of the key criteria addressed by positivist researchers in reference to internal validity, in which they seek to ensure that their study measures or tests what is actually intended (Shenton, 2004:64; Babbie, 2013:408). McMillan and Schumacher (2001:407) are of the view that the main facet in ascertaining the validity of qualitative research depends on the data collection process and the techniques involved in analysing and interpreting such data (McMillan & Schumacher, 2001:407).

Maxwell (1992:285-295) identifies five types of validity in qualitative research, namely descriptive validity, interpretive validity, theoretical validity, generalisability validity and evaluative validity. Briefly explained, descriptive validity refers to the factual accuracy of the account. Interpretive validity refers to the comprehension of phenomena not on the basis of the researcher's perspective but of those participants in their situation. Theoretical validity refers to an account's validity as a theory of some phenomenon and the relationship of the theory components, namely concept or categories and their relationships. Generalisability validity refers to the extent to which one can extend the account on situation or population to other situations or populations. Evaluative validity relates to the framework used in assessing objects of study. The following measures were undertaken in ensuring the validity of the research at this stage.

- The researcher took the role of an observer while facilitating and moderating the focus group interviews.
- Participants of the focus group interviews were selected purposely so valuable information can be obtained. The participants had in-depth knowledge and experience of electronic banking and they were of diverse age, gender and race with varied levels of education.
- Three separate and one group interviews were conducted using the same questions to generate ideas and insights that describe the same constructs.
- Accurate transcriptions of the interviews were taken by the researcher himself.
- The researcher used Atlas.ti, a recommended programme in qualitative analysis in creating codes, writing memos and mapping concepts graphically.

4.2.1.7 Reliability in qualitative research

The basic concept of reliability, which some qualitative researchers prefer to call dependability, is a criterion that can be used to enhance the quality of qualitative research (Babbie, 2013:408-409). Reliability employs techniques that show that if the work were repeated, in the same

context, with the same methods and with the same participants, similar results would be obtained (Guba, 1981:76; Shenton, 2004:71). This applies both to the results of the interview (measurement reliability) and to the outcomes of the study as a whole (Blanche *et al.*, 2006:92). The researcher took the role of an observer while facilitating and moderating the focus group interviews allowing the natural flow of discussion among the participants regarding electronic banking services in South Africa. Thus, the researcher did not seek to influence the participants' views. Other things remaining constant, the researcher is of a firm belief that same results would be obtained if the interview was to be repeated in the exact same context. Accurate recording of the views and discussion of the participants were transcribed by the researcher.

The second phase (quantitative approach) of the research is described in the following section.

4.2.2 Quantitative approach

Maree (2011:145) describes quantitative approach as a method that is systematic and objective in its ways of using numerical data from a sample for the purpose of generalising the findings to a larger population. Three important aspects of this description are the objectivity, the application of numerical data and the generalisability of quantitative studies. Zeithaml *et al.* (2009:143), similarly indicate that quantitative research describes empirically the nature, attitude or behaviour of customers, and the results can highlight specific deficiencies that can be more deeply probed through follow-up qualitative studies. Du Plessis and Rousseau (2007:21) highlighting the strength of through quantitative method indicates that the results obtained are easily quantifiable and the instruments have potentially high degree of accuracy, which are often used for testing specific hypotheses.

The consecutive section discusses the sequential steps in the sampling design process.

4.2.3 The sampling design process

While the research design is a plan of the information required to answer the research problem and how and what should be collected, sampling addresses the question, "From whom do we need to obtain this information?" (Frazer & Lawley, 2000:9).

Sampling is required when the population is quite large (Chandra & Sharma, 2013:31). Wegner (2000:110) maintains that the sampling process guides the selection of a sample to ensure that it is representative of its target population. In this way, the findings from the sample provide information, which is relevant to the objectives of the study. The following five steps in the sampling design process, as elucidated by Malhotra (2010:372), were applied in the study:

- Determine the target population
- Determine the sampling frame

- Select a sampling technique
- Determine the sample size
- Execute the sampling process.

4.2.3.1 Target population

Welman *et al.* (2005:52) describe a population as a complete set of cases from which a sample is taken. The authors further state that a population is a group of potential participants from which a sample is drawn. The target population is the collection of elements or objects that possess information sought by the researcher and about which inferences are to be made (Malhotra, 2010:372). The target population of this study comprised individuals, both male and female, of different age categories and within a wide range of income brackets, who have made use of electronic banking services in varying degrees in South Africa.

4.2.3.2 Sampling frame

The second step in sampling is identifying the sampling frame, which is the list of elements from which the sample is drawn (Iacobucci & Churchill, 2010:284). Malhotra (2010:373) elaborates that a sampling frame includes the telephone book, an association directory listing of the industry, and a mailing list of customers. It is argued that if a list cannot be compiled, then at least some directions for identifying the target population should be specified. In South Africa, banks are under strict regulation of not divulging or disclosing their customers' particulars. The bank-customer relationship requires banks to keep any customer details with extreme confidentiality. For the reasons explained, it was not possible for the researcher to obtain a sample frame for the study, which will have a bearing on the sampling technique to be used (see Section 4.3.3).

4.2.3.3 Sampling technique

Blanche *et al.* (2006:134) are of the view that effective sampling ensures that the elements selected for a sample accurately resemble the parameters of the population. The major alternative sampling methods can be grouped under probability and non-probability sampling methods (McDaniel and Gates 2002:401). Probability samples are selected in such a way that every element of the population has a known, non-zero likelihood of selection, whereas non-probability samples are selected in a non-random manner with specific elements from the population (Malhotra, 2010:376). A probability sampling was not a feasible technique in this research. Instead, the researcher employed a non-probability technique—snowball and convenience sampling. Snowball sampling is a process whereby the researcher gradually accumulated a sufficiently large sample through contacts and references (Blanche *et al.*,

2006:139; Malhotra, 2010:377). This particular technique was used to solicit information from Internet bank customers as their numbers are still limited compared to customers who use other services such as ATM and telephone/mobile banking. Initial customers were asked if they knew potential respondents who were electronic bank customers. A mall-intercept, an example of convenience sampling, was also viewed appropriate for the study. In addition, the researcher made use of a Survey Monkey to solicit information from diverse group of customers. Thus, both online and offline methods for data collection were employed (Ladhari, 2010:471).

4.2.3.4 Sample size

The sample size refers to the number of elements to be included in the study (Malhotra, 2010:374). Malhotra (2010:374) suggests that determining the sample size is complex and it involves several qualitative and quantitative considerations. De Vos *et al.* (2012:224) argue that complete coverage of the total population is seldom possible. Even if it were theoretically possible to cover all the members of the population of interest, it is a prohibitive undertaking, which entails many time and cost considerations.

However, for the research to be accurate it is not necessary that the sample size should be large; in fact, sometimes the smaller the sample size the more accurate the research (Churchill & Iacobucci, 2005:360). Malhotra (2010:374) is of the view that sample size is influenced by the average size of samples used in similar studies, and the sample size decision should be guided by a consideration of the resource constraints. Given the researcher's time and cost considerations, the sample size for this research was set at 310 electronic bank customers. This figure is consistent with those in similar studies conducted on online banking services using a non-probability sampling technique, as explicated in section 4.2.3.3 and summarised in Table 4.3. For a study of this nature that involves statistical methods such as factor analysis, it is recommended that the size should be more than 150 and there should be ratio of at least five cases per variable (Pallant, 2013:185). In, this study the sample (310) yielded a ratio of ten cases for each variable.

Table 4.3: Sample size

Researcher/s	Year	Domain of measure	Sample
Santos	2003	E-service quality: A model of virtual service quality dimensions	30
Bauer <i>et al.</i>	2004	Measuring the quality of e-banking portals	280
Jayawardhena	2004	Measurement of service quality in Internet banking: The development of an instrument	1000
Pikkarainen <i>et al.</i>	2004	Consumer acceptance of online banking: An extension of technology acceptance model	268

Researcher/s	Year	Domain of measure	Sample
Joseph <i>et al.</i>	2005	An exploratory study on the use of banking technology in the UK: A ranking of importance of selected technology on consumer perception of service delivery performance	300
Parasuraman <i>et al.</i>	2005	E-S-QUAL: A multiple-item scale for assessing electronic service quality	200
Ibrahim <i>et al.</i>	2006	Customers' perception of electronic service delivery in the UK retail banking sector	135
Kenova & Jonasson	2006	Quality online banking services	200
Mäenpää <i>et al.</i>	2008	Consumer perceptions of Internet banking in Finland: The moderating role of familiarity	300
Loonam & O'Loughlin	2008	Exploring e-service quality: A study of Irish online banking	20
Herington & Weaven	2008	E-retailing by banks: E-service quality and its importance to customer satisfaction	200
Ho & Lin	2009	Measuring the service quality of Internet banking: Scale development and validation	500
İlter <i>et al.</i>	2009	Who uses Internet banking in Turkey and why?	506
Hua,	2009	An experimental investigation of online banking adoption in China	110
Akinyele & Olorunleke	2010	Technology and service quality in the banking industry: An empirical study of various factors in electronic banking services	120
Zahid <i>et al.</i>	2010	Consumer acceptance of online banking	220
Ombati <i>et al.</i>	2010	Technology and service quality in the banking industry: An empirical study of various factors in electronic banking services	120
Berndt <i>et al.</i>	2010	Readiness for banking technologies in developing countries	2475
Hu & Liao	2011	Finding critical criteria of evaluating electronic service quality of Internet banking using fuzzy multiple-criteria decision making	264
Kadir <i>et al.</i>	2011	Impacts of service quality on customer satisfaction: Study of online banking and ATM services in Malaysia	500
Ariff <i>et al.</i>	2012	Examining dimensions of electronic service quality for Internet banking services	256
Odumeru	2012	The acceptance of e-banking by customers in Nigeria	400
Gupta & Bansal	2012	Development of an instrument to measure Internet banking service quality in India	1350
Zhu & Chen	2012	Service fairness and customer satisfaction in Internet banking: Exploring the mediating effects of trust and customer value	331
Kumbhar	2012	Reliability of "ebankqual" scale: Retesting in Internet banking service	219

Researcher/s	Year	Domain of measure	Sample
Nimako <i>et al.</i>	2013	Customer satisfaction with Internet banking service quality in the Ghanaian banking industry	200
Maduku	2013	Predicting retail banking customers' attitude towards Internet banking services in South Africa	700

4.2.3.5 Execution of the sampling process

The execution of the sampling process require a detailed specification of how the sampling design with respect to target population, sample frame, sampling technique and sample size are to be implemented (Malhotra, 2010:375). The sampling in this study was executed in accordance with these procedures as described in the foregoing section. In the following section, focus is placed on the development of a measuring instrument for collecting information from the respondents.

4.2.4 Measuring scale

To date, a number of widely used instruments have been developed to measure quality of electronic services, such as E-SQ, E-RecS-Qual, Web Qual (Parasuraman *et al.*, 2005:213-233; Santos, 2003:233-246; Barnes & Vidgen, 2003:298) and e-banking portal quality (Bauer *et al.*, 2005:172). The conceptual and operational framework of this study was based on extensive study of the relevant literature, focus group interviews and examination of previously developed measuring instruments of service quality in general and electronic banking in particular. A fully structured questionnaire was developed to suit the South African setting. A fully structured questionnaire is one that offers the respondent a range of answers to choose from (Welman *et al.*, 2005:175). In the case of a fully structured questionnaire, respondents have little difficulty in responding (Churchill & Iacobucci, 2005:215).

The various intricate steps and procedures followed in the planning, designing and compilation of the questionnaire are discussed in Chapter 5: Qualitative analysis and scale development.

4.2.5 Data preparation

The raw data obtained from the questionnaires underwent preliminary preparation before they could be analysed using statistical techniques (Kumar *et al.* 2002:356). The data preparation process involves editing the data, coding responses into categories and tabulating responses into frequencies or tables. Data preparation is regarded as a process of converting data from a questionnaire into a format that can be analysed (Hair *et al.*, 2008:392). The purpose of data preparation is to take data and prepare it for conversion into information. Editing and coding are

the two main aspects that are essential in data preparation. A discussion of these aspects of data preparation follows in the next section.

4.2.5.1 Editing

Editing entails a thorough and critical examination of a completed questionnaire in terms of compliance with the criteria for collecting meaningful data and in order to deal with questionnaires not duly completed (Martins *et al.*, 1996:232). McDaniel and Gates (2002:320) describe editing as going through each questionnaire to make certain that a skip pattern is followed and required questions are completed. Editing entails a process of ascertaining that questionnaires are filled out properly and completely. Editing is the review of the questionnaires with the objective of increasing accuracy and precision (Malhotra, 2010:453). Aaker *et al.* (2004:433) concur, adding that the role of the editing process is to identify omissions, ambiguities and errors in the responses.

Editing, sometimes called 'cleaning the data', as proposed by Tustin *et al.* (2005:454) was undertaken to ensure that questionnaires were complete, accurate and suitable for further processing. The questionnaires first were inspected to identify questions that had been answered incorrectly or not answered at all. The questionnaires were edited before the responses were processed to determine whether the data recorded in the questionnaire were acceptable for use and to prepare it for coding and capturing. Unusable questionnaires were discarded.

4.2.5.2 Coding

McDaniel and Gates (2001:393) refer to coding as the process of grouping and assigning numeric codes to the various responses of a particular question. Coding involves assigning numbers or other symbols to answers so that the responses can be grouped into a limited number of categories (Cooper & Schindler, 2006:491). The first step in coding is specifying the categories or classes into which the responses are to be placed.

Strydom *et al.* (2006:338) define coding as the formal representation of analytic thinking. The authors state that coding can take several forms, these being abbreviations of key words, coloured dots and numbers. Bradley (2007:329) terms coding as the name given to the procedure whereby complex descriptions are broken into simpler meanings and are allocated a code, usually a number.

The following principles, as suggested by Malhotra and Peterson (2006:407), were adhered to when data were being coded:

- Using only one number to each possible answer to each question. For example, code 1 was assigned for females and 2 for males
- The field or portion of the record assigned to the variable was as many columns as were necessary to capture all the variables
- Giving each respondent an identification number. The number did not identify the respondent by name for privacy considerations.

A code or number was assigned for each question on the questionnaire. Numbers were assigned for respondent response on a Likert scale. For example, strongly disagree=1 and strongly agree=6. Before entering the data onto the spreadsheet, each questionnaire was numbered for future reference and verification purposes.

4.2.5.3 Entering data

The numerical codes that were written on the questionnaires were entered into a computer in a format that could be used in a statistical computer package. A spreadsheet was used to enter the data for each subject or case in a row, while the columns represented scores on specific variables (Blanche *et al.*, 2006:191).

The following section addresses the statistical approach and analysis that was employed in converting the data collected from respondents into meaningful research output.

4.3 STATISTICAL ANALYSES

Following collection, the data were captured onto an Excel spreadsheet. Thereafter, the statistical programs IBM SPSS and AMOS, version 22 for Microsoft Windows, were used to perform the data analysis.

A discussion of these statistical methods is presented in the ensuing sections.

4.3.1 Factor analysis

Factor analysis is a general name used to denote a class of procedures primarily used for data reduction and summarisation. Hair *et al.* (2010:94) describe factor analysis as an interdependence technique whose primary purpose is to define the underlying structure among the variables in the analysis. Pallant (2013:179) indicates that researchers in the development and evaluation of tests and scales use factor analytic technique extensively. Furthermore, Pallant (2013:179) specifies the two main approaches to factor analysis, namely exploratory and confirmatory. Exploratory factor analysis (EFA), as applied in this study, is used in the early stages of the research to gather information (or explore) about the interrelationships among a

set of variables. Confirmatory factor analysis (CFA) is a more complex and sophisticated set of techniques, which is also applied in this study and is used in later stages of the research to test (confirm) a model fit, specific hypothesis or theories.

Factor analysis begins with the construction of a new set of variables based on the relationships in the correlation matrix (Cooper & Schindler, 2003:635). The following procedures as recommended by Malhotra (2010:639) were employed during the factor analysis procedure:

- Formulate the problem
- Construct the correlation matrix
- Determine the method of factor analysis
- Determine the number of factors
- Rotate the factors
- Interpret the factors
- Calculate the factor scores
- Select surrogate variables
- Determine the model fit.

The most common factor extractions are principal component analysis, image factoring, weighted least squares and alpha factoring (Pallant, 2013:181). In this study, a principal component analysis (CPA) was used in extracting the factors and the rotation applied was Oblimin with Kaiser normalisation.

Performing a reliability test is a very important measure in any scale development and validation. The reliability of the scale is described in the subsequent section.

4.3.2 Reliability

Scale reliability refers the extent to which a scale can produce the same or similar results in repeated trials (Hair *et al.*, 2010:165). Similarly, Babbie (2013:188) and Du Plooy (2001:85) indicate that reliability is a matter of whether a particular technique, applied repeatedly to the same object, yields the same results each time. Welman *et al.* (2005:145) add that reliability is concerned with the findings of the research and relates to the credibility of the findings.

Generally three approaches, namely test-retest reliability, alternative-forms reliability and internal consistency reliability are used for testing reliability (Babbie, 2013:145). Briefly described, test-retest reliability requires that a similar scale be administered at different times to the same participants under similar conditions (Hair *et al.*, 2010:165). In the case of alternative-

forms reliability, it is required that two equivalent forms are administered to the same respondents at two different times (Malhotra, 2010:319). Test-retest reliability and alternative-forms reliability present with serious challenges to researchers (Hair *et al.*, 2010:165-166), and therefore, are not applied in this study. The main challenges are having the same respondents, for example 300 respondents, to complete the same questionnaire or equivalent questionnaire at different times. Blanche *et al.* (2006:153) are of the view that there are methodological problems with using the same test on two different occasions. This is because, when people complete a measure on one occasion, it often influences their performance on the measure on the second occasion. It is also not possible to create two equivalent scales. In addition, these two reliability measures are time-consuming and expensive research endeavours (Malhotra, 2010 319). Test-retest reliability and alternative-forms reliability, therefore, are not applied in this study.

Internal consistency reliability is applied in this study. Internal consistency is the degree to which individual questions of a construct are related with each other. In other words, the set of questions that make up the scale should be internally consistent (Hair *et al.*, 2010:166). The coefficient Cronbach alpha, a tool for assessing the internal consistency reliability of scales, was used to establish the reliability of the questionnaire. Coefficient alpha ranges from zero to one, where a value above 0.60 translates into acceptable scale reliability, 0.70 to 0.80 reflect good reliability and 0.80 to 0.95 portray very good reliability (Hair *et al.*, 2010:166).

It is advised that reliability is a necessary, but not sufficient, condition for scale development and validation (Iacobucci & Churchill, 2010:259; Hair *et al.*, 2010:166). The following section discusses the various validity measures undertaken in this study.

4.3.3 Validity

A measure or instrument is said to be valid if it measures what it is supposed to measure (Hair *et al.*, 2013:166). Welman *et al.* (2005:142) describe validity as the extent to which research findings accurately represent what is really happening in the situation. Content validity, construct validity and criterion validity are measures researchers take to validate their studies (Malhotra, 2010:320).

4.3.3.1 Content validity

Content validity is assessed before data are collected in an effort to ensure that the (scale) includes items to represent all relevant aspects of the construct (Hair *et al.*, 2013:167). Blanche *et al.* (2006:149) are of the view that content validity, also referred to as face validity, is established by determining the extent to which a measure reflects a specific domain of content. Content validity involves a systematic but subjective assessment of how well a scale measures

the construct or variable of interest. It is a judgement by the scientific community and the indicator measures the ideas and concepts of a construct (Neuman, 2014:216). Malhotra (2010:320) explains that the researcher is required to examine whether the scale items adequately cover the entire domain of the construct being measured. The questionnaire for this study was checked and validated by the student in consultation with two study leaders and a statistician to ensure that the scale adequately covers the constructs of the study, namely service quality, customer satisfaction and loyalty, were adequately covered in the scale.

4.3.3.2 Construct validity

Establishing the construct validity of a measure involves both theoretical and empirical work, and it is viewed as the most sophisticated and difficult type of validity to establish (Malhotra, 2010:321). Construct validity determines the extent to which a measure of a construct is related empirically to other measures with which it is theoretically associated (Blanche *et al.*, 2006:151). The measuring instrument should measure the intended construct rather than irrelevant construct or measurement error (Welman *et al.*, 2005:142). Maree (2011:217) emphasises that construct validity is needed for standardisation and has to do with how well the construct covered by the instrument is measured by different groups of related items. Welman *et al.* (2005:143) claim that the more two measures measure the same construct, the more they overlap and the higher the relationship (correlation) between them tends to be.

Construct validity involves three measures of validities, namely convergent validity, discriminant validity and nomological validity (Malhotra, 2010:321). Convergent validity reflects the degree of correlation among different measures, which claim to measure the same construct (Welman *et al.*, 2005:143). Discriminant validity requires a measure does not correlate too highly with measures that are not supposed to be related (Blanche *et al.*, 2006:151; Iacobucci & Churchill, 2010:258). Nomological validity explains the extent to which the scale correlates in theoretically foreseen ways with measures of different but related constructs (Malhotra, 2010:321). The requirements of construct validity are that the measure used correlates with other measures designed to measure the same thing (convergent validity) but does not correlate with measures from which it is meant to differ (discriminant validity). According to Clark and Watson (1995:316), an average inter-item correlation that falls within the 0.15 and 0.50 range suggests convergent and discriminant validity. The construct validity of the scale, in this study, was ascertained in terms convergent, discriminant and nomological validity measures.

4.3.3.3 Criterion validity

Criterion validity indicates whether a scale performs as expected in relation to other meaningful criterion variables such as demographics, attitudes and behaviours (Welman *et al.*, 2005:144). Given the time period involved, criterion validity can take two forms, namely concurrent and

predictive validity (Malhotra, 2010:320; Neuman, 2014:217). Concurrent validity assesses the relationship between the score obtained and the criterion variable that occurs at the same point in time (Iacobucci & Churchill, 2010:256). On the other hand, predictive validity is judged by the degree to which an instrument can forecast the results, and it is measured after the instrument has been administered (McMillan & Schumacher, 2006:181). Predictive validity is often quantified by the correlation coefficient between the two types of measurement data obtained for the same target population at different time periods (Malhotra, 2010:320). In other words, predictive validity is a type of criterion validity that is used to foresee future performance (Jackson, 2008:72). Criterion validity could not have been performed in this study due to time constraints.

4.3.4 Descriptive statistics

Descriptive statistics is a collective name for a number of statistical methods that are used to organise, summarise and interpret a sample of data in a meaningful way (Churchill & Brown, 2004:545). Measures of central tendency, measures of variability and measures of variability as applied in this study are explained in the ensuing sections.

4.3.4.1 Measures of central tendency

The mean, median and mode are the three measures of central tendency. The mean, or average value, is the most commonly used measure of central tendency. It is the total number of elements in a test divided by the number of scores (Neuman, 2014:399). The median, the middle value, of the distribution is the middle value when the data are arranged in ascending or descending order (Chandra & Sharma, 2013:34) and the mode is the value that appears in the distribution most often (Hair *et al.*, 2013:269)

4.3.4.2 Measures of variability

Variance and standard deviation are statistics that describe measures of variability within the data. The difference between mean and observed value is called the deviation from the mean. Variance is the mean squared deviation from the mean (Malhotra, 2010:487). Thus, variance measures variability (the spread of scores in a distribution). Standard deviation is closely related with variance and it is the square root of the variance (Chandra & Sharma, 2013:36). The standard deviation describes the average amount by which the scores deviate from the mean (Hair *et al.*, 2013:272).

4.3.4.3 Measures of shape

In addition to measures of variability, measures of shape are useful in understanding the nature of the distribution. The shape of the distribution is assessed by inspecting skewness and

kurtosis (Malhotra, 2010:488). Skewness measures the degree to which a variable in a distribution is asymmetrical (Weston & Gore, 2006:735). Distribution can be either symmetric or skewed. Thus, in a symmetric distribution, the values on either side of the centre of the distribution are the same, and the mean, mode and median are of equal value (Malhotra, 2010:488). Kurtosis refers to the measure of the peakedness or flatness of the distribution (Blunch, 2008:96). Kurtosis can either have a zero value signifying a normal distribution, positive value, which means the distribution is more peaked than normal distribution, or negative, which describes a distribution that is flatter than the normal distribution (Malhotra, 2010:488).

4.3.5 Correlation analysis

Correlation analysis is the analysis of the degree to which changes in one variable are associated with changes in another (McDaniel & Gates, 2002:560). In this study Pearson product moment correlation coefficient (r) and Spearman rank order (ρ) were used (Pallant, 2013:133). The Pearson correlation coefficient measures the degree to which there is a linear association between two interval-scaled variables (Kumar *et al.*, 2002:411). Pearson correlation can also be used with one continuous variable and one dichotomous variable whereas Spearman rank order (ρ) is specifically designed for use with ordinal level or ranked data and is particularly useful when the data does not meet the criteria for Pearson correlation (Pallant, 2013:133). Spearman rank correlation coefficient is a non-parametric measure of correlation, using ranks to calculate the correlation among ordinal variables. Spearman rank correlation coefficient is a recommended statistic to use when two variables have been measured using ordinal scales (Hair *et al.*, 2013:320).

The correlation coefficient (r) ranges from -1 to +1 (Zikmund *et al.*, 2010:562; Chandra & Sharma, 2013:34). A value of zero to one (positive relationship) means that as the values for one variable increase, so do those of the other, while a value between -1 and zero (negative relationship) means that as the values of one variable increase, those for the other decrease. No correlation is indicated if r equals zero. A positive correlation reflects a tendency for a high value in one variable to be associated with a high value in the second variable. A negative correlation reflects an association between a high value in one variable and low value in the second variable. The correlation coefficient is the most widely used statistic that summarises the strength and direction of association between the two metric variables, say X and Y (Malhotra & Peterson, 2006:497). Pearson correlations were undertaken to examine the relationship amongst the dimensions of electronic banking service quality, customer value, customer satisfaction and customer loyalty. To further examine any relationship through correlation and test the hypothesised research model, a structural equation modelling was performed.

4.3.6 T-test statistics

The t-test statistics was used to determine differences in perception of electronic banking services by both genders, namely males and females. The t-test for differences between group means is conceptualised as the difference between the means divided by the variability of the means (Hair *et al.*, 2013:288).

Structural equation modelling is discussed in the following section.

4.3.7 Structural equation modelling (SEM)

Structural equation modelling (SEM) is a family of statistical models that seek to explain relationships among multiple variable (Hair *et al.*, 2010:634). SEM has the ability to examine a series of dependent relationships simultaneously, while also analysing multiple dependent variables (Shook *et al.*, 2004:397). Structural equation modelling approach involves designing measurement models to define latent variables and then establishing relationships or structural equations among the latent variables (Schumacker & Lomax, 1996:63). The causal processes under study are represented by a series regression equations, where the structural relationships may be modelled pictorially, thereby providing a clear visual conceptualisation of a specific theory (Byrne, 2010:3; Hair *et al.*, 2010:634). A very important requirement of SEM analysis is that it should be grounded in an underlying theory, which is the first step in the process of defining the individual constructs (unobserved or latent factors) and specify how each is to be measured, in terms of their observed (indicator) variables (Byrne, 2010:4). Following defining and specifying individual constructs, the next step is to specify the measurement model (Malhotra, 2010:729).

Hair *et al.* (2010:653) claim that SEM has become a popular multivariate approach in a relatively short period of time and researchers are attracted to it primarily because it provides a conceptually appealing way to test theory. The following six-stage process applies in SEM (Hair *et al.*, 2010:654; Malhotra, 2010:729).

4.3.7.1 Defining individual constructs

A sound theory is a prerequisite for applying SEM and obtaining useful results (Hair *et al.*, 2010:655). The measurement theory indicates how constructs are represented, whereas a structural theory indicates a relationship between constructs. These structural relationships are then converted to hypotheses (Malhotra, 2010:729). The theoretical framework/model proposes a theoretical relationship among the constructs of the study, namely electronic service quality, customer value, customer satisfaction and customer loyalty,

4.3.7.2 Developing and specifying the measuring model

Model specification is second step in SEM. Once the constructs have been defined and their observed or indicator variables measured, then the measurement model is specified (Malhotra, 2010:729). In this phase, each latent construct to be included in the model is identified and the measured indicator variables (items) are assigned to latent constructs (Hair *et al.*, 2010:656). The measured variables are either latent (not directly observed) or indicators (directly observed). Latent variables are either exogenous (independent) or endogenous (dependent) and are signified with eclipses or circles.

4.3.7.3 Designing a study to produce empirical results

Assessing the adequacy of the sample size, selecting the estimation method and selecting a missing data approach are important aspects to consider at this stage (Hair *et al.*, 2010:657-362). Malhotra (2010:730) is of the view that the sample size required for SEM is influenced by several considerations such as the complexity of the model, estimation technique, amount of missing data, amount of average error variance among the indicators or measured variables, and multivariate distribution of the data. The following sample sizes are suggested by Hair *et al.* (2010:662):

- Minimum sample size – 100: Models containing five or fewer constructs each with more than three items (observed variables), and with high communalities (.6 or higher).
- Minimum sample size – 150: Models with seven or fewer constructs, modest communalities (.5), and no underidentified constructs.
- Minimum sample size – 300: Models containing seven or fewer, lower communalities (below .45) and/or multiple underidentified constructs.
- Minimum sample size – 500: Models with large number of constructs, some with lower communalities, and/or having fewer than three measured items.

4.3.7.4 Assessing measurement model validity

Hair *et al* (2010:664) highlight this stage as the most fundamental event in SEM testing and what needs to be asked is “Is the measurement model fit?” A number of fit indices need to be calculated and measured to assess how well the data fits the hypothesised theoretical model (Schumacker & Lomax, 1996:121; Blunch, 2008:111; Byrne, 2010:106). Measurement validity depends on two aspects:

- Establishing acceptable levels of **goodness-of-fit (GOF)** for the measurement model and
- Finding specific evidence of **construct validity** (see Section 4.3.3.2).

GOF indicates how well the specified model reproduces the observed covariance matrix among the indicator items. Malhotra (2010:731) state that the fit measures vary in terms of whether they are measuring absolute fit, incremental fit or parsimonious fit.

The absolute fit indices indicate how well a hypothesised model match the empirical data of the study. Absolute fit measures include goodness-of-fit indices, such as the goodness-of-fit index (GFI), the adjusted-goodness-of-fit index (AGFI), and badness-of-fit indices which measures error or deviation, such as the chi-square test (χ^2) (Pallant, 2013:103), the root mean square residuals (RMSR), the standardised root mean square residuals (SRMSR) and the root mean square error of approximation (RMSEA) (Malhotra, 2010:731).

In contrast to absolute fit indices, incremental fit indices assess how well the specified model fits the sample data relative to some alternative model that is treated as a baseline model. The indices include normal fit index (NFI), non-normal fit index (NNFI), comparative fit index (CFI), Tucker Lewis index (TLI) and relative noncentrality index (RNI) (Malhotra, 2010:732).

The parsimony fit indices, namely parsimony goodness-of-fit index (PGFI) and parsimony normal fit Index (PNFI) are designed to assess fit in relation to model complexity and useful in evaluating competing models. A parsimony fit measure is improved either by better fit or by a simpler model (Hair *et al.*, (2010:662).

A model is said to be fulfilling the criteria of goodness-of-fit meeting certain values as indicated in Table 4.4.

Table 4.4: Goodness-of-fit indices

Goodness-of-fit indices	Fit criteria
X ² /df (normal chi-square)	≤ 5
GFI (goodness-of-fit index)	≥ .90
AGFI (adjusted goodness-of-fit index)	≥ .90
CFI (comparative fit index)	≥ .90
NFI (normal fit index)	≥ .90
TLI (Tucker Lewis index)	≥ .90
RMSEA (root mean square error of approximation)	≤.08

Source: Malhotra (2010:731-733) and Hair *et al.* (2010:665-672)

Unique approaches to reliability, convergent validity and discriminant validity measures need to be applied to SEM beyond and above their general applications (Shook *et al.*, 2004:399; Malhotra, 2010:733). Composite reliability (CR), which is defined as the total amount of true score variance in relation to the total score variance need to be calculated. The value should be 0.7 or higher for a good scale. Convergent validity measures the degree to which the scale correlates positively with other measures of the same construct. The main concern of convergent validity is whether the degree of correlation among different measures expected to measure the same construct exist (McDaniel & Gates, 2010:256). The size of factor loading provides evidence of convergent validity. Another criteria used to measure convergent validity is the average variance extracted (AVE), which is defined as the variance in the indicators or observed variables that is explained by the latent construct (Malhotra, 2010:734). A value of 0.50 or higher indicates a satisfactory measure of AVE indicating convergent validity measures.

4.3.7.5 Specifying the structural model

Specifying the structural model is a critical step in the SEM model once reliability and validity of the scale is established. Developing and specifying the measuring model is accomplished in Stage 2. At this stage, specifying the structural model by assigning relationships from one construct to another based on proposed theoretical model is performed (Hair *et al.*, 2010:673). Dependence relationships are established at this stage. Thus, relationships between constructs are determined.

4.3.7.6 Assessing the structural model validity

Assessing the structural model validity is the final stage in SEM. At this stage efforts are made to test the validity of the proposed structural model and its corresponding hypothesised theoretical relationships (Hair *et al.*, 2010:673) and this process involves (1) examining the fit, (2) comparing the proposed structural model and (3) testing structural relationships and hypothesis (Malhotra, 2010:736).

High ethical standard was viewed of critical importance in the study given the nature of the study involving electronic banking (money). The ethical considerations that guided this research are discussed in the next section.

4.4 ETHICAL CONSIDERATIONS

The ethics of science concerns what is wrong and what is right in the conduct of research. Because scientific research is a form of human conduct, it follows that such conduct has to conform to generally accepted norms and values (Mouton, 2003:238). The essential purpose of research ethics is to protect the welfare of research participants. However, Blanche *et al.*

(2006:61) are of the view that research ethics involves more than just a focus on the welfare of research participants and extends into areas such as scientific misconduct and plagiarism. Due ethical consideration concerning the use of secondary and primary data was given by the researcher. Ethical clearance (ECONIT-ACC-2015-005) was obtained from North-West University.

According to Strydom (2007:61), privacy refers to “the element of personal privacy”, while confidentiality implies the handling of information in a confidential manner and anonymity ensures the privacy of the subjects. The following ethical principles were applied in conducting the study:

- Participation in the study was voluntary
- Personal data of respondents was processed fairly and lawfully and used only for the purpose of the study
- Personal responses from individuals were not ascribed to any individual
- The questionnaire did not contain the names of respondents and anonymity of respondents was maintained throughout the study
- Independent objectivity in the interpretation of the survey findings was upheld.

4.5 SYNOPSIS

In this chapter, the research design and methodology of study was described. A discussion of research approaches, and the approach employed in this study and the motivation and reasoning behind it was elaborated upon. The study applies a two-phase design in conducting the research in an effort of enhancing and maximising the outcome of this research endeavour. Phase I of this study comprises the literature review and focus group interviews (qualitative research) and scale development, and Phase II comprises scale refinement and validation of the scale through various interactive quantitative statistics.

The sampling design procedures and technique used to collect the data were discussed. The sequential steps taken in the sampling design process used for the study was outlined. The sampling procedure resulted in a sample size of 310 electronic bank consumers to be approached. The chapter discussed the statistical techniques applied, namely descriptive statistics, exploratory factor analysis, correlation analysis and structural equation modelling. Exploratory factor analysis and structural equation modelling were applied to refine and validate the scale. Measurements of reliability and validity were also highlighted. The following chapter (Chapter 5) reports on the analysis and interpretation of the qualitative part of the study, and the development of the scale through an intricate process of the literature analysis and analysis of focus group interviews.

CHAPTER 5

QUALITATIVE ANALYSIS AND SCALE DEVELOPMENT

5.1 INTRODUCTION

This chapter reports on the analysis and interpretation of the qualitative part of the study, and the development of the scale. The chapter commences with the analysis of thematic evidence and tabulation scores of the focus group interviews. Following this, the discussion focuses on various intricate steps and procedures followed in the planning, designing and compilation of the questionnaire. Thereafter, the chapter presents the actual development of items for the scale through a synthesis of initial items from the literature and original items from the focus group interviews. The chapter concludes with a description of the layout of the final scale.

5.2 ANALYSIS OF FOCUS GROUP INTERVIEWS

Eight participants with in-depth knowledge and experience of electronic banking were prepared purposely for the focus group interviews. The first interview was conducted with five participants in one setting where each one was given an opportunity to respond to the instruction questions posed by the interviewer. Another three separate interviews were conducted for the three individuals. The following sections present the findings of the focus group interviews and describe how these findings were used in generating original items for the scale.

5.2.1 Thematic evidence of focus group interview

The transcripts of the focus group interviews were analysed using a qualitative data analysis (QDA) programme called Atlas.ti (Babbie, 2013:403). The Atlas.ti programme helped in identifying data clusters and forming themes and subthemes of the study. The themes and subthemes emerged from the questions involving the four constructs of the study. The literature chapters defined and conceptualised these constructs (Chapters 2 and 3). Accordingly, the analysis of focus group interviews generated four themes and 12 codes. Eight of the codes described the first theme, electronic banking service quality, while one code described the second theme, customer value. The third theme, customer satisfaction was explained by two codes and the fourth theme, customer loyalty was explained by another code. The visual maps (Atlas.ti networks) with the themes, subthemes and codes are presented in Figure 5.1.

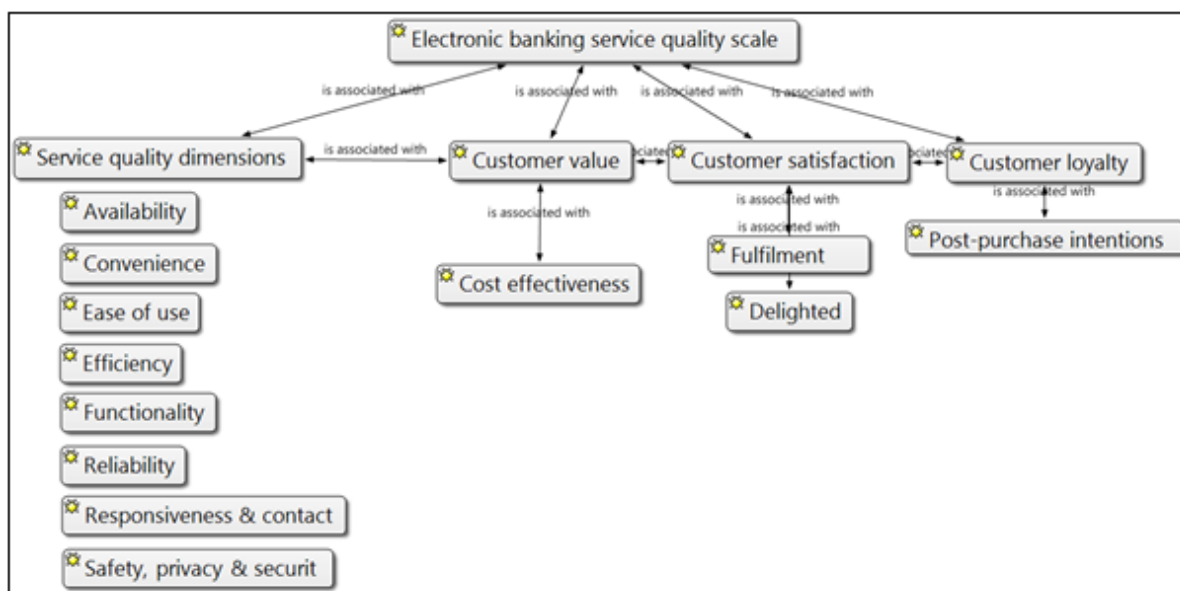


Figure 5.1: Electronic banking service quality: Themes and subthemes

Source: Researcher's own construction (Atlas.ti networks)

5.2.2 Tabulation scores of themes

Table 5.1 illustrates the tabulation scores of the various codes that explained the four themes. Eight codes with a total of 57 quotes explained theme 1, Electronic banking service quality. One code with fifteen quotes explained theme 2, customer value. Theme 3, customer satisfaction was explained by two codes with a total of ten quotes while theme 4, customer loyalty was explained by one code having five quotes. Overall, 87 meaningful and descriptive quotes, which can be used in generating items for the development of the scale, were obtained from the focus group interviews.

Table 5.1: Tabulation scores of themes

Themes	Codes	Quotes				
		P1 interview F	P2 interview Group	P3 interview P	P4 interview T	Total quotes
Theme 1: Electronic banking service quality	Availability	2	3	1	0	6
	Convenience	5	2	2	4	13
	Ease of use	0	1	1	2	4
	Efficiency	1	5	1	0	7
	Functionality	2	2	2	0	6
	Reliability	0	3	1	1	5
	Responsiveness	1	1	2	0	4
	Privacy & security	3	4	3	2	12
Subtotal for theme 1						57
Theme 2: Customer value	Cost effectiveness	2	6	3	4	15
Theme 3: Customer satisfaction	Fulfilment	1	3	0	3	7
	Delighted	1	1	1	0	3
Subtotal for theme 3						10
Theme 4: Customer loyalty	Post-purchase intentions	0	2	0	3	5
Total quotes		18	33	17	19	87

5.2.2.1 Theme 1: Electronic banking service quality

The focus group interviews revealed that electronic banking service quality is indeed multidimensional in line with the literature (Bauer *et al.*, 2004:162; Joseph *et al.*, 2005:405; Ladhari, 2010:473). Several descriptions, phrases and codes were identified that described and suggested the multidimensionality of electronic banking service quality. These descriptions, phrases and codes then were used in generating original items for four sections of the questionnaire.

From the analysis, eight codes and 57 quotations emerged which focus on electronic banking service quality. Table 5.1 lists the codes and number of quotes for each theme. Privacy and

security, ease of use, availability, convenience, efficiency, reliability, responsiveness and contact are in essence the dimensions electronic banking service quality.

The focus group interview revealed that privacy and security are the top concern customers have with regard to electronic banking. Privacy and security issues have been documented as the main determinants of electronic banking service quality globally (Bauer *et al.*, 2004:162; Parasuraman *et al.*, 2005:231; Loonam & O'Loughlin, 2008:3). Although some participants do think that security systems of their banks are rigorous, they also voiced their concern regarding Internet banking fraud they communicated regularly in the media:

You are notified immediately for any movement in your account

Furthermore, I have my own password and pin number to perform my transactions.

My concern is the safety my money as I hear stories about people losing money from their accounts. That is my only concern. Otherwise I am happy

I think banks need to have a good and safe website to keep criminal away from our money

Similarly, usability has been identified as important dimension of website qualities (Barnes & Vidgen, 2003:299; Loonam & O'Loughlin, 2008:3). The participants in this study indicated that it is easy to use Internet banking contrary to what many may think, which can have a bearing on the adoption of electronic banking among general population. The views of the participants are captured in the following excerpts:

Easy to use steps

I can do transactions even after the normal working hours

It is not difficult to use Internet banking as many people may think. It is easy to understand it.

The website is arranged properly and there are only few steps to follow to conduct the transactions. You can conclude a transaction in less than 5 minutes

Availability and convenience were indicated strongly by the participants as the main reasons why they opted to using electronic banking. System availability for transaction, and the convenience offered by banks in relation to electronic banking are the main attributes that attract customers (Parasuraman *et al.*, 2005:230; Hu & Liao, 2011:3768). These reasons are substantiated by the following quotes:

I don't have to go to the bank and queue for hours

Service breakdown should be limited

Service should always be available for transactions

I can do transactions even after the normal working hours

Internet banking is convenient, it saves time

I conduct my banking at my own time and place

I can pay anyone at any time and inform them immediately about the payment through automatic email or fax

Internet banking is very convenient; I do not have to queue in a bank for long hours just to some transactions

I can do my banking without leaving the comfort of my home

A closely related concept, to system availability is efficiency as a dimension of electronic banking service quality was supported strongly by the participants. It has also been reported in several studies (Parasuraman et al., 2005:231; Hu & Liao, 2011:3768). Phrases such as it saves time, it is quick and it is fast were used in describing the efficiency of electronic banking.

Reliability is an important aspect of any service delivery (Ibrahim et al., 2006:482; Loonam & O'Loughlin, 2008:3) and it becomes more important when money is involved as in the case of electronic banking. The participants indicated that electronic banking is reliable and it helps them in emergency situations. The following views are expressions used by the participants with regard to the reliability of electronic banking service:

It is reliable

It helps a lot in case of emergencies

I rely on Internet banking for most of my banking needs, from paying creditors to managing my investment portfolio

The functionality of electronic banking is another important quality of electronic banking as a product (Bauer et al., 2006; Sohn & Tadisina, 2008). It captures the essences of what customers can do with this product called Internet banking. The functionality of electronic banking service is reflected by the following participant's expressions:

You manage your portfolio yourself

I can do a number of things

I am able to manage my account myself (add or remove recipients on my account)

Since the internet banking is linked with the phone, it is frustrating when I try to do a transaction and I don't receive an SMS with One Time Pin (OTP) on time (immediately).

Responsiveness and contact of the bank in relation to electronic communication, and when problems occur have been identified as important service attributes of electronic banking (Parasuraman *et al.*, 2005:231; Ibrahim *et al.*, 2006:482; Loonam & O'Loughlin, 2008:3). The participants indicated that they receive immediate electronic communication and feedback regarding their transactions via short message service (SMS), security alerts, and codes and instruction to complete their transactions. Regarding responsiveness and contact, the participants expressed their views:

Because it is linked to my cell phone, I get immediate feedback

Since the internet banking is linked with the phone, it is frustrating when I try to do a transaction and I don't receive an SMS with One Time Pin (OPT) on time (immediately)

The link between the internet banking and SMS should be improved

Site aesthetics of the banks was not identified as a very important and unique aspect of the service while it is indicated that it is closely related with ease of use, functionality and efficiency. The literature, however, indicates that it is an important aspect of electronic banking on its own that enhances service quality (Kenova & Jonasson, 2006:28; Ariff *et al.*, 2012:856; Gupta & Bansal 2012:18).

5.2.2.2 Theme 2: Customer value

Customer value was explained by one code (costs effectiveness) and 15 quotations. The focus group interviews revealed that electronic banking does indeed create value for customers. The participants indicated that they derive value from electronic banking as it saves them time and travelling costs. They also confirmed the overall fees of electronic banking are cheaper compared to branch and ATM banking (Bauer *et al.*, 2004:162; Zeithaml *et al.*, 2009:537; Kumbhar, 2012:7; Zhu & Chen, 2012:486). The following statements from the participants highlight this:

I save money because I do not have to travel

Minimizing the costs because most of the transactions are free on internet banking

It does, it saves me time and cost of going to the bank

If you compare what spend on branch banking and ATM banking, Internet banking is less expensive if you have access to Internet.

5.2.2.3 Theme 3: Customer satisfaction

A great deal of attention has been devoted to the importance of customer satisfaction in the literature (Bloemer & DeRuyter, 1998:501; Herington & Weaven, 2008:1220; Zeithaml *et al.*, 2009:104; Ding *et al.*, 2011:508). Customer satisfaction was explained by two codes, namely fulfilment and delightful with a total of ten quotations. From the focus group interviews, it was evident that electronic banking has become the main source of satisfaction in their dealings with their respective banks. The following excerpts suggest a general positive evaluation of electronic banking services:

I am extremely satisfied

It meets my expectation

I am satisfied

I can access my accounts, do transactions and manage my portfolio better

The benefits outweigh the risk involved and so far I have not encountered any risk regarding my money.

5.2.2.4 Theme 4: Customer loyalty

Attaining customer loyalty is the ultimate objective of any business when it comes to building customer relationships. Loyalty is viewed as a primary determinant of profit and growth of the business (Young, 2005:303; Yang & Tsai, 2007:121; Herington & Weaven, 2009:1221). Customer loyalty was explained by one code (post purchase intentions) and five quotations. The participants of the focus group interviews expressed their loyalty intentions using the following commitments:

I would continue to use Internet banking

I will continue to use this service

I would recommend to family and friends, because I am happy with the service

5.3 SCALE DEVELOPMENT PROCEDURE

In this section, explanation is provided of the intricate process involved in developing and generating items for the Internet banking service quality scale. The researcher followed the nine steps recommended by (Iacobucci & Churchill, 2010:220) in developing the scale as illustrated in Figure 5.2.

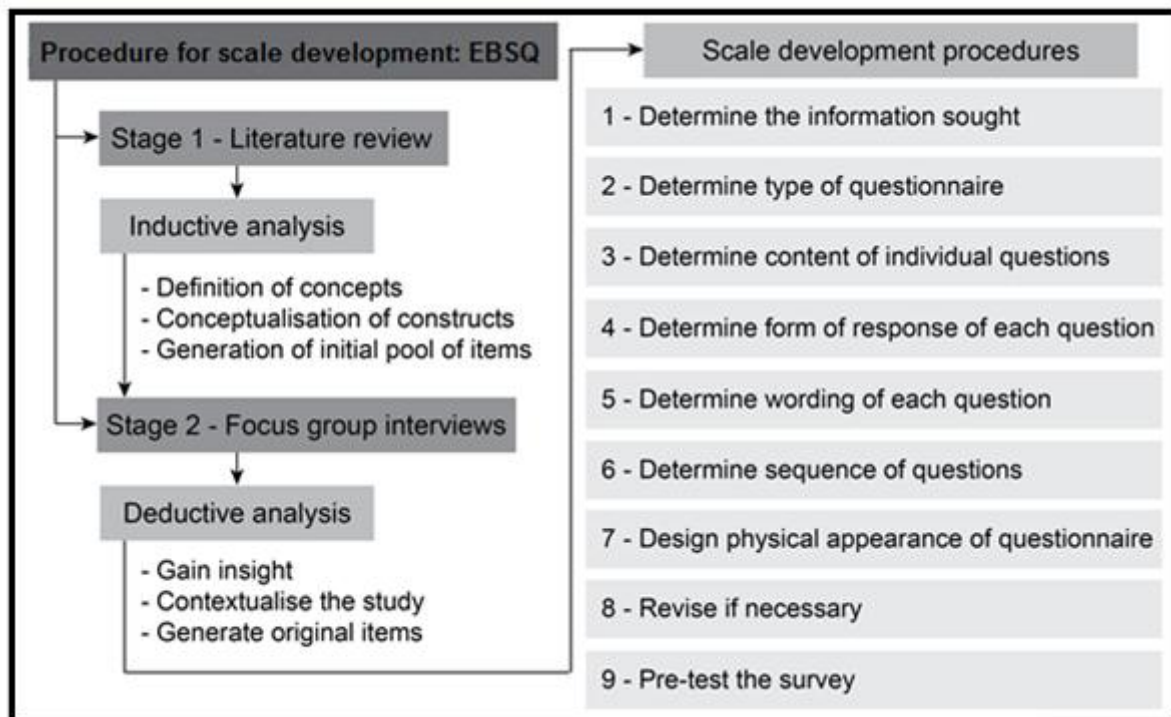


Figure 5.2: Electronic banking service quality scale development

Source: Adapted from Iacobucci and Churchill (2010:220)

5.3.1 Determine the information sought

Various electronic banking scales developed by previous researchers were studied critically to examine which aspects were relevant to this study. The relevant aspects of these studies were used in generating the initial items (inductive method). This was used then as basis for the information that was sought from electronic bank customers through focus group interviews (deductive method).

5.3.2 Determine the type of questionnaire

A six-point Likert scale ranging from 1=strongly disagree to 6=strongly agree, was used to assess consumer perceptions of electronic banking services. The use of even number response categories is often preferred especially when the researcher wants to eliminate the neutral effect (Garland, 1991:66). Even numbered categories present equal numbers of positive and

negative items on both sides of the continuum; thereby, eliminating questionnaire and respondent bias (Hills & Argyle, 2002:1080).

5.3.3 Determine content of individual questions

The content of the questionnaire was guided by the type of information that was sought to address the research problem and objectives of the study (Malhotra, 2010:338). All the items in the questionnaire were compiled through a synthesis of the literature review, and from the results of the focus group interviews, *inter alia* from themes, codes and quotes of the interviews.

5.3.4 Determine form of response of each question

Closed questions have the advantage of eliciting a standardised set of responses from all the respondents, and thus allow for easier comparative data analysis therefore the researchers opted for closed-ended questions (Mouton, 2003:487).

5.3.5 Determine wording of questions

All statements in the questionnaire were worded positively. Negatively phrased statements and double negatively worded statements were avoided. Problematic items of the various statements were either eliminated or reworded as far as possible. The statements were made less complex and easier for respondents to understand.

5.3.6 Determine the sequence of each question

Iacobucci and Churchill (2010:220) are of the view that the opening questions can be crucial. The sequence of questions flowed naturally in addressing the four themes of the study namely, Internet banking service quality, value, satisfaction and loyalty. The questions were set systematically to address the empirical objectives of the study.

5.3.7 Design physical appearance of questionnaire

Physical characteristics of the questionnaire can influence the accuracy of the replies, respondents' reactions and ease of processing. The questionnaire was formatted to be appealing and easy to follow for completion by respondents (Iacobucci & Churchill, 2010:205).

5.3.8 Revise if necessary

The researchers in collaboration with a language editor and the Statistical Services of the North-West University reviewed and revised the questions in initial draft of the questionnaire.

5.3.9 Pre-test the survey

Pre-testing refers to testing the questionnaire on a small sample of respondents to identify and eliminate potential problems (Malhotra, 2010:354). Pre-testing was conducted by distributing the questionnaire to 15 respondents to assess the flow of the questionnaire, the time required to complete the questionnaire and to evaluate respondent interest and attention.

The succeeding section organised in themes present a discussion on how the results of the focus group interviews were used in the development of the scale.

5.4 ITEM GENERATION FOR THE FOUR CONSTRUCTS

As noted previously an initial pool of items were drawn from review of similar studies in line with norm of scale development. The focus group interviews were conducted to gain an insight on how South African consumers view electronic banking service quality. Thus, the purpose of conducting the focus group interviews was to generate original items for the development of the scale. The final scale with 45 items was developed through a synthesis of the initial pool of items from similar studies and the original items revealed from the focus group interviews. The scale included four sections (refer to Annexure B). Section B focused on electronic banking service quality with 31 items, five items for Section C (customer value), four items for Section D (customer satisfaction), and five items for Section E (customer loyalty).

Table 5.2 illustrates an example of the compilation of the questions in Section B of the scale (Electronic banking service quality). The eight items illustrated on the table represent the eight codes/dimensions that describe electronic banking service quality. For a complete set of the items on this section (refer to Annexure B).

Table 5.2: Illustration of compilation of questions: Section B

Theme 1: Electronic banking service quality		Focus group interview	Literature source
B1.1	It is safe to make transactions on my bank's website	Banks need to use a very secure programme to protect our accounts/money	Privacy and security are top issues in electronic banking (Bauer et al., 2004:162; Joseph et al., 2005:405; Ladhari, 2010:473)
B2.1	It is easy to navigate within my bank's website	You can conclude a transaction in less than 5 minutes	Customers need to find the websites of banks easy to navigate and complete their transactions (Barnes & Vidgen, 2003:299; Loonam & O'Loughlin, 2008:3)

Theme 1: Electronic banking service quality		Focus group interview	Literature source
B3.1	My bank's website is always available to conduct my transactions	I conduct my banking at my own time and place	The banks' websites should always be available for conducting transactions (Parasuraman et al., 2005:230; Hu & Liao, 2011:3768)
B4.4	The service delivered through my bank's website is efficient	Internet banking is quick	The banks' websites should enable customer do their banking efficiently (Parasuraman et al., 2005:231; Hu & Liao, 2011:3768)
B5.1	My bank delivers what it promises to do with regard to Internet banking	I rely on Internet banking for most of my banking needs, from paying creditors to managing my investment portfolio	Banks should be able to deliver dependable service to customers (Ibrahim et al., 2006:482; Loonam & O'Loughlin, 2008:3)
B6.1	My bank's website has good search functionality	With Internet banking I can do a number of things	The banks' website should enable customer to manage their portfolio well (Madu & Madu, 2002:251; Bauer et al., 2006; Sohn & Tadisina, 2008)
B7.2	My bank promptly resolves problems I encounter with my online transactions	Since the internet banking is linked with the phone, it is frustrating when I try to do a transaction and I don't receive an SMS with one time pin (OPT) on time (immediately)	The bank should be responsive and contactable when customers need it, encounter problems and/or to solve problems (Parasuraman et al., 2005:231; Ibrahim et al., 2006:482; Loonam & O'Loughlin, 2008:3)
B8.3	My bank's web design is visually appealing	The participants did not particularly indicate the importance of visual appeal of websites. However, usability and functionality were indicated as important attributes of websites.	Colour combinations, font type and sizes, and general readability of texts aspects that enhance the visual appeal of websites (Madu & Madu, 2002:251)

Table 5.3 provides a complete compilation of the questions in Section C of the scale (customer value).

Table 5.3: Compilation of question for Section C

Theme 2: Customer value		Focus group interview	Literature source
CV1	Internet banking charges are reasonable	I save money because I do not have to travel	Customer should feel they are deriving value from using Internet banking (Bauer et al., 2004:162; Zeithaml, Bitner & Gemeler, 2009:537; Kumbhar, 2012:7; Zhu & Chen, 2012:486)
CV2	Internet banking has good value for money because I do not have to travel	Minimizing the costs because most of the transactions are free on internet banking	
CV3	Internet banking has good value for money because I do not have to queue in the bank	It does, it saves me time and cost of going to the bank	
CV4	I receive better value with Internet banking compared to what I had to give up to do my transactions	If you compare what spend on branch banking and ATM banking, Internet banking is less expensive if you have access to Internet	
CV5	The quality of service I receive on Internet banking has better value as opposed to branch banking		

Table 5.4 illustrates a complete compilation of the questions in Section D of the scale (Customer satisfaction).

Table 5.4: Compilation of question for Section D

Theme 3: Customer satisfaction		Focus group interview	Literature source
CS1	I am satisfied with the transactions I make through Internet banking	I am extremely satisfied It meets my expectation I am satisfied	Internet banking should enhance customer experience and satisfaction (Bloemer & DeRuyter, 1998:501; Herington & Weaven, 2008:1220; Zeithaml et al., 2009:104; Ding, Hu & Sheng, 2011:508)
CS2	I am delighted with the service quality of Internet banking		
CS3	I am happy to use Internet banking		
CS4	I am pleased with my experience of using my bank's Internet banking website		

Table 5.5 illustrates a complete compilation of the questions in Section E of the scale (customer loyalty).

Table 5.5: Compilation of question for Section E

Theme 4: Customer loyalty		Focus group interview	Literature source
CL1	When it comes to banking, this bank is my first choice	I would continue to use Internet banking	The bank/firm should be able to build brand loyalty through electronic banking (Young, 2005:303; Yang & Tsai, 2007:121; Herington & Weaven, 2009:1221)
CL2	This bank is my favourite bank	I will continue to use this service	
CL3	I will refrain to bank with another bank in the future	I would recommend to family and friends, because I am happy with the service	
CL4	I will do more business with this bank in the future		
CL5	I would recommend my friends and family to bank with this bank		

5.5 QUESTIONNAIRE LAYOUT

In accordance with the conceptual and operational framework described in Section 5.3 (Procedure for developing the questionnaire) and for purpose of addressing the stated research objectives of the study, the final questionnaire contained five sections as described below (refer to Annexure B).

Section A – Biographic and general information

In this section, information about respondents' age, gender, marital status, income level and duration of service usage and the ways in which respondents accessed services were required in order to establish biographic details and general information on the respondents. Close-ended, dichotomous and multiple-choice questions were used in this section.

The four sections of the questionnaire (section B, C, D and E) were systematically designed to address four of the constructs of the current study, namely electronic banking service quality, customer value, customer satisfaction and customer loyalty.

Section B – Service quality

Respondents were asked a set of questions to determine their perception of electronic bank service quality construct. The use of even number response categories is often preferred especially when the researcher wants to eliminate the neutral effect (Garland, 1991:66). Even numbered categories present equal numbers of positive and negative items on both sides of the continuum; thereby, eliminating questionnaire and respondent bias (Hills & Argyle, 2002:1080).

Accordingly, a six-point Likert scale, ranging from 1=strongly disagree to 6=strongly agree was used to assess consumer perceptions of electronic banking services.

Section C – Customer value

In this section, questions were asked to establish what respondents perceive to be of value obtained through electronic banking services. A six-point Likert scale, ranging from 1=strongly disagree to 6=strongly agree, was used to determine customer perceptions of the value electronic banking services.

Section D – Customer satisfaction

In order to determine their level of satisfaction with regard to electronic banking services, respondents were requested to indicate to what extent they agreed or disagreed with the statements in this section. A six-point Likert scale, ranging from 1=strongly disagree to 6=strongly agree, was used to assess consumer satisfaction levels.

Section E – Customer loyalty

In this section, a set of questions was developed to establish customer loyalty in the case of electronic banking services. A six-point Likert scale, ranging from 1=strongly disagree to 6=strongly agree, was used to assess consumer loyalty.

5.6 SYNOPSIS

The main objective of this chapter was to develop an electronic banking service quality scale for the South African banking sector through qualitative approach. The research followed a fully mixed sequential multi-mode design and methodology. The chapter commenced on the initial generation of items for the scale through a literature review (inductive analysis), and focus groups interviews (deductive analysis) to obtain valid information from South African electronic banking customers. Four themes, namely electronic banking service quality, customer value, customer satisfaction and customer loyalty have emerged from the qualitative analysis and the literature, which constitute the scale. A total of 45 items relating to the four themes were developed through a synthesis of the initial pool of items from similar studies and the original items revealed from the focus group interviews. Using this scale, a total of 310 responses were collected from the wider population of electronic banking users around the country.

The next chapter presents systematically and in detail the findings, analysis, discussion and interpretation of the empirical results of this research in the form of tables and figures in order to answer the research objectives and questions.

CHAPTER 6

ANALYSIS AND INTERPRETATION OF EMPIRICAL FINDINGS

6.1 INTRODUCTION

This chapter reports on the findings of the empirical study. Analysis and interpretation of results are presented in accordance with the empirical objectives set out in chapter one. This chapter commences with a discussion of the results of the pilot test, which is followed by the preliminary data analysis and a description of the demographic characteristics of the sample used in the main study. Thereafter, the chapter discusses the results of the exploratory factor analysis as well as the results of the reliability and validity analysis of the scale. Furthermore, this chapter provides a discussion on the correlation analysis of the main constructs of the study, namely (I) electronic banking service quality, (II) customer value, (III) customer satisfaction, and (IV) customer loyalty. The chapter concludes with a discussion on the results of the structural equation modelling applied to test the hypothesised theory of this thesis.

The statistical programs IBM SPSS and AMOS, version 22 for Microsoft Windows, were used to perform the data analysis. Results of the pilot test are discussed in the following immediate section.

6.2 PILOT TESTING OF THE QUESTIONNAIRE

The aim of the pilot test was to ensure internal consistency of the scale prior to the main study as well as to evaluate whether the participants are representative of or similar to the research participants of the main study (Zikmund & Babin, 2010:54). The participants of the pilot study were excluded from the main study. The pilot study of the questionnaire was conducted among a sample of 50 electronic banking customers.

Table 6.1 presents a summary of the results obtained from the pilot test. The reliability and validity of the scale at this stage of the purification process were measured by calculating the Cronbach alpha and average inter-item correlation coefficient.

Table 6.1: Summary of the pilot testing results

Construct scales	Number of items	Cronbach Alpha (α)	Average inter-item correlation
Scale B:Electronic banking service quality dimensions	31	0.965	0.492
Scale C:Customer value	5	0.786	0.439
Scale D:Customer satisfaction	4	0.761	0.456
Scale E:Customer loyalty	5	0.775	0.421

The Cronbach alpha reliability test was computed for sections B, C, D and E of the scale to establish the internal consistency of the scale. Hair *et al.* (2010:166) describe internal consistency as the degree to which individual questions of a construct are related with each other. In other words, the set of questions that make up the scale of a given construct should be internally consistent. Section B: Electronic banking service quality construct with 31 items relating to various dimensions obtained Cronbach alpha value of 0.965 portraying a very good reliability. Similarly, the Cronbach alpha reliability for Section C was 0.786, 0.761 for Section D and 0.775 for Section E, reflecting a good reliability (Hair *et al.*, 2010:166). The results obtained through computation of the Cronbach alpha reflect either a good reliability or a very good reliability surpassing the acceptable scale reliability threshold (0.60) (Nunnally, 1978:245).

An average inter-item correlation of 0.492 was obtained for Section B, 0.439 for Section C, 0.456 for Section D and 0.421 for Section E suggesting a convergent and discriminant validity of the scale. Clark and Watson (1995:316) recommend that an average inter-item correlation that falls within the 0.15 and 0.50 range suggests convergent and discriminant validity. Overall, the scale was found to be valid, reliable and robust. Results of the main study are presented in the following section.

6.3 PRELIMINARY DATA ANALYSIS

Tabulation of scores is the process of arranging data in an orderly manner, usually in the form of a table or some summary format, which shows the number of responses or scores in each response category (Hair *et al.*, 2008:408; Zikmund & Babin, 2010:335). A total of 310 responses were captured in a six-point Likert scale. Even numbered categories presented equal numbers of positive and negative options on both sides of the continuum. Table 6.2 shows a record of item tabulation of the frequencies received on the measuring a six-point scale and descriptive statistics, namely the mean and standard deviation.

Table 6.2: Item tabulation scores and descriptive statistics

Scale Item	Strongly disagree 1	Disagree 2	Slightly disagree 3	Slightly agree 4	Agree 5	Strongly agree 6	Mean scores	Standard deviation
B1.1	3	3	2	37	194	71	5.029	.7857
B1.2		8	3	41	189	69	4.994	.7923
B1.3	2	8	10	56	177	57	4.835	.8970
B1.4	2	2	7	45	178	76	5.010	.8024
B1.5	1	7	8	50	182	62	4.906	.8443
B1.6	1	3	5	43	180	78	5.039	.7707
B2.1	1	3	4	110	106	86	4.855	.8967
B2.2		2	5	116	108	79	4.829	.8513

Scale Item	Strongly disagree 1	Disagree 2	Slightly disagree 3	Slightly agree 4	Agree 5	Strongly agree 6	Mean scores	Standard deviation
B2.3		2	3	97	116	92	4.945	.8401
B3.1		3	5	52	182	68	4.990	.7351
B3.2		2	6	49	176	77	5.032	.7366
B3.3		2	7	61	173	67	4.955	.7490
B4.1		5	9	80	158	58	4.823	.8229
B4.2		2	9	76	159	64	4.884	.7838
B4.3		8	12	90	151	49	4.713	.8692
B4.4		4	7	78	161	60	4.858	.7959
B5.1	1	2	5	52	176	74	5.006	.7632
B5.2	1	1	4	51	180	73	5.023	.7304
B5.3	1	2	5	56	171	75	4.997	.7738
B6.1	1	2	9	71	182	45	4.826	.7560
B6.2		2	4	57	196	51	4.935	.6748
B6.3	1	6	8	71	176	48	4.803	.8224
B7.1			8	67	151	84	5.003	.7696
B7.2		3	8	90	151	58	4.816	.7975
B7.3	1	3	7	85	160	54	4.813	.8028
B7.4	1	4	14	94	149	48	4.710	.8512
B7.5	7	17	37	114	109	26	4.223	1.0878
B7.6	1	11	9	101	142	45	5.006	.7674
B8.1		4	4	54	172	76	4.952	.7680
B8.2	1	2	5	62	173	67	4.942	.7695
B8.3	1	2	4	67	169	67	5.029	.7857
CV1	5	3	5	46	218	33	4.832	.7990
CV2	1	3	5	41	194	66	5.006	.7417
CV3	1	5	1	41	181	81	5.061	.7755
CV4		2	3	39	192	74	5.074	.6762
CV5		3	6	46	185	70	5.010	.7351
CS1	1		3	16	208	82	5.181	.6124
CS2		2	2	60	183	63	4.977	.6940
CS3		1	5	37	203	64	5.045	.6470
CS4		1	4	47	196	62	5.013	.6584
CL1		3	8	45	186	68	4.994	.7461
CL2		1	9	89	160	51	4.810	.7499
CL3	3	10	17	68	187	25	4.616	.9054
CL4	1	1	13	87	170	38	4.735	.7639
CL5	2	2	13	72	158	63	4.842	.8614

As can be observed from Table 6.1, most of the responses were recorded on the positive side of the continuum, namely slightly agree, agree and strongly agree resulting in an overall higher means which is above the median (3.5). The highest mean (5.032) is recorded for item B3.2 in section B, 5.074 for item CV4 in section C, 5.045 for CS3 in section D and 4.994 for item CL1 in Section E of the questionnaire.

The standard deviation describes the average amount by which the scores deviate from the mean (Hair *et al.*, 2013:272). A higher standard deviation indicates less agreement while lower standard deviation suggests greater agreement amongst the respondents. As is evident from Table 6.1, lower standard deviation scores were obtained in all the items of the scale, suggesting greater agreement regarding their perception of electronic banking services. However, a higher standard deviation (1.0878) is depicted on item 7.5 suggesting significant variation in customer's views regarding the availability of online customer service representative and support. While the majority (80.32%) responded on the positive side of the continuum, a significant (19.68%) number responded on the other side of the continuum.

The following section presents the demographic and general information of the sample that took part in the study.

6.3 DEMOGRAPHIC INFORMATION

Table 6.3 provides an overview of the sample that participated in the study. A total of 310 completed and usable questionnaires were returned and are being used in the analysis throughout the study.

Table 6.3: Sample profile

Items	Demographic variable		Frequency	Percentages
A1	Gender	Male	163	53.1
		Female	144	46.9
A2	Age	Less than 25	27	8.8
		25-34	106	34.4
		35-44	100	32.5
		45-54	39	12.7
		54-64	36	11.7
A3	Educational qualification	Matric/Grade 12	13	4.2
		Certificate	23	7.5
		Degree/Diploma	130	42.5
		Honours/Masters/PhD	136	44.4
		Other	4	1.3
A4	Income category	Less than R250 000	57	18.5
		R250 001-350 000	95	30.8
		R350 001-450 000	89	28.9
		R450 001-550 000	46	14.9
		R550 001-650 000	3	1
		More than R650 000	18	5.8
A5	Rate of usage	Sometimes	51	16.7
		Often	52	17
		For most transactions	203	66.3
A6	Duration of usage	Less than a year	27	8.8
		1-3 years	80	26.1
		More than 3 years	199	65
A7	Access of usage	Home PC	195	62.9
		Work PC	170	54.8
		Internet Cafe's	13	4.2
		Mobile	37	11.9
		Other	4	1.3
A8	Purpose of usage	Account payments	300	96.8
		Internal transfers	272	87.7
		Loan applications	106	34.2
		Investment	71	22.9
		Other	14	4.5

6.3.1 Gender composition

In terms of gender composition, as illustrated in Table 6.2, the sample comprised more male (53.1%) than female (46.9%) respondents. These figures may or may not be reflective of the customer profile of electronic banking customers in the industry since a database or comprehensive study was not available at the time of writing up this thesis.

6.3.2 Participant's age

As shown in Table 6.2, the majority of the respondents were aged 25-34 (34.4%) followed by age cohort 35-44 (32.5%) and age cohort 45-54 (12.7%). The youngest age cohort (less than 25 years) and the oldest age cohort (between 54 and 64 years) were in the minority representing 8.8 percent and 11.7 percent of the respondents respectively. This could explain the young cohort's inclination of use and acceptance of technology and the older cohort's reluctance of use and acceptance technology.

6.3.3 Educational qualification

In terms of formal educational levels, the majority of the respondents in the sample indicated that they hold diplomas, degrees or post-graduate qualifications. As illustrated in Table 6.2 42.5 percent of the respondents hold either diplomas or degrees and 44.4 percent hold post-graduate qualifications (honours, masters or PhDs). Only 4.2 percent of the respondents indicated having a matric or grade 12 certificate, while the remaining 1.3 percent indicated having other forms of qualification. The results from this item tend to suggest that customers with formal qualifications including diplomas, degrees and post-graduate qualifications are more like to make use of electronic banking services, as opposed to customers with lower educational qualifications.

6.3.4 Income category

As presented in Table 6.2, the majority (30.8%) of the respondents earned an annual income in the category between R250 001 to R350 000, followed by 28.9 percent between R350 001 to R450 000, and 14.9 percent between R450 001 to R550 000. In the upper income category, 6.8 percent (1+5.8) were earning more than R550 000 per annum. The remaining 18.5 percent of the respondents earned an annual income of less than R250 000. From the findings, it appears that higher income earners are more likely than lower income earners to use electronic banking services.

6.3.5 Rate of usage

Item 5 (A5) of the questionnaire was stated as follows: How often do you use Internet banking? Four options were given to respondents, namely (I) Never, (II) Sometimes, (III) Often and (IV) For most of my banking transactions. Those who answered never were excluded from the study. Therefore, this question served as a screening question to the would be respondents of the study.

As shown in Table 6.2, the majority (66.3%) of the respondents indicated they use electronic banking for most of their banking needs suggesting a sufficient knowledge and experience of the service provided. The results also show that 17 percent of the respondents used electronic banking often, while 16.7 percent used the service sometimes.

6.3.6 Duration of usage

As illustrated in Table 6.2, in terms of how long the respondents had been using Internet banking, 65 percent of the respondents indicated that they had been using electronic banking for more than three years, indicating a solid experience of usage of the service. This was followed by 26.1 percent of the respondents indicating that they had been using electronic banking between one to three years. Only 8.8 percent of the respondents had made use of Internet banking for less than a year.

6.3.7 Accessing electronic banking

Item 7 (A7) was asked to solicit information where customers access and conduct their electronic banking from. The majority (62.9%) of the respondents indicated that they access and conduct their electronic banking from a home personal computer (PC) followed by 54.8 percent from a work PC. Only 4.2 percent of the respondents conducted their banking from Internet cafes, which could be an indication of the privacy and security issues (Table 6.2). Some (11.9%) of respondents also indicated that they accessed through mobile devices, while a mere 1.3 percent used other alternative means to conduct their electronic banking.

6.3.8 Purpose of usage

As illustrated in Table 6.2, the respondents indicated that the primary purpose of using electronic banking is to pay accounts (96.8%) and make internal transfers (87.7%). Some (34.2%) of the respondents used electronic banking for loan applications, 22.9 percent for investment and a meagre 4.5 percent for other banking services.

The following section presents a discussion on the factor analysis.

6.4 EXPLORATORY FACTOR ANALYSIS (EFA)

The primary objective of this research was to develop and validate a scale for the measurement and management of electronic banking service quality for the banking sector in South Africa. EFA is an important technique that must be performed at an initial stage in the process of developing and validating of scales (Pallant, 2013:188). EFA was also used to identify the service quality dimensions that influence electronic banking services in South Africa (first empirical objective of this study). Exploratory factor analysis (EFA) was performed on all the construct-related items, namely:

- Section B:Electronic banking service quality
- Section C:Customer value
- Section D:Customer satisfaction
- Section E:Customer loyalty

Before performing the factor analysis, an assessment of suitability of the dataset for factor analysis using sample size determination, the Kaiser-Myer-Olkin (KMO) and the Bartlett's test of sphericity. In terms of sample size, it is recommended that the size should be more than 150 and there should be ratio of at least five cases per variable (Pallant, 2013:190). In, this study the sample (310) yielded a ratio of ten cases for each variable. The statistical measures, the KMO and Bartlett's test of sphericity are generated by IBM SPSS software to assess the factorability of the dataset. The KMO index ranges from zero to one. As a measure of sampling adequacy, the KMO indicator should be 0.5 or greater (Malhotra, 2010:638). The Bartlett's test of sphericity should be significant ($p < .05$) for the factor analysis to be appropriate (Pallant, 2013:190). The factor extraction method applied was principal component analysis (CPA) with Oblimin with Kaiser normalisation. Factor loadings > 0.30 were used as a threshold for the extraction of factors.

Table 6.3 illustrates the KMO and Bartlett's test of sphericity results obtained on the four sections of the questionnaire that comprised construct-related items. The values of KMO index are 0.893, 0.821, 0.835 and 0.839 for electronic banking service quality, customer value, customer satisfaction and customer loyalty respectively exceeding the recommended value of .5 (Malhotra, 2010:293). Similarly, the Bartlett's test of sphericity was significant at $p < .000$ for four of the constructs rejecting the notion that the variables are unrelated and strongly suggesting the suitability of the data for factor analysis. All the items that loaded into factors had absolute value scores > 0.4 .

Table 6.3: KMO and Bartlett's test of sphericity

KMO and Bartlett's test of sphericity		Electronic banking service quality	Customer value	Customer satisfaction	Customer loyalty
Kaiser-Meyer-Olkin measure of sampling adequacy (KMO)		0.893	0.821	0.835	0.839
Bartlett's test of sphericity	Approx. chi-square	8231.323	834.767	655.965	657.431
	Df	465	10	6	10
	Sig.	0.000	0.000	0.000	0.000

6.4.1 EFA on Section B: Electronic banking service quality (EBSQ)

As indicated previously, it was ensured that the dataset was suitable for factor analysis. Specifically for this section, the value of the KMO index was 0.893 and the Bartlett's test of sphericity reached statistical significance at $p < .000$ (with the approximate chi-square = 8231.323; df = 465). Table 6.4 provides the pattern matrix of factors for electronic banking service quality. The table also illustrates the percentage of variance, eigenvalue and the Cronbach alpha reliability for each of the factors.

The percentage of variance explained and eigenvalues were used in determining the factors that influence electronic banking service quality. The purpose of the variance criterion is that to ensure practical significance for the derived factors by ensuring that they explain at least 60 percent of the total variance as satisfactory (Hair. *et al.*, 2010:109). For this construct, electronic banking service quality, eight factors were extracted with approximately 79.66 percent of the variance (cumulative variance), which is considered acceptable. Thus, the EBSQ is explained collectively by eight factors.

The second criterion used in the extraction of factors was the eigenvalue. An eigenvalue represents the amount of variance associated with each factor. Factors with eigenvalue less than 1.0 were not considered (Malhotra 2010:638). The eigenvalue extraction indicated that the eight factors were appropriate and best fit for capturing and explaining the electronic banking service quality construct. Furthermore, the Cronbach alpha reliability of the eight factors extracted that explained electronic banking service quality were above 0.8 portraying very good reliability (Nunnally, 1978:245; Hair *et al.*, 2010:166).

Table 6.4: Pattern matrix of factors: Electronic banking service quality

Items	Factors							
	1	2	3	4	5	6	7	8
B4_1	.941							
B4_2	.912							
B4_4	.869							
B4_3	.842							
B1_2		.866						
B1_6		.845						
B1_3		.825						
B1_4		.819						
B1_1		.803						
B1_5		.778						
B7_4			-.844					
B7_2			-.784					
B7_3			-.777					
B7_6			-.770					
B7_1			-.679					
B7_5			-.447					
B2_2				.915				
B2_3				.896				
B2_1				.854				
B5_2					-.784			
B5_1					-.758			
B5_3					-.749			
B8_2						-.876		
B8_1						-.874		
B8_3						-.854		
B6_3							-.838	
B6_1							-.806	
B6_2							-.635	
B3_3								.862
B3_1								.860
B3_2								.841
Eigenvalue	11.730	3.194	2.182	1.918	1.809	1.469	1.291	1.1
% of Variance	37.838	10.303	7.040	6.187	5.836	4.738	4.166	3.549
Cumulative %	37.838	48.141	55.181	61.369	67.204	71.942	76.108	79.657
Cronbach alpha	.921	.940	.883	.931	.934	.827	.874	.924

The following section provides the naming and interpretation of factors.

6.4.1.1 Naming and interpretation of dimensions

Factor one, named *efficiency*, comprised four variables that accounted for 37.838 percent of the variance with eigenvalue of 11.730. The items that loaded into this factor relate to the loading of website pages of the banks and the speed at which transactions are completed. This finding validates the findings of previous studies conducted in other parts of the world (Parasuraman *et al.*, 2005:230-231; Kenova & Jonasson, 2006:28; Hu & Liao, 2011 3768; Kumbhar, 2012:7). Efficiency in this context refers to the speed at which the electronic banking facility provides customers for completion of their banking transactions.

Factor two, labelled *privacy and security* consisted of six variables relating to privacy and security issues involved in electronic banking. The variable accounted for 10.303 percent with eigenvalue of 3.194. Privacy and security issues were issues picked up as top concerns during the focus group interviews as well. This particular dimension is of great concern to electronic bankers and banks globally and has been identified as the single most important issue that need to be addressed by banks (Pikkarainen *et al.*, 2004:330; Bauer *et al.*, 2005:170; Loonam & O'Loughlin, 2008:766; Gupta & Bansal 2012:1350). Privacy and security refers to the degree to which customers find transacting through electronic banking safe and secure.

Factor three, comprised six variables relating to *contact and responsiveness* of the banks in completion of transactions and problem solving, is named *contact and responsiveness*. The variables accounted for 7.040 percent with eigenvalue of 2.182. The finding of this dimension corroborates previous research conducted by Zeithaml *et al.* (2000:16), Loiacono *et al.* (2000:301), Parasuraman *et al.* (2005:17), and Loonam and O'Loughlin (2008:766). Contact and responsiveness in this study refers to the ability of the bank to be contacted to and be responsive of when customers need it, encounter problems and/or to solve problems.

Factor four, *ease of use*, constituted by three items accounted for 6.187 percent of the variance with eigenvalue of 1.919. Perceived ease of use is an important dimension for technology acceptance and has been identified as a determining factor in studies that applied technology acceptance model (TAM) across different cultural settings (Pikkarainen *et al.*, 2004:230; Hua, 2009:9; Ankrah, 2012:55). Ease of use refers to the accessing and using the bank's website for searching, navigating and transacting electronically with less effort.

Factor five is named *reliability*. Three items relating to the reliability of conducting banking through the Internet, accuracy of keeping records and delivering service as promised loaded into factor five. This factor accounted for 5.836 percent of the variance with eigenvalue of 1.809. The finding of this dimension is in line with previous studies conducted specifically in the electronic banking environment (Madu & Madu, 2002:251; Ibrahim *et al.*, 2006:482; Loonam & O'Loughlin, 2008:3; Kadir *et al.*, 2011:4; Hu & Liao, 2011:37768; Kumbhar, 2012:7). Reliability

in this context relates to what extent the bank keeps its promise with regard to electronic banking, provide dependable service and keep accurate records of transactions conducted over the Internet.

Factor six was constituted by items relating to user-friendliness of banks' websites, organisation and layout of websites and the visual attractiveness of the web designs of the banks and it is appropriately named as *site aesthetics*. This factor accounted for 4.738 percent of the total variance. The eigenvalue attributed to this factor was 1.469. This dimension has been identified as an attribute and has the ability to enhance customer experience (Kadir *et al.*, 2011:4; Ariff *et al.*, 2012:856; Gupta & Bansal 2012:1350). Site aesthetics refers the extent to which customers find bank's websites and designs to be visually appealing and attractive.

Factor seven, labelled *functionality*, comprised three variables relating to search functionality and the ability of electronic banking as a product to meet and address customer needs. The variable accounted for 4.166 percent with eigenvalue of 1.291. This dimension is closely related and similar to the dimension identified as features by Madu and Madu (2002:251) and Mäenpää *et al.* (2008:268). Functionality, in the context of this study refers to the sum or any aspect of the electronic banking as a product can do for the customer.

The last factor, named *system availability*, comprised three variables that accounted for 3.549 percent of the variance with eigenvalue of 1.1. System availability is a prerequisite for electronic banking service to be delivered and has been identified as an important dimension in similar studies (Parasuraman *et al.* 2005:230; Kenova & Jonasson, 2006:28; Kumbhar, 2012:7). The items that loaded into this factor relate to the availability of bank websites for transactions, so customers can do their banking anywhere and anytime. One of the main reasons why consumers use Internet banking is because it is convenient and easy (Zeithaml *et al.*, 2000:16; Santos, 2003:239; Hamadi, 2010:6; Ombati *et al.*, 2010:19; Yoon, 2010:1297). System availability means the operational availability of the bank's website for electronic banking transactions.

Henceforth, the factors extracted are referred to as the dimensions of electronic banking service quality. The eight dimensions identified constitute the electronic banking service quality construct. Collectively, eight of the dimensions explained approximately 79.66 percent of the variance. All the dimensions eigenvalue was more than 1.0. The scale for this construct portrayed high internal consistency reliability with each of the dimensions achieving a Cronbach alpha more than 0.8.

The following section provides a discussion on the relative importance of these dimensions

6.4.1.2 Relative importance of dimensions

The second empirical objective of this study was to determine the relative importance of each dimension of electronic banking service quality as perceived by banking clients. To address this objective measure of central tendency (mean), measures of variability (standard deviation) and measures of shape (skewness and kurtosis) were computed on the scaled responses. The statistic that is used to determine the relative importance of the dimensions is the mean value. Standard deviation, skewness and kurtosis were computed to explain the result in perspective. It must be borne in mind that responses were captured in a six-point Likert scale. Ratings one, two and three represented service quality that fell short of their customers' expectations while ratings four, five and six meant the service quality they received exceeded their expectations. Table 6.5 illustrates the relative importance of the dimensions of electronic banking service quality in descending order.

Table 6.5: Relative importance of dimensions

Dimensions	Descriptive Statistics				
	Valid N	Mean	Std. Deviation	Skewness	Kurtosis
Reliability	310	5.00860	0.710479	-0.928	3.082
System availability	310	4.99247	0.666354	-0.774	1.551
Privacy and security	310	4.96882	0.690977	-1.263	4.278
Website aesthetics	310	4.96667	0.715549	-0.940	2.801
Ease of use	310	4.87634	0.81569	-0.140	-0.443
Functionality	310	4.85484	0.649235	-0.963	2.634
Efficiency	310	4.81935	0.745013	-0.540	0.870
Contact and responsiveness	310	4.70118	0.686592	-0.358	0.419

Reliability was rated the most important dimension having a mean score of 5.00860 followed by system availability (mean=4.99247) and privacy and security (mean=4.96882), while contact and responsiveness (mean=4.70118) was accorded the lowest level of importance. Website aesthetics, ease of use, functionality and efficiency also rated above the median of the scale (3.5), signifying a high level of importance. In perspective, including contact and dimension, which obtained the lowest mean score, is yet above the median, which suggests the dimension is indeed important for customers. Overall, the mean values are skewed to the right, indicating that all the dimensions extracted for electronic banking services are of crucial importance to customers. Furthermore, the higher means (>3.5) observed throughout the dimensions are indicative of the positive perception hold by customers towards electronic banking services.

As indicated previously (Section 6.3), a higher standard deviation indicates less agreement while lower standard deviation suggests greater agreement amongst the respondents. As is evident from Table 6.5 a lower standard deviation scores were obtained in all the dimensions suggesting greater agreement regarding their perception of electronic banking services, customer services, customer satisfaction and customer loyalty. In terms of distribution, all the scales of the dimensions appear to be distributed normally since none of the skewness scores fell outside of -2 or +2 range. All the dimensions, with the exception of ease of use with Kurtosis score of -.0443, obtained positive kurtosis scores indicating the distribution is more peaked than normal distribution (Malhotra, 2010:488). The peakedness indicates that the responses are clustered in the centre with long thin tails. The kurtosis below zero obtained for the construct ease of use indicates that the distribution of responses is relatively flat (too many cases in the extremes (Pallant, 2013:59).

6.4.2 EFA on Section C: Customer value (CV)

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity yielded satisfactory result for Section C of the questionnaire. The value of the KMO index was 0.821 and the Bartlett's test of sphericity reached statistical significance at $p < .000$. Table 6.6 provides the pattern matrix for the customer value construct. The factor extraction method applied was principal component analysis (CPA) with Oblimin with Kaiser normalisation. Factor loadings > 0.30 were used as a threshold for the extraction of factors.

The criteria for factor extraction were both the percentage of variance and the eigenvalue. The Cronbach alpha for internal consistency portrayed very good reliability (alpha value 0.875). Following an assessment of item-total correlation, it was decided that no item removal would enhance the internal reliability consistency of this scale since very good Cronbach alpha was obtained for this scale. All the items with factor loading more than 0.5 constituted the customer value construct. These items accounted 67.313 percent of variance and obtained an eigenvalue of 3.366 exceeding criteria required for factor extraction.

Table 6.6: Component matrix: Customer value

Items	Factor loading	Eigenvalue	% of variance	Cumulative %	Cronbach alpha
CV1	.520	3.366	67.313	67.313	0.875
CV2	.758				
CV3	.692				
CV4	.737				
CV5	.659				

6.4.3 EFA on Section D: Customer satisfaction (CS)

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett test of sphericity yielded satisfactory result Section C of the questionnaire. The value of the KMO index was 0.835 and the Bartlett's test of sphericity reached statistical significance at $p < .000$. Table 6.7 provides the pattern matrix for the customer satisfaction construct. The criteria for factor extraction were both the percentage of variance and the eigenvalue. The Cronbach alpha for internal consistency portrayed very good reliability (alpha value 0.883). Five of the items explained 74.232 percent with eigenvalue of 2.969. All the items that loaded and constituted the customer satisfaction constructs factor loading in excess of 0.7.

Table 6.7: Component matrix: Customer satisfaction

Items	Factor loading	Eigenvalue	% of variance	Cumulative %	Cronbach alpha
CS1	.750	2.969	74.232	74.232	0.883
CS2	.729				
CS3	.726				
CS4	.764				

6.4.4 EFA on Section E: Customer loyalty (CL)

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett test of sphericity yielded satisfactory result for the customer loyalty construct. The value of the KMO index was 0.839 and the Bartlett's test of sphericity reached statistical significance at $p < .000$. Table 6.8 provides the pattern matrix for the customer loyalty construct. The criteria for factor extraction were both the percentage of variance and the eigenvalue. The Cronbach alpha for internal consistency portrayed very good reliability (alpha value 0.847). Five items that loaded well constituted this construct, which accounted for 63.102 percent of variance. The eigenvalue for this construct was 3.155.

Table 6.8: Component matrix: Customer loyalty

Items	Factor loading	Eigenvalue	% of variance	Cumulative %	Cronbach alpha
CL1	.669	3.155	63.102	63.102	0.847
CL2	.659				
CL3	.439				
CL4	.677				
CL5	.712				

6.5 DEMOGRAPHIC VARIABLES' INFLUENCE ON CUSTOMER PERCEPTION

T-test statistics and non-parametric correlations were computed to determine the influence of demographic variables such as gender, age, education and income on the perceptions of customers of electronic banking service dimensions and the constructs.

6.5.1 T-Test statistics

An independent sample t-test was computed to observe whether gender has any impact on customer's perception of electronic banking services. As illustrated on Table 6.9, the p-values for the Levene's test for equality variance were greater than the required alpha (0.05) throughout the service dimensions and constructs indicating no significance. The implication of this result is that gender does not have an influence on customers' perceptions of electronic banking services.

Table 6.9: Independent sample t-test for gender

Constructs/dimensions	Gender	N	Mean	Std. deviation	p-value	Effect sizes
Efficiency	Male	163	4.93047	.717653	.347	0.10
	Female	144	5.00463	.661678		
Privacy & contact	Male	163	4.85481	.800409	.698	0.04
	Female	144	4.89120	.837941		
Contact & responsiveness	Male	163	5.05112	.603582	.104	0.17
	Female	144	4.92593	.724147		
Ease of use	Male	163	4.85890	.686081	.271	0.12
	Female	144	4.76389	.806864		
Reliability	Male	163	5.01227	.653039	.860	0.02
	Female	144	4.99769	.774994		
Site aesthetics	Male	163	4.85072	.635219	.938	0.01
	Female	144	4.85648	.662754		
Functionality	Male	163	4.71902	.633993	.519	0.07
	Female	144	4.66782	.740780		
System availability	Male	163	4.97137	.742035	.895	0.01
	Female	144	4.96065	.684490		
EBSQ	Male	163	4.88882	.444474	.748	0.03
	Female	144	4.87052	.538431		
Customer value	Male	163	5.01104	.604204	.593	0.06
	Female	144	4.97361	.617347		
Customer satisfaction	Male	163	5.04601	.563991	.797	0.03
	Female	144	5.06250	.559017		
Customer loyalty	Male	163	4.82331	.565420	.442	0.08
	Female	144	4.76667	.705622		

6.5.2 Non-parametric correlations

The Spearman rank correlation coefficient (ρ) is a non-parametric measure of correlation, using ranks to calculate the correlation among ordinal variables. It is a recommended statistic to use when two variables have been measured using ordinal scales (Hair *et al.*, 2013:320).

Table 6.10 reports on the non-parametric correlation between demographic variables and electronic banking service quality dimensions and constructs. A two-tailed significance level is assumed at the cut of level $p < 0.1$. As is evident from Table 6.10, age does not have an effect on customers' perceptions of electronic banking services. However, education, income of customers, the rate and duration of usage of the electronic banking service appears to influence on how customer perceive electronic banking service dimensions with exception of the efficiency dimension. A general positive correlation exist, though it a small effect ($r = 0.10$ to 0.29), between each pair of the correlations in bold (Hair *et al.*, 2013::312). A higher positive correlation yet not of practical significance is observed with regard to the reliability dimension.

One can infer with less authority (given the strength of the correlation) that customers with higher education, higher income who use electronic banking for most of their banking needs and who have used it for longer period of time tend to have more positive perceptions and attitudes about electronic banking services. The positive linear correlation between education and privacy and security is worth highlighting. It appears that higher educated customers have rated the electronic banking service better than less educated customers have. One plausible reason could be the fact that the highly educated customers are aware of the risks involved; they have made conscious decisions to use the service because they have made sufficient research about their bank's rigorous risk management capabilities. Not a surprise, when it comes to loyalty a positive linear correlation was observed only with those customers who used electronic banking service for longer periods.

Table 6.10: Non-parametric correlations

Constructs/ dimensions		Age	Education	Income	Rate of usage	Duration of usage
Efficiency	Correlation Coefficient	-.075	.056	.013	.097	.074
	Sig. (2-tailed)	.189	.335	.826	.090	.197
	N	308	302	308	306	306
Privacy & security	Correlation Coefficient	.059	.173**	.022	-.042	.108
	Sig. (2-tailed)	.304	.002	.697	.466	.060
	N	308	302	308	306	306
Contact responsiveness &	Correlation Coefficient	.022	.086	.157**	.148**	.183**
	Sig. (2-tailed)	.700	.134	.006	.010	.001
	N	308	302	308	306	306

Ease of use	Correlation Coefficient	.005	.101	.147*	.016	.107
	Sig. (2-tailed)	.931	.079	.010	.774	.061
	N	308	302	308	306	306
Reliability	Correlation Coefficient	.101	.203**	.193**	.200**	.207**
	Sig. (2-tailed)	.077	.000	.001	.000	.000
	N	308	302	308	306	306
Site aesthetics	Correlation Coefficient	.051	.129*	.023	.037	.108
	Sig. (2-tailed)	.373	.025	.682	.517	.059
	N	308	302	308	306	306
Functionality	Correlation Coefficient	.099	.114*	.108	.039	.167**
	Sig. (2-tailed)	.084	.048	.058	.493	.003
	N	308	302	308	306	306
System availability	Correlation Coefficient	-.006	.092	.131*	.103	.160**
	Sig. (2-tailed)	.916	.112	.022	.073	.005
	N	308	302	308	306	306
EBSQ	Correlation Coefficient	.050	.176**	.141*	.084	.186**
	Sig. (2-tailed)	.381	.002	.013	.140	.001
	N	308	302	308	306	306
Customer value	Correlation Coefficient	.102	.032	.113*	.172**	.194**
	Sig. (2-tailed)	.074	.581	.047	.003	.001
	N	308	302	308	306	306
Customer satisfaction	Correlation Coefficient	.077	.098	.095	.120*	.194**
	Sig. (2-tailed)	.180	.091	.095	.036	.001
	N	308	302	308	306	306
Customer loyalty	Correlation Coefficient	.028	.000	-.039	.047	.151**
	Sig. (2-tailed)	.620	.997	.494	.413	.008
	N	308	302	308	306	306
** Correlation is significant at the 0.01 level (2-tailed).						
* Correlation is significant at the 0.05 level (2-tailed).						

6.7 CORRELATION ANALYSIS

Determining the relationships amongst the constructs of this study, namely electronic service quality, customer value, customer satisfaction and customer loyalty formed the empirical objectives of the study. To address these objectives, correlations analysis was computed. Table 6.9 provides the correlation among the eight dimensions, electronic banking service quality as construct on its own, customer satisfaction and customer loyalty. A two-tailed significance level is assumed at the cut of level $p < 0.1$.

Table 6.11: Correlation matrix

Constructs	Privacy & security	Ease of use	System availability	Efficiency	Reliability	Functionality	Contact & responsiveness	Site aesthetics	EBSQ	CV	CS	CL
Privacy & security	1											
Ease of use	.242**	1										
System availability	.399**	.285**	1									
Efficiency	.242**	.414**	.419**	1								
Reliability	.394**	.467**	.501**	.415**	1							
Functionality	.391**	.417**	.343**	.496**	.453**	1						
Contact & responsiveness	.406**	.408**	.423**	.478**	.496**	.460**	1					
Site aesthetics	.387**	.396**	.420**	.441**	.391**	.480**	.376**	1				
EBSQ	.679**	.629**	.654**	.695**	.716**	.698**	.776**	.668**	1			
Customer value	.335**	.321**	.381**	.362**	.366**	.321**	.322**	.478**	.509**	1		
Customer satisfaction	.402**	.468**	.444**	.439**	.533**	.509**	.445**	.544**	.665**	.711**	1	
Customer loyalty	.315**	.290**	.409**	.325**	.429**	.346**	.406**	.408**	.521**	.470**	.551**	1
**. Correlation is significant at the 0.01 level (2-tailed).												
N = 310												

The Pearson's correlation coefficient (r) was used to analyse the bivariate relationship between the eight dimensions that explained EBSQ, customer value, customer satisfaction and customer loyalty. In assessing the size of the correlation coefficients, Cohen's d-measure of effect sizes was used to measure the importance of an effect. The size of the effect, as suggested by Hair *et al.*, (2013:312) is outlined below:

- $r = 0.10 - 0.29$ (small effect)
- $r = 0.30 - 0.49$ (medium effect)
- $r = 0.50 - 1.00$ (large effect)

On inspection of each pair of correlation, the Pearson's correlation coefficient at $p < 0.01$ level of significance, indicate a positive linear association between each of the dimensions and constructs suggesting nomological validity (Hair *et al.*, 2010:710)

6.5.3 Correlation among eight dimensions of EBSQ

The correlations among each pair of the eight dimensions that collectively explained EBSQ were significant, ranging from $r = 0.242$ to $r = 0.460$ at $p < 0.01$ level of significance, indicating that a positive linear inter-factor association exists. The correlation ranged from weak to strong. In terms of the importance of the effect sizes, Cohen's d-statistics showed effect sizes ranging from medium to large effects among the dimensions.

6.5.4 Correlation between eight dimensions and EBSQ

The correlations between each of the eight dimensions and EBSQ were above 0.6 at $p < 0.01$ level of significance showing practical significance. This could be explained by the fact that the eight factors are the ones that collectively explained the EBSQ construct.

6.5.5 Correlation between EBSQ and customer value

The Pearson's correlation coefficient between EBSQ and customer value was $r = 0.509$ at $p < 0.01$ level of significance suggesting strong positive linear correlation between the constructs. Furthermore, the correlations between each of the eight dimensions that collectively constitute the EBSQ construct also showed positive linear association with the customer value construct with correlation coefficient > 0.3 at $p < 0.01$ level of significance further supporting the relationship.

6.5.6 Correlation between EBSQ and customer satisfaction

The correlations of the eight dimensions of EBSQ with customer satisfaction were significant, ranging from $r = 0.665$ to $r = 0.430$ at $p < 0.01$ level of significance, suggesting that there is a

strong positive linear association between the eight dimensions of EBSQ and customer satisfaction. In addition, a strong positive linear association is observed between EBSQ as a construct and customer satisfaction ($r=0.665$ at $p<0.01$ level of significance).

6.5.7 Correlation between EBSQ and customer loyalty

The Pearson's correlation coefficient between EBSQ and customer loyalty was $r=0.521$ at $p<0.01$ level of significance indicating practical significance. Complimenting this, the correlations of the eight factors that explained EBSQ with customer loyalty were also significant, ranging from $r=0.290$ to $r=0.408$ at $p<0.01$ level of significance, indicating a positive linear association between the eight dimensions of EBSQ and customer loyalty.

6.5.8 Correlation between customer value and customer satisfaction

The Pearson's correlation coefficient between customer value and customer satisfaction was $r=0.771$ at $p<0.01$ level of significance indicating practical significance. The result indicates that there is a strong positive linear correlation between customer value and satisfaction. This implies quality electronic banking services does indeed translate into value for customers.

6.5.9 Correlation between customer value and customer loyalty

The Pearson's correlation coefficient between customer value and customer loyalty was $r=0.470$ at $p<0.01$ level of significance also indicating moderate significance. The result indicates customer value is moderately associated to customer loyalty.

6.5.10 Correlation between customer satisfaction and customer loyalty

The Pearson's correlation coefficient between customer value and customer satisfaction was $r=0.551$ at $p<0.01$ level of significance indicating practical significance. A strong and positive correlation is indicated between customer satisfaction and customer loyalty.

The relationships amongst service quality, customer value, customer satisfaction and customer loyalty or behavioural intentions have stimulated interest by marketing scholars both in online and in offline service settings (Parasuraman *et al.*, 1988; Cronin & Taylor, 1992; Cronin *et al.*, 2000; Han & Baek, 2004; Kuo *et al.*, 2009; Lee, 2010; Yoon, 2010; Wu, 2011).

The extant literature is not clear on the relationships of the constructs of service quality, customer satisfaction and loyalty. Hoffman and Bateson (2006:333) offer an explanation on the relationships among the constructs of service quality, customer satisfaction and post-purchase intention. Customer satisfaction and service quality are without a doubt intertwined. However, their relationship is unclear. Newman (2001:138), however, is of the view that service quality

positively influences customer satisfaction and is, in fact, a prerequisite for customer satisfaction.

Correlations analysis is used to describe the strength and direction of the linear relationship between variables (Pallant, 2013:133; Hair *et al.*, 2013:316). However, correlations analysis does not establish the causal effect of variables or constructs. To assess the causal effect of the relationships detected through correlations analysis further, and to test the hypothesised research model specified in Chapter 3, structural equation modelling (SEM) is performed. In the following section, the hypotheses to be tested are formulated first.

6.6 HYPOTHESES TESTING

The null and alternative hypotheses of this study are formulated as follows:

H₀₁: Electronic banking service quality does not influence customer value.

H_{a1}: Electronic banking service quality positively influences customer value.

H₀₂: Electronic banking service quality does not influence customer satisfaction.

H_{a2}: Electronic banking service quality positively influences customer satisfaction.

H₀₃: Electronic banking service quality does not influence customer loyalty.

H_{a3}: Electronic banking service quality positively influences customer loyalty.

H₀₄: Customer value does not influence customer satisfaction.

H_{a4}: Customer value positively influences customer satisfaction.

H₀₅: Customer value does not influence customer loyalty.

H_{a5}: Customer value positively influences customer loyalty.

H₀₆: Customer satisfaction does not influence customer loyalty.

H_{a6}: Customer satisfaction positively influences customer loyalty.

The following section provides a discussion of the structural equation modelling used to further validate the scale and test the hypothesised research model.

6.7 STRUCTURAL EQUATION MODELLING (SEM)

6.7.1 Measurement model specification

In line with the hypothesised research model, four constructs are identified in the model, namely (I) electronic banking service quality (EBSQ), (II) customer value, (III) customer satisfaction and (IV) customer loyalty. Based on the EFA and correlations analysis the electronic banking service quality comprised eight latent factors referred to as dimensions. Following the advice of Malhotra (2010:729) and Hair *et al.* (2010:656) the measurement model was specified and identified, and the measured indicator items were assigned to latent constructs. EBSQ with eight factors collectively comprised 31 items, five items for customer value, four items for customer satisfaction and five items for customer loyalty. Figure 6.1 depicts the hypothesised specified measurement model.

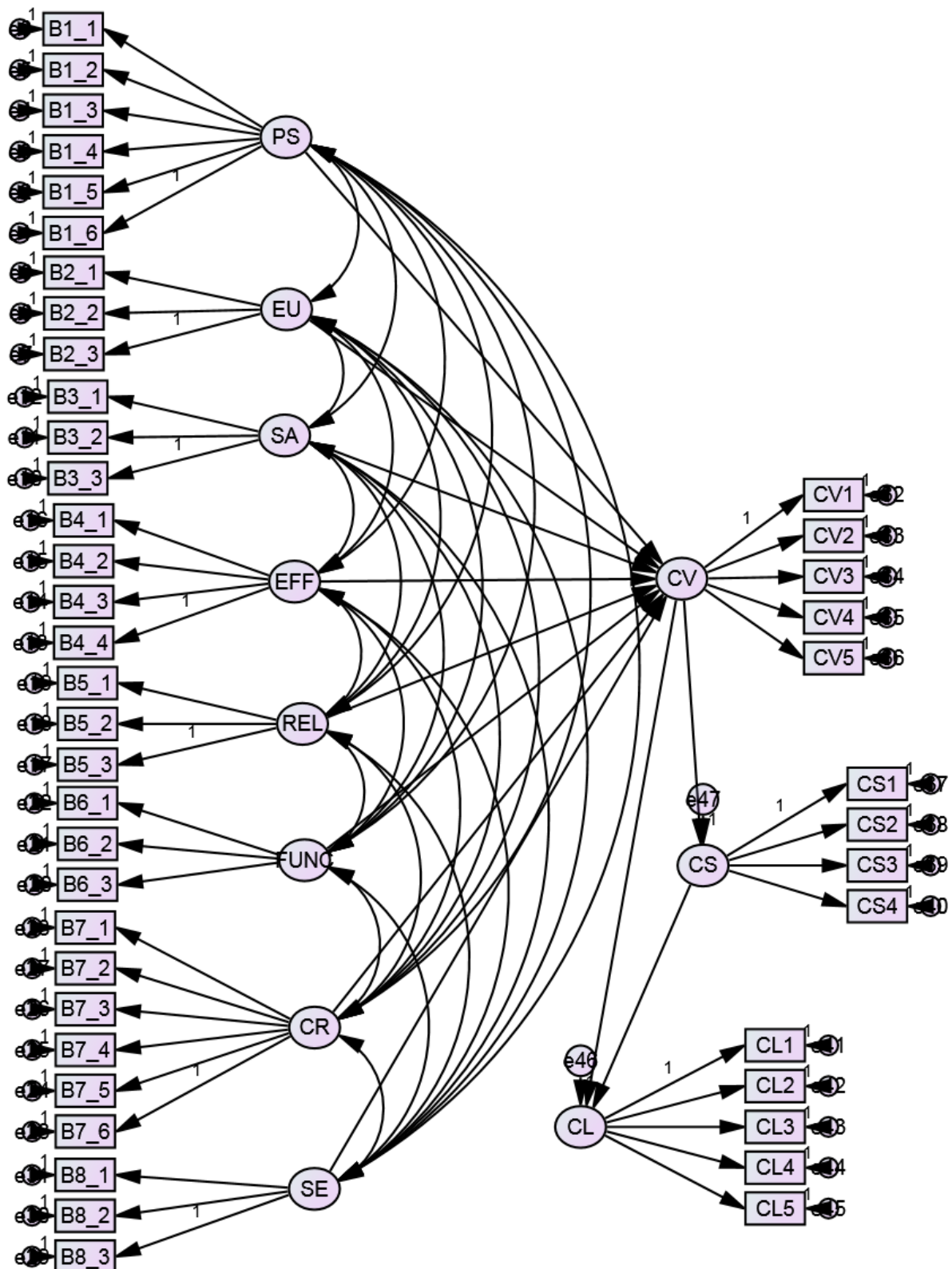


Figure 6.1: Specified measurement model

The reliability and validity measures applicable to SEM are discussed in the following section.

6.7.2 Reliability and validity of the measurement model

The primary objective of this study was to develop and validate a measuring scale for electronic banking service quality in South Africa. Hence, reliability and validity of the scale are absolute significance to this research. Composite reliability (CR), average variance extracted (AVE) and the correlation coefficients were computed to determine the reliability and validity of the scale. The CR similar to the Cronbach alpha reliability is set 0.700 for a good reliability of a scale. The CR results were above the cut off 0.700 level, suggesting a good internal consistency of the scale. It must be borne in mind that the Cronbach alpha reliability, of the all the factors extracted that constituted the scale, were above 0.8 portraying very good reliability (Hair *et al.*, 2010:166) (Section 6.5).

In terms of validity, the AVE above 0.50 indicating evidence of discriminant validity of the scale (Malhotra, 2010:734). In addition, an average inter-item correlation of the scale fell within the 0.15 and 0.50 range suggesting convergent and discriminant validity (Clark & Watson, 1995:316) (Section 6.2). Most factor loadings of the items had absolute value scores >0.5 with exception of only two items (item B1.5 and item CL3) out of 45 indicating convergent validity (Section 6.5).

6.7.3 Assessment of goodness-of-fit indices

Four competing models were identified in order to test the hypothesised research model. Table 6.13 reports on the goodness-of-fit indices obtained by the four models. Structural Model A is a three-construct model that included electronic banking service quality, customer value and customer loyalty. Similarly, Structural Model B is also a three-construct model that included electronic banking service quality, customer satisfaction and customer loyalty. However, Structural Model C and D are models that included four of the constructs of this study, namely electronic banking service quality, customer value, customer satisfaction and customer loyalty.

Table 6.13: Goodness-of-fit indices for the competing models

Indices	Acceptable level	Structural Model A	Structural Model B	Structural Model C	Structural Model D
χ^2/df	≤ 5	3.027	2.833	2.786	2.775
IFI	≥ 0.90	0.899	0.918	0.903	0.903
TLI	≥ 0.90	0.882	0.903	0.889	0.890
CFI	≥ 0.90	0.898	0.917	0.903	0.903
RMSEA	< 0.08	0.081	0.077	0.076	0.076

The chi-square test (χ^2) is viewed as an overly strict indicator of model fit, given its power to detect even trivial deviations from the proposed model (Hancock & Mueller, 2010). Mueller (1996) suggested that the chi-square test statistic be divided by degrees of freedom where an acceptable level is observed at <3 . Interpretation of the size of this value depends largely on the viewpoint of the investigator, but in practice, some interpret ratios as high as three, four or even five as still representing a good model fit (Mueller, 1996). All the competing models exhibited good model fit with regard to the chi-square test.

The indices used to assess the goodness-of-fit of the structural models include incremental fit index (IFI), Tucker Lewis index (TLI) and comparative fit index (CFI). Indices values closer to one indicate a perfect fit and those closer to zero represent no fit (Malhotra, 2010:731-733; Hair *et al.*, 2010:665-672). With regard to root mean square error of approximation (RMSEA), there is a good model fit if RMSEA is less than or equal to 0.05 and an adequate fit if RMSEA is less than or equal to 0.08 (Blunch, 2008). Blunch (2008) is of the view that models with RMSEA values of 0.10 and larger should not be accepted.

Overall, Structural Model A exhibited poor goodness-of-fit indices while Structural Model B produced a much improved and acceptable indices in all respects. However, the limitation with this model (Structural Model B) is that it only included three of the four constructs. Of the remaining two Structural Models (C and D) that included four of the hypothesised research model, Structural Model D provides better fit producing overall acceptable fit indices with the exception of Tucker Lewis index (TLI) missing the threshold with 0.010. On a scale of zero being no fit and one being perfect fit, Model D is still an acceptable model fit for the dataset and for purposes of testing the hypothesised research model.

In the following section, analyses of the percentage of mediation effect and standardised regression weights are used to test the hypothesised research model.

6.7.4 Structural model and mediation effects

Figure 6.2 presents Structural Model A. It depicts the regression path estimates (coefficients) for Structural Model A. Electronic banking service quality ($p=0.000<0.05$) has a significant positive influence on customer value and on customer loyalty and customer value in return has positive effect on customer loyalty. In this three-construct model, the mediating effect of customer value on customer loyalty was calculated to be 27.86 percent.

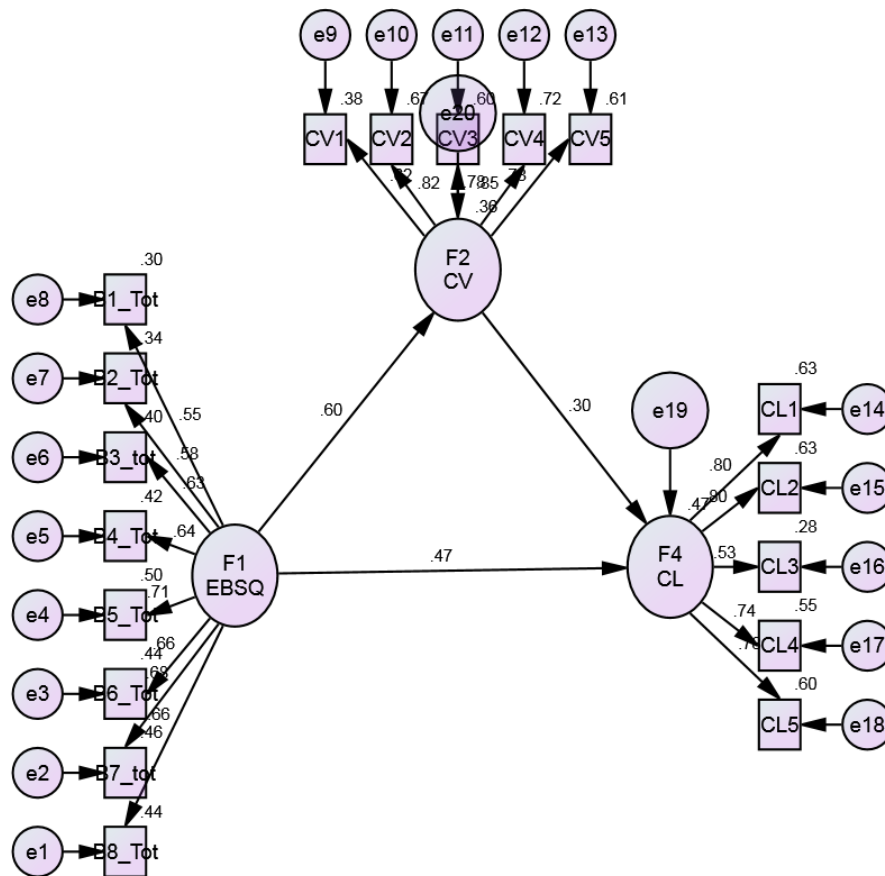


Figure 6.2: Structural Model A

Table 6.14 provides a standardised regression weights among the three constructs identified in Structural Model A. The causal effects are read in the direction of the arrows. The results indicate there is statistically significant relationship between EBSQ and customer value (0.909) at $p < 0.05$ level. Similarly, the results indicate there is a statistically significant relationship between EBSQ and customer loyalty (0.729) at $p < 0.05$ level. Furthermore, customer value appears to statistically influence customer loyalty to a lesser degree (0.310) at $p < 0.05$ level.

Table 6.14: Standardised regression weights: EBSQ, CV and CL for Model A

Constructs			Standardised regression weights	p-value
CV	<---	EBSQ	0.909	***
CL	<---	EBSQ	0.729	***
CL	<---	CV	0.310	***
***Significant at $p < 0.05$ level				

Figure 6.3 depicts the regression path estimates (coefficients) for Structural Model B. Electronic banking service quality ($p=0.000<0.05$) has a significant positive influence on customer satisfaction and on customer loyalty and customer satisfaction in return has significant positive effect on customer loyalty. In this three-construct model, the mediating effect of customer satisfaction on customer loyalty is estimated to be 58.05 percent much higher than the percentage of mediation effect of customer value on customer loyalty.

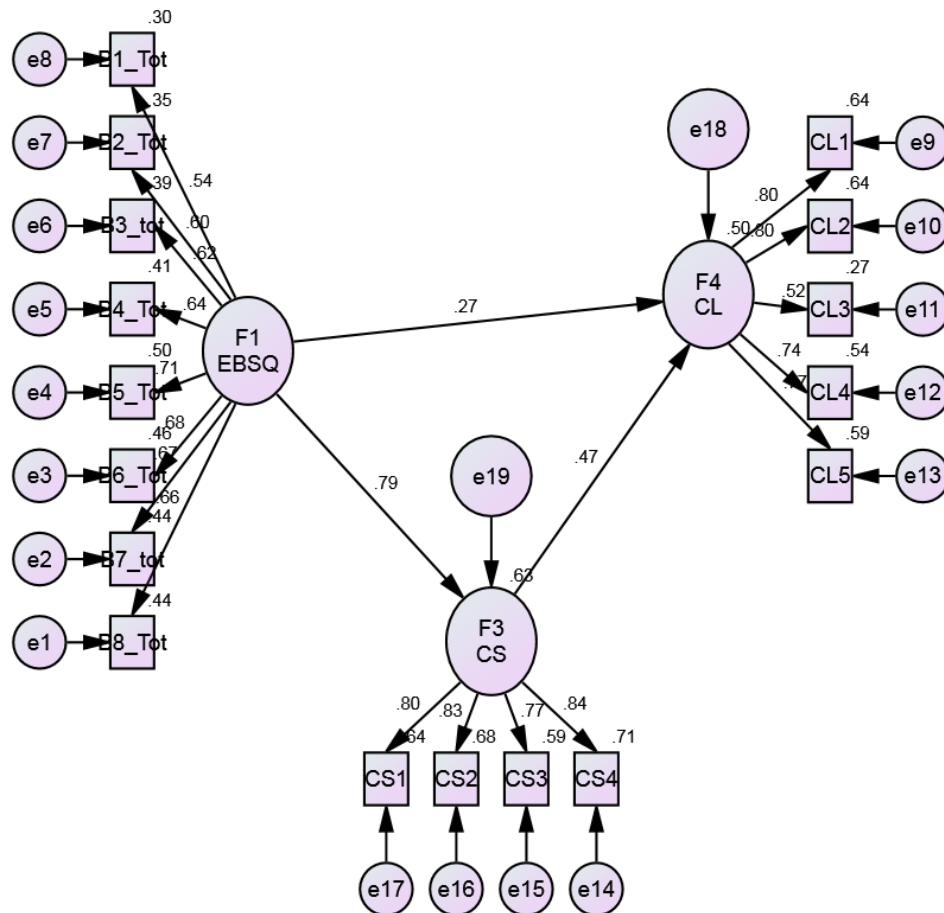


Figure 6.3: Structural Model B

Table 6.15 shows a standardised regression weights among the three constructs identified Structural Model B. The results in this structural model indicate that there are statistically significant relationship between EBSQ and CS, and between customer satisfaction and customer loyalty while insignificant relationship is observed between EBSQ and customer loyalty.

Table 6.15: Standardised regression weights: EBSQ, CS and CL for Model B

Constructs			Standardised regression weights	p-value
CS	<---	EBSQ	1.17	***
CL	<---	EBSQ	0.432	0.01
CL	<---	CS	0.512	***
***Significant at p < 0.05 level				

Figure 6.4 depicts the regression path estimates (coefficients) for Structural Model C where the two constructs (customer satisfaction and customer loyalty) play a mediating role together. The regression path estimates suggest that electronic banking service quality yields positive effect on three of the constructs namely customer value, customer satisfaction and customer loyalty. However, the regression path estimate of customer value on customer loyalty is reduced by two thirds of its original effect without the intervention of customer satisfaction (refer to Structural Model A), while customer satisfaction appears to maintain its moderate positive effect on customer loyalty. In this four-construct model, the combined mediating effect of customer value and customer satisfaction on customer loyalty is estimated to be 60.16 percent, where once again a diminished effect is observed with regard to the influence of customer value on customer loyalty.

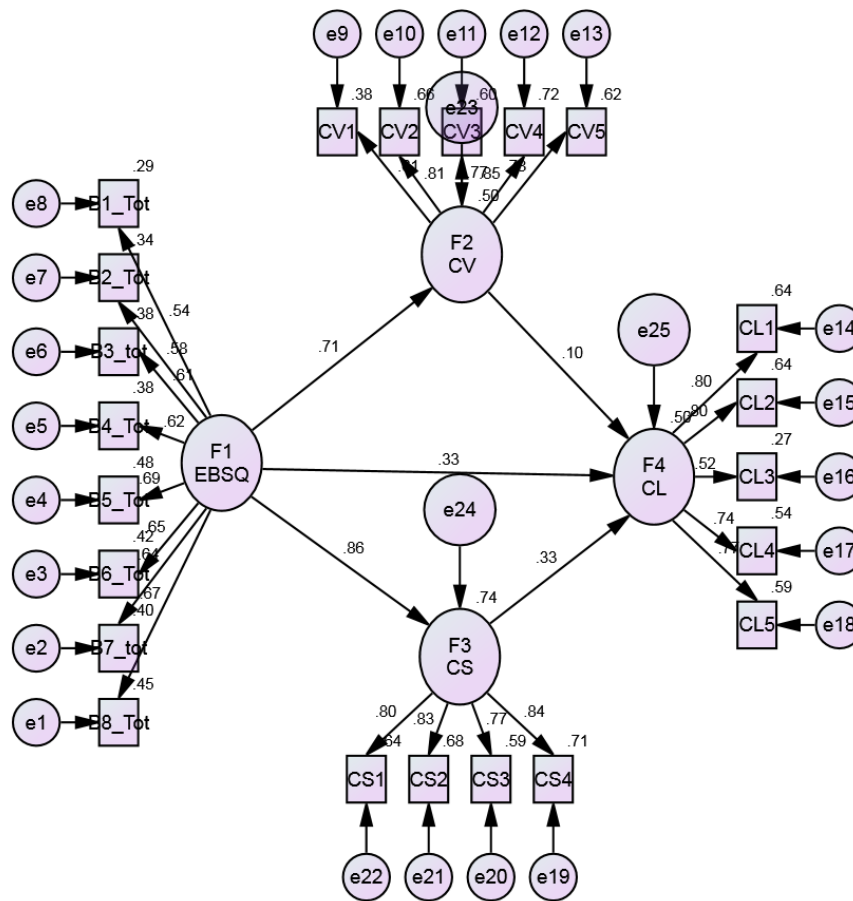


Figure 6.4: Structural Model C

Table 6.16 provides a standardised regression weights among the three constructs identified in Structural Model C. Read in the direction of the arrows, the causal effect suggest that EBSQ positively influences customer value (0.601) at $p < 0.05$ level; EBSQ positively influences customer satisfaction (0.455) at $p < 0.05$ level; customer value positively influences customer satisfaction (0.560) at $p < 0.05$ level. However, the relation between EBSQ and customer loyalty, and the relationship between customer satisfaction and customer loyalty were found not to be significant at $p < .05$ level.

Table 6.16: Standardised regression weights: EBSQ, CV, CS, CL for Model C

Constructs			Standardised regression weights	p-value
CV	<---	EBSQ	0.601	***
CS	<---	EBSQ	0.455	***
CS	<---	CV	0.560	***
CL	<---	EBSQ	0.285	0.009
L	<---	CS	0.080	0.492
***Significant at p < 0.05 level				

Figure 6.5 exhibits the regression path estimates (coefficients) the fourth competing Structural Model (D). It shows a four-construct model where the direct effect of customer value on customer loyalty is removed. The direct effect of customer value on customer loyalty was removed in light of the diminished mediation effect observed in Structural Model C. Moreover, Structural Model D did exhibit a better-fit indices compared to Structural Model C (§6.8.3). The regression path estimates suggest that electronic banking service quality yields positive effect on three of the constructs namely customer value, customer satisfaction and customer loyalty. Furthermore, the regression path estimates indicate that customer value in return has a positive effect on customer satisfaction but not on customer loyalty. Customer satisfaction, in return, is indicated to have a positive effect on customer loyalty.

The four-construct Structural Model D indicates that the model fits well in representing the dataset. Therefore, Structural Model (D) was identified and proposed yielding a better fit for the hypothesised research model.

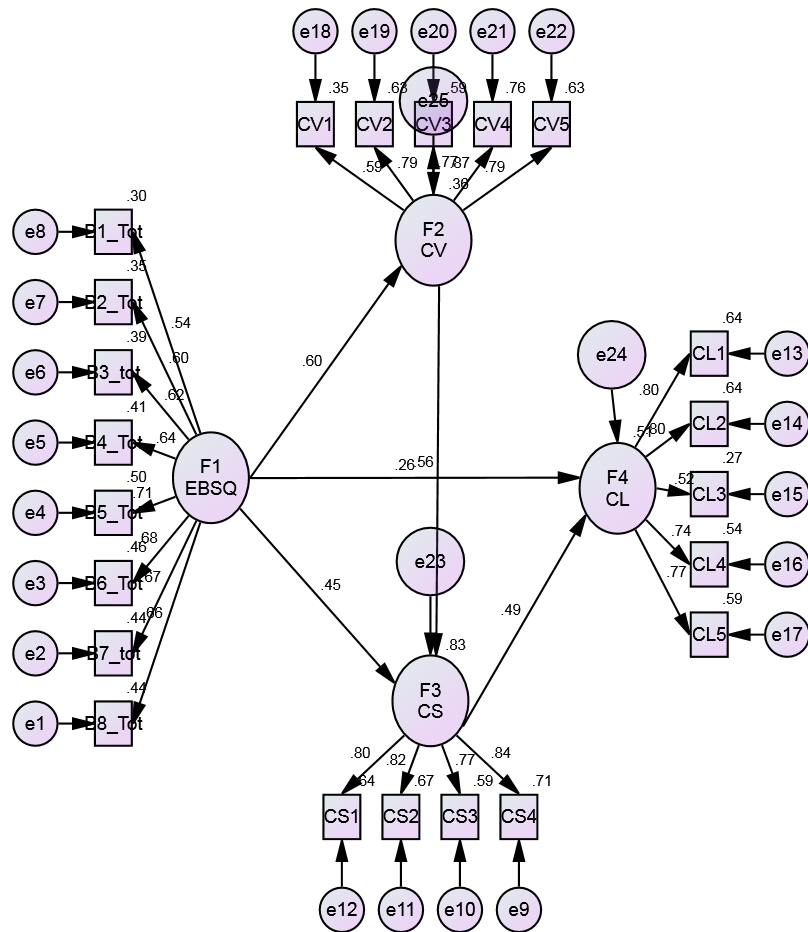


Figure 6.5: Structural Model D

Table 6.17 illustrates a standardised regression weights among the three constructs identified in Structural Model D.

Table 6.17: Standardised regression weights: EBSQ, CV, CS, CL for Model D

Constructs			Standardised regression weights	p-value
CV	<---	EBSQ	0.936	***
CS	<---	EBSQ	0.668	***
CS	<---	CV	0.534	***
CL	<---	EBSQ	0.410	0.011
CL	<---	CS	0.529	***
***Significant at p < 0.05 level				

The causal effects read in the direction of arrows suggest that EBSQ positively influence customer value significantly (0.936) at p<0.05 level; EBSQ positively influence customer satisfaction significantly (0.668) at p<0.05 level; customer value positively influence customer

satisfaction significantly (0.534) at $p < 0.05$ level; customer satisfaction positively influences customer loyalty significantly (0.529) at $p < 0.05$ level. However, the relationship between EBSQ and customer loyalty (0.410) was not significant at $p < 0.05$ level. Based on the analyses of the standardised regression and percentage of mediation effect, the null hypotheses are rejected. Alternative hypotheses H_{a1} , H_{a2} , H_{a3} , H_{a4} and H_{a6} are accepted. The alternative hypothesis (H_{a5}) could not be rejected because the construct customer value did indicate a positive influence on customer value with a minimal mediation effect.

6.8 SYNOPSIS

The objective of this chapter was to report on the empirical findings of the study. The analyses and interpretation of the findings were presented such that the empirical objectives of the study were achieved. The chapter presented the results of the pilot study as an initial purification process of the scale highlighting the reliability and validity of the scale. The chapter then provided preliminary analyses including descriptive statistics and description of the demographic characteristics of the sample used in the study.

Using an exploratory factor analysis, eight determinant dimensions were extracted that constitute electronic banking service quality (EBSQ). These dimensions in accordance of their importance are reliability, system availability, privacy and security, website aesthetics, ease of use, functionality, efficiency, and contact and responsiveness. The Pearson's correlation coefficient between each of the eight dimensions and EBSQ were above 0.6 at $p < 0.01$ level of significance showing practical significance. Similarly, The Pearson's correlation coefficient among the four constructs, namely EBSQ, customer value, customer satisfaction and customer loyalty, revealed that there are positive linear correlations among these constructs. T-test statistics and non-parametric correlations were computed to determine the influence of demographic variables such as gender, age, education and income on the perceptions of customers of electronic banking service quality dimensions, electronic banking service quality as a whole, customer value, customer satisfaction and customer loyalty.

A structural equation modelling (SEM) was performed to further assess the causal effect of the relationships detected through correlations analysis and to test the hypothesised research model. Cronbach alpha and composite reliability (CR), tools for assessing the reliability of scales, were used to establish the reliability of the scale. Furthermore, various validity measures including convergent, discriminant, and nomological validities portrayed very good results. Ultimately, a four-construct Structural Model (D) was identified and proposed as yielding a better fit for the hypothesised research model.

The final chapter presents (I) a synthesis of the findings of this chapter, (II) an assessment of the research objectives set out in Chapter 1 and the hypothesised research model (literature

chapters), (III) highlights of the main contribution of the study, (IV) enumeration of a number of managerial implications and recommendations, (V) an indication of the limitations of this research and points towards future research opportunities, and it concludes with (VI) the reflection of the research journey.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter provides an overview of the study, and an assessment and attainment of the theoretical research objectives in perspective. This is followed by a summary of the main findings of the study addressing the empirical objectives and highlight of the contribution of this research endeavour. Thereafter, the chapter puts forward recommendations emanating from the findings of the research. The chapter then discusses the limitations of the study and proposes future research endeavours. The chapter ends with concluding remarks and reflection of the research journey.

7.2 OVERVIEW OF THE STUDY

As elaborated in Chapter 1, due to technological advancements and innovation, electronic banking has gained importance as an alternative means of providing services to customers. In search of competitive advantages, banks in particular have focused on shifting their delivery towards self-service channels such as Internet banking, telephone banking and ATMs. Chapter 1 provided a background to the study and formulated the problem statement (§1.5). The need to develop and validate a measuring scale for electronic banking service quality in South Africa was stated and motivated. In line with stated problem, the primary objective (§1.6.1) and the theoretical objectives (§1.6.2) of the study were formulated. To support the primary and theoretical objectives, eight empirical objectives (§1.6.3) with corresponding key research questions (§1.7) were developed.

The primary objective of this study was to develop and validate a scale for the measurement and management of electronic banking service quality for the banking sector in South Africa. In order to achieve the primary objective, the following theoretical objectives were formulated and examined in the literature:

- I. To provide an industry profile of the banking sector
- II. To review the literature on service marketing
- III. To review the literature on service quality scales of traditional 'brick and mortar' firms
- IV. To critically study and review the literature service quality scales of electronic services in general and banking services in particular
- V. To review the literature on the relationships amongst service quality, customer satisfaction, customer value and customer loyalty.

Chapter 2 aimed to achieve **theoretical objectives I, II and III** as set out in Chapter 1. The chapter commenced with an industry profile of the banking sector (theoretical objective I) in Section 2.2. A review of the literature on the general overview of financial system with specific focus on the role and function of the banking sector in the economy as well as the structure of the banking sector were discussed to provide an insight into the banking industry (§2.3, 2.4 and 2.5). Market trends in the industry (§2.6) and the importance of technology in bank offering (§2.7) were highlighted. Thereafter, the chapter reviewed the literature on service marketing with regard to the definition and unique characteristics of services (theoretical objective II). The conceptualisation and measurement of service quality has drawn heated debates among several researchers and practitioners over the past few decades. The chapter subsequently ended with a critical review of the literature on service quality of traditional 'brick and mortar' firms (theoretical objectives III). Select models of service quality that have wider use and acceptance among marketing scholars and practitioners were critically analysed.

Similarly, the purpose of Chapter 3 was to achieve **theoretical objectives IV and V**. As indicated previously, the primary objective of this research was to develop and validate a scale of electronic banking service quality for the banking sector in South Africa. Therefore, the focus of Chapter 3 was critically to study and review the extant literature on electronic service quality in general and service quality of electronic banking in particular (theoretical objective IV) in Section 3.2 and 3.3. This chapter also presented a review of the literature on the research constructs of this study, namely electronic banking service quality (§3.3), customer value (§3.4), customer satisfaction (§3.5) and customer loyalty (§3.6). Furthermore, the chapter presented detailed literature analyses on the theory of the relationships amongst the four constructs of the study (theoretical objective V). The literature suggests that electronic service quality in general, and electronic banking service quality in particular, is a multidimensional construct. Various studies that developed scales measuring electronic banking service quality have proposed different sets of determinant dimensions. With regard to the relationships amongst the four constructs, namely electronic service quality, customer value, customer satisfaction and customer loyalty the extant literature is not clear on the relationships, especially with regard to the effect and influence of customer value. Customer satisfaction, however, has been found a predictor and influencer of customer loyalty.

Chapter 4 outlined and described the research design and methodology followed in gathering and analysing the data for the empirical portion of this study. The chapter provided discussions, arguments and justifications of the research approach, the sampling design process and the instrument used in the collection and analyses of the data. The study applied a two-phase design in conducting the research in an effort of enhancing and maximising the outcome of this research endeavour. Phase I of this study comprised a literature review and focus group interviews (qualitative research). The purposes of the literature study and focus group interviews

were to generate initial and original items for the development of the scale respectively. Phase II employed quantitative research. The purpose of the quantitative study was to further purify and validate a scale through various interactive quantitative statistics.

Chapter 5 reported on the analysis and interpretation of the qualitative part of the study, and the development of the scale. The chapter discussed the thematic evidence and tabulation scores of the focus group interviews. Thereafter, the chapter presented the actual development of items for the scale through a synthesis of initial items from the literature and original items from the focus group interviews. The chapter concluded with a description of the layout of the final scale.

Chapter 6 provided a report on the analysis and interpretation of empirical results of the study (quantitative analysis). The main findings of this study are summarised in the following section and are arranged in accordance with the empirical objectives formulated in Chapter 1 (§1.6.3)

7.3 MAIN FINDINGS OF THE STUDY

The following empirical objectives were formulated to support the primary of this study.

I) To identify the service quality dimensions that influence electronic banking services in the banking sector

This objective was achieved in Section 6.5.1. Exploratory factor analysis (EFA) was performed to identify the dimensions that influence electronic banking service quality. Eight dimensions were extracted as determinants that influence electronic banking services. The eight dimensions of that constitute electronic banking service quality are reliability, system availability, privacy and security, website aesthetics, ease of use, functionality, efficiency, and contact and responsiveness. The structural equation modelling (§6.8) further confirmed that electronic banking service quality is indeed a multidimensional construct.

II) To determine the relative importance of each dimension of electronic banking service quality as perceived by banking clients

The relative importance of the dimensions of electronic banking services was determined by computing the mean scores of each of the extracted dimensions (§6.5.1.2). These dimensions in accordance of their importance are reliability, system availability, privacy and security, website aesthetics, ease of use, functionality, efficiency, and contact and responsiveness. Reliability was rated the most important dimension. Overall, the higher means, more than median of the scale (>3.5), were observed throughout the dimensions. This is indicative of the positive perception hold by customers towards electronic banking services.

III) To determine the relationship between electronic banking service quality and customer value

This objective was achieved in Section 6.7.3 and 6.8.4 through correlations analysis and structural equation modelling respectively. The Pearson's correlation coefficient between EBSQ and customer value was $r=0.509$ at $p<0.01$ level of significance suggesting strong positive linear correlation between the constructs. Results of the regression path estimates (coefficients), the mediation analysis and standard regression weights indicated that the electronic banking service quality positively influences customer value. The alternative hypothesis (H_{a1}) relating to this relationship was therefore accepted.

IV) To determine the relationship between electronic banking service quality and customer satisfaction

This objective was achieved in Section 6.7.4 and 6.8.4 through correlations analysis and structural equation modelling respectively. A strong positive linear association was observed between EBSQ as a construct and customer satisfaction ($r=0.665$ at $p<0.01$ level of significance). Results of the regression path estimates (coefficients), the mediation analysis and standard regression weights indicated that the electronic banking service quality positively influences customer satisfaction. The alternative hypothesis (H_{a2}) relating to this relationship was therefore accepted.

V) To determine the relationship between electronic banking service quality and customer loyalty towards electronic banking services

This objective was achieved in Section 6.7.5 and 6.8.4 through correlations analysis and structural equation modelling respectively. The Pearson's correlation coefficient between EBSQ and customer loyalty was $r=0.521$ at $p<0.01$ level of significance indicating practical significance. Results of the regression path estimates (coefficients), the mediation analysis and standard regression weights indicated that the electronic banking service quality positively influences customer loyalty. The alternative hypothesis (H_{a3}) relating to this relationship was therefore accepted.

VI) To determine the relationship between customer value of electronic banking services and customer satisfaction

This objective was achieved in Section 6.7.6 and 6.8.4 through correlations analysis and structural equation modelling respectively. The Pearson's correlation coefficient between customer value and customer satisfaction was $r=0.771$ at $p<0.01$ level of significance indicating practical significance. Results of the regression path estimates (coefficients), the mediation

analysis and standard regression weights indicated that customer value positively influences customer satisfaction. The alternative hypothesis (H_{a4}) relating to this relationship was therefore accepted.

VII) To determine the relationship between customer value of electronic banking services and customer loyalty

This objective was achieved in Section 6.7.7 and 6.8.4 through correlations analysis and structural equation modelling respectively. The Pearson's correlation coefficient between customer value and customer loyalty was $r=0.470$ at $p<0.01$ level of significance also indicating moderate significance. The regression path estimate of customer value on customer loyalty was reduced by 2/3 of its original effect without the intervention of customer satisfaction (refer to Structural Model A) (§6.8.4). Moreover, the mediation effect of customer value on customer loyalty was moderate (27.86%) in the three construct model. However, the mediation effect of customer value on customer loyalty was diminished in the four construct model resulting inconclusive causal relationship between these constructs (§6.8.4). The alternative hypothesis (H_{a5}) relating to this relationship could not be rejected.

VIII) To determine the relationship between customer satisfaction and loyalty towards electronic banking services

This objective was achieved in Section 6.7.8 and 6.8.4 through correlations analysis and structural equation modelling respectively. A strong and positive correlation was indicated between customer satisfaction and customer loyalty. Results of the regression path estimates (coefficients), the mediation analysis and standard regression weights indicated that customer satisfaction positively influences customer loyalty. The alternative hypothesis (H_{a6}) relating to this relationship was therefore accepted.

7.4 CONTRIBUTION OF THE STUDY

Employing comprehensive and best practice (inductive and deductive research methods), a measuring scale has been developed and validated for the South African banking sector (primary objective of this study). The purification and validation of the scale involved rigorous statistical methods including exploratory factor analysis followed by confirmatory factor analysis through structural equation modelling (SEM) to ensure the reliability, validity and robustness of the scale. Moreover, the study endeavoured to contribute to the theoretical conceptualisation of electronic banking service quality (EBSQ) which is a relatively new concept in South Africa and indeed globally. Eight dimensions of EBSQ have been identified and operational definition provided for. The dimensions identified in this research can be used to better understand EBSQ, and to measure and improve service quality levels in the banking sector.

Figure 7.1 illustrates modelling of electronic banking service quality (EBSQ). Ultimately, a model has been proposed (Figure 7.1), providing South African banks with an instrument to measure, manage and improve their electronic banking service quality. The model has established the building blocks of electronic banking service quality by identifying the main dimensions or attributes of electronic banking service quality that can be used to improve service quality levels. Furthermore, the study determined the causal relationships among four constructs, namely (I) electronic banking service quality (EBSQ), (II) customer value, (III) customer satisfaction and (IV) customer loyalty through regression path estimates (coefficients), mediation analysis and standardised regression weights. This will help banks to create value for customer via electronic banking service, which will ultimately satisfy customers. Satisfied customers are more likely to become loyal customer providing an enormous profit potential for the banks.

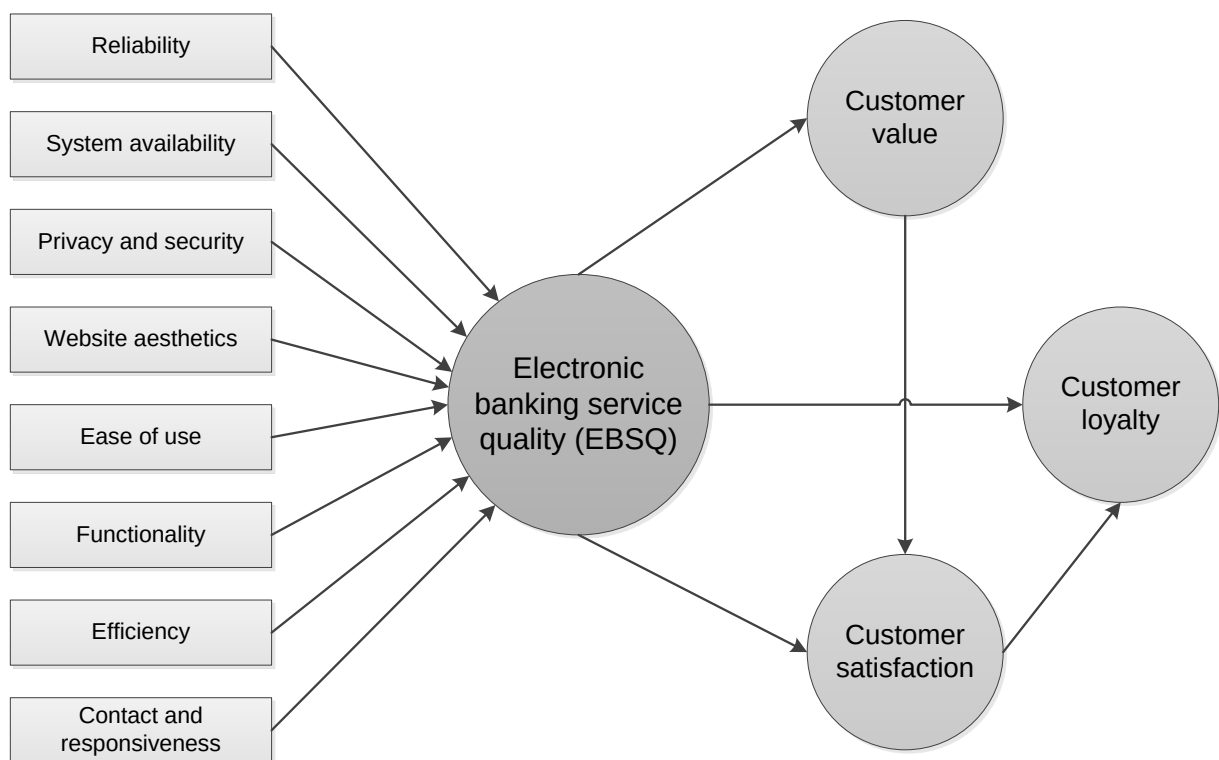


Figure 7.1: Modelling of electronic banking service quality (EBSQ)

7.5 RECOMMENDATIONS

There is no doubt that an increased use of electronic banking services will be beneficial to the service providers (banks) and customers. The banks will be able to reduce expenditure in establishing more 'brick and mortar' branches while customer are able to conduct their banking from the comfort of their homes.

In light of the findings of this research, the following managerial implications and recommendations are offered. The research revealed that reliability, privacy and security are the

top concerns customers have with regard to electronic banking. Therefore, it is recommended that banks invest in the robustness of the websites for banking transactions by using cutting-edge technology to protect their customers from illicit criminal activity, as security and trust are of crucial importance to customers when engaging in online transactions.

One of the main reasons customers opt to use electronic banking is because of its efficiency. To enhance this attribute of electronic banking, it is recommended that banks should ensure that:

- The service delivered through the bank's website is quick to access for transactions from any location and at any time
- The bank's website loads fast all the time
- The bank's website does not freeze during a transaction.

With regard to contact, responsiveness and system availability, it is recommended that banks attend to the following practical every day issues:

- Repairing a breakdown on the website quickly as and when it occurs
- Promptly resolving serious problems that customer encounter with regard to electronic transactions
- Providing prompt feedback to customer requests by e-mail or other means
- Improving and closely managing customer complaints.

In relation to ease of use, functionality and website aesthetics of electronic banking services, banks are recommended to organise and structure their websites in such a way that it is easy to follow the instructions on the various types of transactions customers may need to make. The different options customers would like could be set up in a drop-down menu that accommodates the varied needs of the customers. Introducing more of the official languages for using electronic banking services can also enhance the ease of use of electronic banking.

It must be emphasised that satisfying customers is a 'must achieve' objective for any bank that wishes to remain profitable and relevant in the competitive banking sector. This must be done by providing quality services that create value for customers. Achieving loyal customers who will patronise and associate themselves with the bank is of particular significance for market growth and success. In view of the relationship of electronic banking service quality dimensions with customer value, satisfaction and loyalty, focus must be placed on the individual building blocks of service quality, *inter alia* the factors that influence electronic banking service quality. Periodic measurement of the levels of electronic banking service quality through valid and reliable scale should become an integral part of any bank's effort and strategy in improving service quality levels.

7.6 LIMITATIONS AND FUTURE RESEARCH ENDEAVOURS

Like all academic studies, this research endeavour also has its own limitation. The findings of this research should be interpreted in the light of the following limitations since these limitations could suggest new direction for future research. The sample size (310) used in this research is consistent with previously developed and validated scales and sufficiently meets the requirements of sample adequacy for the study of this nature. Using the scale developed in this study, future research endeavours are recommended to use a bigger sample size to test the robustness of this scale, and obtain more exact and organisation-specific customer perceptions of electronic banking services. It may be worthwhile for future studies to consider developing a measuring instrument from a different perspective that is from other customer groups, namely, internal customers (employees) of the banks. Similar studies could be replicated in ATM banking and Mobile banking.

7.7 CONCLUDING REMARKS AND REFLECTION

Owing to the unique characteristics of services, namely intangibility, heterogeneity, inseparability, perishability and lack of ownership, the conceptualisation and measurement of service quality has proved to be elusive and difficult. There is increasing evidence of variation in the outcomes of studies on the dimensionality of electronic banking service quality in other parts of the world. Several studies have attempted to develop specific measurement scales for electronic service quality, but the task is neither simple nor straightforward (Ladhari, 2010:465). The consensus regarding electronic scale development is that it requires scale development that extends beyond merely adapting offline scales (Parasuraman *et al.*, 2005). Hence, the primary purpose of this research endeavour was to develop and validate a scale that can be used to measure and manage electronic banking service quality for the banking sector in South Africa.

In this research journey, through an intricate process of the literature analysis (inductive analysis), focus group interviews (deductive analysis) and interactive and rigorous statistical applications such as EFA and SEM, a measuring scale has been developed and validated for the South African banking sector. A comprehensive model has been proposed providing South African banks with an instrument to measure, manage and improve their electronic banking service quality. The model has determined the causal relationships among four constructs, namely (I) electronic banking service quality (EBSQ), (II) customer value, (III) customer satisfaction, and (IV) customer loyalty. Understanding the intricate relationships among these constructs will definitely enhance the banks' approach to customer relationship management (CRM) in this digital era in their quest to provide quality services and devise appropriate customer service solutions.

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ANNEXURE A **INSTRUCTIONAL QUESTIONS TO FACILITATE FOCUS GROUP** **INTERVIEWS**

I am currently undertaking research regarding service quality of electronic banking. Based on your experiences as a consumer of Internet banking services, I would appreciate if you could spare a few minutes of your time to participate in this research.

ELECTRONIC BANKING SERVICE QUALITY (EBSQ)

Think of the service you receive when you use Internet banking and answer the following questions:	
1.	Why do you use Internet banking?
2.	What are the things you like about Internet banking?
3.	What are the concerns you have about Internet banking?
4.	Do you think it adds value to use Internet banking? How?
5.	Does Internet banking meet your expectation? Please describe your satisfaction level?
6.	Would you continue to use Internet banking?
6.1	Would you recommend Internet banking to family and friends?
7.	What improvement do you want to see regarding Internet banking?

ANNEXURE B

QUESTIONNAIRE



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
VAAL TRIANGLE CAMPUS

ELECTRONIC BANKING SERVICES IN SOUTH AFRICA: SERVICE QUALITY SCALE DEVELOPMENT AND VALIDATION

My name is Ephrem Habtemichael Redda. I am currently working towards my thesis under the supervision of Prof Surujlal and Dr Leendertz as part of the requirements for completing my PhD in Marketing Management at the North-West University (Vaal Triangle Campus).

The purpose of the research is to develop and validate a scale for the measurement and management of electronic banking service quality for the banking sector in South Africa.

Based on your experiences as a consumer of Internet banking services, I would appreciate if you could spare a few minutes of your time to take part in this research. The questionnaire is user-friendly and should take approximately 15 minutes to complete. All responses are confidential and the results will only be used for research purposes, outlined in the form of statistical data.

Thank you most sincerely. Your assistance and contribution is highly appreciated.

Ephrem Habtemichael Redda
School of Economics Sciences
North West University (Vaal Triangle Campus)

Section A: Demographical Information.

Please mark the appropriate box with a cross (X) or write down your answer.

A1	Gender	Male (1)	Female (2)			
A2	Age category (years)	Less than 25 (1)	25-34 (2)	35-44 (3)		
		45-54 (4)	55-64 (5)	Over 65 (6)		
A3	Please indicate your level of education?	Matric/ Grade 12(1)	Certificate (2)	Diploma/ Degree (3)	Honours/ Masters/PhD (4)	Other (5)
A4	Please indicate your income category (gross) per year	Less than R250 000 (1)	R250 001-350 000 (2)	R350 001-450 000 (3)		
		R450 001-550 000 (4)	R550 001-650 000 (4)	More than R650 000 (6)		
A5	How often do you use Internet banking?	Never (1)	Sometimes (2)	Often (3)	For most of my banking transactions (4)	

A6	How long have you been using Internet banking?	Less than a year (1)	1-3 years (2)	More than 3 years (3)
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A7	From where do you conduct Internet banking?	Home PC (1)	Work PC (2)	Internet Cafe (3)	Mobile (4)	Other (specify) (5)
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A8	What do you use Internet banking for? You can select more than one option	Account payments (1)	Internal transfers (2)	Loan applications (3)	Investment (4)	Other (specify) (5)
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SECTION B: INTERNET BANKING SERVICE QUALITY ATTRIBUTES

Please indicate the extent to which you disagree/agree with each of the following statements by placing a mark in the appropriate box; 1 being strongly disagree and 6 strongly agree.

	Attributes	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
B1.1	My bank provides financial confidentiality regarding my banking activities	1	2	3	4	5	6
B1.2	My bank keeps my personal information secure	1	2	3	4	5	6
B1.3	My bank does not share my personal information with others	1	2	3	4	5	6
B1.4	It is safe to make transactions on my bank's website	1	2	3	4	5	6
B1.5	My bank's security system for Internet banking is rigorous	1	2	3	4	5	6
B1.6	Overall my bank's website is security conscious	1	2	3	4	5	6
B2.1	It is easy to navigate within my bank's website	1	2	3	4	5	6
B2.2	It is easy to find what I need on my bank's website	1	2	3	4	5	6
B2.3	I am able to complete a transaction with ease	1	2	3	4	5	6
B3.1	My bank's website is always available to conduct my transactions	1	2	3	4	5	6
B3.2	I can do my banking anywhere and anytime	1	2	3	4	5	6
B3.3	I can complete my transactions without the bank's webpage freezing or crashing	1	2	3	4	5	6
B4.1	This bank's website loads its pages fast	1	2	3	4	5	6
B4.2	It is quick to complete a transaction through my bank's website	1	2	3	4	5	6
B4.3	I am able to link to other pages within the bank's website quickly	1	2	3	4	5	6
B4.4	The service delivered through my bank's website is efficient	1	2	3	4	5	6
B5.1	My bank delivers what it promises to do with regard to Internet banking	1	2	3	4	5	6

	Attributes	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
B5.2	My bank's website is reliable to conduct Internet banking transactions	1	2	3	4	5	6
B5.3	My bank keeps accurate records of my Internet banking transactions	1	2	3	4	5	6
B6.1	My banks website has good search functionality	1	2	3	4	5	6
B6.2	The services delivered through my bank`s website addresses my banking needs	1	2	3	4	5	6
B6.3	I use Internet banking for all my banking needs	1	2	3	4	5	6
B7.1	My bank's website provides prompt notification for a transaction	1	2	3	4	5	6
B7.2	My bank promptly resolves problems I encounter with my online transactions	1	2	3	4	5	6
B7.3	My bank repairs a breakdown on the website quickly	1	2	3	4	5	6
B7.4	My bank provides prompt responses to my requests by e-mail or other means	1	2	3	4	5	6
B7.5	My bank's site has customer service representatives available online	1	2	3	4	5	6
B7.6	My bank's website offers the ability to speak to a person if there is a problem regarding Internet banking	1	2	3	4	5	6
B8.1	My bank's website is user friendly	1	2	3	4	5	6
B8.2	The bank`s website has a well organised structure and layout	1	2	3	4	5	6
B8.3	My bank's web design is visually appealing	1	2	3	4	5	6

SECTION D: CUSTOMER SATISFACTION ATTRIBUTES

Please indicate the extent to which you disagree/agree with each of the following statements by placing a mark in the appropriate box; 1 being strongly disagree and 6 strongly agree.

	Attributes	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
CV1	Internet banking charges are reasonable	1	2	3	4	5	6
CV2	Internet banking has good value for money because I do not have to travel	1	2	3	4	5	6
CV3	Internet banking has good value for money because I do not have to queue in the bank	1	2	3	4	5	6
CV4	I receive better value with Internet banking compared to what I had to give up to do my transactions	1	2	3	4	5	6
CV5	The quality of service I receive on Internet banking has better value as opposed to branch banking	1	2	3	4	5	6

SECTION D: CUSTOMER SATISFACTION ATTRIBUTES

Please indicate the extent to which you disagree/agree with each of the following statements by placing a mark in the appropriate box; 1 being strongly disagree and 6 strongly agree.

	Attributes	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
CS1	I am satisfied with the transactions I make through Internet banking	1	2	3	4	5	6
CS2	I am delighted with the service quality of Internet banking	1	2	3	4	5	6
CS3	I am happy to use Internet banking	1	2	3	4	5	6
CS4	I am pleased with my experience of using my bank's Internet banking website	1	2	3	4	5	6

SECTION E: CUSTOMER LOYALTY ATTRIBUTES

Please indicate the extent to which you disagree/agree with each of the following statements by placing a mark in the appropriate box; 1 being strongly disagree and 6 strongly agree.

	Attributes	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
CL1	When it comes to banking, this bank is my first choice	1	2	3	4	5	6
CL2	This bank is my favourite bank	1	2	3	4	5	6
CL3	I will refrain to bank with another bank in the future	1	2	3	4	5	6
CL4	I will do more business with this bank in the future	1	2	3	4	5	6
CL5	I would recommend my friends and family to bank with this bank	1	2	3	4	5	6

Thank you very much for your participation!