

**A model for positive customer citizenship
behaviour in the mobile banking application
environment**

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ABSTRACT

Customer citizenship behaviour concerns the voluntary actions performed by customers that may benefit the organisation and for which customers will receive no formal remuneration in return. Examples of customer citizenship behaviour include recommending the organisation to fellow consumers (advocacy) and helping them in the correct use of the service. Grounded in the social exchange theory, it is presumed that customers perform these types of positive citizenship behaviours in appreciation of the benefits they believe they have received from the organisation.

A further review of customer citizenship behaviour literature revealed that, despite the proliferation of existing studies, the topic had received little attention in the electronic banking environment, and its links to technology adoption models are not known. Extant research tends to focus on understanding models explaining consumer acceptance of information technology, with many professing that customers' beliefs about the benefits of the technology may impact their attitudes, intentions and behaviour. Based on the assumptions of the social exchange theory, this study then considered the possibility that both the principles of the technology adoption models and customer citizenship behaviour may be relevant in the electronic banking environment. Specifically, it is possible that customers with positive beliefs about the electronic banking service may develop positive attitudes and, in the deliberation of the benefits engage in customer citizenship behaviour. These matters required further investigation to advance theory and to benefit the electronic banking environment.

The retail banking industry in South Africa is highly competitive with customers demanding quick and effective services. As such, a dynamic era of technological developments that are irreversibly changing the retail banking landscape has emerged in response to the importance of being relevant and competitive. Retail banks are particularly interested in mobile banking applications (apps), as they offer safe and secure banking services on the go and may contribute to reducing infrastructure costs. Despite these advantages, however, it seems that customers may be reluctant to use mobile banking apps due to a lack of trust or scepticism. Customer citizenship behaviour may present a solution to this problem where current users can teach fellow consumers the correct service usage and perhaps do the marketing on behalf of the bank.

The subsequent literature investigation established that building quality relationships with customers who are users of mobile banking apps could show to be favourable for retail banks. Specifically, customer satisfaction (a backward-looking attitude) and affective commitment (a forward-looking attitude) may contribute to positive customer citizenship behaviour in the form of advocacy and help behaviour. It was further established that the belief factors of the extended UTUAT model as well as competence trust may have a positive and significant impact on the

Abstract

attitudes of existing users of mobile banking apps. Hence, a conceptual model was developed for further investigation.

The research design was descriptive and quantitative. The population was defined as males and females in Gauteng, who were using at least one mobile banking app of one of the five main retail banks in South Africa. Non-probability, judgement sampling was used to select the sampling units (five main retail banks). A sampling quota of 100 respondents (sampling elements) per main retail bank was pre-determined to be approached by convenience. Self-administered questionnaires were emailed to a list of electronic banking users in Gauteng and were also physically distributed among respondents in this province forming part of the target population. A screening question ensured only respondents from the target population would participate in the survey. Previously validated measurement scales were adapted for the questionnaire, and the items were measured on a five-point unlabelled Likert-type scale, based on the level of agreement. The fieldwork delivered a response rate of 12.54%, and a total of 533 completed questionnaires were deemed suitable for further analysis.

To ensure the development of a parsimonious structural model, two measurement models were initially compiled using AMOS 24.0. The first model contained no second-order factors, while the second model included post-usage beliefs (representing all the belief factors investigated) and customer citizenship behaviour (representing advocacy and helping behaviour) as second-order factors. Following an assessment of the results, it was noted that the measurement model that includes the two second-order factors have construct validity and is regarded as superior to the measurement model that excluded the two second-order factors and that presented construct validity problems. Hence, it was concluded that the empirical results showed that post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust. Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour. Rendering the subsequent assessment of the structural model (that included the two second-order factors) it was established that the fit indices indicate an acceptable model for this study. Post-usage beliefs have a positive and significant impact on customer satisfaction. Post-usage beliefs have a positive and significant impact on affective commitment. Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour. Affective commitment has a positive and significant impact on positive customer citizenship behaviour, and customer satisfaction has a positive and significant impact on affective commitment. All research hypotheses formulated were subsequently accepted.

Abstract

The research findings make some important contributions to theory and practice. From a theoretical perspective, the most significant finding is that insight has been gained into the interrelationships between belief factors and attitudes that may contribute to customer citizenship behaviour. Specifically, it seems that within the self-service technology environment, the sequence of positive beliefs of the service, contributing to positive attitudes and that may lead to behaviour, such as the adoption of a service, may also be relevant in the post-consumption stage. However, the difference is that after the service has been consumed and satisfaction and commitment are gained, the behaviour may take the form of citizenship actions, as explained by the social exchange theory. Additionally, the research findings provide strategic direction to the retail banking industry in South Africa that is experiencing slow adoption of their mobile banking apps. Retail banks should focus on the belief factors investigated in this study and ensure their mobile banking service offering is well managed, as it may lead to customer satisfaction and affective commitment, which may result in positive customer citizenship behaviour.

Ultimately the research findings serve as a starting point in understanding the link between technology adoption models and customer citizenship behaviour in the post-usage stage of self-service technologies. Further research is required to expand this model and to gain more insight into the matter. Hence, following an outline of the research limitations, this study concludes with strategic recommendations that may guide further research on this topic.

SAMEVATTING

Klanteburgerskapgedrag is gemoeid met die vrywillige optrede van klante wat die organisasie sou bevoordeel en waarvoor die klante geen formele vergoeding sal ontvang nie. Voorbeelde van klanteburgerskap gedrag sluit die aanbeveling van die organisasie aan mede-klante (promovering) in en om hulle by te staan met die korrekte gebruik van die dienste. Gevestig in die sosiale ruilteorie, word die veronderstelling gemaak dat klante hierdie soorte positiewe klanteburgerskap gedrag uitvoer weens hulle waardering vir die voordele wat hulle oortuig is hulle van die organisasie ontvang het.

Verdere studie van die literatuur oor klanteburgerskapgedrag het onthul dat, ten spyte van die toename in bestaande studies, hierdie onderwerp min aandag ontvang het in die elektroniese bankwese omgewing en is die skakeling met tegnologie-aanvaarding modelle onbekend. Voorafgaande navorsing neig om die modelle te ontleed wat klante aanvaarding van inligtingstegnologie verduidelik, met baie wat voorhou dat klante se oortuiging in die voordele van die tegnologie 'n impak op hulle houdings, intensies en gedrag mag uitoefen. Gegrond op die aannames van die sosiale ruilteorie, het hierdie studie die moontlikheid oorweeg dat beide die beginsels van die tegnologie-aanvaarding modelle en klanteburgerskap gedrag van toepassing in die elektroniese bankwese omgewing mag wees. Spesifiek dat dit moontlik mag wees dat klante met positiewe oortuigings van die elektroniese bankdienste, positiewe houdings mag ontwikkel en, met die voordele daarvan in gedagte, oorgaan tot klanteburgerskap gedrag. Hierdie kwessies het verdere ondersoek geverg om die teorie te bevorder en om die elektroniesebankweseomgewing te bevoordeel.

Die kleinhandelbankwese in Suid-Afrika is hoogs mededingend met klante wat op vinnige en doeltreffende dienste aandring. Insgelyks, het 'n dinamiese era van tegnologiese ontwikkelings aangebreek wat die kleinhandelbankwese onherroeplik verander het in reaksie op die belangrikheid om toepaslik en mededingend te wees. Kleinhandelsbanke toon groot belangstelling in mobielebanktoepassings (toeps), aangesien die toeps veilige en akkurate bankdienste aan rondbewegende klante bied en 'n bydrae mag lewer tot die vermindering in infrastruktuurkoste. Ten spyte van hierdie voordele, wil dit voorkom asof klante traag mag wees om die toeps te gebruik weens 'n gebrek aan vertrouwe of skeptisisme. Klanteburgerskap gedrag mag 'n oplossing vir hierdie probleem bied wanneer huidige gebruikers hulle mede-gebruikers onderrig gee in die korrekte gebruik van die dienste en moontlik bemarking namens die bank doen.

Die gevolglike literatuurondersoek het vasgestel dat die opbou van gehalte verhoudings met klante wat gebruikers van mobiele toeps is, moontlik voordele vir die kleinhandelsbanke kan

Samevatting

inhou. Spesifiek dat klantetevredenheid ('n terugkykende houding) en emosionle toewyding ('n vorentoekykende houding) mag bydra tot positiewe klantburgerskapgedrag in die vorm van promovering en helpende gedrag. Dit was ook vasgestel dat die oortuigingsfaktore van die uitgebreide 'UTAUT'-model sowel as bekwaamheidsvertroue 'n positiewe en noemenswaardige impak op die houdings van bestaande gebruikers van toeps mag uitoefen. Gevolglik is 'n konseptuele model ontwikkel vir verdere ondersoek.

Die navorsingsontwerp was beskryflik en kwantitatief van aard. Die populasie is gedefinieer as mans en vrouens in Gauteng wie van minstens een mobielebanktoep van een van die vyf hoofkleinhandelsbanke in Suid-Afrika gebruik maak. Nie-waarskynlikheidsoordeel steekproefneming is gebruik om die steekproef eenhede (vyf hoofkleinhandelsbanke) te identifiseer. 'n Steekproefkwota van 100 respondente (steekproef elemente) per hoofkleinhandelsbank was vooropgestel om genader te word op die basis van gerief. Self-geadministreerde vraelyste is aan 'n lys van elektroniese bankdienste gebruikers in Gauteng per epos gestuur en was ook met die hand versprei aan respondente in hierdie provinsie wat deel uitmaak van die teikenpopulasie. 'n Uitsif vraag het verseker dat slegs respondente van die teikenpopulasie sou deelneem in die opname. Voorheen bevestigde metingsinstrumente is aangepas vir die vraelyste en die items is gemeet volgens 'n vyf-punt ongemerkte 'Likert'-tipe skaal, volgens die respondente se vlak van ooreenstemming. Die veldwerk het 'n terugvoerkoers van 12.54% gelewer en 'n totaal van 533 voltooide vraelyste is geskik geag vir verdere ontleding.

Om die ontwikkeling van 'n doeltreffende strukturele model te verseker, is twee metings-modelle aanvanklik opgestel met gebruik van AMOS 24.0. Die eerste model het geen tweederangse faktore bevat nie, terwyl die tweede model na-gebruik oortuigings (verteenwoordigend van al die oortuigingsfaktore ondersoek) en klantburgerskapgedrag (verteenwoordigend van promovering en helpende gedrag) as tweederangse faktore ingesluit het. Na 'n assessering van die uitslae is agtergekom dat die metingsmodel met die twee tweederangse faktore konstrugeldigheid het en is dit as meerderwaardig geag teenoor die metingsmodel wat die twee tweederangse faktore uitgesluit het en wat konstrugeldigheid probleme aangedui het. Daarvolgens is die gevolgtrekking gemaak dat die empiriese uitslae getoon het dat na-gebruiksoortuigings (as 'n tweederangse faktor) onderliggend tot persepsies van uitvoeringsverwagtinge, moeite verwagtinge, fasiliterende toestande, sosiale invloed, genot verskaffing as motivering, en bekwaamheidsvertroue is. Positiewe klantburgerskapgedrag (as tweederangse faktor) is onderliggend tot promovering en helpende gedrag.

Met inagneming van die daaropvolgende assessering van die strukturele model (wat die twee tweederangse faktore ingesluit het) is vasgestel dat die pas-indekse aandui dat hierdie model

Samevatting

aanvaarbaar vir die studie is. Na-gebruiksoortuigings het 'n noemenswaardige positiewe impak op klantetevredenheid en ook op emosionele toewyding. Klantetevredenheid het 'n noemenswaardige positiewe impak op positiewe klante burgerskap gedrag. Emosionele toewyding het 'n noemenswaardige positiewe impak op positiewe klanteburgerskapgedrag en klantetevredenheid het 'n noemenswaardige positiewe impak op emosionele toewyding. Al die navorsingshipotese wat geformuleer is, is derhalwe aanvaar.

Die navorsingsbevindinge maak 'n aantal belangrike bydraes tot die teorie en praktyk. Uit die oogpunt van die teorie is die belangrikste bevinding dat insig verkry is aangaande die wisselwerking tussen oortuigingsfaktore en houdings wat mag bydra tot positiewe klanteburgerskapgedrag. Dit wil spesifiek voorkom dat in die selfbediening tegnologie omgewing die volgorde van positiewe oortuigings van die diens wat bydra tot positiewe houdings en wat mag lei tot gedrag soos die aanvaarding van 'n diens, ook toepaslik mag wees in die nagebruik stadium. Die verskil is egter dat nadat die diens gebruik is en tevredenheid en toewyding verkry is, klantegedrag die vorm van burgerskap aksies mag aanneem soos verduidelik deur die sosiale ruilteorie. Daarby dui die navorsingsbevindinge 'n strategiese koers vir die kleinhandelsbankwese in Suid-Afrika aan, wat 'n stadige aanvaarding van hulle mobiele toeps ondervind. Kleinhandelsbanke behoort fokus te plaas op die oortuigingsfaktore wat in hierdie studie ondersoek is en seker te maak dat hulle mobielebankdiens aanbiedinge goed bestuur word, want dit mag tot klantetevredenheid en emosionele toewyding lei wat mag oorgaan tot positiewe klanteburgerskapgedrag.

Uiteindelik, dien hierdie navorsingsbevindinge as 'n beginpunt om die skakel tussen tegnologie aanvaardingsmodelle en klanteburgerskapgedrag in die na-gebruiksfase van selfbedieningstegnologie te verstaan. Bykomende navorsing word verlang om hierdie model uit te brei en om dieper insig in hierdie kwessie te verkry. Gevolglik, na 'n uitleg van die navorsingsbeperkings, sluit hierdie studie af met strategiese aanbevelings wat rigting mag verskaf vir verdere navorsing oor hierdie onderwerp.

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LIST OF KEY TERMS

This section presents brief descriptions of the key terms applied in this study:

- **Advocacy.** Advocacy has been defined as recommending an organisation's products or services to other customers by highlighting positive qualities of the product or service (Yi & Gong, 2012). Advocacy can assist an organisation in improving their service experience at no added cost and contribute to greater competitive advantage (Tung *et al.*, 2017:24).
- **Affective commitment.** Affective commitment is considered as a forward-looking attitude which captures the strength of a relationship between two parties and the resultant commitment to proceed forward (Gustafsson *et al.*, 2005:211). Affective commitment comprises three main elements, namely shared values, identification, and attachment (Fullerton, 2005b:99) and is perceived to be emotional (Allen & Meyer, 1990).
- **Competence trust.** Morgan and Hunt (1994) refer to trust as one party's conviction that an exchange party is honest and reliable. In a self-service technology context, consumer trust entails an expectation of competent and reliable performance (Johnson *et al.*, 2008:421; Johnson, 2007). Also, in a self-service technology environment, competence trust means that technology can add and improve a customer's pre-existing abilities (Johnson *et al.*, 2008:426). In other words, a technology must perform a function well or provide the features a user needs to accomplish tasks (Lankton *et al.*, 2014:131).
- **Customer citizenship behaviour.** Customer citizenship behaviour is defined as the acts of individual customers that are not expected or rewarded by the service organisations and in aggregate lead to higher service quality and more effective functioning by themselves (Bove *et al.*, 2009:699; Groth, 2005:11; Organ, 1990). It may entail actions such as helping (Groth, 2005) and advocacy (Yi & Gong, 2012).
- **Customer satisfaction.** According to Oliver (1980) satisfaction occurs through a matching of expectations and perceived performance. Customer satisfaction is described as a backward-looking attitude resulting from the interaction of customer's expectations with performance perceptions (Gustafsson *et al.*, 2005:211).
- **Effort expectancy.** Effort expectancy refers to how easy users expect it may be to use a computerised information system (Venkatesh *et al.*, 2003).

List of key terms

- **Facilitating conditions.** Facilitating conditions relate to the degree to which an individual believes that computerised infrastructure exists to facilitate the use of the technology (Venkatesh *et al.*, 2003).
- **Hedonic motivation.** Venkatesh *et al.* (2012) states that hedonic motivation is the fun or pleasure experienced when using technology. If a technology is pleasurable and fun to use, users can experience enjoyment (Lee, 2009).
- **Helping.** Helping is defined as the act of assisting other customers in using a product or a service (Yi & Gong, 2013:1281; Groth, 2005). Helping may also assist organisations in enhancing their service experience at no additional cost and contribute to a greater competitive advantage (Tung *et al.*, 2017:24).
- **Mobile banking applications (apps).** According to Pousttchi and Schurig (2004) mobile banking apps is defined as a process of executing banking transactions and procedures through the use of a mobile device. The mobile banking app is an effective channel for offering a bank's products and services to its customers to manage their accounts from any place, thereby providing convenience and interactivity (Ali & Gallivan, 2017:1; Karlsson, 2017:1).
- **Performance expectancy.** Venkatesh *et al.* (2012) define performance expectancy as the extent to which consumers will benefit by using the technology. In other words, performance expectancy relates to the individual's perception of the benefits to be gained from using technology in performing certain activities (Venkatesh *et al.*, 2012:159).
- **Self-service technology.** In a retail banking context, several authors define self-service technology as interfaces with the bank's computerised system that allow customers to conduct banking services by themselves, without any involvement by the bank's employees (Kelly *et al.*, 2010:2; Makarem, *et al.*, 2009; Dean, 2008; Forbes, 2008; Shamdasani, *et al.*, 2008; Beatson *et al.*, 2007; Curran & Meuter, 2005; Meuter *et al.*, 2003:899; Meuter *et al.*, 2000:50). Self-service technologies empower customers to play an active role regarding their service experience (Robertson *et al.*, 2012:21).
- **Social Influence.** Venkatesh *et al.* (2012) define social influence as the extent to which consumers perceive that family, friends and other persons of importance to them believe they must make use of a certain information system or technology. Social influence comprises two categories, namely mass media influences and interpersonal influences (Wei *et al.*, 2009).

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
ABSTRACT.....	ii
SAMEVATTING	v
LIST OF KEY TERMS.....	viii
CHAPTER 1: INTRODUCTION AND CONTEXTUALISATION OF THE STUDY	1
1.1 INTRODUCTION	1
1.2 BACKGROUND AND RESEARCH PROBLEM	3
1.2.1 Mobile banking applications and positive customer citizenship behaviour.....	5
1.3 THE RETAIL BANKING INDUSTRY IN THE REPUBLIC OF SOUTH AFRICA.....	6
1.4 LITERATURE STUDY	8
1.4.1 Potential beliefs of existing users of mobile banking apps.....	13
1.4.2 Potential attitudes of existing users of mobile banking apps	15
1.4.2.1 Customer satisfaction	16
1.4.2.2 Affective commitment	16
1.4.3 Potential interrelationships between post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviours	17
1.5 CONCEPTUAL MODEL AND PURPOSE OF THE STUDY	20
1.6 CONTRIBUTION OF THE STUDY	22
1.7 RESEARCH OBJECTIVES.....	23
1.7.1 Primary objective	23
1.7.2 Secondary objectives.....	24
1.8 RESEARCH METHODOLOGY	25
1.8.1 Literature sources.....	25
1.8.2 Research design and data collection methods.....	25
1.8.2.1 Descriptive, exploratory and causal	25
1.8.2.2 Qualitative vs. quantitative	25

Table of Contents

1.8.2.3	Longitudinal vs. cross-sectional	26
1.8.2.4	Different forms of conducting a survey	26
1.8.3	The sampling process.....	28
1.8.3.1	Target population.....	28
1.8.3.2	Sampling frame	29
1.8.3.3	Sampling technique	29
1.8.3.4	Sample size	30
1.8.4	Data analysis	30
1.9	CHAPTER OUTLINE.....	31
1.10	SUMMARY	32
CHAPTER 2: SELF-SERVICE TECHNOLOGIES IN THE RETAIL BANKING ENVIRONMENT		33
2.1	INTRODUCTION	33
2.2	THE SELF-SERVICE TECHNOLOGY CONCEPT	34
2.3	THE SELF-SERVICE TECHNOLOGY CHANNEL OFFERING	38
2.3.1	Customer service.....	38
2.3.2	Direct transactional services	38
2.3.3	Self-help services	38
2.4	GLOBAL PERSPECTIVE ON THE EVOLUTION OF SELF-SERVICE TECHNOLOGIES IN THE RETAIL BANKING ENVIRONMENT	39
2.4.1	Automated teller machines (ATMs).....	39
2.4.1.1	Definition and characteristics of ATMs	39
2.4.1.2	Benefits of Automated Teller Machines.....	40
2.4.1.3	Challenges related to Automated Teller Machines	41
2.4.2	Telephone banking	41
2.4.2.1	Definition and characteristics of telephone banking	41
2.4.2.2	Benefits of telephone banking.....	42
2.4.2.3	Challenges related to telephone banking	43

Table of Contents

2.4.3	Internet banking.....	43
2.4.3.1	Definition and characteristics of Internet banking.....	43
2.4.3.2	Benefits of Internet banking.....	44
2.4.3.3	Challenges related to Internet banking.....	45
2.4.4	Mobile banking.....	45
2.4.4.1	Cellphone banking.....	46
2.4.4.1.1	Definition and characteristics of cellphone banking.....	46
2.4.4.1.2	Benefits of cellphone banking.....	47
2.4.4.1.3	Challenges related to cellphone banking.....	47
2.4.4.2	Mobile banking applications.....	48
2.4.4.2.1	Definition and characteristics of mobile banking applications.....	48
2.4.4.2.2	Benefits of mobile banking applications.....	49
2.4.4.2.3	Challenges related to mobile banking applications.....	50
2.5	SELF-SERVICE TECHNOLOGY TRENDS IN THE SOUTH AFRICAN RETAIL BANKING SECTOR.....	51
2.5.1	Automated teller machine (ATM).....	51
2.5.2	Telephone banking.....	52
2.5.3	Internet banking.....	53
2.5.4	Mobile banking.....	54
2.5.4.1	Cellphone banking.....	54
2.5.4.2	Mobile banking applications.....	55
2.6	SELF-SERVICE TECHNOLOGY OPPORTUNITIES AND THE STRATEGIC IMPORTANCE OF MOBILE BANKING APPLICATIONS.....	58
2.6.1	Intuitive user interface.....	61
2.6.2	Critical functionality.....	61
2.6.3	Cardless withdrawal solution.....	62
2.7	SUMMARY.....	62

Table of Contents

CHAPTER 3: BELIEFS AND ATTITUDES IN THE SELF-SERVICE TECHNOLOGY ENVIRONMENT	65
3.1 INTRODUCTION	65
3.2 THE EVOLUTION OF THE EXTENDED UTUAT MODEL.....	65
3.2.1 Theory of Reasoned Action (TRA)	66
3.2.1.1 Model advantages	67
3.2.1.2 Application within the self-service technology environment.....	67
3.2.1.3 Model shortcomings.....	68
3.2.2 Theory of Planned Behaviour (TPB)	68
3.2.2.1 Model advantages	69
3.2.2.2 Application within the self-service technology environment.....	69
3.2.2.3 Model shortcomings.....	69
3.2.3 Technology Acceptance Model (TAM)	70
3.2.3.1 Model advantages	71
3.2.3.2 Application within the self-service technology environment.....	72
3.2.3.3 Model shortcomings.....	72
3.2.4 Unified Theory of Acceptance and use of Technology Theory (UTAUT)	72
3.2.4.1 Model advantages	73
3.2.4.2 Application within the self-service technology environment.....	74
3.2.4.3 Model shortcomings.....	74
3.2.5 Extended Unified Theory of Acceptance and Use of Technology.....	75
3.2.5.1 Model advantages	76
3.2.5.2 Application within the self-service technology environment.....	76
3.2.5.3 Model shortcomings.....	77
3.3 BELIEF FACTORS CONTRIBUTING TOWARDS POST-USAGE ATTITUDES IN THE SELF-SERVICE TECHNOLOGIES ENVIRONMENT	82
3.3.1 Performance expectancy	82
3.3.2 Effort expectancy	82

Table of Contents

3.3.3	Social influence	83
3.3.4	Facilitating conditions	83
3.3.5	Hedonic motivation	83
3.4	COMPETENCE TRUST AS ANOTHER POTENTIAL FACTOR IMPACTING ON ATTITUDE FORMATION IN THE SELF-SERVICE TECHNOLOGY ENVIRONMENT	84
3.5	A GENERIC PERSPECTIVE ON ATTITUDE FORMATION	85
3.5.1	The tripartite model grounding attitude formation	86
3.5.2	Assumptions underpinning the tripartite model of attitude formation	88
3.6	ATTITUDES AS A MARKETING CONCEPT	89
3.7	SUMMARY	92
CHAPTER 4: RELATIONSHIP MARKETING, RELATIONSHIP QUALITY AND THE CUSTOMER CITIZENSHIP BEHAVIOUR DOMAIN		94
4.1	INTRODUCTION	94
4.2	THE RELATIONSHIP MARKETING CONCEPT	94
4.2.1	Defining relationship marketing.....	95
4.2.2	The evolution of relationship marketing.....	98
4.2.3	The benefits of relationship marketing practices	99
4.2.4	Developing a relationship marketing strategy.....	101
4.3	CONCEPTUAL FOUNDATIONS OF THE RELATIONSHIP QUALITY DOMAIN	103
4.3.1	Defining relationship quality	104
4.3.2	Dimensions of relationship quality.....	106
4.3.2.1	Customer satisfaction	107
4.3.2.1.1	Characteristics of customer satisfaction	108
4.3.2.1.2	The benefits of customer satisfaction as a dimension of relationship quality	109
4.3.2.2	Commitment	110
4.3.2.2.1	Characteristics of commitment	111
4.3.2.2.2	Different types of commitment.....	112

Table of Contents

4.3.2.2.3	Benefits of affective commitment as a dimension of relationship quality.....	113
4.4	THE CUSTOMER CITIZENSHIP DOMAIN.....	114
4.4.1	Differentiating between civic citizenship, organisational citizenship and customer citizenship.....	114
4.4.2	Conceptual foundations of the social exchange theory	115
4.4.2.1	Historic models of the social exchange theory	116
4.4.2.2	Blau 1964 model.....	116
4.4.3	Distinguishing between in-role and extra-role behaviour	117
4.4.4	Forms of customer citizenship behaviour	117
4.4.4.1	Helping	118
4.4.4.2	Advocacy by positive word of mouth.....	118
4.4.5	Benefits of customer citizenship behaviour	119
4.5	SUMMARY	120
	CHAPTER 5: MODEL CONCEPTUALISATION	121
5.1	INTRODUCTION	121
5.2	INTERRELATIONSHIPS BETWEEN RESEARCH CONSTRUCTS	121
5.2.1	Relationship between consumer beliefs and customer satisfaction.....	121
5.2.2	Relationship between consumer beliefs and affective commitment.....	125
5.2.3	Relationship between customer satisfaction and positive customer citizenship behaviour.....	128
5.2.4	Relationship between affective commitment and positive customer citizenship behaviour.....	131
5.2.5	Relationship between customer satisfaction and affective commitment	133
5.3	THE PROPOSED CONCEPTUAL MODEL	135
5.4	SUMMARY	136
	CHAPTER 6: RESEARCH METHODOLOGY	138
6.1	INTRODUCTION	138

Table of Contents

6.2	THE SIX STAGES OF THE MARKETING RESEARCH PROCESS.....	138
6.3	STEP 1: PROBLEM DEFINITION	139
6.4	STEP 2: DEVELOPMENT OF AN APPROACH TO THE PROBLEM	140
6.4.1	Primary objective	140
6.4.2	Secondary objectives.....	140
6.5	STEP 3: RESEARCH DESIGN FORMULATION.....	141
6.5.1	Exploratory research design	142
6.5.2	Descriptive research design.....	142
6.5.3	Causal research design	142
6.6	STEP 4: DATA COLLECTION	143
6.6.1	Data collection method selected	144
6.6.2	Data collection form selected.....	144
6.6.3	The self-administered questionnaire	148
6.6.3.1	Question response formats and measurement levels	148
6.6.3.1.1	Open-ended and fixed alternative questions	148
6.6.3.1.2	Measurement levels	149
6.6.3.1.3	Question sequence and content.....	151
6.6.3.1.4	Question phrasing.....	152
6.6.3.1.5	Questionnaire layout	152
6.6.3.2	Pilot testing	152
6.6.4	Overview of final questionnaire.....	153
6.6.5	The study population	156
6.6.6	Selecting the sample	157
6.6.7	Data collection and sample size.....	158
6.7	STEP 5: DATA PREPARATION AND ANALYSIS.....	159
6.7.1	Reporting the descriptive and inferential statistics.....	160
6.7.2	Examination of scale reliability and validity	161

Table of Contents

6.7.3	Structural equation modelling (SEM) for assessing the structural model.....	166
6.8	STEP 6: REPORT PREPARATION AND PRESENTATION	167
6.9	SUMMARY	167
CHAPTER 7: DISCUSSION AND INTERPRETATION OF RESULTS.....		168
7.1	INTRODUCTION	168
7.2	RESPONSE REALISATION RATE	168
7.3	DEMOGRAPHIC AND PATRONAGE PROFILE.....	169
7.4	POST-USAGE BELIEFS, ATTITUDES AND CITIZENSHIP BEHAVIOUR.....	174
7.4.1	Post-usage beliefs	174
7.4.2	Attitudes	177
7.4.3	Citizenship behaviour	179
7.5	RELIABILITY AND VALIDITY ASSESSMENT	181
7.5.1	Reliability test	181
7.5.2	Confirmatory factor analysis (CFA)	182
7.5.2.1	Model fit.....	182
7.5.2.2	Convergent validity	184
7.5.2.3	Discriminant validity	189
7.5.2.4	Summary of model validity.....	191
7.6	STRUCTURAL EQUATION MODELLING (SEM)	193
7.6.1	Structural model assessment.....	194
7.6.2	Hypotheses testing	194
7.7	SUMMARY OF MAIN FINDINGS	197
7.7.1	Main findings according to the research objectives	197
7.8	CONCLUSION	201
CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS.....		202
8.1	INTRODUCTION	202
8.2	OVERVIEW OF THE STUDY	202

Table of Contents

8.3	CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS	204
8.3.1	Secondary objectives 1a to 1c.....	204
8.3.2	Secondary objective 2	206
8.3.3	Secondary objectives 3.....	208
8.3.4	Secondary objective 4	216
8.3.5	Secondary objectives 5.....	219
8.3.6	Secondary objectives 6.....	222
8.3.7	Secondary objectives 7.....	225
8.4	LINKS BETWEEN THE RESEARCH OBJECTIVES, THEORETICAL BACKGROUND, QUESTIONNAIRE SECTIONS, HYPOTHESES, MAIN FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.....	230
8.5	LIMITATIONS.....	234
8.5.1	Limitations of the theoretical background.....	234
8.5.2	Limitations of the empirical research.....	234
8.6	RECOMMENDATIONS FOR FUTURE RESEARCH.....	235
8.7	CONCLUSION	235
	REFERENCES.....	236
	APPENDIX A: FINAL QUESTIONNAIRE	297
	APPENDIX B: ETHICAL CLEARANCE LETTER	301
	APPENDIX C: LETTER FROM STATISTICIAN.....	305
	APPENDIX D: LETTER FROM LANGUAGE EDITOR.....	306

LIST OF TABLES

Table 1-1:	Bank entities registered in South Africa	7
Table 1-2:	Summary of positive customer citizenship behaviours	9
Table 1-3:	Secondary objectives of this research study	24
Table 1-4:	Outline of the questionnaire	27
Table 1-5:	Sampling plan for the research study.....	28
Table 1-6:	Sample size estimates by sample unit and gender	30
Table 2-1:	Self-service technology elements	37
Table 2-2:	Comparison between self-service technologies offered by retail banks	59
Table 3-1:	Summary of Technology Acceptance Theories (TRA, TPB, TAM, UTAUT and extended UTAUT).....	78
Table 3-2:	Main elements of the attitude construct	91
Table 4-1:	Relationship marketing elements	97
Table 4-2:	Relationship quality elements	105
Table 4-3:	Definitions of customer satisfaction.....	107
Table 4-4:	Definitions of customer commitment	110
Table 5-1:	Relationship between post-usage beliefs and customer satisfaction.....	122
Table 5-2:	Relationship between post-usage beliefs and affective commitment.....	126
Table 5-3:	Relationship between customer satisfaction and positive customer citizenship behaviour.....	129
Table 5-4:	Relationship between affective commitment and positive customer citizenship behaviour.....	132
Table 5-5:	Relationship between customer satisfaction and affective commitment	134
Table 6-1:	Secondary objectives of this research study	141
Table 6-2:	Advantages of the survey research method.....	146
Table 6-3:	Levels of measurement	150
Table 6-4:	Summary of questions, sources, response format, measurement level, secondary objectives and hypotheses	154

List of tables

Table 6-5:	Study population and rationale	157
Table 6-6:	Sample size estimates by sample unit and gender	159
Table 6-7:	Descriptive statistical techniques used in this research study	160
Table 6-8:	Overview of fit indices considered.....	163
Table 7-1:	Response realisation rate	168
Table 7-2:	Demographic and patronage profile.....	169
Table 7-3:	Respondents' level of agreement with post-usage beliefs.....	174
Table 7-4:	Respondents' level of customer satisfaction	178
Table 7-5:	Respondents' level of affective commitment	178
Table 7-6:	Respondents' level of citizenship behaviour	179
Table 7-7:	Cronbach's alpha values	181
Table 7-8:	Fit statistics for measurement model that excludes two second-order factors..	182
Table 7-9:	Fit statistics for measurement model that includes two second-order factors...	183
Table 7-10:	Standardised factor loadings, standard errors and p-values of measurement model that excludes the two second-order factors.....	184
Table 7-11:	Test of composite reliability and validity for measurement model that excludes two second-order factors.....	186
Table 7-12:	Standardised factor loadings, standard errors and p-values of measurement model that includes the two second-order factors.....	187
Table 7-13:	Test of composite reliability and validity for measurement model that includes two second-order factors.....	189
Table 7-14:	Covariance matrix for the latent variables that exclude the two second-order factors with AVE on the diagonal.....	190
Table 7-15:	Covariance matrix for the latent variables that include the two second-order factors with AVE on the diagonal.....	191
Table 7-16:	Hypotheses formulated for structural equation modelling.....	193
Table 7-17:	Fit statistics of structural model that includes the two second-order factors	194
Table 7-18:	Hypotheses testing: direct effects	196
Table 7-19:	Summary of main findings about hypotheses	196

List of tables

Table 7-20:	Summary of the main empirical research results according to the secondary objectives of this research study	198
Table 8-1:	Secondary objective 1	205
Table 8-2:	Secondary objective 2	206
Table 8-3:	Secondary objective 3	208
Table 8-4:	Secondary objective 4	216
Table 8-5:	Secondary objective 5	219
Table 8-6:	Secondary objective 6	222
Table 8-7:	Secondary objective 7	225
Table 8-8:	Links between the objectives, literature chapters, questionnaire sections, hypotheses, main findings, conclusions and recommendations	231

LIST OF FIGURES

Figure 1-1:	A conceptual model of positive customer citizenship behaviour in the mobile banking app environment	21
Figure 2-1:	Self-service technologies offered by the five main retail banks in South Africa ..	57
Figure 3-1:	Theory of Reasoned Action	67
Figure 3-2:	Theory of planned behaviour	69
Figure 3-3:	Technology Acceptance Model.....	71
Figure 3-4:	Unified Theory of Acceptance and Use of Technology.....	73
Figure 3-5:	Extended Unified theory of acceptance and use of technology (Extended UTAUT)	76
Figure 3-6:	Three components' view of attitudes.....	86
Figure 5-1:	Proposed conceptual model	136
Figure 6-1:	The steps in the marketing research process	139
Figure 7-1:	The proposed theoretical model	193
Figure 7-2:	The structural model estimation that includes two second-order factors	195

CHAPTER 1

INTRODUCTION AND CONTEXTUALISATION OF THE STUDY

1.1 INTRODUCTION

Customer citizenship behaviour concerns the voluntary actions performed by customers that will be of benefit to the organisation and for which customers will receive no formal remuneration in return (Groth, 2005:11). Examples of customer citizenship behaviour include recommending the organisation to other customers (advocacy) and helping them to use the service correctly (Yi & Gong, 2013). Grounded in the social exchange theory (Blau, 1964; Hormans, 1958), it is presumed that customers perform these types of positive citizenship behaviours in appreciation of the benefits they believe they have received from the organisation (Yi *et al.*, 2013:344; Yu-hong *et al.*, 2013:615; Groth, 2005).

Knowledge of customer citizenship behaviour is further important, as customers' advocacy and helping behaviour could assist organisations in enhancing their service experience at no additional cost and contribute to a greater competitive advantage (Tung *et al.*, 2017:24). As such, scholars in the field of marketing have shown a growing interest in customer citizenship behaviour in recent years (Balaji, 2014:222). A further literature investigation into the matter, however, revealed that customer citizenship behaviour had received little attention within the electronic banking environment, and its connection to technology adoption models are not known. Extant research tends to focus on the identification of models explaining consumer acceptance of information technology, many professing that customers' beliefs about the benefits of the technology may impact on their attitudes, intentions and ultimately, behaviour (Venkatesh *et al.*, 2012; Venkatesh *et al.*, 2011; Yousafzai *et al.*, 2010; Venkatesh *et al.*, 2003; Wang *et al.*, 2003; Davis, 1989; Ajzen, 1985; Fishbein & Ajzen, 1975). It is then proposed in this study that both the principles of the technology adoption models and customer citizenship behaviour may be relevant within the electronic banking environment. Specifically, it seems plausible that considering technology adoption theory, customers with positive *beliefs* about the electronic banking service may develop positive *attitudes*, but then in the deliberation of the benefits received (Blau, 1964; Hormans, 1958), perform *positive customer citizenship behaviours*.

These matters, however, require further investigation and could specifically be beneficial to the South African electronic banking environment, where it has been found that retail banks are struggling with low consumer adoption rates of their mobile banking applications (apps) (Arde, 2017; Maduku, 2014:59), the latest form of digital financial service driving the economy in South

Africa. This new electronic banking facility has been developed because of fraud, technological advancement and bank pressures to cut costs (Balabanoff, 2014:248). The mobile banking app is an effective channel for offering a bank's products and services to its customers to manage their accounts from any place, thereby providing convenience and interactivity (Ali & Gallivan, 2017:1; Karlsson, 2017:1). The apps also provide banks with advantages when performing customer transactions with comfort and ease, therefore increasing their market coverage and overall service quality (Munoz-Leiva *et al.*, 2017:26). However, customers may be reluctant to use electronic tools like the mobile banking app due to a lack of trust or scepticism (Munoz-Leiva *et al.*, 2017:26). This applies specifically to South Africa where banks are struggling to reach full market potential (Arde, 2017; 2013).

Hence, knowledge of the factors contributing to customer citizenship behaviour could then provide strategic guidance to retail banks to facilitate customer citizenship behaviours where existing users of the mobile banking apps could, for example, promote the benefits to other potential users and help them to register and use the service correctly.

From a theoretical perspective, an investigation into selected belief factors, as identified from technological adoption models, and their impact on consumer attitudes and ultimately customer citizenship behaviours, may provide further insight into the connection between technology adoption models and the customer citizenship behaviour domain.

Consequently, to address the stated research gap, this research study concerns the development of a model for positive customer citizenship behaviour in the mobile banking app environment. The research process entails an investigation of selected beliefs of existing users of mobile banking apps (as identified from technology adoption models) and the extent to which these beliefs may impact on the users' attitudes and ultimately the customer citizenship behaviours they direct towards other prospective users of mobile banking apps.

Overall, the findings may provide a greater understanding of the theories that could explain positive customer citizenship behaviour as well as the interrelationships between the constructs investigated. Additionally, the results may offer valuable guidance to retail banks, other organisations offering self-service technologies as well as government and policy-makers concerning the management and promotion of self-service technologies.

The remaining sections of this chapter provide a brief overview of the research study. The background and research problem is addressed first. The subsequent section offers more insight into the South African retail banking industry and self-service technologies. A literature study is provided next that underlies the research hypotheses and the conceptual framework. After

discussing the research purpose and proposed research contribution, the objectives are formulated, and more insight is provided into the research method that will be applied in the study. The chapter ends with an outline of the planned structure of the dissertation.

1.2 BACKGROUND AND RESEARCH PROBLEM

Helpful behaviours shown by customers to other customers as well as the organisation have become popular in service research leading to a progressively current topic of customer citizenship behaviour. Citizenship behaviour was initially explored within an organisational/employee context and was defined by Organ (1988:4) as the behaviour of an individual due to the insight that is not linked to an official or legal reward system and benefits the organisation. Over the past two decades, the concept of customer citizenship has also started to receive considerable attention in the marketing discipline. It is believed that customers could act as good citizens voluntarily offering helpful and constructive gestures (Gruen, 1995:461). Groth (2005:11) has defined customer citizenship behaviour as the acts of individual customers that are not expected or rewarded by the service organisations and in aggregate lead to higher service quality and more effective functioning by themselves. Other names alluding to customer citizenship behaviour include organisational citizenship behaviour (Bove *et al.*, 2009), extra-role behaviour (Ahearne *et al.*, 2005; Keh & Teo, 2001), discretionary behaviour (Ford, 1995), helping behaviour (Johnson & Rapp, 2010), and voluntary performance (Rosenbaum & Massiah, 2007; Bailey *et al.*, 2001; Bettencourt, 1997).

Yi and Gong (2008:768) describe customer citizenship behaviour as the opposite to dysfunctional customer behaviour that usually transpires when customers feel frustrated and angry with the service provided. Dysfunctional behaviour is thoughtless or abusive behaviour resulting in problems for the service organisation and its stakeholders (Yi & Gong, 2008:769; Harris & Reynolds, 2004). It may entail negative word of mouth communication (Tuzovic, 2010:446) or verbal and physical abuse, grudge-holding and rage (Greer, 2015:241; Grove *et al.*, 2012; Rafaeli *et al.*, 2012; Grégoire *et al.*, 2009). It has been reported that such behaviours are psychologically harmful to the service provider and can be obstructive to developing rapport (Greer, 2015:241). Customer citizenship behaviour, in contrast, relates to the positive feelings towards an organisation that the customer bases on perceptions of a successful trade between the organisation and the customer (Yi & Gong, 2008:768). These feelings include trust, social bonding and future obligations towards an organisation as a whole that may lead to customers reciprocating in a way that benefits the organisation (Patterson, 2014:2081).

Seminal authors in the field of customer citizenship behaviour (Bove *et al.*, 2009:699; Organ, 1990) further believe that the social exchange theory (Blau, 1964; Hormans, 1958) serves as the main theoretical framework for explaining the reason for customer citizenship behaviours. This theory posits that when people receive benefits from others, they feel obligated to reciprocate. The theory supports the connection between customer attitudinal evaluations and customer citizenship behaviours (Lii & Lee, 2012:73; Blau, 1964). It clarifies that the association between the customer and the organisation could be seen as social exchanges in which customers give back a positive gain (such as positive feedback to the organisation) as they feel grateful and thus obligated to do so (Lii & Lee, 2012:73). The stronger the identification and relationship with a service provider are, the more obligated the customer feels towards the service provider, resulting in greater intentions to reciprocate (Liu & Mattila, 2015; Groth, 2005; Bhattacharya *et al.*, 1995) and act helpfully towards the organisation. Positive customer citizenship behaviour may include positive word of mouth, serving as partial employees, cooperating with employees, (Rosenbaum & Massiah, 2007; Groth, 2005), giving a present/gift to express gratitude to service personnel and suggestions for service improvement (Shahsavari & Faryabi, 2013:3747). Customers may also tell other customers of their positive experience, drive past outlets close by to shop at their store of choice, be pleasant to employees, and raise service problems with the organisation (Yi *et al.*, 2013:341; Bettencourt, 1997), recommend an organisation's service to other customers, offer their help to service providers, and be of assistance to other customers in the outlet (Yi *et al.*, 2013:341; Van Doorn *et al.*, 2010). As such, positive customer citizenship behaviour will in this research study relate to customers acting in a favourable manner that would benefit the organisation, for example, helping other customers.

Since the introduction of customer citizenship to the field of marketing in the 1990s, numerous studies have explored the relevance of customer citizenship behaviour to the banking industry. A study by Shahsavari and Faryabi (2013), investigated how three dimensions of customer citizenship behaviour, namely positive word of mouth, assisting other customers and helping the company are influenced by the bank's corporate reputation. They found that a bank's corporate reputation based on the customer commitment and loyalty significantly impacts on all three of the dimensions of customer citizenship behaviour (Shahsavari & Faryabi, 2013). In another study examining customer citizenship behaviour, Balaji (2014:222) explored the interrelationships between relationship value, quality, strength and customer citizenship behaviour. The study applied an integrated customer citizenship behaviour model in the business to customer context to India's banking industry. They found that relationship value has a significant influence on relationship quality, and relationship quality significantly affects relationship strength and customer citizenship behaviour (Balaji, 2014:222). Bartikowski and Walsh (2011:39) showed in

their study that the relationship between customer-based corporate reputation and helping the company is mediated by commitment and loyalty (Bartikowski & Walsh, 2011:39).

While all of the above-mentioned studies have the potential to improve business practices in the banking industry, none of them, however, has specifically explored customer citizenship behaviour regarding mobile banking apps. In fact, there seems to be a general lack of knowledge of a model of factors leading towards customer citizenship behaviour in the mobile banking app environment specifically. Knowledge of factors contributing towards customer citizenship behaviour regarding mobile banking apps may be of great benefit as explained in the next section.

1.2.1 Mobile banking applications and positive customer citizenship behaviour

In trying to keep up with the demands of the highly mobile digital consumers, who want twenty-four-seven access and to be able to perform more sophisticated transactions using a mobile device, organisations such as banks have over the past few years focused their efforts (Marous, 2014:1). This has resulted in the introduction of mobile banking apps containing exciting innovations and enhancements (Marous, 2014:1).

Mobile banking apps are of particular interest as they offer safe and secure banking services on the go (Standard Bank, 2014:1). Consumers can perform a multitude of banking functions anytime, anywhere (Turowski & Pousttchi, 2003). Banks also support this application as it could assist in preventing fraud (Balabanoff, 2014). Additionally, it could make banking more convenient for their customers and increase the bank's profitability since the customers would make use of technology (mobile banking app) and not be transacting via the bank's staff (Pousttchi & Schurig, 2004:2). Bankers also expect the bank's income to increase due to a higher volume of transactions (Balabanoff, 2014:258).

Despite the advantages above for customers, the use of mobile devices by banking customers has not met the predicted adoption (Dineshwar & Steven, 2013; Shih *et al.*, 2010; Luarn & Lin, 2005). Worldwide user adoption statistics of mobile banking have shown that China records the highest banking app users at 73% with India in second place at 59%. The estimated mobile banking market for sub-Saharan Africa by 2019 is US\$1.3 billion. Unfortunately, the growth in banking app users in South Africa is just 9% (KPMG, 2015:4). This adoption rate is very low since South Africa's retail banking industry is a highly competitive market and banks tend to rely on self-service technologies to defend their position in the market (KPMG, 2014; Standard bank, 2014). Research in this area also appears to be limited, as according to Shaikh and Karjaluo (2015) only a few studies have considered the consequences of using mobile banking apps via

smartphones or tablets (Shaikh & Karjaluo, 2015; Akturan & Tezcan, 2012; Masrek *et al.*, 2012; Shih *et al.*, 2010).

Customer citizenship behaviour may present a solution to this problem and could assist retail banks in ensuring a greater number of customers adopting and using their mobile banking app services. Considering the principles of positive customer citizenship behaviour, it may be more cost-effective for banks if customers can teach the correct usage of the service to other customers and perhaps do the marketing on behalf of the bank. Customers who have experienced citizenship behaviour are likely to reproduce this behaviour since they believe that such behaviours are normal and appropriate (Yi *et al.*, 2013).

Customer citizenship behaviour, therefore, is of significance for service organisations such as retail banks because it may create a competitive advantage (Shahsavari & Faryabi, 2013:3746). If banks provide the environment for customer citizenship behaviours, they can use customers to ensure greater adoption of mobile banking apps and to reach their goals.

Little however is known about factors that may contribute to positive customer citizenship behaviour within the mobile banking app environment. A model of this nature may provide valuable guidance to the banking industry. Marketing strategies can be adapted according to the dimensions of the model that could ultimately lead to customers feeling more positive about the mobile banking app service provided and wanting to act as good citizens in favour of the bank. Consequently, given the research background provided, it appears to be necessary to formally explore a model for positive customer citizenship behaviour in the mobile banking app environment.

The next section offers more insight into the South African retail banking environment in which the proposed study is conducted. Following this discussion, a literature study is provided of the factors potentially contributing towards customer citizenship behaviour, and that will be further explored among mobile banking app users in this research study.

1.3 THE RETAIL BANKING INDUSTRY IN THE REPUBLIC OF SOUTH AFRICA

The South African banking system compares favourably with those of developed countries. This was confirmed when South Africa was placed in 8th position in 2015/2016 in a survey conducted by the World Economic Forum with respect to global competitiveness (The Banking Association South Africa, 2015). Overall, a total of 140 countries participated in the survey (The Banking Association South Africa, 2015). The SA Reserve Bank, as the regulator, is responsible for bank supervision in the Republic of South Africa and for maintaining a reliable banking system in the

public interest. Licenses are issued to banking institutions, and the banks are monitored according to the prescripts of national legislation (South African Reserve Bank, 2015).

Since the beginning of the 1990s, there has further been an emergence of many banks which has led to the industry operating in a dynamic and complex environment. The domestic market is also serviced by foreign banks and non-bank entities, leading to intensified competition (Heppes & Du Toit, 2009:54; Metcalfe, 2005:14). In the Republic of South Africa, bank entities are registered as bank entities and in several other categories (mutual banks, registered banks, international bank branches, representative offices, controlling companies and banks in final liquidation). Bank entities registered in South Africa are set out in Table 1-1.

Table 1-1: Bank entities registered in South Africa

Category	Banks
Registered Banks	Absa Bank Limited African Bank Limited Albaraka Bank Limited Bidvest Bank Limited Capitec Bank Limited FirstRand Bank Limited (FNB) Grindrod Bank Limited Habib Overseas Bank Limited HBZ Bank Limited Investec Bank Limited Mercantile Bank Limited Nedbank Limited Sasfin Bank Limited The South African Bank of Athens Limited The Standard Bank of South Africa Limited Ubank Limited (formerly known as Teba Bank Limited)

Source: Adopted from South African Reserve Bank (2014).

This study will focus on customers of the five main retail banks in South Africa. They are ABSA, Capitec Bank, FNB, Nedbank, Standard Bank (Muller, 2012) and collectively they provide a representative view of the market as they account for 90% of the banking sector assets (Ernst & Young, 2015:18). South Africa's largest bank with a Tier 1 capital base of \$10 187 million is Standard Bank, followed by FNB with a Tier 1 capital base of \$7983 million. The third is ABSA with a Tier 1 capital base of \$6090 million, followed by Nedbank with a Tier 1 capital base of \$4760 million and Capitec Bank with a Tier 1 capital base of 933 million (BusinessTech, 2015). (The Tier 1 capital base measures a bank's financial strength and is primarily measured regarding common stock and disclosed reserves) (BusinessTech, 2015).

In December 2015 South Africa's biggest banks (by customer numbers) were Standard Bank with 11.6 million, much larger than ABSA at 9.4 million, Nedbank at 7.4 million and FNB at 7.2 million respectively (BusinessTech, 2016). Standard Bank and ABSA have been first and second respectively for some years (BusinessTech, 2016). After a modest beginning, Capitec Bank grew rapidly by focusing on services for low-income customers. By 2016 Capitec bank had become well established as a retail banking institution with 7.3 million active customers on 29 February 2016 and a market share of approximately 17.5%.

The retail banks in the RSA are experiencing pressure as regards their relevance and profitability due to a rapidly changing competitive landscape (PWC, 2015). The introduction of improved technologies and the entry of new competitors have led to banking customers expecting higher levels of service delivery from the retail banks, resulting in the banking landscape being changed forever (PWC, 2015). In general, some of the most commonly used self-service technologies offered by retail banks in South Africa are ATM banking, telephone banking, Internet banking and mobile banking (including cellular phone banking and mobile banking apps) (ABSA, 2016). Chapter 2 offers a comprehensive overview of self-service technologies in retail banks with a particular focus on how they are defined in the South African context.

The next section provides more insight into possible factors that may contribute to positive customer citizenship behaviour in the mobile banking app environment. A number of hypotheses will also be formulated to assist in the development of the proposed conceptual model.

1.4 LITERATURE STUDY

As mentioned in section 1.2, customer citizenship behaviour is grounded in the social exchange theory (Gilde *et al.*, 2011:620; Groth, 2005; Bettencourt, 1997). In his seminal work on social exchange, Hormans (1958:606) describes the social behaviour as including the bartering of tangible goods and also intangible ones. According to the social exchange theory, people who tend to give a lot to others will also try to acquire a lot from them. Similarly, those who tend to acquire much from others are under pressure to give much in return (Hormans, 1958:606). When providing another with a benefit, one must trust that the other will reciprocate or return the benefit in time (Lambe *et al.*, 2001:10; Blau, 1964; Hormans, 1958). As it is based on the norm of reciprocity, the social exchange theory suggests that an obligation to reciprocate is felt in response to perceived benefits from the actions of another (Nguyen *et al.*, 2014:1099; Blau, 1964; Gouldner, 1960). Within this context, customer citizenship behaviour may then give rise to many different types of actions. Table 1-2 below provides a summary of positive customer citizenship actions that have been identified from previous studies over the past two decades.

Table 1-2: Summary of positive customer citizenship behaviours

Author(s)	Context	Dimensions
Bettencourt (1997)	Grocery customers	<p>Positive word of mouth communication (endorsing friends to use a product/service by positive word of mouth).</p> <p>Display of affiliation (a reflection of the relationship between a customer and an organisation. A customer could communicate to another by advertising for an organisation through his/her personal possessions. For example, wearing an FNB t-shirt).</p> <p>Partnership and cooperation (endorsing partnership and cooperation).</p> <p>Presenting feedback to the organisation (providing positive feedback and making suggestions for service improvements).</p> <p>Dissatisfied customer voice (discussing complaints with the organisation).</p> <p>Policing of customers (advising others to make sure they behave appropriately)</p> <p>Flexibility or level of customer tolerance and patience (a customer's willingness to adjust to situations beyond his/her control).</p>
Lengnick-Hall <i>et al.</i> (2000)	Member/non-member participants in organisational activities of a YMCA	<p>Acts of co-operation</p> <p>Gestures of kindness</p> <p>Polite behaviour to tolerate delays or equipment shortages</p> <p>Flexibility</p> <p>Participation</p>
Keh and Teo (2001)	Retail organisations	<p>Customer co-operation (behaviour that represents respect for the provision of quality service delivery).</p> <p>Customer loyalty (repeat buying).</p> <p>Customer participation (the active involvement of a customer in the organisation).</p> <p>Customer tolerance (a customer's willingness to adjust to situations beyond his/her control)</p>
Ahearne <i>et al.</i> (2005)	Consultative selling context	<p>Positive word of mouth (endorsing friends to use a product/service by positive word of mouth).</p> <p>Product improvement ideas (contributing positive ideas that would improve service).</p> <p>Recruiting others.</p> <p>Proactive communication of predicted problems.</p> <p>Participation in seminars.</p> <p>Sharing product-related information with associates.</p>

Table 1-2: Summary of positive customer citizenship behaviours (cont.)

Author(s)	Context	Dimensions
Groth (2005)	Internet service delivery	<p>Feedback (providing positive feedback and making suggestions for service improvements).</p> <p>Helping (helping other customers to use a product/service).</p> <p>Recommendations (promoting a product/service to others).</p>
Yi and Gong (2008)	MBA students and buyer organisations	<p>Feedback (providing positive feedback and suggestions for service improvements).</p> <p>Helping (helping other customers to use a product/service).</p>
Bove <i>et al.</i> (2009)	Three service contexts (pharmacy, hairdressing and medical services)	<p>Positive word of mouth (endorsing friends to use a product/service by positive word of mouth).</p> <p>Displays of relationship affiliation (a reflection of the relationship between a customer and an organisation. A customer could communicate to another by advertising for an organisation through his/her personal possessions. For example, wearing an FNB t-shirt).</p> <p>Participation in an organisation's activities (a customer could attend organisational events to participate fully)</p> <p>Benevolent acts of service facilitation (showing the positive kind and charitable acts within immediate service exchange).</p> <p>Flexibility (a customer's willingness to adjust to situations beyond his/her control).</p> <p>Suggestions for service improvement (contributing positive ideas that would improve service).</p> <p>Voice (discussing complaints with the organisation).</p> <p>Policing of other customers (advising others to make sure they behave appropriately)</p>
Johnson and Rapp (2010)	Undergraduate students	<p>Expanding behaviours (providing positive word of mouth).</p> <p>Competitive information (active reporting of competitive information to the organisation).</p> <p>Responding to research (providing positive feedback and suggestions for service improvements).</p> <p>Displaying brands (displaying logos or brands of the organisation).</p> <p>Forgiving behaviours (forgiving negative experiences with the organisation).</p> <p>Providing feedback (positive feedback and suggestions for service improvements).</p> <p>Supporting behaviours (participating in events to support the organisation).</p> <p>Increasing quantity (increasing purchases).</p> <p>Increasing price (choosing organisation over a competitor even though the competitor's price may be lower).</p>

Table 1-2: Summary of positive customer citizenship behaviours (cont.)

Author(s)	Context	Dimensions
Yi and Gong (2012)	Undergraduate and graduate student customers	Advocacy (providing positive word of mouth). Helping (helping other customers to use a product/service). Tolerance (a customer's willingness to adjust to situations beyond his/her control) Feedback (providing positive feedback and suggestions for service improvements).

Source: Adapted from Bettencourt (1997), Bove *et al.* (2009), Groth (2005), Johnson and Rapp (2010) and Yi and Gong (2012).

From Table 1-2 it is evident that inputs from customers, both mental and physical, could increase organisational productivity. New ideas for business strategies, training other customers, and serving as organisational consultants by sharing their frontline experiences with management could be tapped from this source (Juttner & Wehrli, 1994). Customers can give advice and suggestions, and also promote the product and brand for an organisation voluntarily (Yang & Qin Hai, 2012:185).

Two dimensions of positive customer citizenship behaviour, namely helping other customers and advocacy by positive word of mouth will be the focus of this study. Helping is the act of assisting others in using a product or a service (Yi & Gong, 2013:1281; Groth, 2005). Advocacy by positive word of mouth is recommending an organisation's products or services to others by highlighting positive qualities of the product or service (Yi & Gong, 2012) and is a progressive act of promoting the app to others (Hsu *et al.*, 2015:4). These dimensions have been chosen because they are common features of positive customer citizenship behaviour that have been identified in a number of studies, as shown in Table 1-2. They further have the potential to apply to the mobile banking app environment. New app users can quickly solve their problems should existing users display helping behaviours, and the bank's customer services could experience less time spent to help them (Hsu *et al.*, 2015:4). Additionally, in discussion with mobile banking app customers, these constructs (helping and advocacy) have been recognised as being directly related to the social exchanges that take place between customers when they recommend and help one another to use the mobile banking app.

In the search for possible factors that may then contribute to customers promoting the benefits of mobile banking apps to other prospective users and helping them with the service, it is essential to consider the underlying principles of the technology adoption models. In the introduction to this chapter it has been stated that extant research tends to focus on technology adoption models, all professing that customers' beliefs about the benefits of the technology may impact on their attitudes, intentions and ultimately behaviour (Fishbein & Ajzen, 1975; Ajzen, 1985; Davis, 1989). These models have also successfully been tested within the electronic banking environment (Wang *et al.*, 2003; Yousafzai *et al.*, 2010). In this study, it is then proposed that both the principles of the technology adoption models and customer citizenship behaviour (Blau, 1964; Groth, 2005) may be relevant within the electronic banking environment. Specifically, it seems plausible that considering the technology adoption theory, customers with positive *beliefs* about the electronic banking service may develop positive *attitudes* and then in the deliberation of the benefits received (Blau, 1964; Groth, 2005) perform *customer citizenship behaviours*.

Consequently, the remaining sections in the literature study discussion provide more insight into possible beliefs and attitudes existing users of mobile banking apps may form about the service as well as the interrelationships between these factors that may ultimately contribute to customer citizenship behaviours (advocacy and helping behaviours) directed towards other prospective users.

1.4.1 Potential beliefs of existing users of mobile banking apps

Chapter 3 offers more insight into various technology adoption models that have previously been developed. In this study, the belief factors of the Extended Unified Theory of Acceptance and Use of Technology model (extended UTAUT), as well as one additional factor, will be explored. The extended UTAUT model is built on the work of earlier technology adoption models and offers a comprehensive range of factors that may represent the beliefs users may form about the technology. The selection of factors includes important constructs from earlier technology adoption models as well as other factors that are considered to be relevant and important beliefs within the technology environment. It has also been empirically confirmed that the factors of the extended UTAUT model may be relevant within the post-usage stage of consumer technologies. Consumers may develop these beliefs after they have used the technological services (Venkatesh *et al.*, 2012). Trust is explored as an additional belief factor, as it is considered as key in social exchange relationships (Blau, 1964) and it has also been found to be relevant within the post-usage stage of technological innovation (Venkatesh *et al.*, 2011).

- The extended UTAUT model belief factors

Models established earlier, being the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM) (Davis, 1989; 1986), contributed towards the development of the Unified Theory of Acceptance and Use of Technology model (UTAUT) by Venkatesh *et al.* (2003). Whereas the UTAUT model was originally developed to explain technology acceptance and use by employees, it has in recent years been applied to other contexts as well, notably customer technologies (Venkatesh *et al.*, 2012).

The UTAUT model included four independent variables, namely performance expectancy, effort expectancy, facilitating conditions and social influence. Firstly, *performance expectancy* reflects the extent to which consumers will benefit by using the technology while *effort expectancy* is a measure of the reduction in the consumers' efforts in performing certain activities (Venkatesh *et al.*, 2012). Furthermore, *facilitating conditions* are the consumers' perceptions of the resources and support they can draw on when performing a

behaviour (Venkatesh *et al.*, 2003, Brown & Venkatesh, 2005), and the extent to which consumers perceive that family, friends and other persons of importance to them believe they must make use of a certain information system or technology is called social influence (Venkatesh *et al.*, 2012). At a later stage, the extended UTAUT model was formed that added the variables hedonic motivation, price value and habit (Kari *et al.*, 2016:5; Venkatesh *et al.*, 2012:159). These variables are the fun or pleasurable experience that using the technology brings (Venkatesh *et al.*, 2012), the consumers' belief that the technology provides value for money spent (Dodds *et al.*, 1991), and the repetitive automatic performance of behaviours instilled through learning (Limayem *et al.*, 2007) respectively.

This study will focus on five of the seven factors forming part of the extended UTAUT model. Only the *price value* and *habit* constructs will not be further explored since mobile banking apps do not carry a cost in South Africa (Standard Bank, 2014:1), and due to the personalised nature of the banking environment that is not habitual in nature. Habit is defined as behaviour that is performed automatically, where it is believed that "people tend to perform behaviours automatically because of learning"(Venkatesh *et al.* 2012:161). In other words, since mobile banking app users intentionally carry out a variety of banking performances, which may be different, depending on the types of transaction required, the habit construct is therefore not relevant to the context of this study. The extended UTAUT model is regarded as suitable for this study since (1) it is tailored to the customer technology use context (mobile banking app users), (2) it expands the theoretical horizons of the UTAUT model, and (3) it substantially improves the explanations for variance found in behavioural intention and technology use in the original UTAUT.

- Competence trust as another potential belief of existing users of mobile banking apps

One party's conviction that an exchange party is honest and reliable is referred to as trust (Morgan & Hunt, 1994). The first party believes that the exchange party's actions will meet its needs at a future date (Flavian *et al.*, 2005:449; Anderson & Weitz, 1989:312). The reliability of electronic communication and the internet contribute towards customers' trust in an online service provider (Mukherjee & Nath, 2007:1177). There is likely to be a correlation between the consumers' trust in technology and their overall trust when engaging in online activities (Mukherjee & Nath, 2007:1177; Lee & Turban, 2001). Venkatesh *et al.* (2011:536) found that post-usage attitudes are positively influenced by post-usage trust within the technology context.

Three types of trust include competence, integrity and benevolence (Yousafzai *et al.*, 2003:849; Gefen, 2002; Mayer *et al.*, 1995). A person's (trustor) belief in the trusted party's (trustee) ability to fulfil his/her expectations is referred to as competence (Venkatesh *et al.*, 2011:536). Integrity or honesty refers to the ability of the trustee to make reliable decisions so as to honour terms they have guaranteed (Salo & Karjaluo, 2007:607), and benevolence is the degree to which the trustor believes that the trustee wants to do good things other than just capitalising on profits (Lee & Turban, 2001:78). In this study, competence trust will be investigated as it has been shown that this trusting belief plays a crucial role about technology and more specifically within online environments in a post-usage stage (Giovannini *et al.*, 2015; Venkatesh *et al.*, 2011; Johnson *et al.*, 2008:426). Since user privacy and security may be compromised in an online environment (Venkatesh *et al.*, 2011:535), the customer faces the risks that the trustee may resort to the violation of privacy, the unauthorised use of credit card information, or performing unauthorised transactions and other forms of undesirable, opportunistic behaviour (Munoz-Leiva *et al.*, 2017:29). A belief in the competence of the service provider to ensure safe and secure transactions, therefore, seems to be important within the electronic banking environment.

1.4.2 Potential attitudes of existing users of mobile banking apps

The tripartite model of attitude is used in this study, as it seems to be the underlying theory explaining the attitude construct. According to this model, attitudes are affective, behavioural and cognitive responses to an attitude object, which are conceptually independent and/or external variables (Breckler, 1984:1191; Blackwell *et al.*, 2001; Schiffman & Kanuk, 2004; Walley, 2009:262). Examples of affect responses are an emotional reaction, a sympathetic nervous activity, or a gut response. Physiological responses such as changes in the heart pulse rate, in the electrical resistance of the skin and temperament, can be used to measure affect responses. Observable actions, intentions and verbal statements regarding behaviour comprise behavioural responses, while the cognitive component is made up of thoughts, knowledge structures, and perceptual responses (Breckler, 1984:1191). It is assumed that these three components vary on a continuum (Allport, 1935; Boe, 2015:361). The common evaluative continuum varies from pleasurable to unpleasurable. Thus, affect can vary from feeling good, happy to feeling bad, unhappy. Behaviour can similarly range from keeping, protecting to discarding and destroying and thoughts or cognitions from supporting to derogating arguments (Breckler, 1984:1191).

Within the marketing environment, the cognitive and affective components of attitude relate to a customer's beliefs and feelings respectively, while the behavioural component is applied to one's actions (Daugherty *et al.*, 2008:7). These beliefs and feelings are said to be motivational sources

as they are functional sources intended to meet specific customer needs (Daugherty *et al.*, 2008; O'Keefe, 2002). They serve as the foundation on which customers' attitudes are formed and ultimately influence behaviour (Daugherty *et al.*, 2008:5; O'Keefe, 2002).

Customer satisfaction and affective commitment have been classified as cognitive and affective components of attitude formation respectively for this study. These constructs will be further explored in this study to determine their impact on customer citizenship behaviour.

1.4.2.1 Customer satisfaction

Customer satisfaction has been described as a backward-looking attitude resulting from the interaction of customers' expectations with performance perceptions (Gustafsson *et al.*, 2005:211). It is a function of execution to date (Gustafsson *et al.*, 2005:211). In other words, a customer who has already experienced a service looks back and forms perceptions about satisfaction when he thinks that what should have happened, indeed happened. Satisfaction is based on the expectancy disconfirmation paradigm; a customer, for instance, makes a positive assessment of a product based on its performance, in comparison to the customer's expectations held before the encounter with the product (Anaza & Zhao, 2013:131; Kotler, 2000).

The expectancy disconfirmation paradigm as proposed by Oliver (1980) is a measure of the difference between the customer's expectation and his/her experience, resulting in either confirmation or disconfirmation (Bhattacharjee & Premkumar, 2004). This approach towards customer satisfaction has been described as cognitive and is considered appropriate for the purpose of this study (Oliver, 1993:419). The expectancy disconfirmation theory is highly regarded in understanding customers' satisfaction in an electronic environment (Chih *et al.*, 2012; Bhattacharjee & Premkumar, 2004). App users experiencing greater positive confirmation (the required functions are found to be embedded in the app) will express higher satisfaction with the service (Hsu *et al.*, 2015:4). When customers find out that the app also operates in a user-friendly manner, they will feel happy with their choice (Hsu *et al.*, 2015:4).

Therefore, customer satisfaction is explored from a cognitive perspective in this study and relates to the attitudes existing users of the mobile banking app service have formed, based on their prior experiences with the mobile banking app service.

1.4.2.2 Affective commitment

Customer commitment relates to the consumers' desire to maintain a long-term mutually beneficial relationship with an organisation (Su *et al.*, 2017:241). Customer commitment is based on the relationship marketing theory (Morgan & Hunt, 1994). It is perceived that customer

commitment comprises three sub-dimensions, namely cognitive commitment, affective commitment and behavioural commitment. The cognitive/continuance commitment is based on balancing the rewards and costs of continuing a particular relationship (Allen & Meyer, 1990). As such, it refers to the costs associated with leaving an organisation. Affective commitment comprises three main elements, namely shared values, identification, and attachment (Fullertonb, 2005:99). Behavioural commitment, on the other hand, refers to the actual behaviour of stakeholders in a relationship including the efforts they make and choices taken (Evans, 2004:215).

For this study, the affective commitment has been selected for further investigation. Affective commitment is considered as a forward-looking attitude. It captures the strength of a relationship between two parties and the resultant commitment to proceed forward (Gustafsson *et al.*, 2005:211). Affective commitment, therefore, relates to a person's emotional attachment which relates to the bond or connection that the customer has with an organisation or perhaps even a brand. Individuals experiencing an emotional attachment are inclined to favour the relevant exchange partners for buying decisions, translating affective commitment into specific actions (Gundlach *et al.*, 1995; Allen & Meyer, 1990) to a specific target (Curth *et al.*, 2014:148; Meyer & Allen, 1991). This reflects the customers' emotional/psychological feelings towards an organisation and their belief that the relationship is important (Gundlach *et al.*, 1995). It displays value congruence and an interest in the welfare of the other party. It entails a higher level of obligation for a successful relationship, and make it equally satisfying and beneficial in a reciprocating manner (Gundlach *et al.*, 1995). In the electronic technology environment, affective commitment is formed after use of a service (Shaikh *et al.*, 2015; Gustafsson *et al.*, 2005). More specifically in the mobile banking app context, it can be presumed that affective commitment will translate to retention and relationship development between a customer and a retail bank (Shaikh *et al.*, 2015:213).

Therefore, affective commitment is explored in this study from an affective (emotional) perspective and relates to the attitudes existing users of the mobile banking app service have formed, in consideration of their future attachments and relationships with the mobile banking app service.

1.4.3 Potential interrelationships between post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviours

Before examining relationships with other factors in the proposed model, it would first be necessary to determine the extent to which the belief factors under investigation resonate under a single higher-order factor ('post-usage beliefs'). Knowledge of these matters would assist in

decision making and to ensure an empirical model that is parsimonious in nature would be developed.

Hence, considering the selection of belief factors of the extended UTUAT model under investigation as well as competence trust that has also been identified as relevant to the post-usage stage of technological innovation, it is firstly hypothesised with reference to the perceptions of existing users of mobile banking apps:

H₁ Post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust

Furthermore, in a customer technology environment, it has been found that customer beliefs about technology could have an impact on their attitudes towards the technology (Fishbein & Ajzen, 1975; Ajzen, 1985; Davis, 1989; Wang *et al.*, 2003; Yousafzai *et al.*, 2010). Development of the UTAUT and extended UTAUT models by Venkatesh *et al.* (2003) and Venkatesh *et al.* (2012) respectively, excluded attitude as it was argued that behavioural intention is directly influenced by customer beliefs about the technology. However, Venkatesh *et al.* (2011) also examined belief factors within a post-usage stage where they discovered that the attitudes of existing users of the technical service are in fact affected by their post usage beliefs about the service. Previous research (Venkatesh *et al.*, 2011; Agarwal *et al.*, 2009:348) has specifically shown that the post-usage attitudes of customers within a technological environment are influenced positively by performance expectancy, effort expectancy, facilitating conditions and social influence. Similarly, it has also previously been identified that hedonic motivation (another factor of the extended UTUAT model) and trust may have an impact on the attitudes of existing users of technology (Childers *et al.*, 2001:525; Venkatesh *et al.*, 2011:531). As such, there is a possibility that the belief factors of the extended UTUAT model under investigation and trust may also be relevant to the retail banking environment and have an impact on the attitudes that existing users of mobile banking apps may have formed about the service delivery.

Additionally, it has also previously been found that customer beliefs may affect customer satisfaction and affective commitment attitudes in the post-consumption stage (Lin *et al.*, 2014; Wang, 2012; Lee *et al.*, 2007; Thong *et al.*, 2006). Lee *et al.* (2007) show in their study that users' perceptions and beliefs about perceived ease of use impact on the satisfaction of internet users in a technology post-usage environment. Also, in another study Saeednia and Abdollahi (2012:150) show the influence that beliefs have on affective commitment in online banking.

Accordingly, considering the investigation of the second-order factor representing 'post-usage beliefs' as well as the above-mentioned relationships, it is secondly and thirdly hypothesised as follows concerning the perceptions of existing users of mobile banking apps:

H₂ Post-usage beliefs have a positive and significant impact on customer satisfaction

H₃ Post-usage beliefs have a positive and significant impact on affective commitment

With regards to the formulation of hypotheses 4 to 6, it is noted that previous research has also shown that affective commitment to the service provider is a major driver of positive customer citizenship behaviour (Curth *et al.*, 2014:149; Bove *et al.*, 2009; Yi & Gong, 2008, 2006). In a consumption relationship, consumers may acquire an emotional attachment towards an organisation which could lead them to be more willing to give something of themselves thereby promoting the organisation's success (Fullerton, 2003:334; Gruen *et al.*, 2000:37). Customer satisfaction has also shown influence toward customer citizenship behaviour. High customer satisfaction is an indication that a customer has positive experiences with an organisation (Groth, 2005; Bettencourt, 1997). Thus, it is anticipated that customers' positive experiences are shared with others, for example, when a customer recommends an organisation for their good service (Bettencourt, 1997:389). Moreover, that people feel obligated to reciprocate behaviour when they benefit from others illustrates the association amongst customer satisfaction and customer citizenship behaviour (Groth, 2005:13).

Last, as mentioned in the introduction to section 1.4, the advocacy and helping behaviour constructs investigated in this study are considered as key dimensions of customer citizenship behaviour. In an endeavour to develop a parsimonious empirical model, it would subsequently also be necessary to investigate the extent to which the customer citizenship behaviour factors under investigation resonate under a second-order factor ('customer citizenship behaviour') within the context of this study.

Accordingly, considering the investigation of the second-order factor representing 'customer citizenship behaviour', as well as the above-mentioned relationships between customer satisfaction and affective commitment with customer citizenship behaviour respectively, it is also hypothesised in this study that concerning the perceptions of existing users of mobile banking apps:

- H₄ Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour.
- H₅ Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour.
- H₆ Affective commitment has a positive and significant impact on positive customer citizenship behaviour.

Finally, the literature investigation also revealed that affective commitment might be influenced by customer satisfaction. The relationship between affective commitment and customer satisfaction has been well established (Ranganathan *et al.*, 2013:201; Johnson *et al.*, 2008:355; Bansal *et al.*, 2004).

Considering the importance of this relationship, the impact of customer satisfaction on affective commitment must be investigated in this study. Hence, it is finally hypothesised that concerning the perceptions of existing users of mobile banking apps:

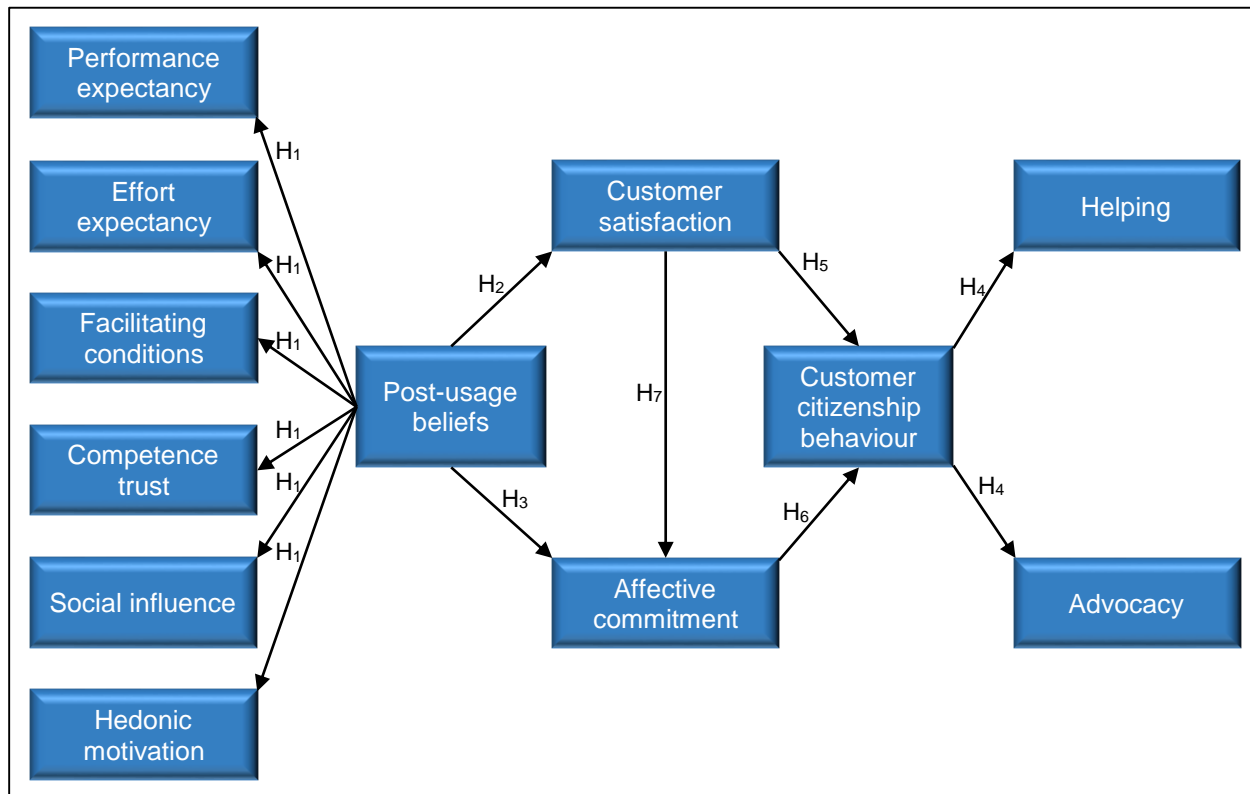
- H₇ Customer satisfaction has a positive and significant impact on affective commitment

More research would be required to investigate the above-mentioned relationships in a mobile banking app context.

1.5 CONCEPTUAL MODEL AND PURPOSE OF THE STUDY

Following the hypotheses that were formulated in the previous section, it is possible to propose a conceptual model of possible factors that may contribute towards positive customer citizenship behaviour in the mobile banking app environment. The conceptual model is presented in Figure 2-1 below which provides a graphical depiction of all the potential relationships that were identified in the literature study.

Figure 2-1: A conceptual model of positive customer citizenship behaviour in the mobile banking app environment



Source: Researcher's own conceptual model.

Figure 2-1 suggests that a number of factors are interrelated and may contribute towards customer citizenship behaviour. Firstly, it appears that the belief factors of the extended UTUAT model as well as competence trust may have a positive and significant impact on the attitudes of existing users of mobile banking apps. The proposed model makes provision for both a cognitive attitude that is focussed on the past (customer satisfaction) as well as an affective attitude that is focussed on the future (affective commitment). The potential impact of customer satisfaction on affective commitment, as noted by previous scholars, is also acknowledged in the model. Ultimately, based on the premise of the social exchange theory (Blau, 1964), satisfied customers who are convinced that the bank has met its contractual obligation as evidenced by their positive beliefs, may want to give back to the bank by engaging in customer citizenship behaviours towards other prospective users. Customer citizenship behaviours may secondly be impacted by the affective commitment (emotional attachments) existing users of the service develop as a consequence of the positive beliefs they have formed about the service. Customers may feel that considering the positive beliefs they have formed, they now are emotionally attached to the bank, and given their future relationship with the bank, they must give back to the bank from whom they have benefited, by displaying customer citizenship behaviour. Positive customer citizenship

behaviour may entail helping other customers to use the app correctly and advocating the benefits to them.

Having been identified in the literature study, the potential combination of the relationships displayed in Figure 2-1 requires further testing and verification. It is the aim of this study to test these relationships (as summarised by the hypotheses formulated) within the mobile banking app context to develop a model of positive customer citizenship behaviour.

Knowledge of the combination of factors contributing towards positive customer citizenship behaviour in the mobile banking app environment may also be of benefit to other organisations offering self-service technologies to customers. The findings may further offer more insight into the marketing theories relevant to the conceptual model identified. The next section provides greater clarification of the potential contribution of the proposed study to marketing theory and practice.

1.6 CONTRIBUTION OF THE STUDY

The proposed study has the potential to make some contributions to both marketing theory, practice and other relevant stakeholders. Potential contributions to marketing theory:

- The findings of this study may provide more insight into the relevance of factors of the extended UTUAT model, the expectancy disconfirmation theory as well as the relationship marketing theory in explaining customer citizenship behaviour.
- A selection of belief factors may be identified that could have an impact on the post-usage attitudes of consumers making use of mobile banking apps. These factors may then also shed more light on the tripartite model of attitude formation and the types of antecedent stimuli that may contribute towards cognitive and affective responses in the form of customer satisfaction and affective commitment. The findings may further help other industries offering self-service technologies to have a better understanding of the range of factors contributing towards attitude formation about the service offering.
- The findings of the study may provide more insight into important dimensions of customer citizenship behaviour within a self-service technology environment.
- Understanding may also be obtained into the extent to which a consumer attitude focused on the past (customer satisfaction), and a consumer attitude that is focussed on the future (affective commitment) may impact on customer citizenship behaviours within the self-service technology environment.

- The findings may provide more insight into the connection between technology adoption models and the customer citizenship behaviour domain.

Potential contributions to retail banking practice, self-service technology companies and government.

A model of positive customer citizenship behaviour may also be of value to retail banks, self-service companies and governments offering mobile app services:

- The strategic direction could be obtained to facilitate greater adoption and use of mobile apps.
- Knowledge of the post-usage beliefs and attitudes towards mobile apps could help to improve the service offering.
- Greater customer satisfaction may be facilitated which could potentially translate to more business and a good reputation.
- Satisfied and committed customers may further result in long-lasting relationships between the provider and their customers.
- Benefits may also be derived from the dimensions of favourable customer citizenship behaviour. For example, helping other customers by explaining correct app use to them and also by positive word of mouth (Groth, 2005) could lead to customers serving as organisational consultants for the self-service technology industry (Shahsavari & Faryabi, 2013:3747; Groth, 2005) and improve the image of the organisation. This could lead to a greater market share (Fowler, 2014:2).

Following the clarification of the purpose of the study, the research objectives are formulated in the next section.

1.7 RESEARCH OBJECTIVES

1.7.1 Primary objective

The primary objective of this study is to develop a model for positive customer citizenship behaviour in the mobile banking app environment.

1.7.2 Secondary objectives

The following secondary objectives have been formulated to assist in the achievement of the primary objective, as set out in Table 1-3.

Table 1-3: Secondary objectives of this research study

Secondary objectives	
Secondary objective 1	To provide an overview of the extant literature related to: 1a) The theory grounding the research constructs, including the technology adoption models, the tripartite model of attitude formation, the relationship marketing theory, and the social exchange theory. 1b) The main constructs of this research study, namely post-usage beliefs, customer satisfaction, affective commitment, and positive customer citizenship behaviour. 1c) The potential interrelationships between the main constructs of this research study.
Secondary objective 2	To develop a sample profile of mobile banking app users who participated in this research study.
Secondary objective 3	To examine the level of favourable post-usage beliefs of bank clients regarding the mobile banking app they use most often, as measured by: 3a) Performance expectancy 3b) Effort expectancy 3c) Facilitating conditions 3d) Social influence 3e) Hedonic motivation Also: 3f) To measure the extent to which bank clients have competence trust in the mobile banking app they use most often.
Secondary objective 4	To measure the level of customer satisfaction of bank clients towards the mobile banking app they use most often.
Secondary objective 5	To assess the level of affective commitment of bank clients towards the mobile banking app they use most often.
Secondary objective 6	To assess the positive customer citizenship behaviour of bank clients concerning the mobile banking app they use most often. More specifically, to measure the extent to which bank clients: 6a) Advocate the benefits of the mobile banking app they use most often to other prospective users. 6b) Provide help to other prospective users interested in the mobile banking app they use most often.
Secondary objective 7	To examine the interrelationships between the research constructs of this study, namely post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour.

1.8 RESEARCH METHODOLOGY

A brief outline of the research methodology that was followed during the empirical part of this study is provided in this section.

1.8.1 Literature sources

The theoretical background for this study was based on information found by the researcher in articles, dissertations, books, accredited research documents and other publications. The relevant sources include the Emerald international journals, Nexus databases, Science Direct international journals, internet scientific search engine Google Scholar, EbscoHost international journals, ProQuest international dissertations, SA ePublications and other South African publications. These sources were consulted to finalise the literature study.

1.8.2 Research design and data collection methods

A research design provides an outline for the collection and analysis of data (Bryman, 2012:46). Within the empirical part of this study, the research design included a quantitative design.

1.8.2.1 Descriptive, exploratory and causal

Research designs can be categorised into three classes' namely descriptive, exploratory and causal designs. Descriptive research is designed to obtain data that will assist to describe the traits of the topic of interest (Hair *et al.*, 2011:148) and is normally structured specifically so that the traits described in research questions can be measured (Hair *et al.*, 2011:149). The exploratory research design is used to clarify opinions about a research problem (Nargundkar, 2003:24) while causal research involves cause and effect relationships. Causal research is carried out for two main reasons being (1) to understand the variable that's the cause and the one that's the effect, and (2) to determine the relationship between the causal variable and the predicted effect (Reddy & Acharyulu, 2008).

1.8.2.2 Qualitative vs. quantitative

The collection, analysis, and clarification of data that cannot be meaningfully summarised in number format are called qualitative research, while quantitative research, on the other hand, has more structure and larger representative samples from which results are numerically calculated (Parasuraman *et al.*, 2006:178).

The field study conducted was descriptive in nature, and quantitative methods were employed to collect the research data for this study. The descriptive (quantitative) research design is useful to

evaluate the various research constructs and to assess the interrelationships between them (Zikmund *et al.*, 2013:135). Feinberg *et al.* (2013:57) also state that a descriptive research design should provide the researcher with a full understanding of the current practices in an industry and enable the researcher to conclude from the main findings. Future recommendations, based on the answers to the "who, what, when, where and how" questions, should also be made possible (Feinberg *et al.*, 2013:57).

1.8.2.3 Longitudinal vs. cross-sectional

A longitudinal study entails that a sample of respondents have been studied over a protracted period (several months or years), whereas a cross-sectional study of a sample or cross-section of the population being considered is taken at a given point in time (Nargundkar, 2003:25).

This study consisted of a once-off cross-sectional research project that was conducted and where structured self-administered questionnaires were emailed to the respondents. The assistance of the Consulta Research Company was obtained in this matter. This Pretoria-based research company had a list of electronic banking users in Gauteng and had agreed to e-mail the questionnaire to respondents on their database.

1.8.2.4 Different forms of conducting a survey

Surveys can be conducted using interviews, over the telephone or using self-administered questionnaires. An interview survey involves face to face, direct communication between the interviewer and respondent (Reddy & Acharyulu, 2008). Telephone interviewing is used when a study design requires the fast collection of information from a large geographically dispersed population that may be too expensive to carry out in person (Wrenn *et al.*, 2007:107). Lastly, self-administered surveys are delivered by various means to participants to complete the questionnaire and return it (Housden, 2007:154). This can be done through the post, faxing, hand deliveries or through emails (Housden, 2007:154).

A self-administered closed-ended questionnaire was used for this study as the researcher asked respondents to select answers from a list that was provided by the researcher, thereby completing the questionnaire (Babbie & Mouton, 2001:258). This survey method carries little cost and is easy to do since respondents can complete the questionnaire at a time that is convenient to them, check personal records if deemed necessary, and the respondents are not affected by the presence of an interviewer (Maree & Pietersen, 2016:176).

Table 1-4 represents the various sections that were included in the questionnaire:

Table 1-4: Outline of the questionnaire

Questionnaire layout	Explanation
Preface	The questionnaire was designed to obtain feedback regarding users' views and behaviour concerning mobile banking apps. It consisted of four sections.
Screening question	The questionnaire consisted of a screening question, as the study targeted only existing users of mobile banking apps in Gauteng.
Section 1: Post-usage beliefs	This section aimed to get views on the mobile banking app respondents used most often. The respondents evaluated the statements on an un-labelled five-point Likert scale (where 1 was strongly disagree and 5 strongly agree). To measure these constructs, scales from the previous literature were used.
Section 2: Attitudes	The objective of this section was to acquire the opinions regarding the mobile banking app respondents used most often. Respondents assessed statements on an un-labelled five-point Likert scale (where 1 was strongly disagree and 5 strongly agree). To measure these constructs, scales from the previous literature were also used.
Section 3: Citizenship behaviour	This section was concerned with users' behaviour towards the bank and other customers regarding the mobile banking app they use most often. The respondents were requested to evaluate the statements on an un-labelled five-point Likert scale (where 1 was strongly disagree and 5 strongly agree). Scales from previous literature were incorporated to measure this construct.
Section 4: Demographic and patronage information	This section acquired the demographic and patronage information of the respondents. The questions in this section were all closed-ended with pre-set options.
Postscript	The questionnaire ended by thanking respondents for their participation.

To ensure validation of the quantitative questionnaire, a pilot test was conducted to reveal any weaknesses in its design and implementation method (Cooper & Schindler, 2014:85). A pilot test draws a sample of a predetermined size from the target population (Zikmund & Babin, 2013:312; Wrenn *et al.*, 2007:179; Webb, 2002:48) and the procedures for data collection are performed on the sample. The sample size of the pilot test may range between twenty-five and a hundred participants depending on the method for testing, nevertheless the participants do not have to be statistically selected (Cooper & Schindler, 2014:85).

For the pilot test and purpose of this study, a sample of 41 respondents was drawn from the target population, and they were requested to complete the questionnaire. The feedback from the respondents was considered and where necessary adjustments were made to ensure the statements to be answered in the questionnaire measured what was intended to be measured.

1.8.3 The sampling process

Sampling is a process that entails obtaining information from a small proportion selected from a much larger population to draw valid conclusions concerning the entire population (McDaniel & Gates, 2006:296). A summary of the sampling plan for the research study is provided in Table 1-5.

Table 1-5: Sampling plan for the research study

Sampling	Description
Target population	Males and females in Gauteng, who were using at least one mobile banking app of one of the five main retail banks in South Africa
Sampling frame	There was no sampling frame available
Sampling technique	Use non-probability, judgement sampling to select sampling units. Use non-probability, convenience sampling and quota sampling to select sampling elements.
Sampling unit	Five main South African retail banks (ABSA, Standard Bank, Nedbank, FNB and Capitec)
Sampling element	Males and females in Gauteng, who were using at least one mobile banking app of one of the five main retail banks in South Africa
Sample size	500 respondents (5 sampling units and 100 sampling elements from each sampling unit). The 100 sampling elements in each sample unit consisted of 50 males and 50 females.
Extent	Gauteng Province, South Africa
Time period	1 May – 31 July 2017

1.8.3.1 Target population

In this study, the target population consisted of all males and females that reside in Gauteng, who were using at least one mobile banking app of one of the five main retail banks in South Africa. Male and female respondents were included in the population to ensure responses from both genders would be obtained. The study focused on respondents in the Gauteng area, as this province records the highest number of people (13 200 349) and has the highest gross domestic product percentage change at 4% by province (Stats SA, 2016). As further evidenced from the Consulta database, it was possible to find respondents in this region that would have a bank account, and that would make use of a mobile banking app of at least one of the five main South African banks when completing their banking transactions. Furthermore, only mobile banking app users from the five main retail banks in South Africa were included in the study, as these banks collectively hold 90% of the country's banking sector assets (Ernst & Young, 2015:18). The

respondents were then requested to consider the mobile banking app they use most often when responding to the statements presented in the questionnaire.

The questionnaire was distributed to respondents in the Gauteng area, and the screening question ensured only respondents making use of at least one type of mobile banking app would participate in the study. Bank patronage information was assessed at the end of the questionnaire to avoid non-response error owing to sensitive questions. Accordingly, the gender question was also incorporated at the end of the questionnaire. Feedback from the respondents was carefully monitored to ensure only answers from respondents that formed part of the target population would be included in the final analysis of the research results.

1.8.3.2 Sampling frame

A sampling frame is a comprehensive listing of the units of analysis that excludes duplications (Welman *et al.*, 2005:57). As the Protection of Personal Information (POPI) Act, 4 of 2013 does not allow retail banks in South Africa to disclose the personal information of their clients, it was not possible to obtain a sample frame of all clients making use of mobile banking apps from the retail banks in South Africa. The Consulta Research Agency in Pretoria, however, agreed to provide access to their database of mobile banking app users in the Gauteng area.

1.8.3.3 Sampling technique

Maree and Pietersen (2016:192) draw a distinction between probability sampling, in which the probability theory is applied, and non-probability sampling. Random sampling selection techniques are used for sample selection in probability sampling so that all units have the same probability of being selected, whereas the chances of units being selected in non-probability sampling can differ (Maree & Pietersen, 2016:192). Because a research frame could not be obtained, probability sampling was ruled out, and a non-probability judgement sampling method was used to select the sampling units. The five main retail banks offering mobile banking app services were identified as the sampling units of the study.

Secondly, the sampling elements were selected by using a combination of the convenience and quota sampling methods. When using quota sampling, a researcher first recognises the classifications of individuals needed for the sample and the necessary number or quotas for each category (Maree & Pietersen, 2016:197). Sample selection is then made using convenience sampling, whereby sampling elements that are readily available to the researcher are drawn to fill up the quotas (Maree & Pietersen, 2016:197). The Gauteng population statistics for gender were examined to verify the proportion of males and females. From the statistics, it was evident

that males and females were equally represented in this region/province (Stats SA, 2015). These percentages were then applied to determine the quota male and female respondents (elements) per sampling unit (bank), the study aimed to survey by convenience.

Table 1-6 provides a summary of the pre-identified sample plan for this study.

Table 1-6: Sample size estimates by sample unit and gender

Sample units	Sample elements	Males	Females
ABSA	100	50	50
FNB	100	50	50
Nedbank	100	50	50
Capitec	100	50	50
Standard	100	50	50
Total	500	250	250

Source: Researcher's own construction (data sourced from Stats SA, 2015).

1.8.3.4 Sample size

The proposed sample size was 500 participants in total. Hair *et al.* (2010:662) recommend that sample sizes take the model's complexity and the measurement methods into account. For example, a sample size of 500 is appropriate when the model has many factors that may differ from one another and has less than three measured items (Hair *et al.*, 2010:662). Since a large number of constructs was investigated in this study, a sample size of at least 500 participants was required. Table 1-6 provides a summary of the study's intended sample size per sampling unit.

1.8.4 Data analysis

Data analysis involves amongst others the application of statistical techniques, developing summaries and looking for trends (Cooper & Schindler, 2014:86).

The edited, coded and captured data obtained from the field study was analysed using a statistical data analysis programme called Statistical Package for Social Science (SPSS) version 24. Means (averages) and standard deviations were calculated as descriptive statistics, and Cronbach's alpha values for each construct were determined to verify the reliability of the measurement scales used for each construct. The AMOS version 24.0 programme was then used to conduct a Confirmatory Factor Analysis (CFA) and to verify the validity and reliability of the research constructs. In the final stages of the analysis, the Structural Equation Modelling (SEM) technique

was used to investigate the proposed conceptual model. An SEM analysis is useful because it can explore and test simultaneous hypothesized causal relationships among multiple variables (Joreskog & Sorbom, 1979). The Amos 24.0 software programme was used to perform the SEM analysis and to conclude on the research hypotheses that were formulated for this study.

1.9 CHAPTER OUTLINE

Chapter	Contents
1	Chapter 1 provides an overview of the research study. The chapter focuses on offering more insight into the research background and problem investigated. An account of the South African banking industry is also provided, which is then followed by a discussion of the main theories and research constructs. The final part of the chapter is devoted to a presentation of the conceptual framework, the purpose of the study, research objectives and research methodology of the planned thesis.
2	Chapter 2 offers more insight into self-service technologies within the retail banking environment and their related advantages and disadvantages.
3	Chapter 3 provides a greater understanding of the evolution of the extended UTUAT model and the post-usage beliefs that are further explored in this study. The chapter also examines attitude formation in the self-service technology environment and includes a discussion of the tripartite model grounding attitude formation.
4	Chapter 4 focuses on customer satisfaction and affective commitment as attitudinal constructs in the customer citizenship model. The relevant theories explaining these constructs are also explored in more depth, and previous studies will be consulted to obtain more insight into the research constructs. Chapter 4 further offers a greater understanding of the social exchange theory as well as the dependent variable, positive customer citizenship behaviour.
5	Chapter 5 provides more insight into the proposed conceptual model as well as the hypotheses formulated for the study.
6	Chapter 6 offers a detailed description of the research methodology and process that will be followed to execute the research study.
7	Chapter 7 presents an analysis of the field data and concludes the hypotheses that were formulated.

- 8 Chapter 8 presents the conclusions about positive customer citizenship behaviour in the mobile banking app environment and propose the final model of this study. The chapter concludes with some research directions that may guide further studies on this topic.
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1.10 SUMMARY

Mobile banking apps offer great benefits to both retail banks as well as their customers, including higher functionality, productivity improvements, cost savings and a competitive advantage. Statistics, however, have shown that this form of self-service technology requires greater adoption, especially among bank customers in South Africa. Customer citizenship behaviour may present a cost-effective solution to assist retail banks with this matter. It has been highlighted in this chapter that positive customer citizenship behaviour could relate to customers helping other customers to correctly use the mobile banking app and giving positive word of mouth recommendations about the app to other customers (advocacy).

Few studies, however, have addressed the use of mobile banking apps via smartphones or tablets. As a result thereof, research and understanding of a model of factors that may lead to positive customer citizenship behaviour in the mobile banking app environment have not been adequately addressed. As such it is the intention of the proposed study to close the research gap and identify a model of factors that may contribute to positive customer citizenship behaviour in the mobile banking app environment. In addition to the social exchange theory, the technology adoption theory, the tripartite model and the relationship marketing theory will be further explored to obtain a greater understanding of the factors that may contribute towards positive customer citizenship behaviour in the mobile banking app environment.

The findings of this study may provide more insight into theories that may explain customer citizenship behaviour. Additionally, valuable guidance may be offered to retail banks, other self-service technology organisations and governments in strategies that can be employed to foster greater customer citizenship behaviour and that in turn may lead to the adoption of the self-service technology offering.

The next chapter, Chapter 2, focuses on self-service technologies within the retail banking environment.

CHAPTER 2

SELF-SERVICE TECHNOLOGIES IN THE RETAIL BANKING ENVIRONMENT

2.1 INTRODUCTION

It was established in Chapter 1 that positive customer citizenship behaviour, relating to for example positive word of mouth recommendations and customers helping other customers to use the mobile banking application (app), could offer retail banks a cost-effective solution for ensuring greater adoption and usage of mobile banking app services. In this research study, a model for positive customer citizenship behaviour in the mobile banking app environment will be developed that may be of strategic assistance to retail banks in the promotion of their mobile banking app services.

Generally, mobile banking apps can be classified as a form of self-service technology and are defined as a process of executing banking transactions and procedures through the use of a mobile device (Pousttchi & Schurig, 2004). The purpose of this chapter is to provide more insight into the self-service technology channel of the retail banking sector and the benefits and challenges that mobile banking apps specifically may provide. Within the retail banking industry, self-service technologies include the following types of banking: Automated Teller Machines (ATMs), telephone, internet and mobile banking (cell phone banking and mobile banking apps). These technologies are perceived to be key in the growth of banking products and services (Berndt *et al.*, 2010:48) and may offer customers greater access to services, as well as lower cost and a perception of control (Berndt *et al.*, 2010:48). Knowledge of the evolution of self-service technologies in the retail banking environment, as well as the strategic importance of mobile banking apps specifically, will contribute to a broader understanding of the research context of this study.

Hence, Chapter 2 commences with a definition of the self-service technology concept, after which the self-service technology channel offering and its evolution within the global retail banking environment are further explored. After this discussion, self-service technology trends for the retail banking sector in South Africa is examined. The chapter concludes with a reflection on the opportunities that self-service technologies provide as well as the strategic importance of mobile banking apps specifically.

2.2 THE SELF-SERVICE TECHNOLOGY CONCEPT

Various definitions have been formulated to provide an understanding of the self-service technology concept. In a retail banking context, self-service technologies, for example, have been defined as interfaces with the bank's computerised system that allow customers to conduct banking services by themselves, without any involvement by the bank's employees (Kelly *et al.*, 2010:2; Makarem *et al.*, 2009; Dean, 2008; Forbes, 2008; Shamdasani *et al.*, 2008; Beatson *et al.*, 2007; Curran & Meuter, 2005; Meuter *et al.*, 2003:899; Meuter *et al.*, 2000:50). Organisations provide self-service technologies to empower customers to engage in self-service behaviours (Journee & Weber, 2017:5; Demoulin & Djelassi, 2016:540; Hilton *et al.*, 2013:3). The self-service technology innovation creates new service options, allowing customers to participate in service creation, thereby changing the service nature from human-to-human interaction to human-to-technology interaction (Wei *et al.*, 2009:5). Self-service technologies empower customers to play an active role regarding their service experience (Robertson *et al.*, 2012:21). Self-service technologies are therefore the pinnacle in customer participation since no assistance is received from service personnel nor is there any communication with them (Halstead & Richards, 2014:17; Elliott *et al.*, 2012; Zeithaml *et al.*, 2012; Robertson & Shaw, 2005:226).

Self-service technologies are furthermore regarded as a tool that is relatively easy to use (Kokkinou & Cranage, 2015; Oh *et al.*, 2013; Curran & Meuter, 2005; Dabholkar & Bagozzi, 2002; Dabholkar, 1996), with simple or clear instructions or a straightforward process (Meuter *et al.*, 2000:55) and that could result in positive impressions and behaviour among customers. For example, in the study by Meuter *et al.* (2000:55) an individual's encounter with an ATM is described as memorable because it was easy to use by putting his/her card into the ATM and by following the easy instructions, got cash and a receipt (Meuter *et al.*, 2000:55). Customers are also more likely to use self-service technologies when they perceive them as easy to use (Halstead & Richards, 2014:17; Elliot *et al.*, 2014; Kim *et al.*, 2014; Weijters *et al.*, 2007).

Third, it appears that self-service technologies offer greater self-control over the service delivery process (Curran *et al.*, 2003:211; Meuter & Bitner, 1998) which refers to the customer's ability to control the pace and nature of the transaction, and the level of interactivity (Collier & Sherrell, 2010:492). Self-control lets customers select only the service offerings that will match their ability, needs and desires for the service outcome (Collier & Sherrell, 2010:492; Dabholkar, 1991). For example, in a traditional in-store experience, it is expected that a customer will be attended to by an employee to complete the business transaction or service delivery and the customer's experience will be shaped by the time taken, attention given and accuracy of the employee (Oyedele & Simpson, 2007:288). However, customers using self-service technologies will self-

control the transactional processes when the customer is an experienced user of the self-service technology in question, by initiating the process at his/her option, proceeding at his/her own pace, and taking sole responsibility for the accuracy of the service (Oyedele & Simpson, 2007:290). Self-control of the transactional processes could therefore greatly improve the customer's perceptions of service quality and lead to more instances of self-service technology usage.

Fourth, it can be noted that self-service technologies are also seen as cost-saving devices (Scarfo, 2017:10; Collier *et al.*, 2015:703; Curran & Meuter, 2007; Pujari, 2004; Curran *et al.*, 2003:213; Sneath *et al.*, 2002; Meuter *et al.*, 2000; Meuter & Bitner, 1998; Dabholkar, 1996; Dabholkar, 1994:106). Cost savings related to customers spending less time and money by using available technologies (Ho & Ko, 2008:432). The cost per transaction to the customer can be reduced when customers switch over from in-bank services to computerised channels (Campbell & Frei, 2010:7). By using the online channels, customers could also save the time and money that would be spent on travelling to the bank's branch and waiting in queues for the service to be provided (Campbell & Frei, 2010:6).

Fifth, given that customers create and use the electronic services independent of employee involvement, convenience has been emphasised as another key determinant of self-service technologies (Wang *et al.*, 2017:4; Choi *et al.*, 2014:5; Collier & Sherrell, 2010; Meuter *et al.*, 2000). Convenience refers to the availability of self-service technologies to customers when and where they need it (Meuter *et al.*, 2000). It is the perceived ability of access to self-service technology for customers at the time and location convenient for them (Yen, 2005; Curran *et al.*, 2003:211; Kauffman & Lally, 1994). In an online retail shopping context, for example, convenience is demonstrated by the ability to shop online at any time (not restricted to the shop's hours of doing business) from one's home (Hofacker, 2001). Shopping from home can avoid many frustrations such as commuting in heavy traffic, finding a parking space, and standing in long check-out lines, while also offering one-stop shopping.

Lastly, it appears that self-service technologies may also offer customers enjoyment (Dabholkar *et al.*, 2003). Enjoyment refers to the customer's pleasure while using the technology, leaving any pleasure emanating from anticipated performance consequences aside (Elliot *et al.*, 2012:319; Davis *et al.*, 1989). While customers are mainly seeking a utilitarian aspect of self-service technology (efficient transaction), they also desire to engage in an enjoyable process (Oghazi *et al.*, 2012; Wang, 2012). Self-service technology can be regarded as a source of enjoyable experience inducing positive feelings such as pleasure (Childers *et al.*, 2001) which illustrates customers' hedonic consumption of self-service technology (Weijters *et al.*, 2007; Curran & Meuter, 2007). Enjoyment can easily be added to self-service technologies by the inclusion of

colour, games, background music, and short interactive quizzes (Halstead & Richards, 2014:21). In a self-service technology environment, the study by Dabholkar (1996) indicates that enjoyment is an influential attribute to the evaluations of self-service technologies. People who enjoy playing with new gadgets will prefer self-service options (Cetto *et al.*, 2015:4; Langeard *et al.*, 1981). In summary, customers who are evaluating technological options such as self-service technologies place a high value on enjoyment (Cetto *et al.*, 2015:4).

From the discussion provided in this section, it then appears that there are six main elements that can be associated with the self-service technology concept. These elements are summarised in Table 2-1 below:

Table 2-1: Self-service technology elements

Element	Description	Authors
Services are produced independently of direct service employee involvement	Customers perform tasks that were previously undertaken by the employees of the organisation	Beatson, <i>et al.</i> , 2007; Curran & Meuter, 2005; Dean, 2008; Demoulin & Djelassi, 2016:540; Elliott <i>et al.</i> , 2012; Forbes, 2008; Halstead & Richards, 2014:17; Hilton <i>et al.</i> , 2013:3; Journee & Weber, 2017:5; Kelly <i>et al.</i> , 2010:2; Makarem, <i>et al.</i> , 2009; Meuter <i>et al.</i> , 2003:899; Meuter <i>et al.</i> , 2000:50; Robertson <i>et al.</i> , 2012:21; Robertson & Shaw, 2005:226; Shamdasani, <i>et al.</i> , 2008; Wei <i>et al.</i> , 2009:5; Zeithaml <i>et al.</i> , 2012
Easy to use	Self-service technologies require less effort than in-store interpersonal services	Curran & Meuter, 2005; Dabholkar & Bagozzi, 2002; Dabholkar, 1996:34; Davis <i>et al.</i> , 1989; Demoulin & Djelassi, 2016:543; Elliott <i>et al.</i> , 2014; Halstead & Richards, 2014:17; Kim <i>et al.</i> , 2014; Kokkinou & Cranage, 2015:1183; Meuter <i>et al.</i> , 2000:55; Oh <i>et al.</i> , 2013; Weijters <i>et al.</i> , 2007
Greater self-control over the service delivery	Customers are responsible for the accuracy of the transaction and do not have to rely on the time, attention and precision of the in-store employee to complete the business transaction or service.	Bitner <i>et al.</i> , 2000; Campbell & Frei, 2010:7; Collier & Sherrell, 2010:492; Curran <i>et al.</i> , 2003:211; Dabholkar, 1996; Meuter & Bitner, 1998; Oyedele & Simpson, 2007:288
Greater cost savings	Customers may, for example, save on time and transport costs when they don't have to travel to the store to complete the transaction	Campbell & Frei, 2010:7; Collier <i>et al.</i> , 2015:703; Curran & Meuter, 2007; Curran <i>et al.</i> , 2003:213; Dabholkar, 1996; Dabholkar, 1994:106; Gunawardana <i>et al.</i> , 2015:5; Ho & Ko, 2008:432; Meuter <i>et al.</i> , 2000; Meuter & Bitner, 1998; Pujari, 2004; Scarfo, 2017:10; Sneath <i>et al.</i> , 2002
Convenience	Transactions can be completed at any time and any location.	Childers <i>et al.</i> , 2001:517; Choi <i>et al.</i> , 2014:5; Collier & Sherrell, 2010; Curran <i>et al.</i> , 2003:211; Hofacker, 2001; Kauffman & Lally, 1994; Meuter <i>et al.</i> , 2000; Wang <i>et al.</i> , 2017:4; Yen, 2005
Enjoyment	Customers could experience pleasure when using self-service technologies	Cetto <i>et al.</i> , 2015:4; Childers <i>et al.</i> , 2001; Curran & Meuter, 2007:285; Dabholkar <i>et al.</i> , 2003; Dabholkar, 1996; Davis <i>et al.</i> , 1989; Elliott <i>et al.</i> , 2012:319; Halstead & Richards, 2014:21; Langeard <i>et al.</i> , 1981; Oghazi <i>et al.</i> , 2012; Wang, 2012; Weijters <i>et al.</i> , 2007

Based on the elements displayed in Table 2-1, it seems that for this study, self-service technology can be defined as a computerised interface with the bank's system that enables customers to produce a service without the involvement of the bank's employees and that allows for easy usage, greater self-control and enjoyment, while also permitting cost savings and convenience to customers.

2.3 THE SELF-SERVICE TECHNOLOGY CHANNEL OFFERING

Self-service technologies can generally be grouped into three broad categories, known as (1) customer service, (2) direct transactional service and (3) self-help services (McWilliams *et al.*, 2016:82; Wang *et al.*, 2012:56).

2.3.1 Customer service

The primary purpose of a self-service technological offering may be to offer customer service. Typical forms of customer service provided through self-service technologies include paying bills, providing answers to frequently asked questions and providing information regarding accounts and delivery tracking (Meuter *et al.*, 2000:52). Customers can also report service failures through self-service technologies, for example by calling an automated phone line or sending an e-mail through a website to report a problem with the service he/she has received (Bitner *et al.*, 2002:98). As a result, the use of a self-service technological offering can, therefore, lead to improved customer service, empowered customers and increased efficiency (Hsieh, 2005:78).

2.3.2 Direct transactional services

Self-service technologies may further be created with the intention to offer transactional services to the customers directly so that the customers can order, buy, and exchange products and services with companies without any involvement of their employees. Transactional self-service technologies can be an easy way to reduce the number of employees while preserving the ability to handle occasional bursts in traffic (Slawsky, 2013:1). Successful transactional services are dependent on making it easy and secure for consumers to buy online, being available to answer questions, fulfilling orders in a timely and accurate manner, and having systems in place to solve customer problems should they arise (Bitner *et al.*, 2002:99).

2.3.3 Self-help services

The self-help services refer to self-service technologies that provide relevant information to customers so that they can equip themselves through learning and training to provide their own services (Bitner *et al.*, 2002:99; Meuter *et al.*, 2000:52). For example, health information can be

found on websites, while self-help videos can demonstrate how to use the technology (Hsieh, 2005:78; Meuter *et al.*, 2000:52). Self-help services are attracting many customers because of the availability of resources that give customers the power to take matters into their own hands (Akella, 2016). As such, self-service technologies also serve an educational function and can be employed by customers to learn more about a topic or the execution of a specific task.

The next section provides more insight into the bouquet of self-service technologies offered by retail banks. The discussion also offers confirmation that customers making use of the bank's self-services technologies will experience all three of the service benefits that was examined in this section.

2.4 GLOBAL PERSPECTIVE ON THE EVOLUTION OF SELF-SERVICE TECHNOLOGIES IN THE RETAIL BANKING ENVIRONMENT

Historically, the self-service technologies that have been available and significantly affected the traditional banking services delivery in the retail banking environment, are (1) the Automatic Teller Machines (ATMs) that were introduced in the late 1970s, (2) telephone banking that was launched in the mid-1990s and (3) internet banking, which emerged in the late 1990's (Mainardes *et al.*, 2017:190; Kaushik & Rahman, 2015:96; Curran & Meuter, 2005; Meuter *et al.*, 2000). Later on, (4) mobile banking opportunities such as cell phone banking were introduced in 2005 (Ledwaba, 2013:19) and (5) since the introduction of iOS and Android-powered mobile phones in 2007, banks have developed mobile banking apps (Flower *et al.*, 2012:84).

This section offers a global perspective on the various forms of self-service technologies that have been introduced to the retail market over time and includes a discussion of their characteristics, benefits and challenges.

2.4.1 Automated teller machines (ATMs)

2.4.1.1 Definition and characteristics of ATMs

An ATM is an electronic telecommunication device that communicates with a bank's computer system so that customers of a retail bank can transact without the need to enter the bank's branch (Al Sawalqa, 2012:191; Adepoju & Alhassan, 2010). They enable clients to utilise and access the financial services platform with the aid of a transactional card also known as an ATM card (Wai-Ching, 2008). An ATM has multi-functionality as it functions as a computer terminal, a record generating device, and a cash vault.

ATMs further serve all three self-service technology purposes, as discussed in section 3. ATMs (1) provide customer services by allowing customers to get the current balances and mini statements of their bank accounts (Thaver, 2015:16), to withdraw cash, to take cash advances from their credit card accounts, and to purchase prepaid airtime for cell phones amongst others (Jegade, 2014:41). ATMs (2) have gained prominence as a delivery channel for banking transactions, enabling direct transactional services for customers to make bill payments, fines and fee payments, and other transactions beyond office hours and branch premises (Hariharan, 2014:7). ATMs (3) offer self-help services through the new interactive teller technology that lets customers talk to a remote teller via a video monitor, thus performing remote services that were previously not possible (Weisbaum, 2013). For example, in some countries, a lost ATM card can be replaced when a customer shows the remote teller his/her driver's license (Weisbaum, 2013).

More advanced features of ATMs include voice prompts by the ATM to aid blind customers and a range of languages that tourists can choose from (Castro *et al.*, 2010:8). Furthermore, in various European countries the quantity and range of services provided at ATMs have increased significantly (Accenture, 2016:12). ATMs in the UK offer customers options to top-up prepaid mobile phones, make donations to charities, make cheque and cash deposits, print statements, manage debit orders, and to use credit transfer facilities. ATMs in the USA sell stamps; MultiCarta in Russia's ATMs provide customers with credit card application facilities; Leto Bank, another Russian organisation, offers customers express loans through its ATMs; PrivatBank in Ukraine's ATMs offer Western Union international money transfers and currency exchange capabilities (Accenture, 2016:12). The self-service transactions offered at ATMs can still be expanded significantly. For example, cash recycling of notes and coins is likely to become a commonplace service offering, as ATMs perform deposit-taking roles, previously the terrain of bank tellers (Accenture, 2016:12). With banks continuously seeking cost efficiencies in almost every sphere, cash recycling via ATMs will be central inefficient cash management and the smooth and convenient circulation of cash (Accenture, 2016:6).

2.4.1.2 Benefits of Automated Teller Machines

Both retail banks and their customers are benefiting from the services provided by ATMs. ATMs help customers to deliver an independent service (Curran & Meuter, 2005:103). The ATMs also offer convenience to customers who were previously limited to the bank's business hours, while at the same time cutting the bank's need for tellers. By using ATMs, customers now have perpetual access to their bank accounts (Castro *et al.*, 2010:7) and do not have to deal with impolite bank staff (Saxena *et al.*, 2015:183). Furthermore, by creating wide area networks for ATMs, retail banks have expanded their coverage enabling bank customers to perform self-

service regardless of their location (Ogbuji *et al.*, 2012). ATMs offer shorter waiting times by counting and dispensing notes quicker thereby completing transactions faster (Seven Bank, 2010:1). Owing to digital image processing technology, ATMs now process customer deposits more efficiently by dispensing with the needs for deposit envelopes to be used; bank employees to collect them before processing the transactions, and restricting the availability of funds deposited through ATMs. Before the advent of digital image processing technology, customers, lacked confidence in ATM deposits because they did not receive a detailed receipt and were disadvantaged in the event of a dispute (Castro *et al.*, 2010:8). However, more recently ATMs have been modified to better handle cheques and cash deposits. Modern ATMs can automatically scan cheques, process deposits in real time which immediately gives customers credit for the deposit, and provide customers with a receipt bearing a printed image of the cheques deposited. A further benefit of this new approach is that the transaction cost can be reduced by up to 75% (ONeil, 2016; Castro *et al.*, 2010:8), enabling cost savings.

2.4.1.3 Challenges related to Automated Teller Machines

Making use of ATMs as a form of self-service technology also presents banks with some challenges. Deploying ATMs carries a high cost to retail banks (Hung *et al.*, 2012:63). Other challenges to banks using ATMs include card theft and skimming. Criminals have used devious ways to steal ATM cards from bank customers such as card trapping devices. They are positioned in the slot of the ATM's card reader and have hooks that keep the customer's bank card inside the ATM so that the perpetrators can retrieve it a later stage (Manikandan & Chandramohan, 2016:2). Furthermore, skimming devices are capable of reading the data from the magnetic strip of a customer's card. They are placed by the perpetrators close to the ATM's card reader input slot so that the skimming device reads and records the customer's information. The device is removed later, for the recorded data to be downloaded and stolen (Manikandan & Chandramohan, 2016:2).

2.4.2 Telephone banking

2.4.2.1 Definition and characteristics of telephone banking

Telephone banking enables clients to get their bank account information with a single call using their telephone, virtually without any time or place boundaries (Yousefi, 2015:12). With this in mind, telephone banking is, therefore, an improvement to the previous ATMs as a form of self-service technology that required a customer to travel to the machine to conduct the transaction. Telephone banking is menu-driven and makes use of regular telephone systems (Shambare, 2012:39). This entails customers' making a telephone call to their bank's specified number and

then performing their banking transactions by making keypad responses as prompted by the automated voice response tool (Shambare, 2012:39; Guru *et al.*, 2001). Alternatively, customers also have the option to contact their banks and make use of the operator attended service to perform their banking transactions.

The three types of self-service technology purposes, as discussed in section 3 are also applicable to telephone banking services. For example, a customer service is offered when customers, through making use of telephone banking services, obtain information on current interest rates, foreign exchange rates (Tater, 2012:74) and account balances and receive assistance on applying for loans (Shambare, 2012:39). The operator attended service can assist the customer with the delivering of some type of financial transactions which have been requested (Alalwan *et al.*, 2016:154; Liao *et al.*, 1999). By calling the bank's automated call center, a customer can use the direct transactional service to request a stop payment or even request a pay order (Tater, 2012:74), to pay bills, and transfer funds (Alalwan *et al.*, 2016:154; Ahmad & Buttle, 2002; Bitner *et al.*, 2002; Liao *et al.*, 1999). Making use of telephone banking also enables self-help services for customers to know about the bank's activities and to receive information on, for example, bank locations (Natarajan *et al.*, 2010:3).

Telephone banking provides additional banking services such as requests for chequebooks or statements of account which the bank will send by courier to the customer (Tater, 2012:75). Overall, telephone banking allows customers to access their bank account and to conduct their business from their own household. In the UK, HSBC bank's telephone banking allows one to set up standing orders and update their banking details (HSBC, 2016). America's Milford Bank enables a customer to verify that cheques have cleared, confirm deposits, hear the latest interest rates for mortgages and other saving and loan options, stop payment on a cheque, re-order new cheques and receive a copy of the statement (Milford bank, 2017).

2.4.2.2 Benefits of telephone banking

Using the automated service option, telephone banking requires customers to depend on themselves to produce and receive financial transactions (Alalwan *et al.*, 2016:154). In this regard, telephone banking, therefore, helps customers to experience an independent service delivery (Curran & Meuter, 2005:103), that can conveniently be executed at any time and any location (Liao *et al.*, 1999:68) and with greater self-control. Making use of the operator attended telephone banking option, offers a simple and easy alternative, as it only requires making a call to a call centre in the bank to obtain account information and carry out transactions (Hudgins & Rose, 2010:14). Telephone banking is furthermore more cost-effective for banks than ATM

banking and is easily accessible to customers beyond the normal business hours of bank branches (Sundarraaj & Wu, 2005:427; Liao *et al.*, 1999:68). Taking these benefits into consideration, it seems that telephone banking is one of the fastest and easiest distribution channels for accessing bank services (Yousefi, 2015:12).

2.4.2.3 Challenges related to telephone banking

The automated service option works via a menu that customers can operate from their telephone (Chovanova, 2006:23). However, customers sometimes cannot find a menu item for a transaction that they want to perform, or the bank's computer treats the transaction differently from their wishes/instructions (Chovanova, 2006:23).

Other disadvantages of telephone banking include that it does not allow for cash withdrawals that could, for example, be done at an ATM (Liao *et al.*, 1999:68). The operator attended service of telephone banking is rarely available 24 hours a day, and the in-service cost is high (Suraweera *et al.*, 2011:4; Liao *et al.*, 1999:68). Due to the banks' customers demanding better services and the rising costs of the existing customer services, as well as remaining profitable while offering superior services differentiating to their competition, retail banks have found it necessary to incur significant capital expenditure on systems that deliver, for instance, internet banking (Mauro *et al.*, 2007:72).

2.4.3 Internet banking

2.4.3.1 Definition and characteristics of Internet banking

Internet banking can be defined as customers performing banking transactions over the internet by accessing a bank's website (Ameme, 2015:2). In other words, internet banking enables a bank customer to access account information displayed on his/her personal computer screen through the internet while connected to the bank's database (Tater, 2012:75). This makes internet banking more beneficial than telephone banking where information can only be acquired from the bank call centre over a telephone line. In academic literature internet banking has also been called e-banking, online banking and e-payment (Chavan, 2013:20; Ozuru *et al.*, 2010; Singhal & Padhmanbhan, 2008). To gain access to internet banking websites, customers must key in their passwords as these websites are password protected. For added security, many retail banks require a sophisticated combination of passwords. For example, Standard Bank requires two passwords and a sixteen-digit ATM card number before customers can continue to log on to their account details (Shambare, 2012:40).

Considering the three types of self-service technology purposes, as discussed in section 3, it can be argued that internet banking provides customer services by enabling functions such as viewing and inquiring about account balances (Chavan, 2013:20). Customers can also perform direct transactional services using internet banking such as making payments, transferring funds, as well as several purchasing transactions (Chavan, 2013:20; Haque *et al.*, 2009; Singhal & Padhmanbhan, 2008; Tan & Teo, 2000:4). Self-help services will enable a customer to know about the bank's activities, check for the location of branches and interest rates (Natarajan *et al.*, 2010:3).

Internet banking delivers additional services. For example, customers can print their bank statements using internet banking (Chavan, 2013:20) and also submit requests for chequebooks (Ameme, 2015:3). Furthermore, in Ireland, a customer can process direct deposit payroll with internet banking and create stop payments (Ireland bank, 2013) while in Denmark the range of services also covers budgeting, fixed payments, graphical representations, receiving updates on financial trends and buying and selling of shares (Danske Bank, 2017). In Estonia, banks offer their customers loan calculators and functions supporting what-if analyses to be used before borrowing or investing (Kerem, 2003:18). Hong Kong customers could trade in securities using internet banking (Wong, 2011:57). Lastly, in India, some of the banks offer online services through internet banking like tax payments, charity payments and railway ticket bookings (Malhotra & Singh, 2010:97).

2.4.3.2 Benefits of Internet banking

Internet banking provides several advantages. Internet banking happens automatically and eliminates inputs from the banks' customer service staff (Muluka, 2015:11). Thus, it enables customers to deliver an independent service delivery. Internet banking offers easy access and use to many people who know how to use the internet. They have the opportunity and choice to access internet banking from any place where they have internet banking facilities, say at their workplace or from their home (Redlinghuis & Rensleigh, 2010:2; Calisir & Gumussoy, 2008:219). This also leads to convenience for the bank's customers (Nel & Boshoff, 2014; Lasser *et al.*, 2005). Internet banking provides enjoyment to customers as it gives them total control over the processing of financial transactions through the internet (Rotchanakitumnuai & Speece, 2004:279) such as creating and managing beneficiaries, setting up payments and viewing their accounts whenever they want to do so (Redlinghuis & Rensleigh, 2010:2). By managing their internet banking services properly, customers can enjoy definite cost savings as internet banking is made less costly to customers by the banks by their cost savings (Redlinghuis & Rensleigh, 2010:2). Furthermore, as internet banking services carry minimal costs, customers can benefit

from consolidating their banking services on one website account (Govender & Wu, 2013:497; Pyun *et al.*, 2002), while also enjoying time-saving (Nel & Boshoff, 2014:626; Pagani, 2004). Internet banking transactions can be performed quickly since electronic banking forms are normally streamlined in the banks' systems, and a customer no longer has to go to bank branches and queue (Redlinghuis & Rensleigh, 2010:2).

2.4.3.3 Challenges related to Internet banking

Online retail banks are challenged to continually improve their websites by offering customers better functionality in areas such as tailored web-content and more personalised and targeted services. Banks must also pay attention to web-content management and enhance analytical tools for customer profiling (Smith, 2009:134). Another challenge is keeping abreast of fast-changing regulatory requirements that address guaranteeing the authenticity of transactions, protection against fraudulent activities, and other matters prescribed by legislation. The internet is referred to as the worldwide web (www) of users but lacks international laws; users do not have adequate protection against viruses, phishing, and identity theft. Kazmi (2011) identifies hacking and identity theft as major problems that customers feel vulnerable too. Although banks have had successes in thwarting hackers, phishers and other criminals, the challenges are ongoing due to new channels, banks using outsourcing, and advances made by criminals (Ginovsky, 2012). When the internet service has downtime in a territory, the services to customers in that territory are interrupted (Calaway, 2011). While retail banking service providers have pushed the internet channel out to customers, uptake is also varied. It seems that private and investment banks enjoy a high adoption rate, while retail bank uptake is lower due to limited access to the internet by lower living standards measure (LSM) groups. However, the same cannot be said for mobile banking as a self-service channel (Scientia Institut, 2012:2). Hence, it will be discussed next.

2.4.4 Mobile banking

Through the evolution of ATMs, telephone banking, and internet banking, customers could access their accounts and carry out transactions free of time restrictions; customers still faced mobility problems. The innovation to mobile services alleviated their plight. While internet banking facilitates self-service banking to customers using desktop or laptop computers from their homes or workplaces, mobile banking (m-banking) services that make use of much smaller computerised devices (for example, smartphones) make it possible for the customer to be in different locations such as the train or even the café (LivePerson, 2013:3) and therefore are an improvement to internet banking. M-banking comprises an innovated service offering encapsulating both multifaceted intangible services and a technologically innovative medium of service delivery

(Wessels & Drennan, 2010:549; Rao & Troshani, 2007). The customer communicates with his/her bank through a hand-held mobile device like a mobile phone, smartphone, or tablet (Sharma *et al.*, 2017:3; Shaikh & Karjaluoto, 2015:131; Luo *et al.*, 2010:222). Mobile banking is said to be a technologically enabled business proposition (International Finance Corporation, 2014:13).

Customers making use of mobile banking services have the option to choose between cellphone banking and mobile banking app services.

2.4.4.1 Cellphone banking

2.4.4.1.1 Definition and characteristics of cellphone banking

Cellphone banking entails that customers having mobile devices such as cellular phones have the means to banking networks using the wireless application protocol namely WAP (Zhou *et al.*, 2010:760). The WAP comprises communication protocols for mobile devices such as cellular phones which grant them access to the internet and the advanced telephone services of banks by them transmitting signals (Brown *et al.*, 2003:382). Customers using cellphone banking services make use of passwords to log in to their accounts. With cellphone banking, the cellphone handset is used in much the same way as the keypad at an ATM (Brown *et al.*, 2003:382).

Considering the three types of self-service technology purposes, as discussed in section 3, it can be argued that customer service is provided by allowing customers to check account balances through their cellular phones (Brown *et al.*, 2003:382). Direct transactional service can include making transfers, paying bills (Brown *et al.*, 2003:382) and making third party payments (Gu *et al.*, 2009). With self-help services on cellphone banking, customers can know and learn about bank activities through their cellphone (Natarajan *et al.*, 2010:3). The bank activities include sending mobile banking alerts, as arranged, by SMS to customers' cellular phones to notify them of transactions on their accounts (Ha *et al.*, 2012:219). Furthermore, it has been shown that customers are prepared to pay for alerts that inform them of the dates for upcoming payments so that they can meet the due dates (Ha *et al.*, 2012:219; Paisner *et al.*, 2009). Customers may also find account information like interest rates (Barnes & Corbitt, 2003:4) using their cellphone.

In Finland, customers can carry out share dealing and obtain share quotations, portfolio management and the purchase of insurance using mobile banking (Suoranta, 2003:16). In Germany, some of the advanced services include selling and purchasing securities, receiving threshold alerts for stock prices, stock market quotes and reports (Tiwari & Buse, 2007:88-89).

2.4.4.1.2 Benefits of cellphone banking

Cellphone banking provides customers with safety to a certain degree as it uses the Unstructured Supplementary Services Data (USSD) protocol (Van, 2009). USSD is a menu-driven communication that requires a response from the customer similar to those requesting affirmation when purchasing prepaid airtime on cellular phones. USSD is safe and secure because it provides an interactive dialogue between the retail bank and its customers for the duration of that particular session (Shambare, 2012:39). In general, the USSD function has made cellphone banking safer, simpler and more cost-effective (Shambare, 2012:39). Another benefit is that cellphone banking transactions cost much less than ATM and in-bank transactions (Raleting & Nel, 2010:212; Pickens & Ivatury, 2006). This enables cost savings when using cellphone banking (Raleting & Nel, 2011:213; Lee & Chung, 2009). Other benefits of cellphone banking are the ease of use (Raleting & Nel, 2011:213; Laukkanen & Lauronen, 2005) and the availability everywhere of mobile banking (Raleting & Nel, 2011:213; Yang, 2009; Zarifopoulos & Economides, 2009).

The latter is a most important benefit as it has enabled bank customers to do their banking from any place and at any time, making cellphone banking very convenient for them (Raleting & Nel, 2011:213) as well as providing access to real-time account information (Zhou *et al.*, 2010:760). As such, cellphone banking is even more advantageous for customers constantly on the go (Zhou *et al.*, 2010:761). As movements or transactions can easily be checked by bank customers whenever deemed necessary, they feel that they have much better control over their financial affairs (Laukkanen & Kiviniemi, 2010:375; Laukkanen & Lauronen, 2005). Cellphone banking delivers an independent service delivery (Natarajan *et al.*, 2010:2) as customers carry out the services without the interaction of a bank's service employees.

2.4.4.1.3 Challenges related to cellphone banking

The use of cellphone banking can present some shortcomings. Most cellular phones that can browse the internet are not equipped with anti-virus protection by the manufacturer (Chandran, 2014:2) and may not yet be compatible with anti-virus software, posing a security risk. Cellular phones can be infected with viruses when a customer saves his/her personal data on it such as a money payment receipt which is kept in the mobile's memory (Islam, 2014:110). This could then make it possible for hackers to get hold of account information (Islam, 2014:110). Cellphone banking users also face risks like receiving fake messages, being scammed (Chandran, 2014:2), and having their PIN fall into the hands of criminals should their cellphone be lost or stolen (Chandran, 2014:2).

2.4.4.2 Mobile banking applications

2.4.4.2.1 Definition and characteristics of mobile banking applications

Mobile banking apps refer to a process of executing banking functions and procedures through the use of a mobile device that is functioning with specific software developed for this purpose. The software program is generally known as an app (Balabanoff, 2014:249; Pousttchi & Schurig, 2004). Mobile banking apps are carried on different platforms which are iOS (for example iPhone and iPod touch), Android, Blackberry and Windows mobile operating system (Mathura, 2017; Li, 2014). The mobile banking apps can be downloaded to mobile devices from online app stores (Li, 2014), enabling communication with the relevant platform.

Considering the three types of self-service technology purposes, as discussed in section 3, it can be argued that mobile banking apps are designed to make life easier for users looking to perform certain tasks through offering services to a customer, for example, viewing account balances and account entries (Balabanoff, 2014:248; Bruun *et al.*, 2014:336). Customers could use the mobile banking app for direct transactional services to transfer money, pay bills and trading stocks (Jørgensen *et al.*, 2016:283). The self-help services might include getting information on the location of bank branches and interest rates (Krishnan, 2014; Natarajan *et al.*, 2010:3). The mobile banking apps could also have utility functions like currency lists, a currency calculator, and to block one's credit card (Bruun *et al.*, 2014:336).

In Italy, customers could read finance news or look up market indices and currency exchange rates and also have access to tech support line (Fenu & Pau, 2015:32). In Spain, imaginBank that only does mobile banking, uses social media like Facebook and Twitter or its mobile apps to attract young, 'digitally native' customers (millennials). imaginBank's services include financial management tools having the ability to sort payments and card transactions into income and expense categories (Holley, 2016). In a ranking of mobile banking apps among five banks in the UK, it is reported that with Barclays a customer can add images to personalise app and debit card; HSBC and Natwest Bank customers use fingerprint ID; Santander and Nationwide Banks support android pay and apple pay and finally with Lloyds bank app topping the ranking, a customer has the ability to book branch appointments, the app enables financial product comparisons and has a mortgage advisory video service which enables face to face meetings through the app (Finnegan, 2016). Furthermore, the Capital One wallet app in the USA offers additional features such as real-time notifications for all transactions and instant options to redeem rewards (Evans, 2016).

2.4.4.2.2 Benefits of mobile banking applications

Since advanced features and applications were added to banks' apps that are compatible with the innovative capabilities of mobile devices (Fenu & Pau, 2015:26), mobile banking apps have the most mature platforms for mobile-optimised web apps (Fenu & Pau, 2015:33). For example, the touch ID service has replaced the former password driven systems. The critical functionality possessed by some apps (Clements, 2015) enables customers to perform a large number of activities using the mobile banking app. The facilities that are generally available to smartphone mobile banking app users are checking account balances, paying bills, performing money transfers between accounts, conveniently perusing transaction history and locating nearby ATMs. Other benefits that mobile banking apps bring to the customer include enjoyment (Balabanoff, 2014:247; Pranata *et al.*, 2013). Apps have fun design features that could enable a customer using the app to view pictures of the town on the app (Clements, 2015). For example, images of the beach will be displayed to customers of the Chase Bank in Southern California. With mobile banking apps, there are no monthly subscription fees for their use (Standard Bank, 2014:1), they are more secure and user-friendly than online banking by personal computer (De Nederlandsche Bank, 2014), offer an immediate mobile payment system (Bojjagani & Sastry, 2016:673), and allow customers to do their banking at any time and from convenient places (Chandran, 2014:2). Furthermore, ease of use is achieved by tapping through the user-friendly interface specifically designed for iOS and Android operating systems (Digital Insight, 2015:1). The other advantages of this channel are cost savings and ubiquity, which allows clients to access their accounts anywhere, at any time, from a mobile phone or tablet (Domingos, 2012:3). Mobile banking apps also have a security guarantee as customers receive an SMS verification code that is needed to authorise a payment (Chandran, 2014:2). For added security, some banks provide additional security since their apps (those downloaded straight from the server) prevent any data from being stored in the customer's mobile phone memory or the SIM card (Sneha, 2016).

Lastly, mobile banking apps offer an alternative interface for engaging with current accounts allowing customers to spend, save and check their balances on-the-go. This functionality means that customers can quickly rectify shortfalls of funds in their current account by transferring money using the mobile banking app. As a result, customers may be able to exert greater control over incurring unarranged overdraft charges and their balance levels (Financial Conduct Authority, 2015:16).

Mobile banking apps are listed among the top three digital consumer trends for 2017 (Evans, 2017). Almost 75% of consumers reported in Euromonitor's 2016 global consumers' trends survey that they make use of mobile banking apps, with 39% doing so weekly. This emphasises

that banks have a future in this space, despite the love-hate relationship customers have with banks (Evans, 2017). Banks are conditioning customers to trust and use their mobile devices to execute financial transactions and in time that will extend to in-person mobile payments as well (Evans, 2016). In person or proximity, mobile payments are such as holding up a phone to a point-of-sale (POS) terminal in a store (Evans, 2015). The success of mobile banking apps is positioning banks to become a potential provider of mobile payments, given how in-person mobile payment functionality could be a natural next-step in this app's evolution (Evans, 2016).

2.4.4.2.3 Challenges related to mobile banking applications

While the idea of technologically enhanced retail banking products is enticing, getting customers to use technological innovations like mobile banking apps, however, is not straight-forward (Meuter *et al.*, 2005). Some obstacles cited in the literature include getting customers to try the mobile banking app for the first time as using the mobile banking app requires a change in behaviour on the part of the customer (Lovelock, 2001). Therefore, convincing customers to change their behaviour in line with the new self-service technology is often difficult; unlike tangible products, services including mobile banking apps are co-produced by customers (Lovelock, 2001). Another challenge is to reduce security risks such as (1) identity theft due to inadequate access controls in email or cloud storage environments; (2) unauthorised access to data or data loss due to data transmission over unsafe wireless connections such as unsecured public Wi-Fi; (3) banking PINs, card numbers and passwords being exposed to hackers due to unsafe data storage (4) sensitive data leakage to third parties due to poor app coding or verification, and (5) less user authentication, QR Codes, data sharing, short message service and near field communication (NFC) (Webroot, 2015:2). Also, the cost of data when downloading and transacting on the mobile banking app (Mathura, 2017).

Despite these challenges, the use of mobile banking apps may be seen as one of the most beneficial forms of banking self-service technologies, and customer citizenship behaviour may be useful to reduce concerns about security as customers could teach other customers to use the service correctly. It is noted that the cost-to-income ratio is deemed to be one of the most important items in a bank's annual report. One of the areas that banks focus on to improve this ratio is to reduce cost by limiting customer reliance on in-branch services by encouraging customers to use self-service channels like mobile banking apps that are less costly to the banks (Dagada, 2012). In the long run, the banks that win at mobile adoption will be those that understand their customers, adapt quickly, and deliver a high quality, comprehensive experience in a time frame considerably shorter than has traditionally been considered acceptable (Marous, 2016).

2.5 SELF-SERVICE TECHNOLOGY TRENDS IN THE SOUTH AFRICAN RETAIL BANKING SECTOR

This section's purpose is to provide an insight into the application of the various forms of self-service technologies by retail banks in South Africa. There is a specific focus on the developments that can be observed among the five main retail banks in South Africa under consideration for this study, namely FNB, ABSA, Standard Bank, Capitec Bank, and Nedbank.

2.5.1 Automated teller machine (ATM)

All five main retail banks in South Africa offer an ATM banking service (Basson, 2016; Marumo, 2016; Monaisa, 2016; Van der Merwe, 2016; Van Niekerk, 2016). After the launch of the first two ATMs in South Africa in 1977, the way South Africans bank was changed as customers no longer needed to go inside a bank branch as the ATMs presented a simple and convenient way to transact nationwide, round-the-clock (The Banking Association South Africa, 2016). Since the initial launch, many more ATMs were installed across the country by the retail banks to provide greater access to basic banking services for all (The Banking Association South Africa, 2016).

ATMs in South Africa offer services such as ascertaining account balances, cash withdrawals and cash deposits (Basson, 2016; Marumo, 2016; Monaisa, 2016; Van der Merwe, 2016; Van Niekerk, 2016). Notes can be deposited without having to put the cash in an envelope, as it was done previously (Van der Merwe, 2016), cheque/note deposits can be made, customers can also view statements, buy prepaid airtime, pay traffic fines, chequebook ordering, opening of investment accounts and obtaining investment quotes (Standard Bank, 2016). Although more or less the same types of services are offered by all banks, FNB has gone a little further by including a Slimline ATM that has a touchscreen and is installed in retail stores to allow customers to perform a range of transactions. For example, withdrawal of cash vouchers, balance enquiries, purchase prepaid airtime/electricity, opening a savings and/or investment account, issue of bank cards for use at ATMs, and the usual ATM offerings (e-Wallet, transfers and payments, cardless service) with the exception of dispensing cash as cash can be obtained at the stores tills (FNB, 2016). However, this self-service technology is only available in Johannesburg since there are more people residing there as compared to most areas in South Africa (Basson, 2016).

Using ATMs in South Africa also presents some challenges. The increased patronage of ATMs has attracted criminals who created unlawful methods such as card swapping, card skimming, and card trapping. Card swapping occurs when a criminal gets close enough to a customer while he/she is entering his/her personal identification number (PIN) on the ATM's keypad for the criminal to see the PIN entry. The criminal then distracts the customer and swaps the customer's

card so quickly that very often the customer is unaware he/she no longer has his/her own card, leaving the criminal with their ATM card and the means to raid their bank account. Card skimming is a scam used by criminals to copy a bank customer's personal data from the magnetic stripe on the reverse side of his/her ATM card and to use it to extract money from the customer's accounts at a later stage. Card trapping occurs when criminals trap debit and credit cards in ATMs for retrieval later (The Banking Association South Africa, 2016). To counteract these criminal activities, the retail banks must make their customers aware of them and upgrade their systems regularly (The Banking Association South Africa, 2016). Furthermore, there is another challenge regarding an increased cost of servicing due to the risk associated with moving money (cash in transit or CIT robberies) and the high cost of servicing in outlying areas. Also, ATM bombing is a deterrent for banks in high-risk areas (Mathura, 2017).

2.5.2 Telephone banking

The development and use of telephone banking have stagnated because of the poor growth of the land-line telephone network operated by Telkom (Brown *et al.*, 2003:382). Nevertheless, telephone banking remains available at the five main retail banks in South Africa.

Customers have the option to make use of self-help banking and agent-assisted banking services (ABSA, 2016; Marumo, 2016). Self-help banking is where a customer can do their own banking telephonically without having to wait whereas agent-assisted banking is where a customer can talk to an agent who will perform banking transactions on their behalf (ABSA, 2016). With telephone banking customers can make payments (Standard Bank, 2016), do inter-account transfers, request statements to be sent by fax and make balance enquiries on their accounts (FNB, 2016; Basson, 2016).

There are some challenges with regards to telephone banking in South Africa. As previously mentioned, telephone banking in South Africa has seen a decline (Monaisa, 2016) possibly attributable to the lack of growth in the fixed-line telephone network (Brown *et al.*, 2003:382). Also, the study by Berndt *et al.* (2010:70) shows that customers would rather speak to another person than to a machine, while the study by Saunders *et al.* (2007:57) indicates that the urban informal poor perceive telephone banking as not very useful. Even though all of the five main retail banks make use of telephone banking, it, however, seems like Capitec bank is slowly phasing away telephone banking as not many people make use of the service (Monaisa, 2016). Despite these challenges, retail banks in South Africa continue to encourage customers to migrate to electronic channels (PWC, 2013:9).

2.5.3 Internet banking

In South Africa, internet banking started off slowly in 1996 (Redlinghuis & Rensleigh, 2010:2) and had since then changed the landscape of formal banking in the country. Internet banking has advantaged many South African citizens due to its convenience, efficiencies, and effectiveness (Redlinghuis & Rensleigh, 2010:1). Just like ATMs and telephone banking, internet banking is offered by all five main retail banks in South Africa (Basson, 2016; Marumo, 2016; Monaisa, 2016; Van der Merwe, 2016; Van Niekerk, 2016). Banking transactions are completed on a computer, tablet or a smartphone that has internet connectivity to enable a customer to make transactions or even pay bills (Basson, 2016; Marumo, 2016; Monaisa, 2016). Internet banking can also be done by making use of the self-service terminal that is available in some bank branches for people that do not have access to internet banking at home (Van Niekerk, 2016). Internet banking provides bank customers with a broad spectrum of online banking services such as making balance enquiries, downloading account statements, making online tax payments, managing investments, share trading online, making loan applications online and buying prepaid services such as airtime and electricity (Nel & Boshoff, 2014:624).

Despite the benefits that Internet banking may provide, there appear to be several challenges that the South African internet banking users may need to face. For example, compared to other African countries, the cost of internet bandwidth in South Africa is very high (Govender & Wu, 2013:496; Internet Growth in South Africa, 2012). Another challenge in internet banking is data security, theft and phishing attacks (Redlinghuis & Rensleigh, 2010:2). Phishing is a request for personal information sent by criminals to bank customers by email or otherwise, misrepresenting to the bank customers that the information is needed for legitimate purposes (Redlinghuis & Rensleigh, 2010:2; Knabe, 2007:1). Also, South African banking customers view the internet as having insufficient functionality (Govender & Wu, 2013:497; Goldstuck, 2001) due to cost issues, internet speed and a lack of integration across banking channels (Mtimkulu *et al.*, 2013:367; Green & Van Belle, 2003). Retail banks need to convince their customers that the internet as a service channel has the required functionality to be of benefit to the user.

To address some of the above problems, laws to regulate electronic communications have been enacted by the South African government (Kabanda *et al.*, 2010; Kyobe, 2005; Singh, 2004; Van Belle & Joubert, 2004; Van Belle *et al.*, 2004; Van der Merwe, 2003). The Electronic Communications and Transactions Act (ECTA) provides confidence to users of electronic communications to perform transactions and prescribes measures for public and private institutions to take that are aimed at protecting personal information during processing (Kabanda *et al.*, 2010; Kyobe, 2009).

2.5.4 Mobile banking

Mobile banking usage is growing in South Africa (Lawack-Davids, 2012:319-320). All five main retail banks in South Africa have added mobile banking to their selection of self-service technologies (Basson, 2016; Marumo, 2016; Monaisa, 2016; Van der Merwe, 2016; Van Niekerk, 2016).

In South Africa, mobile banking services are also offered in the form of cellphone banking and mobile banking app services (Van der Merwe, 2016; Van Niekerk, 2016).

2.5.4.1 Cellphone banking

Cellphone banking was first introduced in South Africa in 2005 (Maduku & Mpinganjira, 2012:174; Goldstuck, 2005:219). The five main retail banks in South Africa all provide cellphone banking (Basson, 2016; Marumo, 2016; Monaisa, 2016; Van der Merwe, 2016; Van Niekerk, 2016).

South African customers can have two alternative technologies with which to conduct cellphone banking being Wireless Application Protocol (WAP) and Wireless Internet Gateway (WIG). WAP has communication protocols designed to simultaneously give manufacturers, vendors, and others in the wireless device industry access to the internet and innovative telephone services (Brown *et al.*, 2003:382). On the other hand, with WIG a message is sent by the bank, using Short Message Service (SMS) technology, to its customer's Subscriber Identity Module (SIM) card in his/her cellphone that presents the available banking options via the cellphone's menu (Brown *et al.*, 2003:382; Standard Bank, 2003). Cellphone banking customers can access their accounts and perform banking activities similar to those available at ATMs and to internet banking customers such as transferring funds, checking balances, paying bills, and applying for loans (Shambare, 2011:3). Furthermore, cellphone banking also allows customers to view statements and view transaction history on their accounts; make cardless ATM withdrawals; create and pay beneficiaries; buy Lotto and Powerball tickets; change the customer's PIN; pay traffic fines, buy prepaid airtime, data and SMS bundles, electricity, Telkom vouchers, sending cash through e-Wallet, create and editing of recurring payments, inter-account transfers, tax payments and ordering of a chequebook (Arde, 2013:1).

Despite investments made by banks for the development of mobile phone banking systems in South Africa, reports on this technology's utilisation show that banking customers are not adopting this electronic facility as quickly as expected (Raleting & Nel, 2010:212; Luarn & Lin, 2005).

2.5.4.2 Mobile banking applications

Mobile banking apps are the latest tool driving the mobile economy in South Africa (Arde, 2017; BizCommunity, 2014). All five main retail banks in South Africa offer their own mobile banking app (Basson, 2016; Marumo, 2016; Monaisa, 2016; Van der Merwe, 2016; Van Niekerk, 2016).

FNB was the first South African retail bank to introduce a mobile banking app for Android, iPhone and BlackBerry back in 2011, hoping that their customers who already use the bank's internet-based banking service will switch to using the app. However, the adoption rate appears to be slow, as only a fraction of its over 7 million customers is making use of this service (Fin 24, 2015). In 2016, FNB introduced fingerprint verification to the mobile bank app (version 5.0) for both Android and iPhone devices (Fin24, 2016) with technology that uses a fingerprint sensor. App users with this facility can authenticate themselves through a fingerprint ID before gaining access to the account profile (Fin24, 2016).

ABSA's launch of its long-awaited app in 2013 was greeted as the first banking app for smartphones and tablets in South Africa that was made available to individuals and to business customers (I-Net Bridge, 2013). ABSA customers could enjoy speed, convenience, and effortless navigation with fewer keystrokes to perform their banking transactions. ABSA bank offers a special app known as the ABSA Apple Watch for business owners. It is an app that allows users to view their account balances in a graphic meter gauge view and requires users to first set up watch management on their iPhones before using the app on Apple Watch (Marumo, 2016; van Zyl, 2015). Also, another app is offered by the bank known as the Payment pebble device. This is a new device that has to be attached to a smartphone to link it to the customer's account. It is a high-tech yet easy way to make and receive card payments, enabling business owners to accept debit and credit card payments from MasterCard and Visa through a smartphone or tablet and can be done anywhere, at any time (Marumo, 2016).

Following in the footsteps of FNB and ABSA, Standard Bank then launched a mobile payment app in 2014 known as Snap Scan (Fin 24, 2014). It allows customers to pay for their purchases of up to R200 by merely tapping the store's snap scan device with their cellphone. The relevant technologies are a combination of a QR code and a secure PIN number (Fin 24, 2014). A customer has to be registered for cellphone banking to be able to use this self-service technology (Van der Merwe, 2016).

Later on, in 2014, Capitec bank joined the family of banks which had launched a mobile app but took a different route from the norm by focusing on improving the app's security features (Alfreds, 2014:1). The banking app is accessed on feature phones as well as smartphones. The Capitec

bank app is unique as the security feature is embedded in the phone and bypasses the SIM card, thereby improving security significantly and eliminating SIM swop fraud. Once the app has been downloaded, customers have to go into the bank's branch to activate it. Capitec bank has 5.4 million customers, and the app is expected to simplify banking. It is part of a trend where increasingly in South Africa, financial transactions are migrating to online platforms as cellular phones become commonplace (Alfreds, 2014:1). At Capitec bank, they use the term "remote banking" to refer to the use of mobile banking apps on a smartphone or tablet (Monaisa, 2016).

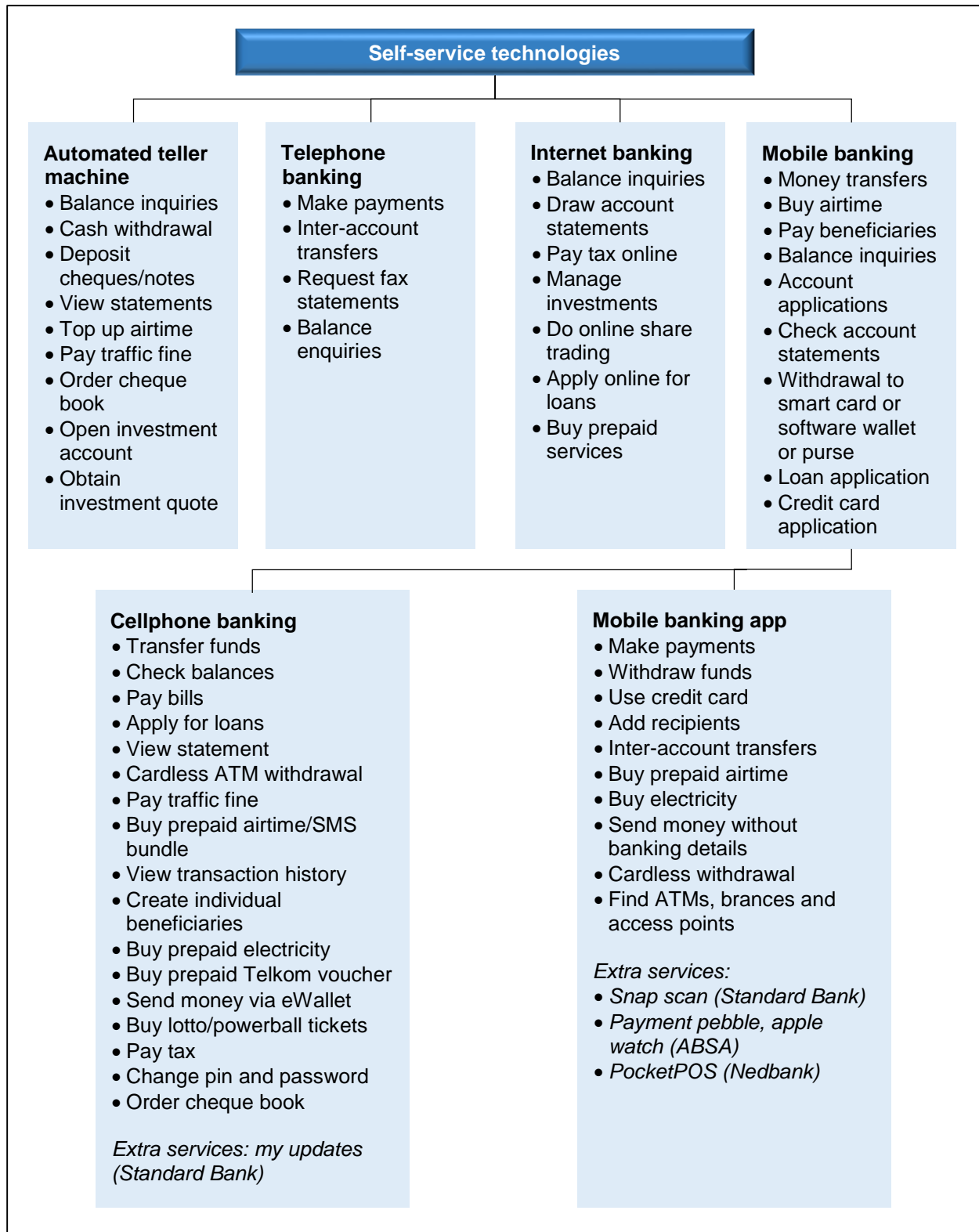
Nedbank, on the other hand, provides a mobile point-of-sale (POS) app known as PocketPOS. With it, businesses can securely process debit and credit card transactions as it is wirelessly connected to their smartphone via Bluetooth (Van Niekerk, 2016). Nedbank launched their PocketPOS in 2013 (Nedbank, 2013) as the bank aspires to be the leader in digital mobile banking by having their customers enjoy the convenience of easy access and mobility, without time constraints, but having increased security (Nedbank, 2013).

Mobile banking apps presented by retail banks in South Africa, therefore, enable their customers to enjoy making intuitive payments with fewer keystrokes and easy navigation, thereby speedily and conveniently performing their banking transactions (I-Net Bridge, 2013). Mobile banking apps also offer a cardless withdrawal solution to a customer (Istrate, 2014:11).

Taking into consideration the low adoption rate that has been reflected in the literature (Arde, 2017; Maduku, 2014:59), it seems that further adoption of the mobile banking app is needed in South Africa.

Figure 2-1 below offers an illustration of the selection of self-service technology available in the South African retail banking environment, as identified in the literature study.

Figure 2-1: Self-service technologies offered by the five main retail banks in South Africa



Source: Researcher's own construct.

As depicted in Figure 2-1, the five main retail banks in South Africa support all four of the self-service technologies being ATMs, telephone banking, internet banking, and mobile banking that comprises cellphone banking and mobile banking apps (banking from other mobile devices such as smartphones and tablets). However, some retail banks have added unique extra services with regards to mobile banking. For example, cellphone banking from Standard bank offers an extra service called “my updates” whereas about mobile banking apps the extra services offered are “snap scan” by Standard Bank, payment pebble and apple watch by ABSA and PocketPOS by Nedbank.

Against the background provided thus far, the final part of this chapter aims to reflect on the opportunities that self-service technologies provide and to specifically highlight the strategic importance of mobile banking apps.

2.6 SELF-SERVICE TECHNOLOGY OPPORTUNITIES AND THE STRATEGIC IMPORTANCE OF MOBILE BANKING APPLICATIONS

Table 2-2 below provides a comparison between the similarities and differences of the various forms of self-service technologies offered by retail banks.

Table 2-2: Comparison between self-service technologies offered by retail banks

SST form	Characteristic								
	Independent service delivery	Easy to use	Greater self-control over service delivery	Provide cost savings	Convenience	Entertaining	Intuitive user interfaces	Offer critical functionality	Offer cardless withdrawals
Automated teller machine	✓	✓	✓	✓	✓	✓	✗	✗	✗
Telephone banking	✓	✓	✓	✓	✓	✓	✗	✗	✗
Internet banking	✓	✓	✓	✓	✓	✓	✗	✗	✗
Mobile banking (cell phone banking)	✓	✓	✓	✓	✓	✓	✗	✗	✓
Mobile banking (mobile banking apps)	✓	✓	✓	✓	✓	✓	✓	✓	✓

From the discussion provided in this chapter and Table 2-2, it can be observed that new technologies introduced during the past two decades, globally and in South Africa, have created wide-ranging opportunities for service providers to embed them in self-service systems that allow customers to provide their own services (Lu *et al.*, 2015:26; Bitner *et al.*, 2002:96). These self-service technologies enable customers to perform banking services on their own without any participation by the bank's employees (Halstead & Richards, 2014:17; Bitner *et al.*, 2002:96) and as a result has contributed to important developments in the retail banking environment. These technological innovations have altered the socio-technical interaction between the banks and their customers (Luo *et al.*, 2010:223) and have created opportunities for increased service consumption as customers have become more receptive to new electronic channels and less willing to visit the banks' branches (Luo *et al.*, 2010:223; Suoranta *et al.*, 2005). To further penetrate existing markets and to create new markets so that full advantage can be taken of their benefits, banks have realised the strategic importance of innovative self-service technologies (Berndt *et al.*, 2010:47).

Furthermore, customers using SSTs benefit from increased self-control over the service, obtaining services quickly, having improved access, and from lower costs (Klier *et al.*, 2016:155; Berndt *et al.*, 2010:48). Similarly, other benefits include the ease of use, usefulness (Ho & Ko, 2008:428), reliability and enjoyment (Dabholkar, 1996), time savings, convenience and the ability to act independently from service people/employees (Klier *et al.*, 2016:155; Meuter *et al.*, 2000). These benefits enhance the customer's service experience (Halstead & Richards, 2014:20). The benefits for retail banks include lower human resource costs or increased productivity by relocating employees within the bank (Berndt *et al.*, 2010:48) that could lead to an improved reputation amongst customers if well implemented (Meuter *et al.*, 2005).

Fixed costs that customers have to necessarily incur when they are first-time users of SSTs (Campbell & Frei, 2010:8), including the costs associated with the learning curve and the costs of building relationships through a new channel may appear to hold little lasting value for the bank (Campbell & Frei, 2010:8). Long-term benefits may, however, be obtained by the bank should its customers believe that the costs to switch to another service provider would be too high (Campbell & Frei, 2010:8; Chen & Hitt, 2002).

While the above-mentioned benefits can further be attributed to the entire range of self-service technologies offered by retail banks, it seems that mobile banking apps, in particular, can be of value to customers and have strategic importance. Mobile banking apps have become the new method of delivering self-directed banking services (Munoz-Leiva *et al.*, 2016:2). Advanced

features such as (1) intuitive user interface (2) critical functionality and cardless withdrawals (Istrate, 2014:11) empower customers as they now have real-time, on-the-go, actionable data.

2.6.1 Intuitive user interface

A native app is one that requires users to log in with a secure four-digit password, after that allowing them to view everything they would need on a platform specifically designed for the mobile device being used. As compared to web apps or browser applications (apps in which all or sections of the software are downloaded from the web to the cellular phone or smartphone each time the app is run), native apps can do more and also take better advantage of the touch and other inherent capabilities of smartphone and tablet devices. The user experience of computerised internet services is that they are much slower than native apps. The time, appearance, ease of use and overall user experience hugely favour a decision to go with a native app vs. using the internet. Rather than logging in to a bank's website and then clicking on the internet banking button on the home page, resulting in the user being directed to a different page to log in to internet banking, a native app can be downloaded to the user's mobile device, enabling the user to log in with a personal four-digit password and letting them view everything they would need on a platform specifically designed for the mobile device being used (ProfitStars, 2015).

2.6.2 Critical functionality

Financial institutions like retail banks can of their own volition send alerts, also called push notifications, to their customers or send them in response to a customer's inquiry. Many customers view alerts as a standard feature of any financial app and consequently expect to receive them without having to make an inquiry. By having their customers activate push notifications on the platform, the banks keep their customers informed by sending SMS even when an app is not launched (ProfitStars, 2015). Those SMS let customers feel organised and in the know about their finances, which could lead to customers having increased feelings of trust and brand loyalty towards their retail bank. A further benefit of sending alerts is that this service decreases customer traffic at ATMs or in-branch and also reduces waiting and on hold times at call centres. Implementing this simple method to deliver relevant financial information to the bank's customers, will certainly lower the bank's operational expenses and should be considered a must-have for a mobile banking solution (ProfitStars, 2015).

Further features to enhance a bank's mobile banking app could include sending out bill payment reminders; using account aggregation technology to bring the customers' information from different institutions to one central storage place on the bank's system; allowing customers to attach cellphone pictures to their transactions (this is known as remote deposit capture referring

to the ability to deposit a cheque for example by taking a picture of it); using augmented reality (AR) to show customers where the bank's ATMs are located within a given radius; and using Near Field Communications to make payments at a store's cash register with a wave of the mobile phone instead of the traditional credit or debit card swipe. Banks whose mobile banking apps have these advanced features offer their customers an integrated user experience and provide them with proven risk management and fraud protection, and will enjoy a competitive advantage and build their brand trust (ProfitStars, 2015).

2.6.3 Cardless withdrawal solution

Mobile banking apps enable a cardless withdrawal solution to a customer (Istrate, 2014:11). For example, ABSA's cellphone banking app has a 'cash send' service that allows customers to transfer money from their account to any recipient. The bank customer/sender enters the cellphone number of the recipient and a six-digit password. The system generates a 10-digit withdrawal number which it sends automatically to the recipient's cellphone together with a 10-digit reference number for the transaction. The sender must also contact the recipient and to provide him/her with the password and the amount transferred. The recipient must be able to provide both of them together with the 10-digit withdrawal number at an Absa ATM to successfully withdraw the 'cash send' amount (Istrate, 2014:13).

Furthermore, there is an indication that the mobile banking app offers is growing in the retail banking sector, but the usage of the apps is still very low (Alafeef *et al.*, 2011) with just 9% growth in banking app users in South Africa (KPMG, 2015:4). Existing mobile banking app customers could offer their assistance to retail banks through engaging in positive customer citizenship behaviours such as helping other customers to use the mobile banking app service and advocating the use of the bank's mobile banking app through positive word of mouth referrals (Yi & Gong, 2012; Groth, 2005). Consequently, to assist in addressing this matter, this research study aims to develop a model for positive customer citizenship behaviour in the mobile banking app environment.

2.7 SUMMARY

Self-service technologies (SSTs) in the retail banking environment are defined as computerised interfaces provided by banks that enable their customers to engage in self-service behaviours to produce a service on the bank's system independent of involvement by the bank's employees (Kelly *et al.*, 2010:2; Makarem, *et al.*, 2009; Dean, 2008; Forbes, 2008; Shamdasani *et al.*, 2008; Beatson *et al.*, 2007; Curran & Meuter, 2005; Meuter *et al.*, 2000:50; Hilton *et al.*, 2013:3). As a

result, customers are the sole role players in the production of their banking service experience (Robertson *et al.*, 2012:21).

SSTs offer some benefits, for example, convenience. Convenience refers to the perceived ability of access by customers to self-service technologies anytime/anywhere they need it (Meuter *et al.*, 2000; Yen, 2005; Lin & Hsieh, 2011:196; Ganesh *et al.*, 2010; Kwon & Lennon, 2009; Murphy, 2008).

SSTs also provide cost savings due to less time and money being spent by customers who make use of cutting-edge self-service (Ho & Ko, 2008:432). SSTs, such as internet banking, carry a lower cost per transaction for customers when they migrate from more expensive in-bank services to lower computerised cost channels (Campbell & Frei, 2010:7). Customers interacting through the online channels could save more money and time by not travelling to the bank and queueing (Campbell & Frei, 2010:6).

The five main retail banks in South Africa support all four of the self-service technologies being ATMs, telephone banking, internet banking, and mobile banking that comprises cellphone banking and mobile banking apps (banking from other mobile devices such as smartphones and tablets). The retail banks adopt these self-service technologies heavily to deliver their services and now, more than ever, through the newer channels of mobile banking such as cellphone banking and making use of mobile banking apps (Gunawardana *et al.*, 2015:4; Gu *et al.*, 2009). These self-service technologies in retail banking have changed the way in which banking services are delivered to customers from the traditional branch banking to the use of electronic channels.

Mobile banking apps encapsulate many characteristics and have improved on internet banking, because the mobile devices deploying the apps have enhanced capabilities that support superior features and applications (Fenu & Pau, 2015:26) such as a good intuitive user interface (Clements, 2015). Customers like touch ID, as the need to work with complicated passwords, has been eliminated. Of utmost importance to customers is that the best banking apps have improved functionality (Clements, 2015) that allows customers to perform all of the services that they can do in a bank or on the website from their cellular phones for example depositing a cheque (Clements, 2015). Mobile banking apps offer safe and secure banking services on the go (Standard Bank, 2014:1) and banking can be conducted anywhere by using the apps on a smartphone or a tablet. The mobile banking app service is available twenty-four hours a day; statements can be viewed, and payments can be made at any time (Standard Bank, 2014:1).

Customers experience a higher level of convenience in conducting financial transactions using mobile banking apps as they can withdraw cash, make payments and inter-account transfers,

and use their credit card accounts without restrictions as to time and place (Noh & Lee, 2015:2) and complete banking transactions at a faster pace and at their convenience (Marry, 2013).

A greater understanding, however, is required into factors that may contribute to customer citizenship behaviour and that may result in existing users of mobile banking apps advocating the benefits and promoting the service to other prospective users. Accordingly, Chapter 3 provides more insight into the beliefs and attitudes as identified from the literature study that may contribute to customer citizenship behaviour. These factors are then further explored in the empirical part of the study.

CHAPTER 3

BELIEFS AND ATTITUDES IN THE SELF-SERVICE TECHNOLOGY ENVIRONMENT

3.1 INTRODUCTION

Chapter 2 addressed self-service technologies (SSTs) in a retail banking environment. Self-service technologies are computerised applications that enable customers to transact with a bank without having contact with the bank's employees (Meuter *et al.*, 2000:50). In this study, mobile banking applications (apps) are further explored as one of the newest additions to the range of self-service technologies offered by retail banks in South Africa. Through the use of smartphones and mobile phones, customers can use the bank's innovative systems for interactions with the bank (Noh & Lee, 2015:2). Chapter 2 consequently provided a clear understanding of the self-service technology concept in general and important developments relating to mobile banking apps in particular.

The purpose of Chapter 3 is to obtain more insight into the belief factors that are further explored in this study as well as the attitude concept. The researcher's primary aim is to develop a model for positive customer citizenship behaviour in the mobile banking app environment, gaining an understanding of the belief factors that could influence existing users' attitudes towards mobile banking apps and that may ultimately result in customer citizenship behaviour. Hence, Chapter 3 commences with an in-depth investigation relating to the evolution of the extended UTUAT model, and its belief factors that may contribute towards attitude formation of existing users of self-service technologies. The remaining part of this chapter is then devoted to a generic overview of the attitude concept that is followed by an exploration of the definition of consumer attitudes.

3.2 THE EVOLUTION OF THE EXTENDED UTUAT MODEL

In Chapter 1 (section 1.4.1) it was stated that this study intends to delve deeper into the belief factors of the extended Unified Theory of Acceptance and Use of Technology (extended UTAUT) which could impact the attitudes of existing mobile banking app users. The history and development of the extended UTAUT model are examined in this section to better understand its relevance within the self-service technology environment.

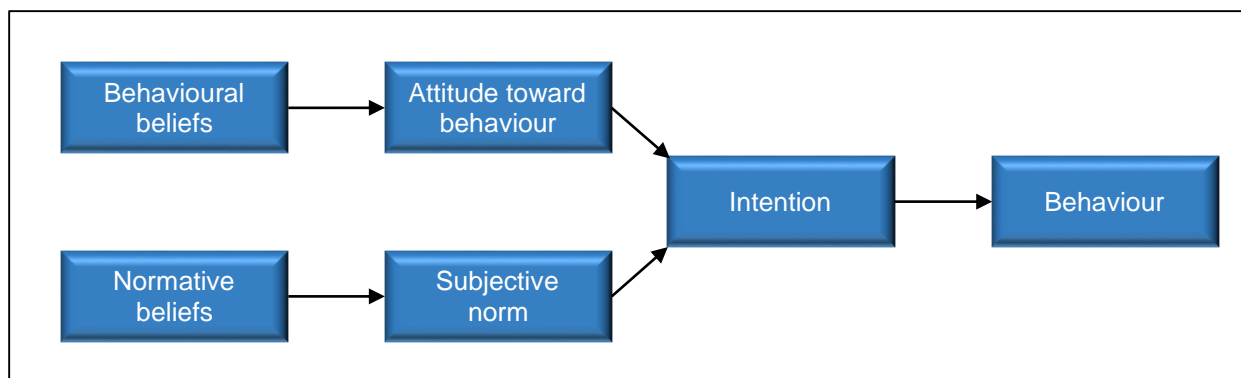
Fundamentally, there are two main streams of research concerning the acceptance, adoption and usage of technological innovations. The first stream of research approaches the usage and adoption of technology from the viewpoint of the diffusion of innovation (DOI) theory (Rogers,

1962) that identifies five attributes of innovation influencing acceptance behaviour, namely compatibility, complexity, observability, relative advantage, and trialability. The second stream of research concentrates on the importance of the intentions of users in determining their acceptance and adoption behaviour. It is believed that the extended UTAUT model was developed from the three most prominent intention-based theories at that time (Venkatesh *et al.*, 2012) and captures their essence, namely, the Theories of reasoned action (Fishbein & Ajzen, 1975), Planned behaviour (Ajzen, 1991) and the Technology acceptance model (Davis, 1989). Hence the subsequent sections provide more insight into the fundamental principles of each of the three more established intention-based models as well as the UTUAT model and the more extended version that was influenced by them.

3.2.1 Theory of Reasoned Action (TRA)

The TRA (Fishbein & Ajzen, 1975) aims at predicting the volitional behaviours of individuals and to comprehensively explain their underlying psychological determinants (Dierks, 2005:74). Volitional control relates to the fact that people can easily perform these behaviours if they are inclined to do so (Ajzen, 1985:12). Specifically, as depicted in Figure 3-1, the TRA model posits that by considering a person's beliefs, attitude and prior intention, that person's actual behaviour is predictable (Davis, 1985; Fishbein & Ajzen, 1975). A person's intention before an actual behaviour is called behavioural intention which is a measure of the intention to proceed with the performance of a behaviour (Fishbein & Ajzen, 1975). It comprises the person's attitude towards behaviour and the subjective norm associated with it (Fishbein & Ajzen, 1975). The person's attitude toward behaviour stems from his/her positive or negative feelings about performing the actual behaviour and can be measured by evaluating all the prominent beliefs regarding the outcomes of acting out a behaviour. On the other hand, one's idea of whether or not the performance of his/her action will be supported by most of the people important to him/her is termed the subjective norm (Fishbein & Ajzen, 1975:302) while normative beliefs are one's perception of what others consider to be acceptable behaviours. The subjective norm takes into consideration both a person's normative beliefs and his/her motivation to act by them (Fishbein & Ajzen, 1975). The TRA is therefore useful as it predicts the actual behaviour of an individual based on clearly identified inputs (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975).

Figure 3-1: Theory of Reasoned Action



Source: Adopted from Ajzen and Fishbein (1980:8).

3.2.1.1 Model advantages

Theoretically, the TRA is intuitive, to the point, and insightful as a construct to explain behaviour (Bagozzi, 1982). It assumes that individuals act rationally and will have considered the consequences of their actions before going ahead or refraining from performing the behaviour in question (Ajzen & Fishbein, 1980). Valid predictions can be made when its users accurately measure both the strength of a person's attitude toward behaviour and the person's feelings about conforming to social norms (Brannon & Feist, 2009:47). Hence, it has been shown to be a powerful predictor of behaviour (Fishbein & Ajzen, 1975) with an explained variance of 0.36 (Samaradiwakara & Gunawardena, 2014:31). Variance is defined as "a measure that quantifies the amount of spread of the data values around their mean value" (Pietersen & Maree, 2016:209). Hence, the factors in this model explain 0.36 of the variance in the behaviour construct (the dependent variable).

3.2.1.2 Application within the self-service technology environment

The TRA is a widely used model with regard to technology acceptance (Al-Ajam & Nor, 2015:180), and has been successfully applied in a number of instances to predict behavioural intention (Venkatesh, *et al.*, 2003; Yoh, *et al.*, 2003; Bobbitt & Dabholkar, 2001; Sheppard *et al.*, 1998; Davis, *et al.*, 1989). The TRA has been used in many self-service technology contexts, for example, by Bobbitt and Dabholkar (2001:425) to internet shopping. Otieno *et al.* (2016) incorporate TRA about technological innovation adoption studies. These studies, amongst others, indicate that the TRA is a model that has been used as a foundation to many studies of technology adoption/acceptance (Otieno *et al.*, 2016:1).

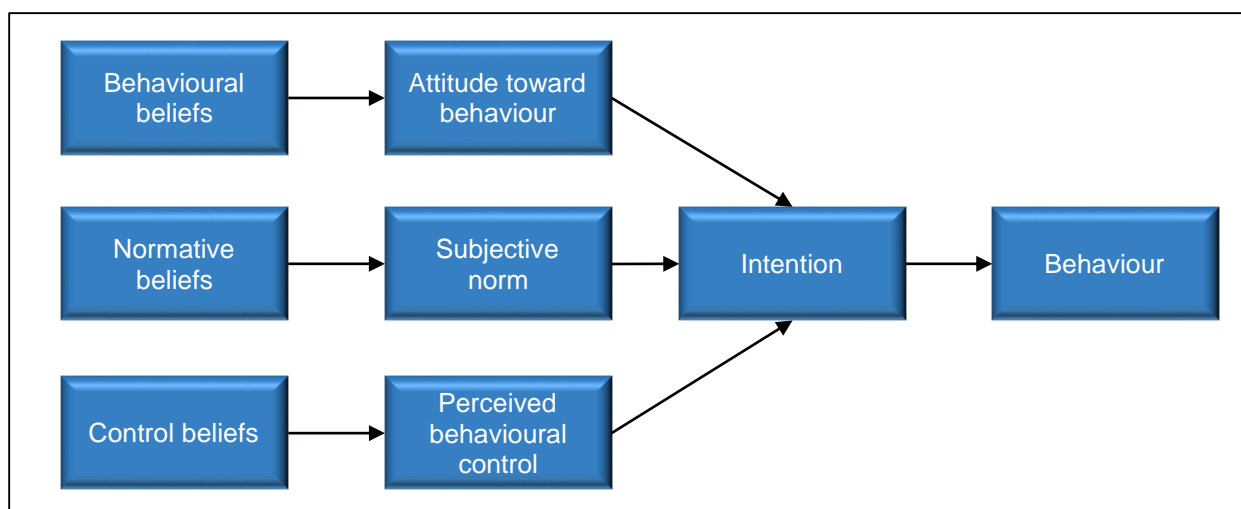
3.2.1.3 Model shortcomings

Nel (2013:58) states that the TRA is limited because it is concerned only with rational, volitional and systematic behaviour. It is noted that the TRA works well in situations in which the ability to achieve one's intentions is certain given total effort; that is where the customer has control over all the factors necessary to effectively use the technology (Sheppard *et al.*, 1988:327). However, when volitional control is absent, the TRA cannot explain behaviour accurately (Nel, 2013:58), and the predictive power of TRA could be weak because of this limitation (Al-Ajam & Nor, 2015:180). An extension called the Theory of Planned Behaviour was developed (Ajzen, 1985) to address these shortcomings.

3.2.2 Theory of Planned Behaviour (TPB)

Ajzen in 1985 (Balabanoff, 2014:251) added “perceived behavioural control” as a construct to the TRA, representing another factor that can influence intentions and behaviours (Ajzen, 1991) which is the preconceived degree of ease or difficulty to perform the behaviour of interest (Bobbit & Dabholkar, 2001:432; Ajzen, 1991:183) and called the enhanced model – the Theory of Planned Behaviour. Perceived behavioural control includes control factors that could make it either easy or difficult to perform the behaviour and as a result reveal the perceived difficulty or ease with which the behaviour may be achieved (Ajzen, 1991). Control beliefs about the availability of resources and opportunities are fundamental drivers of perceived behavioural control, and they are weighted by a perceived power of the control factor in question (Lee, 2009:132). Both the TPB and the TRA assert that behaviour is the direct function of the behavioural intention construct (Ajzen, 1991). In the TPB, behaviour/human action is determined by two beliefs as per the TRA model which are (1) behavioural beliefs that in aggregate produce an inclination towards performing the behaviour, or an unfavourable attitude and (2) normative beliefs that in aggregate result in a subjective norm based on perceived social pressure. The TPB adds (3) control beliefs that underlie perceived behavioural control (Yousafzai *et al.*, 2010:1175).

Figure 3-2: Theory of planned behaviour



Source: Adopted from Ajzen (1991:182).

3.2.2.1 Model advantages

The TPB's advantages are its simplicity and applicability across different behavioural domains (Klockner, 2015:73). For example, it is applied to diverse contexts such as technology adoption, environmental concerns, health communications and risk communications (Knabe, 2012:11). The variables are relatively easy to measure, and the standardisation makes studies applying the TPB easily comparable (Klockner, 2015:73). Further, the TPB highlights the primary beliefs that form the foundation of a particular behaviour (Carroll, 2016:857). The explained variance of the TPB is 0.39 (Armitage & Connor, 2001:471).

3.2.2.2 Application within the self-service technology environment

The TPB has been incorporated in several information system studies (Chen & Li, 2010:3556; Liao *et al.*, 2007:2804; Hsu & Chiu, 2004; Morris & Venkatesh, 2000; Harrison *et al.*, 1997). In the self-service technology, the TPB was used by Chen *et al.* (2009) regarding the continuous use of SSTs and by Aboelmaged & Gebba (2013) in a mobile banking context. They find the substantial positive influence on attitude to mobile banking as well as the subjective norm on the adoption of mobile banking (Aboelmaged & Gebba, 2013).

3.2.2.3 Model shortcomings

While TPB is considered as an improvement to TRA, it also has several shortcomings. Since the addition of the "perceived behavioural control" construct to TPB (Ajzen, 1985, 1988; Ajzen & Madden, 1986), consensus has not been found about the best way of measuring it using its

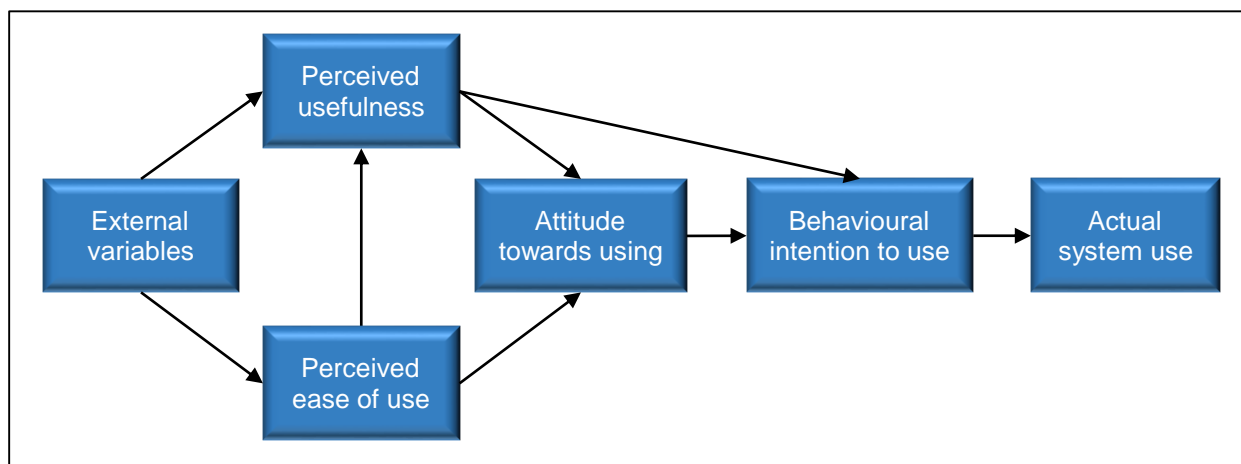
underlying beliefs (Manstead & Parker, 1995:76); the alternatives being the recording of control beliefs or measuring it directly (Davies *et al.*, 2002:37; Manstead & Parker, 1995). Measurement has mostly been done 'directly', by including questions to respondents about the degree of control they experience or the degree of difficulty they will encounter when performing the behaviour (Manstead & Parker, 1995:76; Madden *et al.*, 1992). It is presumed that people will undertake behaviours based on feelings that they will be successful, as pointed out by Eagly and Chaiken (1993). Another shortcoming is that the TPB introduced only one new variable, however other factors could also strengthen the model's power to predict behaviours (Davies *et al.*, 2002). Manstead and Parker (1995) for instance propagated that the variance in behavioural intentions could be more fully explained by personal norms and affective evaluation of behaviour. Ajzen (1991:199) himself suggested that additional predictors will probably be included if they can explain a further significant portion of the variance in intention or behaviour (Yousafzai *et al.*, 2010:1174). In response to these limitations of the TPB, the TAM model was developed and is discussed next.

3.2.3 Technology Acceptance Model (TAM)

The TAM, the third model in the series, is an enhancement of the TPB that was developed following psychological research originating from the TRA (Mathieson *et al.*, 2001). The TAM departed from the TPB as it covered only decisions made by users regarding the adoption of information technology in various settings (Khosrow-pour, 2003:435). TAM is popular because of its practicality relative to TPB and as it is more streamlined than TPB (Khosrow-pour, 2003:435). Whereas TPB requires unique operationalisation for each application that involves the development of three customised instruments concerning beliefs (behavioural, normative, control beliefs), this is not needed for TAM (Khosrow-pour, 2003:435). Furthermore, as TAM is more streamlined than TPB, it is easier to apply when making predictions about information system usage (Mathieson *et al.*, 2001). Initially suggested by Davis (1989) and depicted in Figure 3-3, TAM propagates that use of technology is predominantly determined by behavioural intention to use, stemming from users' attitudes toward the technology and the belief that its use will enhance their performance (Davis, 1989:320) called perceived usefulness. Perceived ease of use (Lee, 2009:132) is defined as one's belief that using the technology will not require much mental effort (Ozdemir *et al.*, 2008:216-217; Davis, 1989:320; Taylor & Todd, 1995). The TAM suggests that both perceived usefulness and perceived ease of use mediate the influence of external variables (for instance, technology characteristics) on the intention to use (Venkatesh & Davis, 2000:187). Also, perceived usefulness is also impacted by perceived ease of use (Venkatesh & Davis, 2000:187). In other words, the easier an information system is to use, and the greater its expected

outcomes, an individual's attitude and intention towards using it will be more positively affected, and the usage of the technology will increase (Taylor & Todd, 1995:148).

Figure 3-3: Technology Acceptance Model



Source: Adopted from Davis *et al.* (1989:985).

3.2.3.1 Model advantages

The TAM has some advantages over the previous two models (TRA and TPB). The TAM is a more context specific model for understanding the adoption behaviour concerning information technology applications and includes particular components of attitudes towards information technology usage (Pantano & Pietro, 2012:2; Ozdemir *et al.*, 2008:216-217). In this context, the TAM propagates that beliefs concerning ease of use as well as usefulness underlie the attitude toward the use of a particular technology that determines the intention to use it (Park, 2009:151; Ozdemir *et al.*, 2008:216-217). TAM is appealing to use as it is streamlined and displays accurate predictions of technology use (Lee, 2009:132). TAM consistently explains about 40% of the variance of usage intentions as well as behaviour (Venkatesh & Davis, 2000:186). In addition, TAM is a practical tool for service developers (Ozdemir *et al.*, 2008:217) as they can exercise control to an extent over ease of use and usefulness and is superior to the first two models as it identifies areas needing service development (Taylor & Todd, 1995), and it also has a better ability to explain a customer's attitude toward use of a technology (Mathieson *et al.*, 2001). Its widespread popularity is mostly due to the following three factors: (1) being streamlined and compatible with many diverse IT systems and technologies, and enabled to provide adequate explanations and predictions of the reasons why IT users accept those IT systems; (2) being based on sound theories and having proven psychometric measurement scales built in, and (3) its overall explanatory power has substantive empirical support (Szajna, 1996; Mathieson, 1991). Beyond doubt, TAM has led to significant innovation in the field of information systems.

3.2.3.2 Application within the self-service technology environment

The TAM has also been applied to the self-service technology environment. For example, Lin and Chang, (2011:424) developed and tested a model that integrates the role of customer technology readiness with TAM and found that it improves the customer's perceived usefulness, perceived ease of use, attitude toward use, and intention to use of customers (Lin & Chang, 2011:424). In another study by Chiou and Shen (2012:859) the TAM was used to develop a framework of the antecedents to becoming an internet banking customer, for example, a person's in-bank experiences with services provided by the target bank for internet banking services. They found that the prospective customer's attitude and intention to use internet banking are significantly impacted by the TAM variables and the customer's prior dealings with the physical bank (Chiou & Shen, 2012:859). Furthermore, their findings suggest that organisations should use customer relationships built up with non-internet customers, as they can influence customers' decisions to become users of the organisation's internet services (Chiou & Shen, 2012:859).

3.2.3.3 Model shortcomings

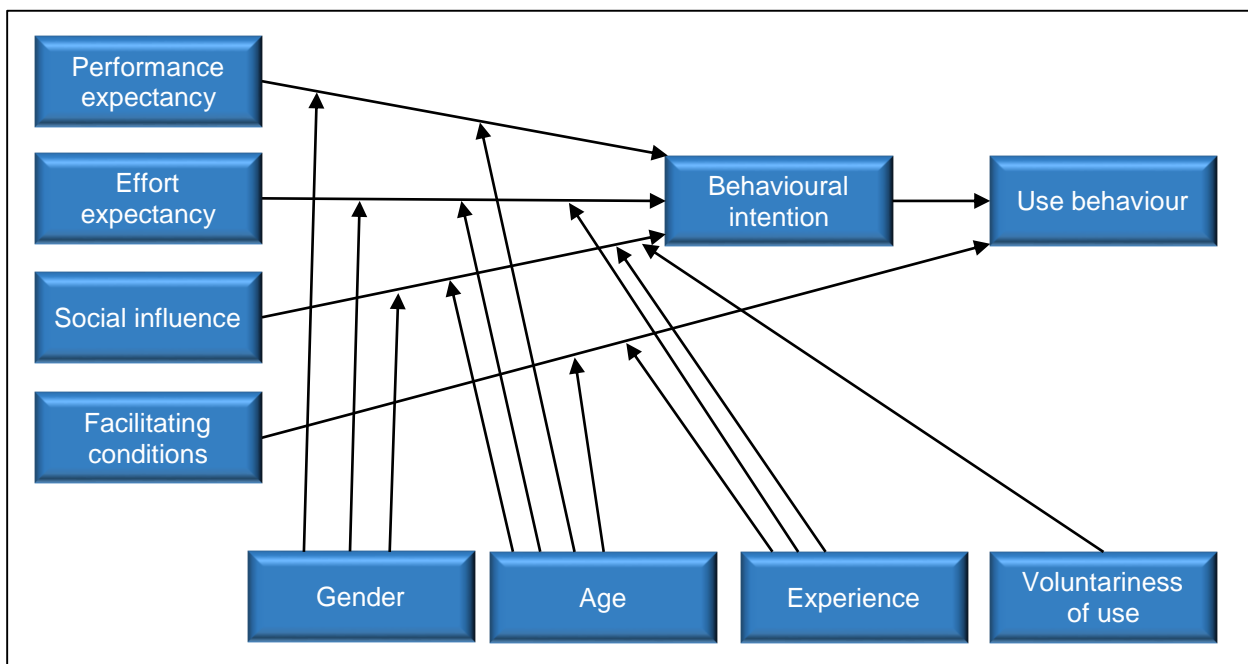
TAM has some potential limitations as the model was based on studies in industrialised countries where it could be presumed that technologies already exist and were a given (Khosrow-pour, 2003:435). In developing countries with grossly inadequate technology availability, it would prove difficult to use the TAM model in its original form (Khosrow-pour, 2003:435). Another limitation is that TAM focuses only on factors that determine the users' intentions, but does not delve deeper into the bases on which such perceptions are formed or whether they can promote users' acceptance and increased use if altered in a certain way (Yousafzai *et al.*, 2010:1178; Mathieson, 1991). TAM also aimed to suggest a basis for tracing the impacts of external factors on perceived usefulness and perceived ease of use and to link the impacts to actual use (Davis *et al.*, 1989) but was not entirely successful. Chin and Gopal (1995:46) suggest that by understanding the causal relationships among beliefs and their founding factors, practitioners will get to know which buttons to push to activate beliefs and thereby increase use of information systems (Yousafzai *et al.*, 2007:268). As such, the UTAUT model was then later developed to address TAM's shortcomings.

3.2.4 Unified Theory of Acceptance and use of Technology Theory (UTAUT)

It is quite evident from the literature that TAM certainly contributed, however as time went by practitioners needed a model that could greatly impact issues of concern such as the bottom line and the longevity of the information system (Lee *et al.*, 2003:768). To address these needs, the UTAUT model as propagated by Venkatesh, Morris, Davis and Davis extended the TAM

(Venkatesh *et al.*, 2003). It was purported to be a holistic model to understand better the reasons why consumers would be inclined to accept a new technology or system (Venkatesh *et al.*, 2003). As depicted in Figure 3-4 below, the UTAUT introduces four core constructs affecting the intention and actual usage of information systems (Cruz-Cunha, 2016:35) being performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh *et al.*, 2003). In UTAUT, the first three constructs influence behavioural intention which in turn impacts use behaviour, while the fourth namely facilitating conditions impacts directly on use behaviour (Wells & Foxall, 2012:275). Most of these relationships are significantly moderated by gender, age, and experience with technology (Cruz-Cunha, 2016:35; Venkatesh *et al.*, 2003). Voluntariness of use, however, applies only to the impact of social influence on behavioural intention. In theory, UTAUT shows how the four core constructs that are variables related to behavioural intention and use behaviour adjust over time (Armida, 2008:62).

Figure 3-4: Unified Theory of Acceptance and Use of Technology



Source: Adopted from Venkatesh *et al.* (2003:447).

3.2.4.1 Model advantages

The UTAUT model has numerous advantages despite being a comparatively new model. One of the most important is its generality (Nemati, 2013:164). Since its development, the UTAUT has been applied as a standard model for studying a range of technologies in various contexts (Venkatesh *et al.*, 2012:157). It has been used in different fields such as business to business electronic applications (Wang *et al.*, 2006) services for mobile devices including tablet PCs (Park

et al., 2007; Rao & Troshani, 2007; Carlsson *et al.*, 2006; Anderson *et al.*, 2006; Garfield, 2005), SMSs for mobile phones (Baron *et al.*, 2006). These studies have confirmed the strength of the UTAUT variables to explain the 'intention of use' and 'use behaviour' constructs (Nemati, 2013:164) whereas the TAM explains 40% of the variance in usage intentions and behaviour (Venkatesh & Davis, 2000:186), the UTAUT explains a variance of 0.56 (Venkatesh *et al.*, 2012). The intention of the observed behaviour is exposed through the use of more constructs in UTAUT (Waehama *et al.*, 2014:12). The critical factors and possibilities that predict the behavioural intention to become a technology user, that will operate primarily in organisational environments, have been clarified. The UTAUT's design makes it suitable for using in both the prescribed and voluntary contexts (Teo, 2011:129). The UTAUT has wider coverage than the TAM due to the inclusion of social influence, facilitating conditions and the moderating variables, but the model is still not complex to use (Straub & Burton-Jones, 2007). The UTAUT does not require much effort to quickly provide a fairly detailed view of the acceptance of technology by users (Teo, 2011:129) and empirical settings have validated the UTAUT as having superior explanation power over previous theories (Park *et al.*, 2007:197; Venkatesh *et al.*, 2003).

3.2.4.2 Application within the self-service technology environment

The UTAUT model has been applied to an information systems context by Alwahaishi and Snášel (2013:61) as they draw on the UTAUT model to expose the factors that affect the acceptance and use of the mobile internet as an ICT application. Their findings provide some important issues for ICT developers, mobile internet service specialists, and researchers to focus on (Alwahaishi & Snášel, 2013:61). In another study, Charles (2015) used the UTUAT to investigate and to expose further the factors that influence customers' usage of self-service banking technologies.

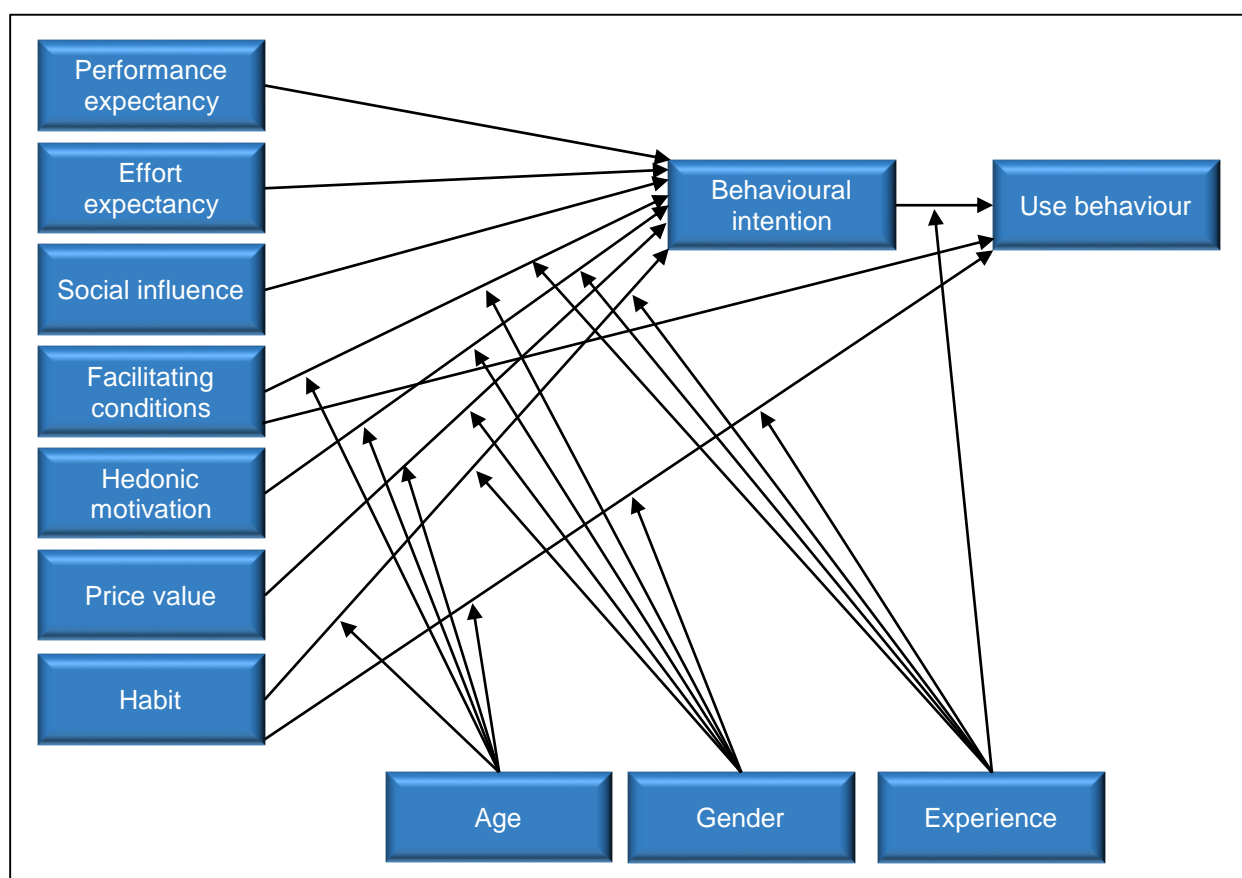
3.2.4.3 Model shortcomings

Although the UTAUT represents a significant improvement over the TAM (Wells & Foxall, 2012:275), it still has some limitations. An analysis of acknowledged limitations across studies (thirty-five in total) showed that a single focus on a whole list of subjects regarding for example culture, country, was the main constraint reported (William *et al.*, 2015:461). Another limitation of the UTAUT is that it was developed primarily for organisational contexts (Hew *et al.*, 2015:1270; Venkatesh *et al.*, 2012). Consequently, to address the shortcomings of UTAUT, the call for a modified model led to the development of the Extended Unified Theory of Acceptance and Use of Technology (extended UTAUT model).

3.2.5 Extended Unified Theory of Acceptance and Use of Technology

In 2012, Venkatesh, Thong and Xu added three additional factors to the UTAUT model, namely habit, hedonic motivation, and price value (Venkatesh *et al.*, 2012) and called the new version the extended UTAUT model. Essentially, the three new constructs were added because the authors wanted to consider a consumer context (Baptista & Oliveira, 2015:420; Venkatesh *et al.*, 2012). More specifically, previous studies had highlighted habit (1) as being important relative to technology use (Limayem *et al.*, 2007; Kim & Malhotra, 2005), hedonic motivation (2) as being an effective predictor (Venkatesh *et al.*, 2003), and price (3) as the use of the technology service has a cost that is borne by the consumer. As depicted in Figure 3-5, according to the extended UTAUT model there are seven constructs, being performance expectancy, effort expectancy, social influence, and facilitating conditions together with hedonic motivation, price value and habit that are major influencers of a consumer's disposition towards using a technology (Venkatesh *et al.*, 2012:160). The extended UTUAT model kept age, gender, and experience as moderators and removed voluntariness of use as it is not applicable in the context of consumers (Michell, 2013:304). Gender, age and experience could moderate the effects four constructs have on behavioural intention namely facilitating conditions, hedonic motivation, price value and habit. They also moderate the influence that habit exerts on user behaviour (Venkatesh *et al.*, 2012:160). Experience on its own moderates the effects of behavioural intention on user behaviour (Baptista & Oliveira, 2015:420). Thus, the extended UTAUT model could yield higher explaining power over preceding models.

Figure 3-5: Extended Unified theory of acceptance and use of technology (Extended UTAUT)



Source: Adopted from Venkatesh *et al.* (2012:160).

3.2.5.1 Model advantages

By integrating three additional constructs and relationships into the prior UTAUT model for applications relative to consumer use contexts (Venkatesh *et al.*, 2012:158), the extended UTAUT model became more appropriate than the first UTAUT model, as it explains more fully the percentage of variance in both behavioural intention and use behaviour (Venkatesh *et al.*, 2012; Maurits, 2012). Its extensions substantially improved the explanation of the variances in behavioural intention by 18% to 74% or 0.74 (Venkatesh *et al.*, 2012:157). As a result, the extended UTAUT model offers much assistance to consumer technology companies to innovate their software and grow their market share on a broad front (Venkatesh *et al.*, 2012:159).

3.2.5.2 Application within the self-service technology environment

The extended UTAUT model has been applied to technology studies. For example, Arenas-Gaitan *et al.* (2015:1) apply the extended UTAUT model approach in their study which aims to explain the reasons why older adults adopt internet banking. They identified influencers of senior

people's decisions to use internet banking as being a habit, performance expectancy, price value and effort expectancy. They also found that behavioural intention and habit had effects on user behaviour (Arenas-gaitan *et al.*, 2015:1). Baptista and Oliveira (2015:418) used the extended UTAUT model to determine which antecedents have the greatest impact on the behavioural intention for using mobile banking. The most significant influences on behavioural intention reported in the study were performance expectancy, hedonic motivation, and habit (Baptista & Oliveira, 2015:418).

3.2.5.3 Model shortcomings

Although the extended UTAUT model is certainly an improvement to the first UTAUT model, it still presents a limitation. The main limitation of the extended UTAUT model is its inability to consider the role of culture in the adoption of new information technology (Madan & Yadav, 2016). Nevertheless, as the extended UTAUT model is a relatively new model published in 2012, it still presents many areas open for further research (Khan & Adams, 2016:2911; Venkatesh *et al.*, 2003, 2012; Baron *et al.*, 2006).

Table 3-1 below offers a summary of the Technology Acceptance Theories discussed in this section and provided an indication of the core determinants of behaviour as proposed by each model.

Table 3-1: Summary of Technology Acceptance Theories (TRA, TPB, TAM, UTAUT and extended UTAUT)

Theory	Variables	Variance	Causal relationships previously identified	Model significance	Relevance to SST environment
TRA	Behavioural beliefs Normative beliefs Attitude toward behaviour Subjective norm Intention Behaviour	0.36	Behavioural beliefs → attitude toward behaviour Attitude toward behaviour → intention Normative beliefs → subjective norm Subjective norm → intention Intention → behaviour	The TRA provides a theoretical basis for the study of behaviour. Comprising six variables (with an overall impact on behaviour), the model is noted to be intuitive, parsimonious and insightful in its ability to explain behaviour.	The study by Nor <i>et al.</i> (2008:3) determine constructs that impact an individual's intention to use a technology established on TRA. With their target self-service technology being internet banking, their results support the theory's proposal that an individual's behavioural intention to use Internet banking is impacted by their attitude and subjective norm.
TPB	Behavioural beliefs Normative beliefs Control beliefs Attitude toward behaviour Subjective norm Perceived behavioural control Intention Behaviour	0.39	Behavioural beliefs → attitude toward behaviour Attitude toward behaviour → intention Normative beliefs → subjective norm Subjective norm → intention Control beliefs → perceived behavioural control Perceived behavioural control → intention Intention → behaviour	The TPB model is shown to influence intentions and behaviour. It displays simplicity, standardisation (i.e. studies that apply the TPB are easily comparable) and is applicable across diverse contexts. Furthermore, it consists of eight variables that are relatively easy to measure.	The study by Chen <i>et al.</i> (2009:1248) with an aim to develop an integrated model designed to predict and elucidate an individual's continuous use of SSTs. They find that consumers' satisfaction significantly influences continuance intention, while the subjective norm, and perceived behavioural control simultaneously influence satisfaction.

Table 3-1: Summary of Technology Acceptance Theories (TRA, TPB, TAM, UTAUT and extended UTAUT) (cont.)

Theory	Variables	Variance	Causal relationships previously identified	Model significance	Relevance to SST environment
TAM	External variables Perceived usefulness Perceived ease of use Attitude toward using Behavioural intention to use Actual system use	0.40	External variables → perceived usefulness External variables → perceived ease of use Perceived ease of use → attitude toward using Perceived ease of use → perceived usefulness Perceived usefulness → attitude toward using Attitude toward using → behavioural intention to use Perceived usefulness → behavioural intention to use Behavioural intention to use → actual system use	The TAM is noted to have fewer variables than TPB. However, its approval as a much better model than TPB comes from the fact that it is more practical (for example, it provides a practical utility for service developers) and is more parsimonious than TPB. It is further context specific and has been shown to display a high prediction power of technology use.	Rose and Fogarty (2006:122), test extensions of the TAM aimed at predicting senior consumers' acceptance and the use of self-service banking technologies. Their results indicate that the factors namely self-efficacy, technology discomfort, perceived risk and personal contact were determinants of perceived ease of use and perceived usefulness and also direct and indirect determinants of attitude towards and intention to use the self-service banking technologies.
UTAUT	Performance expectancy Effort expectancy Social influence Facilitating conditions Behavioural intention Use behaviour	0.56	Performance expectancy → behavioural intention Effort expectancy → behavioural intention Social influence → behavioural intention Behavioural intention → use behaviour Facilitating conditions → use behaviour	The UTAUT comprises six variables and four moderators. It displays advantages such as generalisability (has been applied to the study of a variety of technologies in organisational and non-organisational settings). The UTAUT explains a higher percentage variance. It is parsimonious and enables a fast and easy way to get a view of a user's acceptance of technology.	Yu (2012:104) employs UTAUT to investigate what impacts people to adopt mobile banking. Individual intention to adopt mobile banking was impacted by social influence, perceived financial cost, performance expectancy, and perceived credibility, in their order of influencing strength. Behaviour was affected by individual intention and facilitating conditions. Gender significantly moderated the effects of performance expectancy and perceived financial cost on behavioural intention, and age moderated the effects of facilitating conditions and perceived self-efficacy on actual adoption behaviour.

Table 3-1: Summary of Technology Acceptance Theories (TRA, TPB, TAM, UTAUT and extended UTAUT) (cont.)

Theory	Variables	Variance	Causal relationships previously identified	Model significance	Relevance to SST environment
Extended UTAUT	<p>Performance expectancy</p> <p>Effort expectancy</p> <p>Social influence</p> <p>Facilitating conditions</p> <p>Hedonic motivation</p> <p>Habit</p> <p>Price value</p> <p>Behavioural intention</p> <p>User behaviour</p>	0.74	<p>Performance expectancy → behavioural intention</p> <p>Effort expectancy → behavioural intention</p> <p>Social influence → behavioural intention</p> <p>Facilitating conditions → behavioural intention</p> <p>Hedonic motivation → behavioural intention</p> <p>Price value → behavioural intention</p> <p>Habit → behavioural intention</p> <p>Facilitating conditions → use behaviour</p> <p>Habit → use behaviour</p> <p>Behavioural intention → user behaviour</p>	<p>Being relevant to the consumer context, the extended UTAUT is presented to be more appropriate than UTAUT. Furthermore, the percentage of variance for both behavioural intention and technology use is higher in the extended UTAUT model.</p>	<p>The study by Hew <i>et al.</i> (2015:1269) used the extended UTAUT model for investigating the determinants of consumer behavioural intention to use mobile apps. In their study, the results show that all of the extended UTAUT model's constructs (performance expectancy, effort expectancy, facilitating conditions, hedonic motivation, and habit), excluding price value and social influence, considerably relate with behavioural intention to use mobile apps.</p>

From Table 3-1, it is evident that the variables of the models vary between 6 (TRA, TAM and UTAUT) and 9 (extended UTAUT), while the TPB model consists of 8 variables. TRA, TPB and TAM profess that consumer beliefs may have an impact on consumer attitudes and ultimately affect intentions and behaviour, while attitude is not included in the UTAUT and extended UTAUT models. Intention is perceived to predict actual behaviour. Overall, the extended UTAUT model shows a higher percentage of variance for behavioural intention and technology use (Samaradiwakara & Gunawardena, 2014:31). The power to explain variances in "technology usage intention" improved from 0.36 (TRA) to 0.74 (extended UTAUT). The extended UTAUT has also been shown to be relevant in a self-service technology environment, for example, as indicated in Table 3-1, the study by Hew *et al.* (2015:1269) used the extended UTAUT and found that five of the seven factors have an impact on behavioural intention to use mobile apps, the exceptions being price value and social influence.

Based on the findings described in the previous paragraph, it seems that the extended UTAUT model in a consumer context explains better what motivates consumers to accept and use new technologies, such as apps, that was the case previously (Samaradiwakara & Gunawardena, 2014:30; Kripanont, 2007; Wu *et al.*, 2007; Venkatesh *et al.*, 2003).

Also, while attitude was not initially incorporated in the extended UTAUT model, Venkatesh *et al.* (2011) later have investigated the belief factors of the extended UTAUT model among existing users of technology and found that it had a positive and significant impact on their post-usage attitudes. In their study, the original factors of the extended UTAUT model were investigated but were tested regarding how they may impact existing users' post-usage attitudes. Within the context of their study, they referred to the extended UTAUT factors as post-usage perceived usefulness (synonymous with performance expectancy), post-usage effort expectancy, post-usage social influence, and post-usage facilitating conditions. All factors have a significant impact on the post-usage attitudes of existing consumers (Venkatesh *et al.*, 2011). Similarly, another study conducted by Childers *et al.* (2001:525) verified the impact that hedonic motivation (the fifth factor in the extended UTAUT model) might have on the attitudes of existing users of technology (Childers *et al.*, 2001:525). Hence, it seems that the belief factors of the extended UTAUT model have the potential to impact the attitudes of existing users of technologies.

Owing to these findings the decision was made in this study to focus on the extended UTAUT model. It was not the aim of this study to merely retest the extended UTAUT model within the mobile banking app environment. Instead, to address the research objectives of this study and to test the theoretical model proposed in Chapter 1, it was rather the intention to examine the influence of the belief factors of the extended UTAUT on the post-usage attitudes of existing users

of mobile banking apps. As mentioned in Chapter 1, this study did not focus on the price and habit factors of the extended UTAUT model since mobile banking apps are free (Standard Bank, 2014:1). Furthermore, the habit constructs equated to automaticity (Venkatesh *et al.*, 2012:9; Kim *et al.*, 2005) and will also not be measured due to the personalised nature of the banking environment.

The belief factors of the extended UTAUT that were examined in this study are further explored in the next section.

3.3 BELIEF FACTORS CONTRIBUTING TOWARDS POST-USAGE ATTITUDES IN THE SELF-SERVICE TECHNOLOGIES ENVIRONMENT

This study examines five belief factors of the extended UTAUT model.

3.3.1 Performance expectancy

This belief factor relates to the individual's expectations of the benefits to be gained from using a chosen technology to perform predetermined activities (Venkatesh *et al.*, 2012:159). The effectiveness of performance focusses on the efficiency, speed, and accuracy with which the system completes the task at hand (Yang, 2009). System characteristics that deliver those benefits to users would differentiate that information system from its competitors (Yang, 2009). The performance expectancy construct is comparable to the perceived usefulness construct (Wong *et al.*, 2015:723; Venkatesh *et al.*, 2003) of the TAM model (Compeau & Higgins, 1995). Performance expectancy has been studied relative to the technology environment. For example, the study by Park *et al.* (2007) shows that performance expectancy significantly affects consumers' attitudes toward using mobile devices. In another study by Anderson *et al.* (2006) to assess user acceptance of tablet PCs they indicate that performance expectancy positively affects the use of tablet PCs.

3.3.2 Effort expectancy

The second belief factor refers to how easily users expect to operate a chosen computerised information system (Venkatesh *et al.*, 2003). Preceding research has found that consumers/users are less likely to adopt a complex innovation (Venkatesh & Brown, 2001; Brown & Venkatesh, 2005). Initially referred to as perceived ease of use, effort expectancy was first explored in the TAM model and was kept as an essential adoption construct in ensuing theories (Venkatesh & Bala, 2008). An expectancy of a degree of difficulty could be a hurdle to the use of technology. However consumers will form a better and lasting impression after using the technology themselves (Venkatesh & Davis, 1996). The initial expectancy about ease of use is based on

various general beliefs that consumers may have about using computers (Venkatesh, 2000). However, after the direct experience, the initial perceptions are adjusted based on the experience. Using a website as an example, users may have initial expectations about its user-friendliness. By visiting the website, users can confirm or disconfirm their initial expectations based on their experience while navigating the website.

3.3.3 Social influence

The third belief factor refers to the perception of consumers whether persons of importance to them, such as family and friends, would be supportive of them using a chosen technology such as a computerised information system (Venkatesh *et al.*, 2012:159). The social influence construct comprises two categories, namely mass media influences (television, radio, internet, newspapers, magazines and more) and interpersonal influences coming from peers, family members, friends and others (Wei *et al.*, 2009). Venkatesh *et al.* (2003) established that this belief factor carries more significance under mandatory contexts (Hew *et al.*, 2015:1273). Venkatesh and Davis (2000) suggested that as compliance is required in mandatory settings, social influences are empowered to effect intention directly. This social influence exerts more pressure in the early stages of the individual's usage of the technology, but its effect falls away as usage continues (Venkatesh *et al.*, 2003:452; Venkatesh & Davis, 2000). In voluntary settings, however, social influence impacts on perceptions about the chosen technology through its internalisation and identification mechanisms (Venkatesh *et al.*, 2003:452).

3.3.4 Facilitating conditions

This fourth belief factor focuses on the user's reliance on the availability that the computerised infrastructure is in place to support the use of the chosen information system (Venkatesh *et al.*, 2003). The user would like to be able to use the information system at most times and to be in control of the system. Hence, facilitating conditions will affect the user's intention to use as well as actual system use (Venkatesh *et al.*, 2003). When the computerised infrastructure is stable with little downtime, individuals may form positive attitudes due to the absence of hurdles (Venkatesh *et al.*, 2011:534). By using the computerised information system, users can make an assessment of the adequacy of resources (applicable knowledge and assistance) based on their experience that may necessitate changes to their pre-usage beliefs (Venkatesh *et al.*, 2011:534).

3.3.5 Hedonic motivation

Fifthly, the fun/pleasure experienced when using a computerised technology is termed as hedonic motivation and is important to the user when deciding whether or not to use a technology

(Escobar-Rodríguez & Carvajal-Trujillo, 2013:59; Venkatesh *et al.*, 2012:161; Thong *et al.*, 2006; Brown & Venkatesh, 2005; Van der Heijden, 2004; Childers *et al.*, 2001). Hedonic motivation is called perceived enjoyment in prior theories or models relating to technology acceptance (Venkatesh *et al.*, 2012) including TAM (Davis *et al.*, 1992). It is indicated that if a technology is designed to be pleasurable and fun to use, users can attain enjoyment in using it (Lee, 2009). In a mobile entertainment study, Leong *et al.* (2013) found that consumers are willing to use mobile entertainment if the usage of it can bring joy and happiness (Hew *et al.*, 2015:1273).

3.4 COMPETENCE TRUST AS ANOTHER POTENTIAL FACTOR IMPACTING ON ATTITUDE FORMATION IN THE SELF-SERVICE TECHNOLOGY ENVIRONMENT

As identified in Chapter 1 (section 1.4.1), competence trust may also impact on post-usage attitudes in a self-service technology environment and is also explored in this study because as indicated in literature, this trusting belief plays a vital role with regard to technology and more specifically within online environments in a post-usage stage (Munoz-Leiva *et al.*, 2017; Giovannini *et al.*, 2015; Venkatesh *et al.*, 2011; Johnson *et al.*, 2008:426).

The trust construct has been defined in several ways in the academic literature. Trust is the belief placed in another party that at a future date the other party's actions will fulfil the trusting party's needs (Anderson & Weitz, 1989:312). It relates to a psychological state on the part of the trusting party as he/she depends on a degree on his/her expectations that the other party's intentions or behaviours are honourable (Rousseau *et al.*, 1998:395). Trust is a willingness by the trusting party to rely on the other party because of his/her belief, expectancy, or positive feelings towards the other party (Yu *et al.*, 2015:238; Rousseau *et al.*, 1998; Moorman *et al.*, 1993). Trust has been described by researchers as the belief of the trusting party that the other party will be co-operative and will fulfil his/her expectations without taking advantage of him/her (Pavlou & Fygenson, 2006). Consumer trust relates to the anticipation of proficient and reliable performance levels from the other party in self-service technology contexts (Johnson *et al.*, 2008:421; Johnson, 2007). Also, in a self-service technology environment, competence trust means that technology can add and improve on a customer's pre-existing abilities (Johnson *et al.*, 2008:426). In other words, a technology must perform a function well or provide the features a user needs to accomplish tasks (Lankton *et al.*, 2014:131).

The trust construct has been shown to be of importance in information systems. In a self-service technology environment, trust is based on an evaluation of performance beliefs formed while using the information system (Johnson *et al.*, 2008:422; Johnson & Grayson, 2005; McAllister, 1995). Venkatesh *et al.* (2011) found in a study that it is critical that users trust the service provider

to minimise the user's risk posed by intrusions of user privacy and security. Personal information such as the user's credit card number and other guarded information must, for example, be provided to vendors when e-commerce websites are used on the internet. Trust plays an important role in business to consumer interactions (e-business stores) and government to citizen systems (e-filing of income tax returns) as personal and sensitive information may be accessed by online fraudsters who are becoming more prevalent (Venkatesh *et al.*, 2011:535).

3.5 A GENERIC PERSPECTIVE ON ATTITUDE FORMATION

One of the first studies that explored attitude formation referred to the concept as the feelings both for or against the psychological object (Thurstone, 1929). This early investigation conducted within the field of psychology, however, mainly focused on the affective component of an attitude (centering around consumers feelings) and ignored other attitudinal aspects. Later in 1935, the attitude was defined as the mental/neural readiness, based on experience that impacts significantly upon an individual's response to related objects and situations (Allport, 1935). Since the initial contribution of this concept, various other definitions have also been formulated subsequently. In the social sciences literature, for example, the evaluative dimension of an attitude has been emphasised (Rhine, 1958). The evaluative dimension depends heavily on scales, for example, good-bad, favourable-unfavourable (Rossi *et al.*, 2013:265; Osgood *et al.*, 1971:189). In other words, attitudes have also been called the tendency of an individual to accept or avoid, or to consider as favourable or not good (Osgood *et al.*, 1971:189). Eagly and Chaiken (1993:1) introduced a more holistic concept of attitude stating that an individual has a psychological tendency to show a degree of favour or disfavour towards an entity after an evaluation has been performed. In this definition, the authors explicitly emphasise that evaluation comprises three classes of attitudinal responding which are affect, cognition, and behaviour (Thakur & Kaur, 2017:812; Kronung *et al.*, 2013:3).

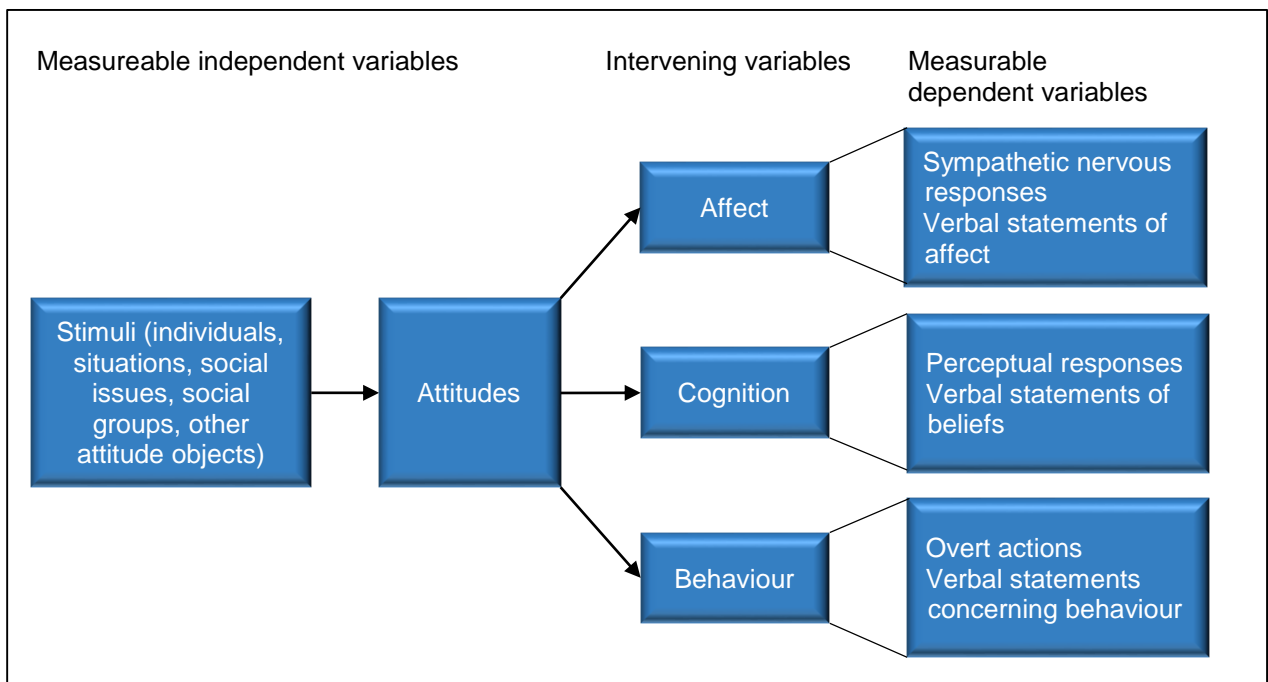
From a broader perspective, it seems that the study of attitudes has developed into two major schools of thought, namely the unidimensional and the tripartite perspectives (Funk & James, 2004:3-4; Lutz, 1991). The unidimensional perspective interprets attitudes as the feelings a person has towards an issue or object along an evaluative continuum (Thurstone, 1928, Fishbein, 1967, Petty & Cacioppo, 1981, 1986). It can be said that attitudes from this point of view are a singular, unidimensional evaluative response (Bagozzi *et al.*, 2002:5). On the other hand, the tripartite perspective identifies the three main components of an attitude as affect, cognition, and behavioural intentions (Funk & James, 2004:3-4; Bagozzi *et al.*, 1979; Lutz, 1977). These components are widely used for explanations of attitude formation and change and are

considered as the foundational elements of the tripartite model of attitude formation. The tripartite model grounding attitude formation is thus further explored in this study.

3.5.1 The tripartite model grounding attitude formation

The tripartite model emphasises that there are multiple pathways to attitude formation and shows useful ways for measuring attitudes (Maio & Haddock, 2010; Hankins, 2007:34). Hence, several studies have previously made reference to the tripartite model to explain attitudes (Maio & Haddock, 2010; Walley *et al.*, 2009:262; Bono, 2005:18; Schiffman & Kanuk, 2004; Blackwell *et al.*, 2001; Wright, 2001:39; Haddock & Zanna, 1998b; Eagly & Chaiken 1993; Zanna & Rempel, 1988; Breckler, 1984:1191; Bagozzi *et al.*, 1979:88; Greenwald *et al.*, 1968; Krech *et al.*, 1962; Rosenberg & Hovland, 1960:3). As depicted in Figure 3-6 below, the tripartite model of an attitude has three intervening variables in a psychological construct which can produce nervous responses, beliefs, and behaviours (Hall-Phillips & Shah, 2017:120; Fazio & Olson, 2007:124; Eagly & Chaiken, 1993), in response to stimuli received and other attitude objects (Breckler, 1984:1191).

Figure 3-6: Three components' view of attitudes



Source: Adopted from Foundation by Rosenberg & Hovland (1960:3).

- Stimuli

The stimulus that is being responded to, being independent or external, can also be visible or invisible (Breckler, 1984:1191). The stimuli leading to the formation of an attitude could

emanate from persons, social groups or issues, and or things that influence an individual to form an attitude. In the tripartite model of attitude formation, there are three hypothetical/invisible classes of response to the stimuli, being affect, behaviour, and cognition (Ong *et al.*, 2017:62; Breckler, 1984:1191). As such, a stimulus is an object that influences attitude.

- Attitude

Attitude understood as meaning “fit and ready for action”, relates to a construct that forms behaviour and influences peoples' choices and actions (Koder, 2008:29; Vaughan & Hogg, 2005:97). The tripartite model of attitude formation specifically relates to attitudes as consistent of an affective, behavioural and cognitive component (Setiyawati *et al.*, 2016:232; Bono, 2005:18).

- Affective component

Attitudes might be formed in three primary ways based on affect, called operant conditioning, classical conditioning and mere exposure respectively (Bernstein *et al.*, 2013:711; Fazio & Olson, 2007:125). Operant conditioning is the frequency of responses received, where the frequency will be increased by positive outcomes and decreased by negative ones (Hull, 1951; Thorndike, 1932). Classical conditioning differs slightly from operant conditioning as the response is considered to be internal. Only the covariations between objects in one's environment require attention. When an attitude object is repeatedly paired with a positive object, the outcome of the attitude object is taken as positive, whereas in repeated pairings with negative objects the negative outcome will attach to the attitude object (Fazio & Olson, 2007:126). Thirdly, the mere exposure effect implies that an individual's liking for an object will increase when the object is seen by that individual (Fazio & Olson, 2007:126; Zajonc, 1968:1), thus an emotional reaction to the attitude object (Dacko, 2008:342; Fazio & Olson, 2007:124).

- Cognitive component

The belief that the attitude object has desirable or undesirable attributes, or that it will bring about desired or undesired outcomes are formed by reasoning (Fazio & Olson, 2007:125). A cognitive component comes into existence when people form a reasoned perception of the attitude object, having processed information about it (Kwon & Vogt, 2010:424; Eagly & Chaiken, 1993). The cognitive component is said to be the conscious, thinking part of attitude (Blythe, 2008:141).

- Behavioural component

The behavioural/conative component concerns the probability that a person will act in a certain way about the attitude object and the ensuing action of the individual (Schiffman *et al.*, 2010:251). Actions, intentions to behave in a particular way and verbal statements are all recognised as behaviour (Breckler, 1984:1191). Consequently, the assumption that attitudes form the basis of past behaviour is based on the premise that people tend to infer attitudes that are consistent with their behaviours (Kronung, 2013:4). Furthermore, the behavioural component is perceived as being a product of both the cognitive and affective components (Dierks, 2005:23).

- Evaluation

Evaluations may be done on various attitude objects, such as physical objects, social issues, types of situations and people as well as particular individuals. The nature of evaluations covers a spectrum from a very “hot” affect to a reasoned “colder” affect regarding one’s likes or dislikes toward the object (Fazio, 2014:248). The evaluative summary may be based on various sources of information such as emotions that the attitude object produces for the individual for instance as in the case of a conditioned emotional response (Cacioppo *et al.*, 1992; Krosnick *et al.*, 1992, Zanna *et al.*, 1970), beliefs that the individual holds about the attitude object’s instrumentality (Fishbein, 1963) and previous behavioural experiences with the object (Fazio, 1987; Fazio & Zanna, 1981; Bem, 1972). The attitude itself is viewed as a link between the object and the evaluation, regardless of the specifics of the evaluation (Fazio, 1995:247-248).

3.5.2 Assumptions underpinning the tripartite model of attitude formation

The tripartite view includes several assumptions about the nature of attitudes. The study by Zanna and Rempel (1988) found that although the mind of the attitude-holder is not accessible making it impossible to study the mind regarding attitude. However, the attitude can be determined by taking into account reported thoughts, feelings and behaviour. As the attitude is expressed regarding thoughts, feelings and behaviour (Rosenberg & Hovland, 1960), all three components must be present for an evaluative response. The tripartite model also assumes that the three ways of evaluative responding must show consistency since they have a common dependency on an underlying construct. Lastly, the assumption is made that attitudes always guide behaviour (Fazio & Olson, 2007:124).

Against the background provided in this section, the definition of attitudes from a marketing perspective is explored next.

3.6 ATTITUDES AS A MARKETING CONCEPT

The literature investigation conducted for this section evidenced that the foundational principles of the tripartite model of attitude formation seem to have influenced marketing scholars' views of consumer behaviour and the resulting definitions that have been formulated to describe consumer attitudes. Lars (2012), for example, defined a consumer's attitude toward some object as having three elements, namely beliefs, feelings, and behavioural intentions. Regarding a product or service, beliefs or feelings may be positive or negative (Bhatt, 2014:32), and they shape the consumer's behavioural intention (Alsamydai *et al.*, 2015:5; Alsamydai *et al.*, 2014). Hence, attitudes refer to a state in the mind of an individual; they also include evaluations that are made on a cognitive, affective or behavioural level, and are directed towards objects (Asiegbu *et al.*, 2012:39; Mitchell & Olson, 1981). A general and enduring attitude concerning some person, object or issue can show positive or negative feelings, or an evaluative response (Walley *et al.*, 2009:262; Petty & Cacioppo, 1986). An attitude object is essentially the thing about which the attitude is held encapsulating brands, services, behaviours and more (Szmigin & Piacentini, 2015:197; Tsang *et al.*, 2004:66; Kotler, 2000; Schiffman & Kanuk, 1997:167; Herr & Fazio, 1993; Fishbein & Ajzen, 1975:6; Fishbein, 1967; Allport, 1935; Thurstone, 1929). The general evaluation of a product or service is formed over time and represents an attitude in marketing terms (Alsamydai *et al.*, 2015:5; Solomon, 2008). It affects the shopping and buying habits of consumers and contemporaneously satisfies a personal motive (Alsamydai *et al.*, 2015:5). Consumer attitudes are therefore a strong construct of criteria that provide an understanding of consumers' enduring evaluations of a product and of their behavioural intentions (Lim, 2015:575; Kwun, 2011:254; Ajzen, 2001; Kraus, 1995; Fishbein & Ajzen, 1975).

Attitudes are further learned predispositions (Hsu *et al.*, 2017:200; Ling *et al.*, 2010:116; Funk & James, 2004:3-4; O'Keefe, 1990) of human beings (Fishbein, 1967) and seem to be consistent. Based on their learned predispositions, individuals respond consistently, either favourably or unfavourably, to an attitude object, an idea, or opinion (Schiffman & Kanuk, 1997:167; Allport, 1935; Fishbein & Ajzen, 1975:6; Tsang *et al.*, 2004:66; Fishbein, 1967). In fact, it is expected that consumers' behaviour is consistent with their attitudes (Carrigan & Attalla, 2001:564) more so when consumers are free to act as they wish (Schiffman *et al.*, 2014:246).

Attitudes also seem to have a direction (Tsang *et al.*, 2004:66; Kotler, 2000; Schiffman & Kanuk, 1997:167; Eagly & Chaiken, 1993:1; Petty & Cacioppo, 1986; Fishbein & Ajzen, 1975:6; Osgood *et al.*, 1971:189; Allport, 1935) and can either be regarded as positive or negative towards an object (Klopper *et al.*, 2006:99). Usually, people's attitudes are not neutral because they either like something or they do not (Klopper *et al.*, 2006:99), and as such contain a degree of favour or

disfavour (Marakarkandy *et al.*, 2017:272; Jain, 2014:3). For this reason, researchers mostly define evaluative responses in attitude by their valence and extremity (Ho & Bodoff, 2014:499; Olsen, 1999:483). To enable the measurement of attitudes, most attitude surveys ask respondents to indicate their attitude by placing a mark along a scale of for instance opposites at the extremities such as positive to negative (Eagly & Chaiken, 1993; Olsen, 1999:483; Garland, 1990:2).

Finally, when customers are ill-informed about a product they probably will not be loyal to a particular brand and may easily change their attitude (Sharp *et al.*, 2002:2). The converse is also true. Attitude change is more difficult when consumers have extensive knowledge in the product category, and they are brand loyal (Wayne *et al.*, 2013:128) whereas some attitudes are highly resistant to change others may be much more vulnerable (Bhattacharjee, 2006:213). Resistance is the term used for the degree to which attitudes are immune to change (Bhattacharya, 2006:213). Strong attitudes have the attributes of coming to mind faster, persisting over time, resisting counter persuasive attempts and guiding behaviour, whereas weak attitudes will have these attributes to a lesser degree (Lee & Gretzel, 2012:1272; Haugtvedt & Wegener, 1994:207; Petty & Cacioppo, 1986; McGuire, 1964).

In summary, the main elements identified from the definition of attitudes of consumers given in the literature are that attitudes are consumers' beliefs and feelings toward some object, they have learned predispositions that are consistent in nature, have a direction and can also be described regarding their extremity and resistance. The main elements of the attitude construct are set out in Table 3-2 below.

Table 3-2: Main elements of the attitude construct

Element in definition	Description	Authors mentioning element
Consumer beliefs and feelings directed toward object	Consumer attitudes are formed about brands, services, ideas, people and behaviour. Consumer attitudes are directed toward an object about which the consumer has feelings and beliefs. An evaluation can occur on a cognitive, affective or behavioural level.	Allport, 1935; Fishbein, 1967; Fishbein & Ajzen, 1975:6; Gold & Douvan, 1997:65; Herr & Fazio, 1993; Kotler, 2000; Mitchell & Olson, 1981; Petty & Cacioppo, 1986; Schiffman & Kanuk, 1997:167; Szmigin & Piacentini, 2015:197; Thurstone, 1929; Tsang <i>et al.</i> , 2004:66
A learned predisposition	Attitudes are learned since they form as a result of self-experiences with the product/service offering and the mix, interactions with others such as family/friends and information that is obtained from marketers through promotions, for example, advertisements.	Allport, 1935; Carlson & O’Cass, 2010:114; Fishbein, 1967; Fishbein & Ajzen, 1975:6; Funk & James, 2004; O’Keefe, 1990; Roest & Pieters, 1997; Schiffman & Kanuk, 1997:167; Tsang <i>et al.</i> , 2004:66
Consistent with nature	An attitude is relatively consistent with the behaviour that it reflects. However, attitudes may change if the cognitive component of attitude is altered. If a consumer has a new experience or exposure to new information about a product/ service offering, perceptions could change from dislike to like attitudes towards the offering. In other words, while attitudes are stable and do not change regularly, they can be changed if an intervention occurs.	Allport, 1935; Fishbein & Ajzen, 1975:6; Joubert, 2010:80; Schiffman & Kanuk, 1997:167; Schiffman <i>et al.</i> , 2013:246
Have direction	Attitudes have a direct meaning they could either be positive or negative. A consumer could hold feelings of like and/or dislike, favourableness and unfavourableness towards a product/service including the mix. They differ in degrees and intensity and can fall wherever along a scale from very favourable to very unfavourable. In other words, attitudes assess a particular object with some degree of favour or disfavour.	Allport, 1935; Brady & Cronin, 2001:40; Dolcos <i>et al.</i> , 2004; Eagly & Chaiken, 1993:1; Fishbein & Ajzen, 1975:6; Ho & Bodoff, 2014:499; Klopper <i>et al.</i> , 2006:99; Kotler, 2000; Lee <i>et al.</i> , 2012:821; Lang <i>et al.</i> , 1993; Olsen, 1999:483; Osgood <i>et al.</i> , 1971:189; Petty & Cacioppo, 1986; Russell, 1980; Schiffman & Kanuk, 1997:167; Thurstone, 1946; Tsang <i>et al.</i> , 2004:66; Zanna & Rempel, 1988
Reflects extremity	A consumer may have strongly held attitudes that could reflect the intensity of like/dislike of an attitude object.	Blackwell <i>et al.</i> , 2006:396; Eagly & Chaiken, 1993; Fazio, 1995; Kim <i>et al.</i> , 2009:69; Krosnick <i>et al.</i> , 1993:1132; Newcomb <i>et al.</i> , 1965; Olsen, 1999:487; Olsen <i>et al.</i> , 2005:250; Smith & Swinyard, 1983:259; Wegener <i>et al.</i> , 1995; Zanna & Rempel, 1988
Reflects resistance	A consumer with strongly held attitudes may be resistant to subsequent change as stronger attitudes come to mind faster, endure over time, resist counter persuasive occurrences and guide behaviour much more than weaker attitudes.	Bhattacharjee, 2006:213; Haugtvedt & Wegener, 1994:207; Lee & Gretzel, 2012:1272; McGuire, 1964; Petty & Cacioppo, 1986; Wayne <i>et al.</i> , 2013:128

Considering the main elements listed in Table 3-2, it is then possible to define consumer attitudes as follows:

A consumer attitude is a learned predisposition of an existing mobile banking app user that is consistent with nature and is reflective of the user's beliefs and feelings directed towards the app at a cognitive and affective level, and that may result in behaviour. It has direction, can be extreme and may result in a resistance to change.

As discussed in Chapter 1, in sections (1.4.2.1 & 1.4.2.2), customer satisfaction and affective commitment is considered as cognitive and affective types of attitudes, respectively. These attitudes were included in the proposed model as they also represent consumers' reflections on past experiences (positive disconfirmation of service expected and experienced) as well as the consumers' emotional attachments to the organisation with which they would want a future relationship. The discussion on consumer attitudes is subsequently continued in the next chapter. Chapter 4 is devoted to a further exploration of customer satisfaction and affective commitment as well as the relevant theories grounding these two attitudinal types of constructs.

3.7 SUMMARY

This chapter provided more insight into the Tripartite Model grounding attitude formation, the definition of consumer attitudes, the evolution of the extended UTAUT model and the factors that are further explored in the empirical part of this study.

The Tripartite Model professes that attitudes have three distinct dimensions namely cognitive, affective and behavioural concerning a single attitude object. The cognitive dimension consists of beliefs, thoughts and knowledge; the affective dimension consists of the feelings and emotions; the behavioural dimension incorporates past experiences and behavioural intentions towards the attitude object (Haddock & Zanna, 1998b). The literature study further revealed that the foundational principles of the tripartite model of attitude formation seem to have influenced marketing scholars' views of consumer behaviour and the resulting definitions that have been formulated to describe consumer attitudes. Consequently, within the context of this study, *a consumer attitude is defined as a learned predisposition of an existing mobile banking app user that is consistent with nature and is reflective of the user's beliefs and feelings directed towards the app at a cognitive, affective and behavioural level. It has direction, can be extreme and may result in resistance to change.*

The chapter was also devoted to an exploration of the evolution of the extended UTAUT model and the factors that have the potential to impact on the post-usage attitudes of existing users of

mobile banking apps. The extended UTAUT was developed by Venkatesh *et al.* (2012) and is viewed as an improvement to earlier technology acceptance models, such as TPB, TRA, TAM, and UTUAT. Its factors seem to have the potential to have great explanatory power and offer a good indication of consumer behaviour, concerning both new and existing users of technology. Hence, it was decided to examine further the factors of the extended UTUAT model in this study to determine the effects that performance expectancy, effort expectancy, social influence, facilitating conditions and hedonic motivation respectively exert on the post-usage attitudes of existing users of mobile banking apps. One additional factor, namely competence trust, is also explored in the empirical part of this study to further assess its impact on the post-usage attitudes of existing users of self-service technologies, such as mobile banking apps.

Chapter 4 offers more insight into the remaining constructs of the conceptual model, namely customer satisfaction, affective commitment and customer citizenship behaviour.

CHAPTER 4

RELATIONSHIP MARKETING, RELATIONSHIP QUALITY AND THE CUSTOMER CITIZENSHIP BEHAVIOUR DOMAIN

4.1 INTRODUCTION

Chapter 3 provided a greater understanding of the extended UTAUT model and relevant belief factors that are further explored in the empirical part of this study. Considering the possibility of these factors to impact on the attitudes of existing users of mobile banking applications (apps), the second aim of Chapter 3 was to provide insight into attitude formation and to develop a formal definition of consumer attitudes within the context of this study. Specifically, it has been found that within the setting of this study, a consumer attitude is a learned predisposition of an existing mobile banking app user that is consistent in nature and is reflective of the user's beliefs and feelings directed towards the app at a cognitive and affective level and that may result in a behavioural level. It has direction, can be extreme and may result in resistance to change.

The conversation on consumer attitudes is now continued in Chapter 4 that aims to give greater insight into the customer satisfaction and the affective commitment constructs, serving as the cognitive and affective attitudes. As mentioned in Chapter 1, section (1.4.3), these two attitudinal dimensions may be affected by the belief factors of the extended UTAUT model as well as competence trust. They are furthermore grounded in relationship marketing theory and are also considered as key elements of relationship quality (Vieira *et al.*, 2008:4; Morgan & Hunt, 1994:22). Hence, Chapter 4 commences with a general overview of the relationship marketing concept, after which the relationship quality domain as well as customer satisfaction and affective commitment, are discussed in detail. The final part of Chapter 4 is devoted to an in-depth overview of the customer citizenship behaviour domain and its related benefits. An investigation into these matters is also important, considering the proposition in this study that the customer citizenship behaviour directed towards other users of mobile banking apps may possibly be affected by customer satisfaction and affective commitment.

4.2 THE RELATIONSHIP MARKETING CONCEPT

Relationship marketing has attracted the attention of marketing scholars and practitioners as producers are faced with demanding customers and intense competition (Payne & Frow, 2017:11; Sheth *et al.*, 2012:4). Marketing scholars have turned their attention to relationship marketing's nature and scope because it shows possibilities of creating competitive advantages for producers

over the long term (Teece *et al.*, 1997; Porter, 1990). Long-term customer relationships are valuable as they protect the producer against potential entrants to their industry, and discourage the production of imitation products by their rivals (Badi *et al.*, 2016:2; Park & Luo, 2001; Yau *et al.*, 2000). Consequently, the relationship marketing concept has been extensively studied and various perspectives have been provided to define the relationship marketing concept over the years.

4.2.1 Defining relationship marketing

Relationship marketing concerns the building of relationships between organisations and their customers (Sheth *et al.*, 2012; Palmatier, 2008:6; Hennig-Thurau & Hansen, 2000:5; Gronroos, 1997:407). Relationship marketing was initially defined as the marketing efforts of organisations to initiate, maintain, and enhance customer relationships (Berry, 2002:61; Berry, 1983:25). Berry (1983) pointed out that relationship marketing not only concerns the attraction of new customers but also relates to the solidification of the relationship, developing loyal customers and improving customer service (Berry, 1995:236; Berry, 1983). Therefore, building relationships could be beneficial for both customers and organisations (Taleghani *et al.*, 2011:155).

Since conceptualisation, several other characteristics of the relationship marketing domain have been noted.

Relationship marketing concerns the maintenance of existing relationships (Gummerus *et al.*, 2017:6; Hennig-Thurau & Hansen, 2000:5; Gronroos, 1997:407; Morgan & Hunt, 1994:22) that may have financial implications (Kanagal, 2009:9). Organisations would be advised to spend their costly resources on their customers who display potential for long-term relationships (Mostert & De Meyer, 2010:28). Fostering new customer relationships has associated investment costs, and it is advisable for organisations to screen customers so that they direct their spending to customers most likely to maintain the relationship (Bendapudi & Berry, 1997:16). Investment costs cover aspects such as attracting new customers, identifying their needs, taking steps to satisfy those needs, and measuring the return on the investment made (Kim & Gupta, 2012:261). Given these costs, organisations must then make choices concerning which customer groups to target for relationship marketing and which opportunity costs they would be willing to forfeit if relationships with customers are not maintained (Palmatier, 2008; Bendapudi & Berry, 1997:17).

Relationship marketing requires a long-term involvement (Hennig-Thurau & Hansen, 2000:5; Gronroos, 1994:11; Gilaninia *et al.*, 2011; Bendapudi & Berry, 1997:15), with the objective of delivering value to customers and maintaining customer satisfaction over the long term (Murphy *et al.*, 2005). Accordingly, organisations should strive to simultaneously create value for

themselves, their suppliers, and customers as though they were in a partnership (Taleghani *et al.*, 2011:156). All the parties involved must value the relationships, desiring to retain them for an extended period (Taleghani *et al.*, 2011:156). A key performance area for marketing managers is sustaining long-term relationships with customers, regardless of whether the products they market are goods, services, or both (Goldsmith & Tsotsou, 2012:139).

Relationship marketing is interaction related (Gummerus *et al.*, 2017:2; Taleghani *et al.*, 2011:157; Hennig-Thurau & Hansen, 2000:5). It entails interaction between different stakeholders in the supply chain that may foster the development of networks (Gronroos, 2004:101; Gummesson, 1999). One of the early definitions of stakeholders defines the term to mean “all of those groups and individuals that can affect, or are affected by, the accomplishment of organisational purpose” (Freeman, 1984:46). It propounds that value co-creation transcends formal organisational boundaries and that an organisation is a player together with customers and other stakeholders from a common network of relationships that combine their efforts to create value (Badi *et al.*, 2016:1; Payne *et al.*, 2005; Christopher *et al.*, 2002). Also, an organisation's position within the network determines what value emerges and for whom (Badi *et al.*, 2016:1; Gummesson & Mele, 2010; Ballantyne *et al.*, 2003). Partners, banks, and even politicians as required must be included in the marketing of the network to be successful (Gronroos, 2004:101; Gummesson, 1999). These interactions may be initiated by exchanging messages and programs as planned, but effective interactions must materialise for a commercial relationship to develop (Gronroos, 2004:103). Furthermore, dialogue among the parties emanating from value enhancing interactions could facilitate the sharing and possible creation of knowledge (Gronroos, 2004:103). The importance of communication among all affected stakeholders is emphasised in the relationship marketing approach (Payne & Holt, 2001:160; Buttle, 1999; Christopher *et al.*, 1991; Doyle, 1995; Gummesson, 1999; Kotler, 1992; Morgan & Hunt, 1994).

Relationship marketing is noted to be dynamic (Palmatier, 2008:38; Hennig-Thurau & Hansen, 2000:5), because relationships tend towards being dynamic rather than static (Hennig-Thurau & Hansen, 2000:11). The study by Dwyer *et al.* (1987) placed five phases of a relationship marketing model in chronological order, being awareness, exploration, expansion, commitment, and dissolution. New customers will seek exchange benefits and initially make moderate purchases. A commitment will develop towards the relationship when a positive evaluation of the transactions has been made, and increased purchases follow. For various reasons, the customer may end the relationship after having been in it for a long time and takes his/her business to a different supplier (Hennig-Thurau & Hansen, 2000:11).

Relationship marketing has a high degree of mutual dependence (Hennig-Thurau & Hansen, 2000:5). The aim of relationship marketing is achieved by promises exchanged and repeatedly fulfilled between the parties in the relationship over time so that their objectives are met (Gronross, 1994:9; Gronross, 1990:138). New customers may find numerous promises made by an organisation attractive and start to build relationships based on them (Gronross, 1994:9; Calonijs, 1988). However, not much will come of the relationship if those promises are not kept (Gronross, 1994:9; Calonijs, 1988).

From the discussion provided in this section, it seems that there are six main elements that can be associated with the relationship marketing concept. Table 4-1 below summarises them:

Table 4-1: Relationship marketing elements

Element	Description	Authors
Establishment of relationships	Relationships are established between organisations and their customers that are mutually beneficial.	Sheth <i>et al.</i> , 2012; Taleghani <i>et al.</i> , 2011:155; Palmatier, 2008:6; Berry, 2002:61; Hennig-Thurau & Hansen, 2000; Gronroos, 1997:407; Berry, 1995:236; Berry, 1983:25.
Maintenance of existing relationships	Investment and opportunity cost must be weighed, and relationships with customers must be maintained that is financially beneficial.	Palmatier, 2008; Hennig-Thurau & Hansen, 2000:5; Bendapudi & Berry, 1997:16; Gronroos, 1997:407; Morgan & Hunt, 1994:22.
Long-term focus	Relationship marketing has a long-term perspective, and long-term value must be delivered to customers.	Gilaninia <i>et al.</i> , 2011; Kanagal, 2009:14; Palmatier, 2008:82; Hennig-Thurau & Hansen, 2000:5; Bendapudi & Berry, 1997:15; Gronroos, 1994:11.
Interaction related	Relationship marketing stresses the importance of interaction between multiple stakeholders.	Taleghani <i>et al.</i> , 2011:157; Gronroos, 2004:99; Hennig-Thurau & Hansen, 2000:5; Gummesson, 1999.
Dynamic	Relationship marketing takes on an evolutionary nature, and the benefits increase along with positive evaluations of transactions and the development of commitment.	Palmatier, 2008:38; Hennig-Thurau & Hansen, 2000:5; Dwyer <i>et al.</i> , 1987.
Generally high degree of mutual dependence	There are a mutual exchange and fulfilment of promises between organisations and their customers.	Hennig-Thurau & Hansen, 2000:5; Gronroos, 1994:9; Gronroos, 1990:138; Calonijs, 1988.

Based on the elements listed in Table 4-1, relationship marketing in this study means the establishment of relationships between organisations (retail banks) and their customers (users of electronic banking apps) that is interaction related, dynamic, has a generally high degree of mutual dependence and that must be maintained over the long term.

4.2.2 The evolution of relationship marketing

The practices of relationship marketing started in the pre-industrial era (Virk, 2014:150; Sheth & Parvatiyar, 1995b) as exchanges took place amongst producers and customers of agricultural products without the presence of any middlemen (Sheth *et al.*, 2012:8). Artisans often crafted special products to meet the needs of different customers (Sheth *et al.*, 2015:125). These direct exchanges led to the producers and consumers engaging in relationships (Parvatiyar & Sheth, 2001:6). Transactions oriented marketing appeared after mass production took place in the industrial era and middlemen (wholesalers and retailers) caused less frequent interactions between producers and consumers (Sheth *et al.*, 2012:8). Production was distanced from smaller consumers (end-users), and the marketing functions were taken over by middlemen (Sheth *et al.*, 2012:8). The 1950s era was characterised by the mass-marketing of consumer goods, while in the 1960s marketing's focus turned to industrial markets (Sonkova & Grabowska, 2015:201). The era of market segmentation was introduced in the 1970s (Buttle, 1996), with a segment for societal marketing devoid of the profit motive (Christopher *et al.*, 1991). Towards the end of the 20th century, the relational-based concept of marketing was revisited by marketers and economists, and in the 1980s new publications assisted in establishing relationship marketing as a separate domain of marketing (Sonkova & Grabowska, 2015:201). The renewed interest in relationship marketing can be attributed to the fact that many scholars realised that particularly in the service industry, exchanges were of a relational nature (Leverin & Liljander, 2006; Gronroos, 1994; Gummesson, 1994). Then in 1983, Berry termed relationship marketing in a service context as a longer-term approach (Taleghani *et al.*, 2011:156) differentiating it as an approach to attract, maintain, and enhance customer relationships (Berry, 1983).

After the concept was defined, the relationship marketing domain evolved and developed rapidly due to several factors (Sheth *et al.*, 2012:9; Palmatier, 2008). The service economy, for example, has shown tremendous growth (Palmatier, 2008) mainly because service production and delivery are from the same company, decreasing the role of intermediaries (Agbanu *et al.*, 2016:11). As a result, the service provider and the user develop stronger emotional bonds in a relationship that requires maintenance and enhancement (Sheth *et al.*, 2012:9). Secondly, the advances in computer and telecommunications technology allow producers to interact with end users directly (Sonkova & Grabowska, 2015:201; Sheth *et al.*, 2012:9; Palmatier, 2008). Databases have made relationships between producers and customers possible on a one-to-one basis according to the producer's long-term strategy for customer retention and growth, called Customer Relationship Management (CRM) (Sheth *et al.*, 2015:120). Computerised CRM programmes address a wide range of marketing activities, namely segmentation, targeting customers, and market research and analytics amongst others that are aimed at customer acquisition, retention and profitability

(Rigby *et al.*, 2002). Those computerised programmes have made it possible for marketers to do targeting of customers and to implement the strategy with reduced effort (Sonkova & Grabowska, 2015:201). In the banking industry, marketing occurs with individual customers through computerised marketing tools and databases. As a result, middlemen functions are not needed. For example, when using online banking, consumers willingly perform some of the responsibilities of product use related services themselves (Sheth *et al.*, 2012:9).

Third, the involvement of suppliers and customers in programme implementation throughout the value chain became necessary when producers adopted the Total Quality Management philosophy in an attempt to improve quality and reduce costs (Parvatiyar & Sheth, 2001:7). Close working relationships between suppliers, marketing infrastructure members and customers were required (Sheth *et al.*, 2012:9). Fourth, greater competition as experienced in current times has compelled marketers to place more attention on customer retention and loyalty (Sheth *et al.*, 2012; Reichheld, 1996; Dick & Basu, 1994). The competitive advantage flowing from retaining customers may be less costly and more sustainable than acquiring new ones (Rosenberg & Czepiel, 1984). Hence, relationship marketing is focussed on customer retention strategies.

4.2.3 The benefits of relationship marketing practices

- Lower perceived risk

Relationship marketing reduces the risk involved in a transaction as perceived by customers (Berry, 2002; Berry, 1995:237) that could lead to them avoiding purchases of certain products or services (Ghotbabadi *et al.*, 2016:162). When customers have a close and long-term relationship with the service provider, they may evaluate the same types of transactions to be less risky (Ghotbabadi *et al.*, 2016:162; Bataineh *et al.*, 2015; Cheng & Lee, 2011; Keith *et al.*, 2004).

- Social benefits

Through relationship marketing practices, friendships may be formed with the producer's employees, resulting in social benefits (Parish *et al.*, 2015:23; Moreti & Tuan, 2014:254; Berry, 2002:75; Price & Arnould, 1999). Customers will have a positive emotional experience when they are personally recognised by employees; they are familiar with employees and friendships have been created with employees (Hennig-Thurau *et al.*, 2002:234). Social benefits emanate from the relationship itself, with less focus on the rewards to be gained from transactions (Hennig-Thurau *et al.*, 2002:234; Gwinner, *et al.*, 1998). The social relationship will develop as more service contacts between persons occur,

along with both the recognition/friendship and the professional lines (Berry, 2002:75; Czepiel, 1990).

- Customer knowledge

Organisations can learn more about their customers' requirements and needs by applying relationship marketing (Berry, 2002:75; Berry, 1995:238). The knowledge gleaned from repeated service to the same customers, also referred to as learning-curve benefits, lets the producer tailor the service according to the customer's specifications (Berry, 2002:75). Essentially, the understanding of the customer's needs becomes more precise with repeated encounters that also result in a good rapport with the customer (Berry, 1995:238).

- Competitive advantage

A competitive advantage can result from using relationship marketing effectively (Blackley *et al.*, 2017:7; Rahman & Masoom, 2012:98; Taleghani *et al.*, 2011:156). It is established when the organisation achieves a unique proficiency that is valued in the marketplace when it combines varieties of basic resources in a different way (Morgan & Hunt, 1999:283). What the customer really wants can be grasped by marketers through listening to the customer and tailoring the product accordingly (Nwakanma *et al.*, 2007:59). By responding and customising the product, the organisation can better serve a customer and gain a competitive advantage over peers that are less responsive (Nwakanma *et al.*, 2007:59). Overall, the product has to be good, production should be aligned with the marketing efforts, and excellent delivery must follow for a competitive advantage to be gained from relationship marketing (Kanagal, 2009:14).

- Greater profitability

Relationship marketing can lead to greater profitability (Taleghani *et al.*, 2011:157; Stavros & Westberg, 2009) simply by keeping an organisation's current customers instead of enlisting new ones (Rizan *et al.*, 2014:2; Berry, 2002; Kotler, 2001). Relationship marketing also provides an organisation with a chance to generate increased sales volumes and possible profit through cross-selling (Nwakanma *et al.*, 2007:58).

- Increased brand loyalty

Brand loyalty is the favourable perception of a customer towards a brand which inclines the customer to purchase it repeatedly (Omar & Ali, 2010:26). Relationship marketing encourages the customer to develop brand loyalty and to build a long-term relationship with an organisation (Nwakanma *et al.*, 2007:58). A brand loyal customer is one who, as a result

of the relationship, displays a recurring preference for the organisation's product (Nwakanma *et al.*, 2007:58).

4.2.4 Developing a relationship marketing strategy

Relationship marketing strategies are naturally drafted to collect information that helps organisations recognise and keep their most profitable customers to maximize customer value as well as profitability (Khojastehpour & Johns, 2014:7; Ashley *et al.*, 2011:749; Poovalingam & Veerasamy, 2007:92). An approach to understanding the strategic process starts with the formulation of a mission or purpose statement, values and culture, then designing a relationship strategy and finally acquiring means and resources (Renart & Cabre, 2005:6).

- Step 1: Define the corporate mission, values and culture

An organisation needs to clarify its mission and customer offerings to build quality relationships with them (Renart & Cabre, 2005:6; Christopher *et al.*, 1991:9). Focusing solely on monetary benefits for customers such as rewards programs and discounts, to nurture loyalty may not produce the desired outcome (Renart & Cabre, 2005:6). The mission, values and an adaptable business strategy are key factors in the generation of an organisation's long-term growth (Renart & Cabre, 2005:6). The first step for an organisation to take when developing a relationship marketing strategy is therefore to define its corporate mission, values and culture.

- Step 2: Design relationship strategy

The next stage is to design and undertake activities outside the basic transactional model that will result in deeper and more satisfactory relationships with an organisation's best customers, that is to formulate the relationship strategy (Renart & Cabre, 2005:7). Relationship building activities may entail, for example, information bulletins (newsletters, promotions and events), aftersales support (manuals, downloads), and feedback (online surveys, discussion forums) (Renart & Cabre, 2005:8; Gronroos, 1999:333). In an online environment, Liang and Chen (2009) indicate that the internet is a key for relationship building in the financial services industry (Liang & Chen, 2009). Organisational procedures that promote relationship building could be activities such as training staff or even compensation systems (Palmatier, 2008:74). These activities require certain investments (for example, time, effort) and costs so that the relationship will endure for the medium to long term by creating sufficient value in a win-win situation (Palmatier, 2008:74). The relationship strategy and its concomitant individual relationship building activities must conform to the organisation's mission, values and culture (Renart & Cabre, 2005:8).

- Step 3: Acquire means and resources

Following the completion of steps 1 and 2, the third step is to ensure that the means and resources that will be needed to implement the strategy are made available (Renart & Cabre, 2007:5). The technology required must be chosen by management bearing in mind that there are many options such as customer relationship management packages, websites on the internet, data mining and more. An important feature of the preferred technology is that it must be able to cater for higher volumes of users in the future and for further relationship building activities to be included (Renart & Cabre, 2005:9). Flexible and modular applications can be included in the system over a period. Furthermore, management must also make provision for the staff to actually implement the relationship marketing program (customer care, support, and quality departments). Other considerations for management include capital expenditure on physical assets and possibly outsourcing certain functions (for example, sub-contracting call centres, or mailing services) (Renart & Cabre, 2005:9).

Relationship marketing strategies could, however, be challenging for an organisation to implement. Challenges that an organisation could encounter in the implementation stage of the marketing strategy are establishing a direct communication channel/direct contact with customers, and a service system that recognises the worth of customers or a customer-oriented service system (Percy *et al.*, 2010:2601; Gronroos, 1996:11). They will be discussed next.

- Direct contact with customers

The basis of relationship marketing is that producers will receive reliable information from customers; it is, therefore, essential that organisations know and understand their customers better (Gronroos, 1996:11). An organisation that is in direct contact with its customers can glean valuable information directly from them about their wants, desires, anticipations, satisfaction levels, future intentions, quality and value insights (Gronroos, 1999:332). For organisations to make their advertising campaigns and to deal with customer complaints in a relationship oriented way, they may be challenged to have sophisticated software that can provide copious information (Percy *et al.*, 2010:2601). Organisations could use modern information technology as an opportunity to develop ways of knowing the customer better (Gronroos, 1996). Dealing with customers in a relationship-oriented way is critical for companies that have diversified since their customers' needs can vary considerably (Hunt *et al.*, 2006:80).

- Customer oriented service system

A customer oriented service system entails that an organisation is acutely aware of its customers in everything it does (Latyshova *et al.*, 2015:638; Rubin, 1997:1). A business that provides services can successfully execute relationship marketing by understanding its role and by creating and managing a service offering that will satisfy its customers over a broad range of services, thereby reducing the company's competition (Gronroos, 1996). When the organisation knows service management (Gronroos, 1996; Gronroos, 1990), it will design its value-generating processes so that it can be a one-stop shop for its customers (Gronroos, 1996). A customer service orientation must be pervasive in the whole service offering (Percy *et al.*, 2010:2601) as well as be an integral component of a general organisation culture. Consequently, knowing the customer well regarding his/her basic values and beliefs that are likely to draw the customer towards the organisation, should be a priority consideration (Percy *et al.*, 2010:2601).

From the above discussion, it could be deduced that quality relationships are essential for the benefit of both customers and organisations. The quality of the relationship is essential for relationships to remain successful in the long term (Bejou *et al.*, 1996:142). When a relationship becomes close, customers will tend to evaluate the relationship as a whole as opposed to focusing on the separate offerings as before (Percy *et al.*, 2010:2599). In evaluating the relationship as a whole, the customer will evaluate the nature of the interaction between him/her and the organisation (Percy *et al.*, 2010:2599). Organisations should, therefore, provide high quality service offerings in the market to meet individual needs (Percy *et al.*, 2010:2599). Further, building good quality relationships with customers is perhaps the most important asset for any organisation, as this may help it to build a competitive advantage and increase organisational performance (Hanaysha & Hilman, 2015:459; Ford & Hakanson, 2006; Hunt *et al.*, 2006). The next section will explore relationship quality in more detail and also examine the key dimensions of relationship quality that will be examined in the empirical part of the study.

4.3 CONCEPTUAL FOUNDATIONS OF THE RELATIONSHIP QUALITY DOMAIN

It has been said that relationship quality captures the essence of relationship marketing (Skarmeas & Robson, 2008:171; Jap *et al.*, 1999:304). Relationship quality, as encapsulated in the relationship marketing paradigm, has attracted considerable research interest in the topic (Skarmeas & Robson, 2008:171). Relationship quality is an important factor to explain the reasons for relationship renewal and termination, and to categorise relationships as being successful or unsuccessful, as is pointed out by a growing base of research evidence (Hewett *et al.*, 2002; Dorsch *et al.*, 1998; Crosby *et al.*, 1990). Relationship quality comprises important

relational outcomes in an overarching construct that reflect the overall nature of the exchange relationship (Dwyer *et al.*, 1987).

4.3.1 Defining relationship quality

Researchers have established that relationship quality, from the perspective of customers, relates to the overall assessment of the strength of a relationship (Ryu & Lee, 2017:69; Vize *et al.*, 2011:4; Walsh *et al.*, 2010:132; Palmatier *et al.*, 2006:139; de Wulf *et al.*, 2001:36). It shows the extent to which customers' expectations and desires are continuously satisfied by their relationship with relevant service providers (Ryu & Lee, 2017:69; Kim *et al.*, 2006). As customers receive increased value when they interact with a competent organisation, the relationship becomes more important to them, and they will increase their effort to strengthen and maintain it (Palmatier *et al.*, 2006:140; Lagace *et al.*, 1991; Crosby *et al.*, 1990). The relationship quality furthermore refers to customers' views and assessments of communication and behaviours displayed by individual employees of the service providers, including politeness, helpfulness, respect, friendliness, and empathy (Kose *et al.*, 2013:67).

Relationship quality may reflect a lower level of perceived uncertainty. Relationship quality is present in an environment where the customer is confident about the service provider's honesty and prolonged good performance based on a consistently satisfactory level of past performance (Huang, 2012:4; Naude & Buttle, 2000:352; Zeithaml, 1981; Chen *et al.*, 2008:12; Bejou *et al.*, 1996). When relationship quality is measured as being high, this indicates that customers trust and have confidence in the ability of the service provider to perform in future (Sun, 2010). High quality relationships are particularly significant in-service exchange situations where customers are already uncomfortable as they are initially experiencing intangibility, doubts, lack of familiarity, and a long-time horizon of service provision (Sun, 2010:94; Crosby *et al.*, 1990).

Assurance that the service provider will continue to perform as expected or even better and will not be subversive towards the customer emanates from relationship quality and can support a lasting bond with the service provider (Chen *et al.*, 2008:16; Crosby *et al.*, 1990). Experience with the service provider and individualised attention to the customer creates a bond, which customers might not want to lose (Kruger & Mostert, 2014:38). Satisfied and trusting customers will positively refer the service provider to their friends, relatives, and colleagues (Chen *et al.*, 2008:16).

The conceptual premise behind relationship quality is that customers' quality perceptions develop and change over time in sympathy with the progression of the relationship (Gronroos, 2002:82). Relationship quality is dynamic, being the customer's most recent quality perception of long-term quality formation in on-going customer relationships (Gronroos, 2007:91; Gronroos, 2002:82).

Relationship quality also expresses the degree of appropriateness to which the relationship satisfies the customer's associated needs (Hennig-Thurau *et al.*, 2002:231; Hennig-Thurau & Klee, 1997:751). Since trading in products and/or services is fundamental to any buyer-seller relationship, the buyer's perception of the general quality must be included first as a basic part of relationship quality (Yueheng & Mingli, 2013:4326; Hennig-Thurau & Klee, 1997:751). A product or service that satisfies the customer's needs is a pre-eminent condition for attaining high relationship quality (Hennig-Thurau & Klee, 1997:751).

Relationship quality, in the long term expresses the buyer's level of satisfaction with the overall relationship, accumulated over time, as demonstrated by product and/or service quality, whether the price paid is reasonable for value received, and the degree to which buyers perceive that they are partners in the relationship (Yeh, 2016:451; Huntley, 2006:706). Since the interaction between partners encompasses the exchange of both economic and social resources, the relationship quality construct should preferably include both of those components (Huntley, 2006). Developing high relationship quality with customers can produce enhanced competitiveness in a competitive environment (Yeh, 2016:451 Adjei *et al.*, 2009). Conversely, organisations must meticulously assess their environmental contexts and then carefully establish relationship quality with customers (Yeh, 2016:451).

From the discussion provided in this section, it appears that there are six main elements that can be associated with the relationship quality concept. These elements are tabulated in

Table 4-2:

Table 4-2: Relationship quality elements

Element	Description	Authors
Overall evaluation of relationship strength	The extent to which the needs and expectations of the parties (both organisation and customer) are met.	Crosby <i>et al.</i> , 1990; de Wulf <i>et al.</i> , 2001:36; Kim <i>et al.</i> , 2006; Kose <i>et al.</i> , 2013:67; Lagace <i>et al.</i> , 1991; Palmatier <i>et al.</i> , 2006:139; Ryu & Lee, 2017:69; Vize <i>et al.</i> , 2011:4; Walsh <i>et al.</i> , 2010:132
Reduce perceived uncertainty	A satisfactory performance of an organisation in the past may increase a customer's confidence in the future performance of the organisation.	Bejou <i>et al.</i> , 1996; Chen <i>et al.</i> , 2008:12; Crosby <i>et al.</i> , 1990; Huang, 2012:4; Naude & Buttle, 2000:352; Sun, 2010:94; Zeithaml, 1981

Contributes to a lasting bond by offering assurance	A bond is created between a customer and organisation as a result of a customer's experience with an individualised attention from organisation.	Chen <i>et al.</i> , 2008:16; Crosby <i>et al.</i> , 1990; Kruger & Mostert, 2014:38
Represents dynamics of long-term quality formation in continuing customer relationships	Customers' quality perceptions concerning an organisation develop and change over time as the relationship grows.	Gronroos, 2007:91; Gronroos, 2002:82
Degree of appropriateness of a relationship	A product/service that meets the customers' needs must be considered an indispensable condition of high relationship quality. High relationship quality suggests that customers trust and rely on the performance of service providers.	Hennig-Thurau <i>et al.</i> , 2002:231; Hennig-Thurau & Klee, 1997:751; Yueheng & Mingli, 2013:4326
Extent to which buyers are satisfied over time with the relationship in general	Relationship quality may lead to organisations building long-term relationships with customers and achieving profitability.	Adjei <i>et al.</i> , 2009; Huntley, 2006:706; Yeh, 2016:451

Based on the elements listed in

Table 4-2, it is reasonable for this study to define relationship quality as the overall evaluation of the strength of the relationship, regarding which uncertainty has been reduced, and assurance has been provided that contributes to a lasting bond between a mobile banking app user and their bank. Hence, the assessment of relationship quality evolves over time, expresses the degree of appropriateness of the relationship and also the extent to which mobile banking app users are satisfied with the relationship with their bank in the long-term.

4.3.2 Dimensions of relationship quality

The generally accepted concept of relationship quality is a multi-dimensional construct containing numerous associated dimensions (Giovanis *et al.*, 2015:745) some of which can be named as being trust, satisfaction and commitment (Ismail *et al.*, 2014:140; Vieira *et al.*, 2008:4). This research study will focus on customer satisfaction and commitment since they form part of the conceptual model and according to Chapter 1 could play an important role in the contribution towards customer citizenship behaviour with regards to mobile banking apps. It is, therefore, the aim of this section to provide more insight into these two dimensions (customer satisfaction and commitment) that will be explored further in the empirical part of the study.

4.3.2.1 Customer satisfaction

Table 4-3 below provides a list of customer satisfaction definitions that have been formulated in the past.

Table 4-3: Definitions of customer satisfaction

Author(s)	Adopted definition of customer satisfaction
Howard & Sheth (1969:475)	"The degree of congruence between the actual consequences of purchase and consumption of a brand, and what was expected from it by the buyer at the time of purchase"
Oliver (1980:460)	"A function of expectation and expectancy disconfirmation"
Klaus (1985:21)	"The customer's subjective evaluation of a consumption experience, based on some relationship between the customer's perceptions and objective attributes of the product"
Tse & Wilton (1988:204)	"The consumer's response to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product as perceived after its consumption"
Johnson & Fornell (1991:268)	"The increasing of pleasure or the decreasing of pain"
Rust & Oliver (1994)	"A summary cognitive and affective reaction to a service incident (or sometimes to a long-term service relationship"
Costabile (1996)	"The difference between expectations and perceptions, related to a particular product, service and performance deriving from experience of use"
Schiffman & Kanuk (2004)	"The individual's perception of the performance of the product or service in relation to his or her expectations"
Olorunniwo <i>et al.</i> (2006:63)	"An evaluation as well as an emotion-based response to a service"
Zeithaml <i>et al.</i> (2006)	"Evaluation of a product or service relative to the fulfilment of customer needs and expectations"
Mittal & Frennea (2010:3)	"A customer's post-consumption evaluation of a product or service"
Kundu & Datta (2015:23)	"A person's feeling of the pleasure or disappointment arising from comparing products' perceived performance in relation to expectation"

From the definitions provided in Table 4-3, it is evident that customer satisfaction in broad terms concerns the post-purchase response of a customer to pre-purchase expectations (expectancy) and perceived performance (disconfirmation) of a product or service. In this study, the definition of customer satisfaction is the bank customer's post-purchase (post-use) evaluation of performance versus pre-purchase (pre-use) expectations and perceived performance of the mobile banking app. This principle is now further explored in the next section focusing on the characteristics of customer satisfaction.

4.3.2.1.1 Characteristics of customer satisfaction

Embedded in the disconfirmation model, customers make comparisons of their expectations and the perceived performance of a product (Homburg *et al.*, 2006:21). The disconfirmation paradigm then theorises that a person will be satisfied if a product's performance is equal to what was expected, very satisfied when a product's performance exceeds expectations and dissatisfied when the product's performance is below expectations (Ulaga & Eggert, 2006:316; Eggert & Ulaga, 2002:108). Therefore, satisfaction is viewed as a cognitive attitude that is backward looking (Gustaffsson *et al.*, 2005:211; Homburg *et al.*, 2006) concerning past purchase experiences (Petersen *et al.*, 2009:102).

Similar views are held by other scholars in relationship marketing research, proclaiming that satisfaction research is primarily influenced by the disconfirmation paradigm (Nagy *et al.*, 2017:6; Parasuraman *et al.*, 1988). In this theory, disconfirmation happens when customers' expectations and outcomes are perceived as not being the same (Pizam *et al.*, 2016:5). Negative disconfirmation occurs when the producer's performance is rated as being less than the expectation. On the other hand, positive disconfirmation happens when the producer's performance is rated as being better than the expectation (Pizam *et al.*, 2016:5). Therefore, satisfaction is reached when the producer's performance equals or is greater than (positive disconfirmation) the customer's expectations, whereas dissatisfaction is felt as a result of negative disconfirmation (Pizam & Ellis, 1999:328). Expectations are the expression of the individual's beliefs about a product's likely performance in a future state (Corte *et al.*, 2015:40). Consumers' expectation has a direct influence on satisfaction levels (Cooil *et al.*, 2007:70; Rust *et al.*, 1994:42) in the absence of assessments or comparisons made to actual outcomes of the service provided or performance levels of the product/service (Oliver & DeSarbo, 1988). Consumers form expectations consistent with a certain level of performance they are thought to have grown accustomed to, and the performance levels and resultant expectations serve as the baseline for satisfaction assessment (Oliver, 1993; 1981). When expectations are high the satisfaction level of the customer will tend to be high, and low expectations will result in low satisfaction levels due to the effect of the assimilation/adjustment (Oliver, 1997). Therefore, for this study context, when customers' expectations of mobile banking app users are high then they will be satisfied if their expectations are met or even exceeded, and a customer could recommend the app/service to a friend (Levesque & McDougall, 1996:14). However, if expectations of mobile banking app users are low, then customers will be dissatisfied if the app/service does not significantly exceed the expectation. This could lead to complaining or switching to another bank for service (Anderson & Sullivan, 1993:126; Hirschman, 1970).

4.3.2.1.2 The benefits of customer satisfaction as a dimension of relationship quality

Having and retaining satisfied customers are critical for retail banks (Molina *et al.*, 2007:258; Levesque & McDougall, 1996). A higher level of customer satisfaction can counteract price elasticity (Corte *et al.*, 2015:40; Fornell *et al.*, 2006). In other words, customers who are satisfied are less likely to defect when competitors offer lower prices, measured as lower price elasticity (Mittal & Frennea, 2010:3). As such, it is important for retail banks to be in a position to successfully measure or approximate the measurement of customers' satisfaction levels so that correcting or affirming measures can be taken to establish and maintain long-term relationships with customers and enjoy long-term competitiveness as a result thereof (Henning-Thurau & Klee, 1997).

Furthermore, satisfied customers will have positive attitudes toward the brand, leading to a greater likelihood of repeated purchases of the same brand (Pizam & Ellis, 1999:326). In the face of strong competition, keeping current and past customers satisfied is important to retain them. Consumer-oriented organisations have in the past been the only businesses to achieve this goal (Pizam & Ellis, 1999:326). Having determined the needs of specific target groups, these organisations work hard to offer a product or service that will meet the client's most recent expectations (Vavra, 1997:12). Frequently repeated customer satisfaction measurements can be used to alert consumer oriented organisations in time for matters that may be unsatisfactory or need attention, rather than allowing customers to become dissatisfied, in which case they will be informed of customer complaints (Pizam & Ellis, 1999:326; Vavra, 1997:13). Therefore, customer satisfaction must be clearly known and understood by managers and researchers alike, because high levels of customer satisfaction will most likely lead to increased business with existing customers (Yuksel & Yuksel, 2001:48).

Because of the significant influence on word of mouth recommendations by customer satisfaction, it has gained recognition as being of great importance to all commercial organisations (Pizam & Ellis, 1999:326; Berkman & Gilson, 1986). Satisfied customers may be of benefit to organisations by making positive word of mouth recommendations to friends and family, for example, to lower the organisation's cost of acquiring new customers (Mittal & Frennea, 2010:3).

Ultimately, customer satisfaction is generally considered among the most significant long-term goals of organisations (Liebana Cabanillas & Rejon Guardia, 2013:750; Cooil *et al.*, 2007). More attention has been attracted from the financial sector because increased competition and technological developments have become evident (Liebana_Cabanillas & Rejon_Guardia, 2013:750). As concerns mobile banking apps, satisfied customers in a long-term relationship with

a retail bank could help to increase its profitability through being loyal, repeating their business, and spreading positive word of mouth (Nathan, 2014:480; Olorunniwo *et al.*, 2006). Repeat business may happen because satisfied mobile banking app customers view a bank as having a greater sense of reliability and loyalty towards them since the use of mobile banking apps can improve the relationship between a customer and his/her bank (Sampaio *et al.*, 2017:6). Satisfied app customers will spread positive word of mouth as they will develop a tendency to want to tell their family and friends (Sampaio *et al.*, 2017:6). These behaviours make it critical for managers to understand the factors of customer satisfaction and then measure them according to developed satisfaction scales so that managers can target, report and respond to customer needs more precisely (Sayani, 2015:352; Giese & Cote, 2000). Customer satisfaction is considered an essential indicator of an organisations overall performance (Corte *et al.*, 2015:40).

4.3.2.2 Commitment

Early research on commitment concentrated exclusively on employees (Yi & Gong, 2006:155), however, the concept was later adopted in marketing theory (Cater & Cater, 2010:4; Garbarino & Johnson, 1999; Morgan & Hunt, 1994). It was recognised that service customers developed a commitment, stronger identification, and involvement with the organisation when they had been made aware of its goals and values through social interactions (Yi & Gong, 2006:155; Kelley *et al.*, 1990). The organisation commitment literature shows that commitment is viewed as a multifaceted, multidimensional construct (Fullerton, 2011; Jones *et al.*, 2007; Bansal *et al.*, 2004).

Furthermore, commitment is necessary for all successful long-term relationships (Dalziel *et al.*, 2011:404; Fullerton, 2011; Herington *et al.*, 2009; Johnson, 2007; Garbarino & Johnson, 1999:71; Morgan & Hunt, 1994; Dwyer *et al.*, 1987). In trading activities, commitment is a long-term disposition of a buyer to obtain a long-term relationship with a seller (Bloemer & Odekerken-Schröder, 2007:24; Gruen, 1995). In this context, a strong commitment will motivate the buyer to overcome potential obstacles in the buyer-seller relationship, bringing forth customer loyalty (Bloemer & Odekerken-Schröder, 2007:24; Dick & Basu, 1994). Table 4-4 provides a list of various definitions of customer commitment that have been formulated over the years.

Table 4-4: Definitions of customer commitment

Author(s)	Adopted definition of customer commitment
Dwyer <i>et al.</i> (1987:19)	“An implicit or explicit pledge of relational continuity between exchange partners”
Anderson & Weitz (1992:19)	“A desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship”

Moorman <i>et al.</i> (1992:316)	“An enduring desire to maintain a valued relationship”
Morgan & Hunt (1994:23)	“An exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it”
Gundlach <i>et al.</i> (1995:79)	“an enduring intention by the parties to develop and maintain a stable long-term relationship”
Geyskens <i>et al.</i> (1996:304)	“A channel member’s intention to continue the relationship”
Gruen <i>et al.</i> (2000:37)	“Psychological attachment to the association”
Iniesta & Sanchez (2002:264)	“A psychological state generated by an individual’s perceptions, beliefs and emotions which provoke the willingness or intention of developing and maintaining a stable and durable relationship, because the individual wants it or feels that he/she should make it, and which manifests itself in a behaviour which bears certain obligation”
Walter <i>et al.</i> (2002:8)	“The intention of a customer to maintain a long-term relationship with a supplier”
Fullerton (2005a:1374)	“A psychological force linking the consumer to the selling organisation”
Rauyruen & Miller (2007:24)	“A psychological sentiment of the mind through which an attitude concerning continuation of a relationship with a business partner”
Su <i>et al.</i> (2017:241)	“Reflects a customer’s desire to maintain a long-term, mutually beneficial relationship with a firm”

From Table 4-4 it appears that customer commitment is seen as a psychological attachment that exists between a customer and an organisation (Chiu *et al.*, 2015:628). From the customer’s point of view, it is the customer’s on-going disposition towards a business relationship underpinned by the customer’s belief that the relationship will yield continuing benefits (Hennig-Thurau *et al.*, 2002). It is further seen by both parties, being the customer and an organisation, as generating mutual benefits to create a win-win situation (Su *et al.*, 2017:241). Thus, in this study, customer commitment is a psychological attachment towards a service provider (bank), and the existence of a long-term mutually beneficial relationship with mobile banking app users. The characteristics of commitment are discussed next for further understanding of the commitment construct.

4.3.2.2.1 Characteristics of commitment

Commitment has some distinctive characteristics.

(i) Psychological force

Commitment is viewed as a vital psychological force linking a customer to an organisation (Bansal *et al.*, 2004). This force relates to diverse underlying psychological states affecting the person’s disposition towards an organisation and that influence the customer’s decision to stay in that relationship (Bansal *et al.*, 2004:236; Meyer & Allen, 1997). This could apply

to focussed business relationships being of both the business-to-business or business-to-customer service types (Fullerton, 2005b:98).

(ii) Long-term orientation

The long-term orientation in a relationship involves the willingness to nurture a relationship based on the commitment and desire of the parties concerned (Bettencourt, 1997). One or both of the exchange parties would like to have a working relationship extending into the future (Lui & Ngo, 2012:80; Ganesan, 1994; Heide & John, 1990) and shows commitment by expressing this intention to possibly conduct future business (Morgan & Hunt, 1994). Relationships with a long-term orientation make it possible for organisations to forego short-term gains so that they can reap more significant benefits over the long run (Cannon *et al.*, 2010:507; Narayanan & Raman, 2004). As such, prior dealings with an exchange party can foster a long-term orientation (Lui & Ngo, 2012:80).

4.3.2.2.2 Different types of commitment

Commitment is diverse in its nature, and different types of commitment, including affective commitment, continuance commitment and normative commitment have been identified amongst others (Meng *et al.*, 2016:6; Sharma *et al.*, 2001:2; Gundlach *et al.*, 1995:79; Allen & Meyer, 1990). The three types mentioned above are discussed next.

(i) Affective commitment

In early marketing research, the commitment was conceptualised as having a single dimension and was referred to as affective commitment (Garbarino & Johnson, 1999; Morgan & Hunt, 1994). However, there are some perceptions experienced by exchange partners that underpin affective commitment (Ahlers *et al.*, 2016:3). Researchers have identified a few that could collectively induce a person to be willing to remain in the relationship instead of taking up substitutes (Lawler & Yoon, 1993), including psychological attachment (Somers, 2010), loyalty and belongingness (Allen & Meyer, 1990), reciprocity and mutual attraction (Anderson & Weitz, 1992), enjoyment and positive feelings (Meyer *et al.*, 2004), and high identification (Morgan & Hunt, 1994). When an organisation is an exchange partner, the affective commitment of an individual comprises emotions such as an attachment to the organisation and the individual's desire to be identified with it, resulting in his/her involvement with the organisation (Meng *et al.*, 2016:4; Lin & Fan, 2012). Thus, it

is considered more emotional and positive (Ahlers *et al.*, 2016:3; Allen & Meyer, 1990). Also, specific actions, such as buying decisions directed to certain exchange partners, can result from affective commitment (Gundlach *et al.*, 1995; Allen & Meyer, 1990).

(ii) Continuance commitment

Continuance commitment reflects a more economic and rational nature (Meng *et al.*, 2016:6; Liu & Matilla, 2015:214; Allen & Meyer, 1990). Aspects that will be analysed include the costs of termination of the relationship or switching to another organisation and whether the benefits offered by alternative organisations make them attractive; aspects that are less emotional (Meyer & Allen, 1991). In other words, continuance commitment rests on an evaluation of whether the net benefits related to continuing in the current relationship are worthwhile (Gustafsson *et al.*, 2005; Hansen *et al.*, 2003). Customers uphold the relationship since they need to (Hsieh & Hsieh, 2013:310; Meyer *et al.*, 1990). As a result, continuance commitment, also known as calculative commitment, expresses an intention to stay in a relationship to avoid high costs of withdrawal or poor alternatives (Hsieh & Hsieh, 2013:311; Gilliland & Bello, 2002).

(iii) Normative commitment

Normative commitment is a partner's feelings of being obliged to continue the relationship with an organisation (Allen & Meyer, 1990) because a psychological bond has been formed that is based on a perceived moral obligation to maintain the relationship with the organisation (Gruen *et al.*, 2000:37). In other words, it is an attachment owing to felt obligations (Cater & Cater, 2010:1322). Normatively committed customers remain in the relationship because they feel they ought to (Cater & Cater, 2010:1322), established on internalisation by a customer of suitable service values and norms (Peccei & Rosenthal, 1997:70).

In this study, particular focus is given to affective commitment, the first of the three types discussed above, as it has been identified as a forward-looking affective attitude (Kim, 2017:6; Gustafsson *et al.*, 2005:211). Therefore, it was included in the proposed model to make provision for a future looking attitude and to represent the affective side of an attitude.

4.3.2.2.3 Benefits of affective commitment as a dimension of relationship quality

One of the benefits of affective commitment is the growth of the customer's business with the organisation (Gustafsson *et al.*, 2005:211) that Verhoef (2003:33) identified as customer share

development. Customers who are affectively committed to an organisation tend to show positive behaviours toward that organisation, and as a result, they are less likely to support other organisations (Verhoef, 2003:33). These positive behaviours are expected to materialise in an increased customer share for the main service provider for a while. In an electronic banking context (Casalo *et al.*, 2007:587) affectively committed customers will show much higher levels of continuous website use.

An additional benefit of commitment is customer retention (Fullerton, 2005a:1377; Fullerton, 2003; Garbarino & Johnson, 1999; Gruen *et al.*, 2000; Morgan & Hunt, 1994; Pritchard *et al.*, 1999). Customer retention implies a positive disposition towards maintaining the relationship over the long term by both the customer and the organisation (Venetis & Ghauri, 2004:1579). Customer retention in the long term is vital because it allows enough time for the creation of exchange efficiencies between the parties and for effectiveness also to be increased (Venetis & Ghauri, 2004:1578). The outcome is, in other words, that superior quality has been achieved without increasing transaction costs (Heide & John, 1992). Affective commitment is an expression of positive intentions to retain as well as strengthen the relationship (Cater & Zabkar, 2009; Rauyruen & Miller, 2007; de Ruyter *et al.*, 2001).

In an app context, affective commitment induces positive responses and reduces negative outcomes (Kim, 2017). This could mean that mobile banking app users that have high affective commitment may want to stay longer with their bank as a result of the positive benefits they receive or even engage in customer citizenship behaviours, as further explored in this study.

4.4 THE CUSTOMER CITIZENSHIP DOMAIN

4.4.1 Differentiating between civic citizenship, organisational citizenship and customer citizenship

Valuable insights about customer citizenship can be obtained by contrasting this concept with civic citizenship and organisational citizenship (Gerke *et al.*, 2017:55; Fowler, 2013). It has been suggested that civic citizenship is viewed as including all positive community relevant behaviours of individual citizens (van Dyne *et al.*, 1994:766) such as keeping them informed about community issues, exchanging information and ideas, contributing to community self-governance, and encouraging fellow members of the community to do likewise (Fowler, 2013:3; Van Dyne *et al.*, 1994). Obedience, loyalty, and participation are to be applied in a balanced manner by responsible civic citizens to the benefit of the community (Van Dyne *et al.*, 1994:767).

On the other hand, organisational citizenship refers to positive behaviours that will benefit the organisation and are actioned by individual organisation members (Graham, 1991). Specifically, organisational citizenship behaviours have been defined as behaviours that an employee voluntarily engages in that promotes the effectiveness of the organisation but are not explicitly rewarded by the organisation (Kwantes *et al.*, 2008:229; Organ, 1988). Employees may help their colleagues or put in extra effort on the job, for instance by working unpaid overtime (Organ, 1988). Organisational citizenship behaviour is not a prescribed job requirement; rather it stems from motivational influences on workers regardless of whether it affects the worker's job, individual colleagues, or the organisation as a whole (van Knippenberg, 2015:155).

Customer citizenship is similar to organisational citizenship as both may further enhance an organisation's performance (Fowler, 2013:3). However, customer citizenship differs from organisational citizenship, as customers acting as good citizens are considered to be partial employees of the organisation (Bettencourt, 1997). These performances may not be formally recognised or rewarded (Fowler, 2013:3). Therefore, customer citizenship has also been described as actions of their own volition by individual customers, which the organisation does not directly or explicitly expect or reward, but collectively could promote the effective functioning of service organisations and result in higher service quality (Groth, 2005). Customers thought of as partial employees can promote the organisation's interests by acting in various ways: they may cooperate with employees, help other customers, offer suggestions to the organisation, willingly spread positive word of mouth about it and enhance the organisation's services, offerings and overall performance (Rosenbaum & Massiah, 2007; Bettencourt, 1997).

As indicated in Chapter 1 (section 1.4), customer citizenship behaviour flows from the social exchange theory (Blau, 1964). The next section provides more insight into this theory.

4.4.2 Conceptual foundations of the social exchange theory

The social exchange theory suggests that exchange participants are interdependent and their interactions generate obligations amongst them (Blau 1964; Emerson, 1976). For example, when a party receives a resource of value, that party should make payment to the supplying party (Mitchell *et al.*, 2012:99) of a social or even material means (Blau, 1964). Recurring exchanges that are mutually beneficial promote positive and productive behaviours and enhance the quality of the relationship between the exchange parties (Cropanzano & Mitchell, 2005:875; Blau, 1964).

4.4.2.1 Historic models of the social exchange theory

Based on psychology with origins in the 1950s, the social exchange theory holds the central ideas of contemporary economics as the basis for investigating human behaviour and the relationships that define social structure complexity (Shiau & Luo, 2012:2432). Originally established for analysing human behaviour (Homans, 1958) this theory was later on applied to the organisational behaviour context (Blau, 1964; Emerson, 1962). The concept of social exchange has proven difficult to define in a single conceptual model but has rather been described by related theoretical frameworks (Mitchell *et al.*, 2012:99). While social exchange philosophers agree about the reciprocal nature of social exchange patterns, their models still differ regarding the exchange resources and how they are perceived (Mitchell *et al.*, 2012:99). The literature identifies three broad conceptual paradigms, that differ in their approach by (1) emphasising relationship formation (Lewicki *et al.*, 2006; Masterson *et al.*, 2000; Lewicki & Bunker, 1996; Blau, 1964), (2) focusing on aspects of the exchange resources (Sternberg, 1985; Foa & Foa, 1980), and (3) considering the social pressures on the way in which exchanges are conducted (Fiske, 1992; Clark & Mills, 1979; Hollander, 1958).

For this study, the approach that emphasises relationship formation will be adopted (Blau, 1964). Specifically, the Blau (1964) model will be used because of the reciprocal nature of social exchanges that can cause a party to feel it has an obligation to the initiating party to reciprocate with benefits at their discretion (Patterson *et al.*, 2014:2081; Blau, 1964; Gouldner, 1960).

4.4.2.2 Blau's 1964 model

Blau's model makes a distinction between short-term economic exchanges that do not depend on interpersonal relationships, but are conducted on a quid pro quo basis and long-term social exchange relationships (Blau, 1964) that are continuing attributable in part to stronger interpersonal attachments (Mitchell *et al.*, 2012; 101; Blau, 1964). People involved in satisfying social exchanges reflect more generosity and will not be as demanding as the ones involved in economic relationships for immediate reciprocity (Mitchell *et al.*, 2012:101; Homans, 1958). A stable relationship can be a more general exchange when returns aren't necessarily immediate but where a balance of exchange can be attained over time (Homans, 1958). It is deduced that only social exchanges will be inclined to produce feelings of personal obligation, trust as well as gratitude (LaPan *et al.*, 2016:891), unlike pure economic exchanges.

A social exchange can be described as a customer interacting with an organisation during the service delivery process (Patterson *et al.*, 2014:2081; Bowen, 1990). While social exchanges were initially considered as mostly being exchanges between individuals; relationship marketing

literature suggests that customers have progressed to developing relationships with organisations as well (Berry, 1995). The customer's feelings (for example, social bonding, trust and future commitments) are directed towards the entity, rather than specific personnel that are known to the customer (Bove & Johnson, 2002; Hennig-Thurau *et al.*, 2002). The implications of such relationships are straightforward, since customers may engage in extra-role behaviours and act as partial employees to the benefit of the organisation when they experience high levels of service satisfaction or feelings of being treated very well (Patterson *et al.*, 2014:2081; Bettencourt, 1997).

4.4.3 Distinguishing between in-role and extra-role behaviour

In-role behaviours are those behaviours that are essential in a service encounter (Staub, 1978). For example, when purchases are being made over the internet, providing one's credit card information or providing a delivery address are regarded as in-role behaviours, since customers must perform these behaviours for the service transaction to be completed successfully (Groth, 2005:10). A successful service delivery, therefore, depends largely on the customer having completed those essential actions (Patterson *et al.*, 2003:2080).

Conversely, extra-role behaviours by customers are voluntary; the customer may spend some of his/her time and effort or may sacrifice material belongings and physical welfare (Staub, 1978). They are also helpful behaviours that go beyond the anticipations of customers within the particular service environment (Bove *et al.*, 2009:699). Customers may do things that benefit the organisation or other customers which they are not typically required to do (Fowler, 2013:2) such as making a referral for an organisation to family and friends or providing feedback on their service experience. These behaviours do not affect the service transaction, yet the organisation generally benefits from them (Groth, 2005:10). Extra-role behaviours taken collectively are generally referred to as customer citizenship behaviours (Bettencourt, 1997).

4.4.4 Forms of customer citizenship behaviour

As the trend is for organisations to increasingly view customers as key assets (Bowen *et al.*, 2000), and a strategic advantage is to be found in the effective management of customers (Lengnick-Hall, 1996), discretionary customer citizenship behaviours can play an important role in service delivery (Patterson *et al.*, 2014:2079; Morrison, 1996). Several forms of customer citizenship behaviour exist, including helping, advocacy by positive word of mouth, feedback, customer participation, policing, forgiving, benevolent acts and recruiting (Yi & Gong, 2013:1280; Johnson & Rapp, 2010; Bove *et al.*, 2009:699; Rosenbaum & Massiah, 2007:261; Ahearne *et al.*, 2005:577; Groth, 2005:16; Lengnick-Hall *et al.*, 2000; Bettencourt, 1997; Bowers *et al.*, 1990).

This study aims to explore customer citizenship advocacy further and helping behaviour. These two dimensions have specifically been selected for various reasons (1) they are common elements of positive customer citizenship behaviour and have been identified in literature (Yi & Gong, 2013; Bove *et al.*, 2009; Ahearne *et al.*, 2005; Groth, 2005) (2) they have the potential to be applicable in a mobile banking app context as new app users can be helped by existing users to find solutions for their problems and use the app correctly. As a result, the amount of effort app developers spend on serving customers may be reduced (Hsu *et al.*, 2015:4) (3) in discussion with mobile banking app customers, the helping and advocacy constructs have been recognised as being directly related to the social exchanges that take place between customers when they recommend and help one another to use the mobile banking app.

The following sections provide more insight into the customer citizenship advocacy and helping dimensions.

4.4.4.1 Helping

When a customer's behaviour is aimed at assisting other customers, this is called helping (Yi & Gong, 2013:1281). A customer may assist other customers to find products, or share their experience on how to use the service correctly with other customers (Groth, 2005:15). Customers might sympathise with other customers through helping behaviours (Rosenbaum & Massiah, 2007). Sometimes, customers may remember their own challenges and act in a socially responsible manner by helping other customers experiencing similar difficulties (Yi & Gong, 2013:1281). The study by Anaza (2014), examined the psychological process used in predicting customer citizenship behaviours in online shopping situations. The results display that customer may have a greater propensity to help another customer in an online environment (Anaza, 2014:251).

4.4.4.2 Advocacy by positive word of mouth

Advocacy refers to recommending the business to one's family or friends (Groth *et al.*, 2004). Advocacy occurs when the organisation's interests are promoted beyond the individual customer's interests by a customer acting as an ally (Bettencourt, 1997). Advocacy through positive word of mouth arises from positive statements made by a loyal customer and may benefit the organisation through improving the organisational reputation, encouraging other customers to attach higher values to its products, and to rate the service quality higher, which can help to grow the customer base (Groth *et al.*, 2004; Bettencourt, 1997).

4.4.5 Benefits of customer citizenship behaviour

Customer citizenship behaviour has positive benefits to the service organisation (Patterson *et al.*, 2014:2079) such as reducing the organisation's costs, maintaining or improving its service quality and increasing the level of customers' satisfaction (Fowler, 2013:6). Generally, customer citizenship behaviour can enhance the overall organisation performance (Anaza, 2014:251; Fowler, 2013:6; Yi *et al.*, 2013; Bartikowski & Walsh, 2011; Bove *et al.*, 2009; Yi & Gong, 2006; Groth, 2005).

Customers could become a vital source of competence for an organisation (Fowler, 2013:6). For example, the credibility of positive word of mouth and customer participation could help to grow the sales products and services over a wide range (Chung & Darke, 2006). As a result, an organisation could attain a competitive advantage.

Customer citizenship behaviour can directly benefit a customer when he/she is helped by another customer (Yu-Hong *et al.*, 2013:615). When customers engage in citizenship behaviour, they foster citizenship behaviour among other customers (Yi *et al.*, 2013) which can result in the sense of belongingness among customers, employees, and the organisation and materialise in joint efforts to solve service delivery problems (Fowler, 2013:6).

Customer citizenship behaviour could result in stickiness intention (Yu-Hong *et al.*, 2013:616). For example, the study by Yu-Hong *et al.* (2013) show that in consumption virtual communities, community members' positive word of mouth can increase the popularity and reputation of the community, thereby enhancing the quantity of community visits. Furthermore, community members' useful feedback and constructive suggestions facilitate the promotion of community service, therefore enhancing members' satisfaction of the community, which further increase the revisits and retention to the community (Yu-Hong *et al.*, 2013).

Customer citizenship behaviour disseminates information related to the organisation and brand, which contributes to brand recognition and overall company reputation (Van Doorn *et al.*, 2010). Company reputation is the overall evaluation by customers of an organisation bringing into account their interactions with the organisation and its employees, and their reactions to its goods, services, and customer communications (Walsh & Beatty, 2007). Customers can affect the recognition and continued strength of a brand, by personally participating in events aimed at brand promotion (Van Doorn *et al.*, 2010:259).

4.5 SUMMARY

In this chapter, the researcher provides reviews regarding relationship marketing, relationship quality, customer citizenship behaviour as well as the benefits of customer citizenship behaviour. Firstly, relationship marketing was defined as attracting and maintaining customers, with an added dimension in multi-service organisations in enhancing customer relationships (Berry, 1983). Besides acquiring new customers, keeping existing customers happy through excellent service delivery is deemed to contribute equally to the long-term marketing success of an organisation (Berry, 2002:61) since relationships with both types are important.

Relationship quality has several dimensions that are unique and is therefore perceived to be a multi-dimensional and overarching construct (Skarmeas & Robson, 2008:172) These unique dimensions have important relational influences, with the outcomes showing the overall nature of the exchange relationship (Dwyer *et al.*, 1987). It is said that relationship quality encapsulates the essence of relationship marketing (Skarmeas & Robson, 2008:171; Jap *et al.*, 1999:304). Hence, this chapter examined customer satisfaction and commitment as dimensions of relationship quality.

Customer citizenship behaviour involves customers as partial employees (Bettencourt, 1997). It has been described as actions of their own volition by individual customers, which the organisation does not directly or explicitly expect or reward but collectively could promote the effective functioning of service organisations (Groth, 2005). Customers thought of as partial employees can promote the organisation's interests; they may help other customers and willingly spread positive word of mouth about it and act in ways that enhance the organisation's services, offerings and overall performance (Rosenbaum & Massiah, 2007; Bettencourt, 1997).

The aim of the next chapter, Chapter 5, is to provide more insight into the relationships between the research constructs and the hypotheses that have been formulated for this study.

CHAPTER 5

MODEL CONCEPTUALISATION

5.1 INTRODUCTION

Chapter 1 provided insight into the research background and purpose of the study. The research aim is to develop a model for positive customer citizenship behaviour in the mobile banking app environment. Positive customer citizenship behaviour could entail actions such as advocacy when existing users of the service promote the mobile banking app to prospective customers and help them use the app correctly. Chapter 2 provided an overview of self-service technologies in the retail banking context, and explained the competitive advantage of mobile banking apps and the need for measures that would ensure greater adoption and use of the service within the South African banking environment. The aim of Chapters 3 and 4 was to provide insight into the constructs of the proposed model. Chapter 3 investigated the significance of beliefs and attitudes in a self-service technology environment. More specifically, a greater understanding of the extended UTAUT model and selected belief factors that may contribute to attitude formation were elucidated. Insight was also provided into the attitude concept. Chapter 4 continued the discussion on consumer attitudes, where it was identified that the customer satisfaction and affective commitment constructs are cognitive (backward looking) and affective (forward-looking) attitudes respectively that may contribute to customer citizenship behaviour. Consequently, Chapter 4 also presented a detailed outline of customer citizenship behaviour and its benefits.

The aim of Chapter 5 is to offer insight into the relationships between the constructs, as hypothesised in Chapter 1. These relationships are then tested in the empirical part of the study to verify the relevance of the model proposed for this study.

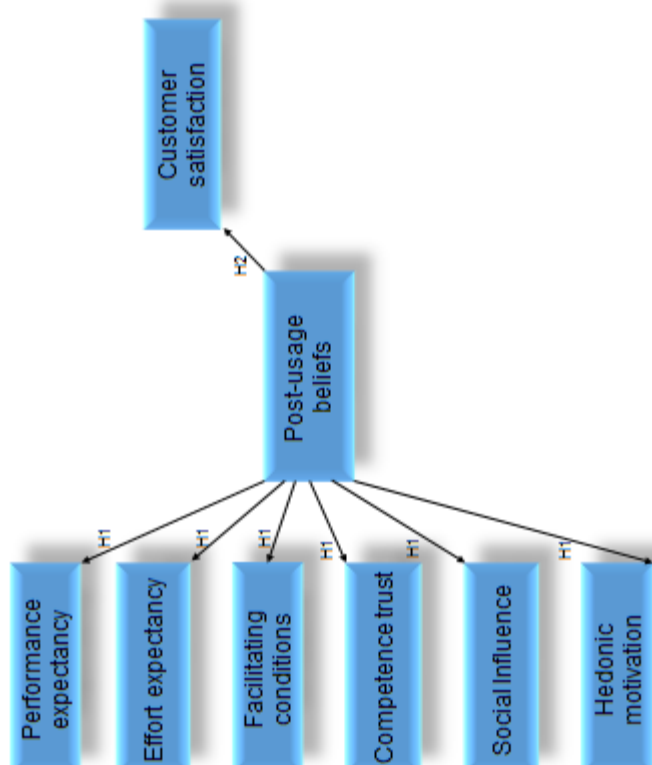
5.2 INTERRELATIONSHIPS BETWEEN RESEARCH CONSTRUCTS

This section provides a synopsis of existing research that supports the interrelationships of the constructs namely post-usage beliefs (performance expectancy, effort expectancy, facilitating conditions, competence trust, social influence, hedonic motivation), customer satisfaction, affective commitment and customer citizenship behaviour (helping and advocacy).

5.2.1 Relationship between consumer beliefs and customer satisfaction

The suggested relationships between post-usage beliefs and customer satisfaction are presented and discussed in Table 5-1.

Table 5-1: Relationship between post-usage beliefs and customer satisfaction

Proposed relationship between constructs	Relevant belief factor	Contributing authors	Industry contribution
	Performance expectancy	Venkatesh <i>et al.</i> (2011:531)	Services
	Effort expectancy	Chiu <i>et al.</i> (2009:35)	Retail
	Facilitating conditions	Thong <i>et al.</i> (2006:801)	Information technology
	Competence trust	Hadji & Degoulet (2016:191)	Healthcare
	Social Influence	Roca <i>et al.</i> (2006:687)	Services
	Hedonic motivation	Robertson <i>et al.</i> (2016:89)	Sports
			Venkatesh <i>et al.</i> (2011:531)
		Thong <i>et al.</i> (2006:801)	Information technology
		Lee & Park (2008:834)	Alcoholic beverages
		Zhou (2011:210)	Services
		Venkatesh <i>et al.</i> (2011:531)	Services
		Chan <i>et al.</i> (2010:533)	Services
		Hadji & Degoulet (2016:191)	Healthcare
		Venkatesh <i>et al.</i> (2011:531)	Services
		Beyari & Abareshi (2016:508)	Social commerce
		Venkatesh <i>et al.</i> (2011:531)	Services
		Oghuma <i>et al.</i> (2016:39)	Services
		Wang <i>et al.</i> (2013:195)	Services
		Kim <i>et al.</i> (2016:167)	Cellular
		Thong <i>et al.</i> (2006:801)	Information technology

Performance expectancy also termed perceived usefulness in the technology acceptance model is the degree to which users consider that a system will enhance one's job performance (Hadji & Degoulet, 2016:188; Davis, 1989:320). It is viewed as fundamentally capturing a user's cognitive expectations about the performance of the system (Venkatesh *et al.*, 2011:528). Prior research indicates that performance expectancy has an impact on customer satisfaction (Hadji & Degoulet, 2016:191; Venkatesh *et al.*, 2011:531; Chiu *et al.*, 2009:350; Roca *et al.*, 2006:687; Thong *et al.*, 2006:801). People are expected to form favourable feelings of satisfaction and intend for continued usage of a system when such usage is perceived to be useful (Chiu *et al.*, 2009:351; Bhattacharjee, 2001).

The extent to which an information system is associated with its use being free of effort is called effort expectancy (Venkatesh *et al.*, 2003; Davis, 1989). Termed ease of use in the technology acceptance model, it has been presented as being a critical factor in affecting customers' satisfaction in a post-usage stage (Robertson *et al.*, 2016:89; Venkatesh *et al.*, 2011:531; Zhou, 2011:210; Lee & Park, 2008:834; Thong *et al.*, 2006:801). In a self-service technology context, customers have indicated that they are more satisfied with a technology that is easy to use (Meuter *et al.*, 2000). A study investigating continued information technology usage behaviour reports that the significant effects of post-adoption perceived ease of use suggest that the nature of the information technology can be a vital boundary condition in understanding the continued information technology usage behaviour (Thong *et al.*, 2006:799). Also, the study by Zhou (2011:209) states that "effort expectancy positively affects user satisfaction".

Facilitating conditions has been identified as the extent to which a person believes organisational and technical infrastructure exists to support the use of an information system (Chan *et al.*, 2010:533; Venkatesh *et al.*, 2003). It is considered as the belief associated with one's control over the use of the information system (Venkatesh *et al.*, 2011:534). Venkatesh *et al.* (2011:535) indicates that "positive disconfirmation of facilitating conditions has a positive influence on satisfaction". Additionally, previous studies that have shown a link between facilitating conditions and customer satisfaction include Hadji and Degoulet (2016:191) and Chan *et al.* (2010:524).

Competence is defined as the belief in the trustee's ability to do what the trustor expects (Venkatesh *et al.*, 2011:535). In electronic commerce, competence trust from a user's perspective is built on the internet vendor's abilities, expertise as well as operational capabilities (Siau & Shen, 2003:92). Trust is shown to influence customer satisfaction. For example, Venkatesh *et al.* (2011:536) indicate that a user's repeated usage of an information system enables him/her to assess the information systems trustworthiness better. In their study, the use of online registration and password to use government websites could make users feel safe when performing

transactions, and such positive disconfirmation may eventually strengthen users trust in the system and lead to higher satisfaction (Venkatesh *et al.*, 2011:536).

Social influence is an essential element that affects customers when they use electronic commerce web sites (Beyari & Abareshi, 2016:508; Bhattacharjee, 2000). Social influence is the degree to which customers perceive significant others believe that they should use a particular technology (Venkatesh *et al.*, 2012; Oliveira *et al.*, 2016:407). Social influence is shown to impact customer satisfaction (Beyari & Abareshi, 2016:508). For instance, as suggested by Venkatesh *et al.* (2011:534), “positive disconfirmation of social influence has a positive influence on satisfaction”.

The pleasure or fun resulting from using technology is termed hedonic motivation (Venkatesh *et al.*, 2012:161). Hedonic motivation also conceptualized as perceived enjoyment in information system research (Venkatesh *et al.*, 2012:161) is found to affect satisfaction (Kim *et al.*, 2016:167; Oghuma *et al.*, 2016:39; Wang *et al.*, 2013:195; Thong *et al.*, 2006:802). For example, in an augmented reality technology context, if an augmented reality mobile application is useful and enjoyable, users feel profound satisfaction (Kim *et al.*, 2016:166).

It appears that the studies presented in Table 5-1 with belief factors (performance expectancy, effort expectancy, facilitating conditions, competence trust, social influence and hedonic motivation) could be relevant within the post-consumption stage and represent post-usage beliefs of existing users of the self-service technology (mobile banking apps). Therefore, in an attempt to design a parsimonious model for this study, it is the intention to group the various forms of beliefs under a single higher-order factor (post-usage beliefs) and to further investigate the relationship of this second order factor with the other constructs in the proposed model.

Therefore, to continue the investigation, it would be necessary first to test the following hypothesis:

H₁ Post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust

Another aspect of significance that is highlighted by Table 5-1 is that it then seems that within the self-service technology environment, these belief factors all have the potential to contribute to customer satisfaction among existing users of the technology (mobile banking apps).

Therefore, considering the relationships listed in Table 5-1, it is then proposed in this study that the higher order factor 'post-usage beliefs', representing all the belief factors listed in Table 5-1, may have a positive and significant impact on the customer satisfaction of existing users of the technology.

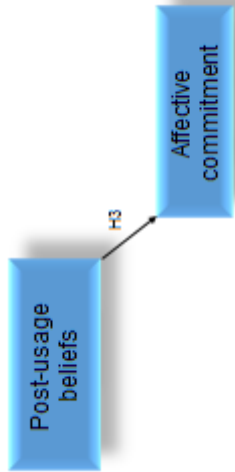
Against this background, it is secondly hypothesised in this study that concerning the perceptions of existing users of mobile banking apps:

H₂ Post-usage beliefs have a positive and significant impact on customer satisfaction.

5.2.2 Relationship between consumer beliefs and affective commitment

The suggested relationships between post-usage beliefs and affective commitment are presented and discussed in Table 5-2.

Table 5-2: Relationship between post-usage beliefs and affective commitment

Proposed relationship between constructs	Relevant belief factor	Contributing authors	Industry contribution
	Performance expectancy	Kim <i>et al.</i> (2016:182)	Information technology
	Effort expectancy	Beatson <i>et al.</i> (2006:879)	Hospitality
	Facilitating conditions	Kaniel & Harpaz-Itay (2010)	Education
	Competence trust	Saeednia, & Abdollahi (2012:150)	Banking
	Social influence	Hwang & Kim (2007:235)	Education
	Hedonic motivation	Beatson <i>et al.</i> (2006:879)	Hospitality

Kim *et al.* (2016:182) recognise social-technical system design where one of the constructs namely task-technology fit is identified to be a root construct of performance expectancy (Kim *et al.*, 2016:182; Venkatesh *et al.*, 2003). Similarly, D'Ambra *et al.* (2013:7) indicate that task-technology fit relates to the degree to which technology can meet task-related requirements and is theoretically related to the technology acceptance model construct known as perceived usefulness. In the study by Kim *et al.* (2016), task-technology fit is shown to influence user commitment. When users of technology can produce better outcomes and the level of task-technology fit rises, these users may develop stronger emotional attachments toward the use of technology in carrying out tasks (Kim *et al.*, 2016:183).

Beatson *et al.* (2006:861) state that self-service technology attributes contribute to affective commitment in the hospitality sector. In their study, some technology attributes include easy to use and enjoyment. When customers have a positive encounter with self-service technology attribute that are significant to them and rate the performance as favourable, they may feel more positively toward an organisation and desire to return. It is presumed that these positive encounters with the self-service technology and personal service contribute toward a positive attachment toward an organisation (Beatson *et al.*, 2006:861).

Facilitating conditions refer to the extent to which infrastructure (both organisational and technical) exists to support the use of technology (Venkatesh *et al.*, 2003:453). Facilitating conditions have been represented as perceived resources (Mathieson *et al.*, 2001). It has been stated that perceived resources for realising the goal are connected to commitment (Kaniel & Harpaz-Itay, 2010).

Trust is shown to impact commitment in an online banking environment (Saeednia, & Abdollahi, 2012:150). Trust is of great importance as it is about the perceived uncertainty of computer-generated channels paralleled to traditional channels. Because this insecurity may result in risks for customers, it appears that trust may reduce the perceived risks of customers of online banking (Saeednia, & Abdollahi, 2012:150). Organisations that have adopted electronic commerce must, therefore, seek viable, effective means of increasing trust to also enhance their sales (Munoz-Leiva *et al.*, 2017:29). Sanchez-Franco (2009:253) in their study identify competence trust as one of the trusting beliefs crucial in an electronic context and further indicates that one's need to trust leading to affective commitment is high amongst high purchase involvement clients, and hence services undertaken in such environments must assign online marketing trusting efforts to initiatives centred around trust (Sanchez-Franco, 2009:255).

Furthermore, social influence has been shown to influence affective commitment (Hwang & Kim, 2007:234). In a study by Hwang and Kim (2007:234) the affective commitment (internalisation and identification) are noted to alter a person's belief structure causing him/her to react to possible social status gain (Hwang & Kim, 2007:235; Malhotra & Galletta, 2005:118). In their study, the social influence impact on affective commitment is suggested as direct antecedents to a system user's attitude toward knowledge sharing via email (Hwang & Kim, 2007:233).

It, therefore, seems that within the self-service technology environment, the belief factors listed in Table 5-2 all have the potential to contribute to affective commitment among existing users of the technology.

Considering the relationships listed in Table 5-2, it is then proposed in this study that the higher order factor namely 'post-usage beliefs', representing all the belief factors listed in Table 5-2, may then have a positive and significant impact on the affective commitment of existing users of the technology.

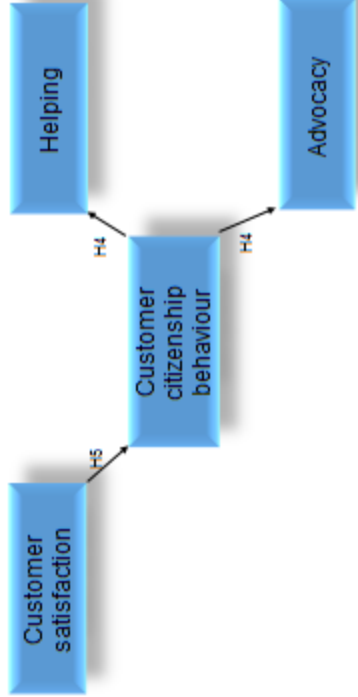
Hence, it is thirdly hypothesised in this study that concerning the perceptions of existing users of mobile banking apps:

H₃ Post-usage beliefs have a positive and significant impact on affective commitment.

5.2.3 Relationship between customer satisfaction and positive customer citizenship behaviour

The suggested relationships between customer satisfaction and positive customer citizenship behaviour are presented and discussed in Table 5-3.

Table 5-3: Relationship between customer satisfaction and positive customer citizenship behaviour

Proposed relationship between constructs	Relevant citizenship construct	Contributing authors	Industry contribution
 <pre> graph LR CS[Customer satisfaction] -- H5 --> CCB[Customer citizenship behaviour] CCB -- H4 --> H[Helping] CCB -- H4 --> A[Advocacy] </pre>	Positive customer citizenship behaviour	Bettencourt (1997:390) Chen <i>et al.</i> (2010:197) Groth (2005:20)	Retail Retail Internet service
	Advocacy as a sub-dimension of positive customer citizenship behaviour	Anaza & Zhao (2013:132) Choi & Lotz (2016)	e-Retail Services
	Helping behaviour as a sub-dimension of positive customer citizenship behaviour	Choi & Lotz (2016) Groth (2005)	Services Internet service

A customer's evaluation of a product or service based on its performance in comparison to expectations held before the products/services encounter is called satisfaction (Anaza & Zhao, 2013:131; Kotler, 2000). The link between satisfaction and customer citizenship behaviour is hypothetically extended to customers given that in service delivery, customers often play an active role as partial employees (Groth, 2005:13; Bettencourt, 1997:384). Satisfied customers perceive an organisation as living up to its promises of their contractual bargain of providing outstanding service, thereby appealing to customers to reciprocate the favour by engaging in customer citizenship behaviour in due course (Anaza & Zhao, 2013:133; Groth, 2005). This means that customer satisfaction is expected to predict customers' propensity to participate in voluntary extra-role behaviours during the service delivery (Chen *et al.*, 2010:197; Groth, 2005:13). Literature supports the connection between customer satisfaction and customer citizenship behaviour (Chen *et al.*, 2010:197; Groth, 2005:20; Bettencourt, 1997:390). Higher customer satisfaction reveals more positive experiences with an organisation and is, therefore, a natural consequence of more positive experiences to share these experiences with other customers by recommending an organisation that provides outstanding service (Bettencourt, 1997:389). Besides advocacy, satisfied customers will also help other customers (Choi & Lotz, 2016; Anaza & Zhao, 2013:132; Groth, 2005).

From the studies presented and as discussed in Chapter 4, advocacy and helping behaviour is considered as sub-dimensions of the customer citizenship behaviour construct. In an attempt to design a parsimonious model for this study, it is the intention to group the advocacy and helping behaviour factors under a single higher-order factor ('positive customer citizenship behaviour') and then to further investigate the relationship of this second order factor with the other constructs in the proposed model.

Hence, to continue the investigation, it would be necessary to test the following hypothesis:

H₄ Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour.

The second important aspect highlighted by the Table 5-3 is that it, therefore, seems that customer satisfaction has the potential to contribute to positive customer citizenship behaviour in general as well as the individual sub-dimensions of positive customer citizenship behaviour specifically advocacy and helping behaviour.

Subsequently, considering the relationships listed in Table 5-3, it is then proposed in this study that customer satisfaction has a positive and significant impact on the higher order factor 'positive customer citizenship behaviour', representing the sub-dimensions advocacy and helping behaviour.

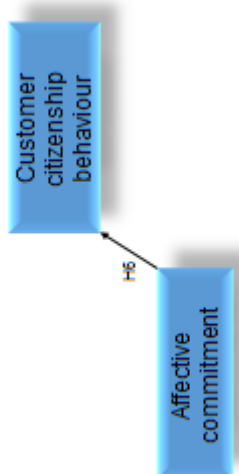
Hence, it is fifth hypothesised in this study that concerning the perceptions of existing users of mobile banking apps:

H₅ Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour.

5.2.4 Relationship between affective commitment and positive customer citizenship behaviour

The suggested relationships between affective commitment and positive customer citizenship behaviour are presented and discussed in Table 5-4.

Table 5-4: Relationship between affective commitment and positive customer citizenship behaviour

Proposed relationship between constructs	Relevant citizenship construct	Contributing authors	Industry contribution
	Positive customer citizenship behaviour	Yi & Gong (2006:165) Patterson <i>et al.</i> (2003:2084) Curth <i>et al.</i> (2014:148)	Sports Services Services
	Advocacy as a sub-dimension of positive customer citizenship behaviour	Fullerton (2005b:102) Fullerton (2005a:1376) Fullerton (2005c:102)	Retail Services Services
	Helping behaviour as a sub-dimension of positive customer citizenship behaviour	Bartikowski & Walsh (2011:40) Anaza & Zhao (2013:132) Curth <i>et al.</i> (2014:148) Tan <i>et al.</i> (2017:311)	Services e-Retail Services Education

Morgan and Hunt (1994:25) define affective commitment as “that brought about by a person sharing, identifying with, or internalizing the values of the organisation”. It is the identification with an organisation that leads to commitment entailing that customers with high identification would have positive thoughts and feelings about the given organisation (Bartikowski & Walsh, 2011:40; Einwiller *et al.*, 2006). Affective commitment is shown to influence positive customer citizenship behaviour (Curth *et al.*, 2014:148; Patterson *et al.*, 2003:2081). Customers that are committed to a relationship as suggested by social exchange theory will display a willingness to use more efforts on behalf of the organisation as a reciprocal payment for prior benefits received from the organisation (Anaza & Zhao, 2013:133; Blau, 1964). For example, a customer may behave helpfully towards other customers and perform other behaviours directly favourable for the service organisation, such as spreading positive word of mouth referrals (Curth *et al.*, 2014:149). Therefore, affective commitment has a positive association with customers’ willingness to act as advocates (Fullerton, 2005c:102) and help others (Anaza & Zhao, 2013:132).

It, therefore, seems that affective commitment has the potential to contribute to positive customer citizenship behaviour in general as well as the individual sub-dimensions of positive customer citizenship behaviour namely advocacy and helping.

Considering the relationships listed in Table 5-4, it is then proposed in this study that affective commitment has a positive and significant impact on the higher order factor ‘positive customer citizenship behaviour’, representing the sub-dimensions advocacy and helping behaviour.

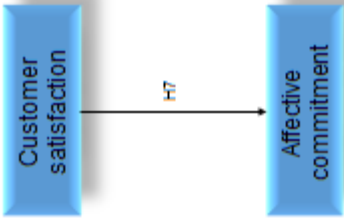
Hence, it is sixth hypothesised in this study that concerning the perceptions of existing users of mobile banking apps:

H₆ Affective commitment has a positive and significant impact on positive customer citizenship behaviour.

5.2.5 Relationship between customer satisfaction and affective commitment

The suggested relationships between customer satisfaction and affective commitment are presented and discussed in Table 5-5.

Table 5-5: Relationship between customer satisfaction and affective commitment

Proposed relationship between constructs	Contributing authors	Industry contribution
	Evanschitzky <i>et al.</i> (2006:1212)	Service
	Dimitriadis (2006:796)	Service
	Johnson <i>et al.</i> (2008:358)	Service
	Hennig-Thurau (2004:470)	Service
	Shemwell <i>et al.</i> (1998:157)	Healthcare
	Chung & Shin (2010:483)	Retail
	Jin <i>et al.</i> (2010:385)	Online community
	Chen & Chen (2017:555)	Financial insurance service
	Zhou <i>et al.</i> (2012:291)	Information technology

Satisfaction is theorised as an overall, customer attitude towards an organisation (Dimitriades, 2006:785; Levesque & McDougall, 1996). Customer satisfaction is recognised as an antecedent to affective commitment (Evanschitzky *et al.*, 2006:1212; Dimitriades, 2006:796; Johnson *et al.*, 2008:358; Hennig-Thurau, 2004:470; Shemwell *et al.*, 1998:157; Chung & Shin, 2010:483; Jin *et al.*, 2010:385; Chen & Chen, 2017:555; Zhou *et al.*, 2012:281). It is noted that a customer may have a long-term relationship with an organisation due to a commitment toward the organisation that has developed over time categorised by features of emotionality and friendship (Hennig-Thurau, 2004:465). Customers that have enjoyed satisfying product/service performances are likely to express more favourable attitudes and will prove to be more loyal to an organisation (Johnson *et al.*, 2008:355). In other words, when a customer is highly satisfied with an organisation, his/her affective commitment toward the organisation will be developed (Jin *et al.*, 2010:386; Hennig-Thurau & Klee, 1997).

It, therefore, seems that customer satisfaction tends to have an impact on affective commitment. Hence, it is finally hypothesised in this study that concerning the perceptions of existing users of mobile banking apps:

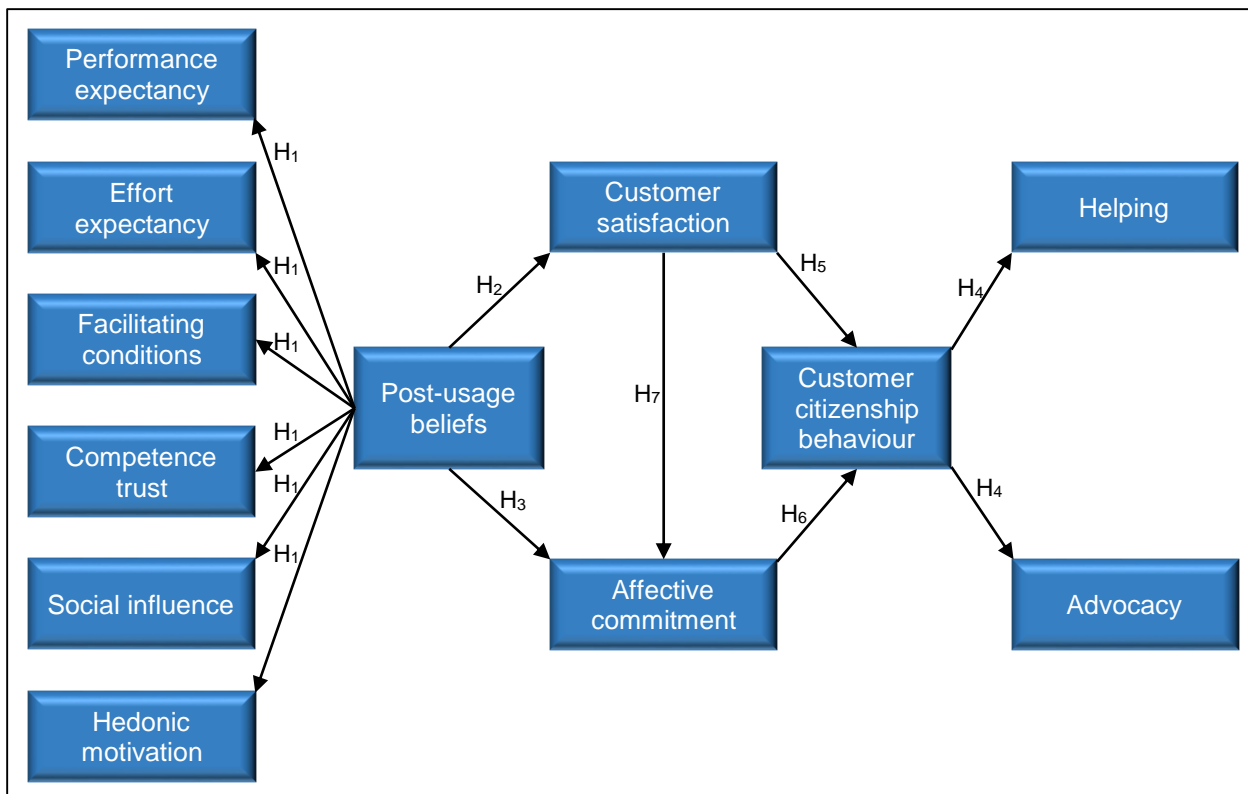
H₇ Customer satisfaction has a positive and significant impact on affective commitment

5.3 THE PROPOSED CONCEPTUAL MODEL

Figure 5-1 shows the conceptual model of this study. The model gives a summary of the interrelationships that have been previously identified from the literature study.

The identified relationships and their application to a mobile banking app environment are further verified in the empirical part of the research study. Eventually, the research findings will help to address the purpose of this study which is to develop a model for positive customer citizenship behaviour in the mobile banking app environment.

Figure 5-1: Proposed conceptual model



The Figure 5-1 proposes that several factors are interconnected and could contribute towards customer citizenship behaviour. It seems that the first order factors of the extended UTAUT model including competence trust could have a positive and vital influence on attitudes of mobile banking app users. This proposed model takes into consideration a cognitive attitude and affective attitude namely customer satisfaction and affective commitment respectively. The effect of customer satisfaction on affective commitment is also recognised in the model as identified by prior researchers. Furthermore, grounded in social exchange theory, satisfied customers may want to give back or reciprocate by engaging in customer citizenship behaviour. Also, customer citizenship behaviour could be influenced by the affective commitment that current users of mobile banking apps develop as a result of the positive beliefs they have formed about the service. Positive customer citizenship behaviour could relate to helping other customers on correct app use and advocating app benefits to them by positive word of mouth.

5.4 SUMMARY

This chapter presented an explanation of research hypotheses together with the proposed theoretical research model that has been established to address the research objectives that were identified in Chapter 1. The following chapter aims to provide further understanding into the

research methodology of the research study to complete the empirical section of the research. The research methodology discussion will place greater emphasis on the selected research design, methods of data collection, the sampling plan and statistical technique that were used to examine the proposed theoretical model.

CHAPTER 6

RESEARCH METHODOLOGY

6.1 INTRODUCTION

Chapters 1 to 5 conducted a comprehensive literature investigation into the proposed model and its research constructs as well as their related theories. The detailed literature investigation contributed to a greater understanding of the research topic that is further explored in the empirical part of the research study. Diverse studies were presented and evaluated, which led to the identification of factors that could contribute to customer citizenship behaviour concerning mobile banking apps. These constructs and their potential relationships are summarized in Figure 5-1 in Chapter 5.

Chapter 6 provides insight into the research methodology and the process that is followed in the remaining part of this study when addressing the research problem. The discussion of the methodology addresses the data collection, analysis methods, the sample, and questionnaire design of the study.

6.2 THE SIX STAGES OF THE MARKETING RESEARCH PROCESS

Marketing research has been an essential constituent of the field of marketing practice (Lee & Bradlow, 2011:881). It is a method of designing, gathering responses, analysing them, and reporting the information obtained so that a specific marketing problem may be solved (Burns *et al.*, 2014:34). Marketing managers and researchers place much reliance on surveys to identify people's preferences to products, brands, advertisements and other marketing objects (Argyriou & Melewar, 2011:431). Marketing research is, therefore, processes and methods utilised to collect information from market level customers and businesses and to draw inferences (Lee & Bradlow, 2011:881).

It is further required that marketing research is conducted according to a process, as adhering to that process provides researchers with direction (Burns *et al.*, 2014:68). The marketing research process provides an overview of the general sequence of activities undertaken to provide information needed for decision making (Brown *et al.*, 2008:19), comprising several steps to be conducted in a sequential order (Aaker *et al.*, 2013:46).

In this study, the marketing research process as presented by Malhotra *et al.* (2013:42) was adopted by the researcher. Accordingly, the six steps in the marketing research process put

forward by Malhotra *et al.* (2013:42) starting with the problem definition and ending with the report preparation and presentation were followed. The steps are presented in Figure 6-1 below.

Figure 6-1: The steps in the marketing research process



Source: Adopted from Malhotra *et al.* (2013:42).

6.3 STEP 1: PROBLEM DEFINITION

The marketing research process starts at step 1, defining the problem that will be addressed, is crucial. A problem is perceived as a gap concerning what was thought to happen and what did happen when a set-out objective was not fully accomplished (Aaker *et al.*, 2013:47). Real thought and effort are demanded to define a problem accurately as judgement is applied to data (Aaker *et al.*, 2013:47). The precise definition of the problem precedes the design of the research that will provide the needed information (Brown *et al.*, 2008:19).

The research problem for this research study was described in section 1.2 and is identified as a gap in existing research investigating the influence of post-usage beliefs and attitudes (customer satisfaction, a backward-looking attitude and affective commitment a forward-looking attitude) on customer citizenship behaviour, specifically in the area of post-usage service of mobile banking

apps at the five main retail banks in South Africa. Since the banking industry in South Africa operates in a competitive environment, retail banks are challenged to keep up with the demands of highly mobile digital customers, who want twenty-four-seven access to their accounts. However, it further seems that there are low consumer adoption rates of mobile banking apps in the South African retail banking environment (Arde, 2017; Maduku, 2014:59).

For retail banks to succeed in such a pressurised environment, they should place their focus on building quality relationships with their existing customers who make use of the mobile banking app. These relationships could lead to positive customer citizenship behaviour where customers help others hence attracting more customers to the bank. Therefore, customer citizenship behaviour may present a solution to this problem and could assist retail banks in ensuring a greater adoption and use of their mobile banking app services. If banks provide the environment for customer citizenship behaviours, they can use customers to ensure greater adoption of mobile banking apps and to reach their goals. However, these relationships require further examination to test their applicability in a mobile banking app environment.

6.4 STEP 2: DEVELOPMENT OF AN APPROACH TO THE PROBLEM

Following defining the problem, setting the research objectives is the next step (Rios & Del Campo, 2016). It comprises the preparation of analytical models, research questions and hypotheses as well as recognising features or factors that could affect the research design (Rios & Del Campo, 2016). In other words, the approach developed to address the problem consists of identifying information needed through formulating an objective, developing analytical models and posing research questions and hypotheses (Malhotra *et al.*, 2013:42).

6.4.1 Primary objective

After the research problem had been accurately defined, this research study's primary objective was determined to be the development of a model for positive customer citizenship behaviour in the mobile banking app environment. To achieve this aim, secondary objectives were also set to assist in accomplishing the primary objective of the study.

6.4.2 Secondary objectives

Seven secondary objectives were developed to ensure the achievement of the primary objective, as follows:

Table 6-1: Secondary objectives of this research study

Secondary objectives	
Secondary objective 1	To provide an overview of the extant literature related to: 1a) The theory grounding the research constructs, including the technology adoption models, the tripartite model of attitude formation, the relationship marketing theory, and the social exchange theory. 1b) The main constructs of this research study, namely post-usage beliefs, customer satisfaction, affective commitment, and positive customer citizenship behaviour. 1c) The potential interrelationships between the main constructs of this research study.
Secondary objective 2	To develop a sample profile of mobile banking app users who participated in this research study.
Secondary objective 3	To examine the level of favourable post-usage beliefs of bank clients regarding the mobile banking app they use most often, as measured by: 3a) Performance expectancy 3b) Effort expectancy 3c) Facilitating conditions 3d) Social influence 3e) Hedonic motivation Also: 3f) To measure the extent to which bank clients have competence trust in the mobile banking app they use most often.
Secondary objective 4	To measure the level of customer satisfaction of bank clients towards the mobile banking app they use most often.
Secondary objective 5	To assess the level of affective commitment of bank clients towards the mobile banking app they use most often.
Secondary objective 6	To assess the positive customer citizenship behaviour of bank clients concerning the mobile banking app they use most often. More specifically, to measure the extent to which bank clients: 6a) Advocate the benefits of the mobile banking app they use most often to other prospective users. 6b) Provide help to other prospective users interested in the mobile banking app they use most often.
Secondary objective 7	To examine the interrelationships between the research constructs of this study, namely post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour.

6.5 STEP 3: RESEARCH DESIGN FORMULATION

The plan to address the research objectives or hypotheses is referred to as the research design (McDaniel & Gates, 2013:42) consisting of a framework according to which the marketing research project will take place (Malhotra *et al.*, 2013:42). It is an undertaking by a researcher to answer a specific research problem by developing a structure or framework. Research design

can be classified into three types, namely exploratory, descriptive, and causal (Churchill *et al.*, 2010:79). They will be discussed next.

6.5.1 Exploratory research design

Exploratory research recognises problems, produces hypotheses and gains understanding into certain topics (Shao, 2002:41). The aim is to obtain information to understand better a population and the theoretical matters involving a study (Daniel, 2012:8). The research design can draw from several methods such as pilot studies, experience surveys, secondary data analyses, case analyses as well as focus groups (McDaniel & Gates, 2010:44). Common to the several forms of exploratory research mentioned above, exploratory research designs are mostly qualitative in nature and serve as an initial investigation to recognise variables, constructs, and taxonomies for quantitative research (Harrison & Reilly, 2011:15; Creswell *et al.*, 2003). These designs are created for investigating relationships that have unknown study variables, to develop new instruments emanating from the initial qualitative analysis, or to test the theory for developmental purposes (Harrison & Reilly, 2011:15).

6.5.2 Descriptive research design

Descriptive research design concerns determining the relationship amongst two variables (Churchill *et al.*, 2010:107). It is not exploratory in nature, as the researcher already knows which research questions will be addressed (Shao, 2002:44). Descriptive studies may define the behaviour of targeted customers, their characteristics, or the market potential for particular products (Shao, 2002:44) and therefore need a clear description of the who, what, when, where, why, and how of the study (Churchill *et al.*, 2010:107). Prerequisites to performing descriptive research are the accurate specification of information needs, a precise definition of the problem, and the creation of hypotheses (Shao, 2002:44).

6.5.3 Causal research design

A causal research design is about determining cause and effect relationships (Churchill *et al.*, 2010:79) and often uses experiments to measure causality (McDaniel & Gates, 2010:50). In causal studies, the researcher investigates the effects that an independent variable has on another, called the dependent variable. The independent variable is presumed to be the cause of the observed effect on a dependent variable (Parasuraman *et al.*, 2007:35). The independent variable is what the researcher controls/ manipulates so that explanations are found for the observed changes in the dependent variable (Parasuraman *et al.*, 2007:35).

Taking into consideration the research objectives, it was decided that a descriptive research design is used for this study. It was the most appropriate basic type since this study's main aim was to investigate the interrelationships between pre-determined factors and their contribution in generating customer citizenship behaviour. The research problem was known, and hypotheses were also formulated for the study. The behaviour, characteristics and perceptions of the respondents would be described according to their responses to a set of pre-determined statements.

6.6 STEP 4: DATA COLLECTION

After step three, a researcher needs to prepare for data collection to ensure the process is smooth running and error-free (Shao, 2002:50). Data is categorised as either primary or secondary data (Stevens *et al.*, 2006:90). In research projects, secondary data may already exist; it is information that has been collected by someone else for their purposes, but may also be relevant to the research problem at hand (Smith & Albaum, 2005:123). Its sources may be internal or external; internal sources could, for example, be from organisational records while external sources could be libraries, government bodies or even business sector associations (Wiid & Diggines, 2009:34).

On the other hand, primary data is new data collected according to the research design for the particular study, using selected procedures that will find data that address the research problem best (Hox & Boeije, 2005:593). Primary data's sources can similarly be internal or external; like the personnel of an organisation and customers, retailers, wholesalers, and competitors respectively (Wiid & Diggines, 2009:34). The existing store of social knowledge is enhanced every time that primary data is collected (Hox & Boeije, 2005:593). Progressively, this material stemming from prior research is made available for re-use by the general research public (Hox & Boeije, 2005:593).

A detailed literature study was conducted in the first part of this research study to obtain more insight into the constructs of the proposed model and their related theories. Several academic sources were consulted as well as marketing journals such as the Journal of Marketing, Journal of Marketing Research, Journal of Consumer Behaviour, Journal of Services Marketing, Journal of Consumer Marketing and textbooks. Secondary research about technology acceptance models (Chapter 3), attitude formation (Chapters 3), relationship marketing (Chapter 4), relationship quality dimensions (Chapter 4), and the customer citizenship behaviour domain (Chapter 4) was investigated.

In the following two sub-sections, the primary data collection method and forms selected for the empirical part of this study are discussed, and motivation is given.

6.6.1 Data collection method selected

Primary research can use both qualitative and quantitative methods (Baig *et al.*, 2013:101; Malhotra *et al.*, 2010:171) to collect data.

In exploratory research designs, the researcher uses qualitative research for obtaining initial insight into decision problems and opportunities (Hair *et al.*, 2006:173). Qualitative research denotes research methodologies such as individual interviews, focus groups, and observations (Baines *et al.*, 2017:104) that rely on small samples and use open and probing questions with the purpose of exposing underlying motives and feelings (Baines *et al.*, 2017:104). The data collected is then interpreted focusing on meanings and typically is quite hard to replicate (Baines *et al.*, 2017:104).

Quantitative research, on the other hand, uses large samples with heavy emphasis being placed on formal standard questions and prearranged response options in questionnaires or surveys (Hair *et al.*, 2013:77). Quantitative data collection methods are appropriate for descriptive and causal research (Shiu *et al.*, 2009:172). Commonly used collection methods include different types of surveys (online or offline), face-to-face or telephone interviews, and longitudinal studies (Baines *et al.*, 2017:104). For this type of research, the research problems are defined in specific terms and the precise information needs have been agreed to by the decision maker and researcher (Hair *et al.*, 2013:77). Besides collecting information, quantitative research involves statistical analyses of the responses and possibly quantifying them as frequencies or percentages (Baines *et al.*, 2017:104). Hair *et al.* (2013:78) state that quantitative sample results can be statistically projected to draw inferences about the whole population. Essentially, quantitative research involves obtaining information so that the analyses made can be used to predict and understand more fully relationships between market factors and behaviours, and to test hypotheses (Hair *et al.*, 2013:78).

To examine interrelationships between several factors that could contribute to positive customer citizenship behaviour concerning mobile banking apps, a quantitative research method was adopted for this study. Accordingly, it was the focus of this study to collect research data by making use of pre-determined response options that were quantified to assist in the statistical analysis and prediction of the relationships between the research constructs investigated.

6.6.2 Data collection form selected

Selecting a data collection form is relevant when a research project involves primary data collection (Parasuraman *et al.*, 2007:36). Data collection forms may vary depending on the

research design selected. In experimental research, the significant principle is the manipulation of a treatment variable (independent variable X) followed by the observation of a response variable (dependent variable Y) (Aaker *et al.*, 2011:304). A researcher will manipulate the independent variable/s before measuring the effect on the dependent variable (Parasuraman *et al.*, 2007:209). If a change in X causes Y to change in the hypothesised way, then a conclusion may be made that X has a certain effect on Y (Aaker *et al.*, 2011:304). For a causal research design, the experimental data method could be used, while for a descriptive research design a researcher may use survey data or observational data (Malhotra *et al.*, 2010:171).

Survey data is collected by addressing questions to respondents in a prescribed way and taking a methodical record of their responses (Malhotra *et al.*, 2010:209; Kent, 1999:92). In this case, a record will usually be a completed questionnaire but could also be direct data capture using automated means (Kent, 1999:92). Surveys are popular research techniques for collecting large amounts of data (Hair *et al.*, 2013:109). Descriptive research designs regularly use data collection methods that ask respondents structured questions about what they think, feel and do (Hair *et al.*, 2013:109). Structured in this context means the extent to which the data collection process has been standardised (Malhotra *et al.*, 2010:209). As similar information is collected from different respondents for each case examined, all the information for a particular case is directly comparable and thus provides the researcher with a structured set of data (De Vaus, 2014:4). This enables the researcher to offer facts and approximations from a large representative sample of respondents (Hair *et al.*, 2013:109) by applying trusted statistical tools to compile sample survey results (Zikmund & Babin, 2013:153).

Observational data is gathered by recording aspects of a customer's actions or behaviour using physical or mechanical means (Silver *et al.*, 2013:137). Observation could be direct, meaning it will involve watching the actual activity and at other times it could be indirect, in which the outcomes of the behaviour are observed, rather than the behaviour itself (Churchill *et al.*, 2010:223). Observation works better when measuring specific behavioural variables yet it is less effective when measuring attitudinal variables and questions regarding attitudes, motivations, opinions and the intention of a customer cannot be answered by observation (Silver *et al.*, 2013:13).

The survey method was chosen for this study since data was to be gathered from a large sample of mobile banking app users, regarding their attitudes, opinions and motives. In most cases, the respondents filled out their surveys without the researcher's assistance (Schwarz *et al.*, 2013:71). The survey method was thus suited to administer the recorded answers to structured questions (Hair *et al.*, 2013:109). The survey method made it possible to standardise the data collection, as

a systematic record of the various responses could be obtained that allowed for making comparisons between the responses; it also assisted in describing and explaining the interrelationships between various constructs and their contribution to positive customer citizenship behaviour statistically.

Furthermore, the use of the survey method has several other advantages, for example, versatility, speed and cost, data accuracy, and respondent convenience (Parasuraman *et al.*, 2007:145-150) that are described in Table 6-2.

Table 6-2: Advantages of the survey research method

Advantage	Description
Versatility	Surveys can cover a wide spectrum of types of primary data. Survey methods are therefore the preferred method of collecting information on attitudes, intentions, awareness or knowledge, motives, demographics and behaviours.
Speed and cost	These two benefits refer to the degree of control or flexibility the researcher has over the data collection. The survey approach is usually more efficient in terms of data collection speed and cost.
Data accuracy	Essential from a managerial standpoint as it significantly influences the soundness of decisions based on marketing research.
Respondent convenience	Surveys can be completed at the respondents' own convenience.

Source: Adapted from Silver *et al.* (2013:121) and Parasuraman *et al.* (2007:145-150).

However, the survey method also has some limitations. As the principle of a survey is a communication procedure amongst people, it is subject to the weaknesses associated with the human communication (Wiid & Diggines, 2009:109). Examples of these weaknesses include that a respondent may not answer honestly, or could even overstate to avoid feelings of humiliation; the respondent may misunderstand the questions asked and thus give incorrect information (Wiid & Diggines, 2009:109); some respondents may not be available or willing to participate in the survey (Silver *et al.*, 2013:121) due to a lack of interest in the research subject in which case the respondent may feel that answering the questions is a waste of time. In some instances, these limitations can be overcome through better survey management and are therefore not necessarily negative (Wiid & Diggines, 2009:109).

The careful phrasing of questions (Brown, 2008:94) was employed in obtaining the data in an attempt to limit the potential disadvantages of using a survey as mentioned above. The respondents were made aware of their voluntary and anonymous participation in the research study. Also, the researcher ensured that the information/responses were kept secret/confidential

and that the respondents were aware of the valuable contribution they could make by participating in the study.

The majority of survey methods can be classified as person administered; telephone administered, and self-administered (Hair *et al.*, 2013:111). A person administered survey occurs when an interviewer poses questions directly to the respondent and records the respondent's answers (Hair *et al.*, 2013:111; Schwarz *et al.*, 2013:72). Telephone-administered surveys are telephone interviews where question and answer exchanges between the interviewer and the respondent are conducted over the telephone (Hair *et al.*, 2013:112). Lastly, a self-administered survey, as the name suggests, is filled out by respondents in the absence of the researcher or an interviewer (Mitchell & Jolley, 2013:287) and this makes it different from the former two surveys (McDaniel & Gates, 2010:134) as it is administered solely by the respondent. The self-administered surveys can easily be handed out to a large number of people and can be used to facilitate anonymity (Mitchell & Jolley, 2013:287). Anonymity may be important when highly personal questions have been asked, and truthful answers are sought (Mitchell & Jolley, 2013:288). Also, a self-administered survey layout is mostly structured (Cargan, 2007:91) which means that most of the contents are standard and this usually brings the cost down (Cargan, 2007:91).

A self-administered survey was used in this research study to collect the views of respondents in a structured manner. This form allowed the respondents to complete the survey anonymously as their identity was not required in the survey and they were, therefore, able to complete the survey honestly. Further, the self-administered survey was cost-effective as the questionnaires were easy to hand out to a large number of people with a request for them to complete the survey in their own time.

However, using self-administered surveys also has some drawbacks. For instance, a self-administered survey could reveal high non-response rates and slow data acquisition (Hair *et al.*, 2013:115). To attain higher response rates, special attention should be given to two main matters: (1) Good questionnaire design. A good questionnaire design is essential as there can be no instigation from an interviewer (Watts & Halliwell, 1996:397). In a well-designed questionnaire, the questions should be arranged in a logical and readily understandable order (Watts & Halliwell, 1996:398). Additionally, while there are no mechanical rules about the precise length of a questionnaire, it should not exceed the respondent's attention span, and its appearance is also important. A badly designed questionnaire is unlikely to receive many replies. (2) Self-administered questionnaires require considerable monitoring to ensure that they reach the survey population and are returned in as large numbers as possible to the researcher. This could be

achieved by distributing initial material to clarify the purpose of the survey followed by subsequent reminders later. Reminders are sent after the questionnaire has been distributed to encourage additional respondents to complete their questionnaires (Watts & Halliwell, 1996:398). To address the potential problem of a non-response rate, the questionnaire of this study was carefully designed to ensure the questions were logically presented, easy to understand and not too long. Furthermore, the survey was sent to many respondents and reminders were sent to the respondents to complete the questionnaire.

The next section will discuss different criteria that were taken into consideration when the self-administered questionnaire was designed.

6.6.3 The self-administered questionnaire

The purpose of a questionnaire is to obtain information from respondents by asking a formalised set of questions (Malhotra *et al.*, 2010:332). Advantages of using a questionnaire include: (1) the research objectives are formulated into specific questions; (2) participants respond to the same questions as the questions, and the response categories are standardised; (3) cooperation and motivation of respondents is fostered by its wording, question flow and appearance; (4) it produces a written record of the research; (5) online questionnaires received in electronic format may speed up the data analysis process, and (6) questionnaires facilitate quality control since the information needed for making reliability and validity assessments remains intact (Burns *et al.*, 2014:214).

The next sections provide more insight into the process that was implemented in the design of the self-administered questionnaire.

6.6.3.1 Question response formats and measurement levels

6.6.3.1.1 Open-ended and fixed alternative questions

The types of question-response formats are open-ended and closed or fixed alternative questions (Hughes & Sharrock, 2007:101). Open-ended questions also known as unstructured questions, enable the respondent to enter a response in their own words (David & Sutton, 2004:162). The respondent is not provided with a list of possible answers from which one can be selected when the question is open-ended (Hughes & Sharrock, 2007:101). For example, "What do you think of mobile banking apps? Or "What is your favourite mobile banking app? As such, these questions are open to a respondent for him/her to provide an answer in whatever way they choose. Regularly, open-ended questions are exploratory (require probing) because the respondent is encouraged to elaborate or continue the discussion (McDaniel & Gates, 2013:250).

Open-ended questions are good at the beginning of interaction with respondents (Malhotra *et al.*, 2010:340) as they can express general attitudes and opinions that can be of help to a researcher when interpreting their responses to structured questions (Malhotra *et al.*, 2010:340). However, the coding of responses to open-ended questions can be pricey and time-consuming (Malhotra *et al.*, 2010:340).

Alternatively, fixed alternative questions provide a selection of possible answers (Hughes & Sharrock, 2007:101). Three formats are used for fixed alternative questions, being dichotomous, multiple choice, or a scale (Malhotra *et al.*, 2010:341). A dichotomous question presents a choice between two answers (McDaniel & Gates, 2013:254) for example yes or no, black or white. Since it only allows a respondent a choice of two responses, it is said to be the most restrictive and tightest response category (Webb, 2002:97). Nonetheless, dichotomous questions could be regarded as a subset of multiple choice questions (Webb, 2002:97). Multiple choice questions have some answers provided for each question from which respondents can select their answers (McDaniel & Gates, 2013:254). In other words, respondents can select the answer/s that most closely approximate to their views (Webb, 2002:97). Further, scale questions adopt Likert type items (Mitchell & Jolley, 2013:298) where responses are marked according to a given scale, such as a five-point scale starting with strongly disagree (scored as 1) and progressing to strongly agree (scored as 5) (Mitchell & Jolley, 2013:298) which are particularly useful in questionnaire construction as they yield more information when compared to dichotomous questions due to the fact that respondents have the freedom to choose from one of five responses instead of from only two (Mitchell & Jolley, 2013:298). Furthermore, because interval data is produced by Likert type items, the responses can be analysed statistically (Mitchell & Jolley, 2013:298).

The questionnaire used in this research study was designed with only fixed alternative questions as they are easier for the respondents to answer and tabulation and analysis of the data obtained are made easier (Aaker *et al.*, 2013:293; McDaniel & Gates, 2013:253). The fixed alternative questions were of the dichotomous, multiple choice, and scale types. The respondents' level of agreement with the given statements was measured using a Likert scale.

6.6.3.1.2 Measurement levels

Measurement is the standard procedure of allocating numbers/symbols to certain features of the objects of concern according to set rules (Aaker *et al.*, 2013:262). Four levels of measurement can be used, namely nominal, ordinal, interval, and ratio measurements (Reddy & Acharyulu, 2008:92). The type of scale used in taking measurements directly impacts on the statistical

techniques which can legitimately be used in the analysis (Reddy & Acharyulu, 2008:92). Table 6-3 shows a summary of each level of measurement.

Table 6-3: Levels of measurement

Level of measurement	Description
Nominal	Nominal measures include only labels as they possess only the characteristic of description. For example, labels as to race (White, Black, Coloured, Indian, Asian), Religion (Christianity, Buddhism, Islam, Hinduism), Gender (female, male). Nominal scale categories of any variable should not be given a numerical significance.
Ordinal	Ordinal measures require a ranking order involving 'more than' or 'greater than', of the objects. For example, since ranks are not interchangeable, it can be said that 2 is greater than 1, that 3 is greater than both 2 and 1 and 4 is greater than all three (1, 2 and 3). In this case, the higher the number, the greater the property. Ordinal scales imply identity since the same number could be used for all objects that are the same.
Interval	Interval scales demonstrate absolute differences between each scale point. The intervals between the scale numbers indicate how far apart the measure objects are on a particular attribute. For example, respondents could be asked to measure a statement according to a 7 point interval scale with the endpoints 1=strongly disagree and 7=strongly agree.
Ratio	Ratio scales enable a true natural zero or true state of nothing response to be a valid response to a question.

Source: Adapted from Burns *et al.* (2014:205), Hair *et al.* (2013:163), Churchill *et al.* (2010:247) and Nargundkar (2008:51).

The self-administered questionnaire designed for this study included answers to questions that were measured using nominal, ordinal and interval measurement scales. The dichotomous screening question produced nominal data. The closed fixed alternative questions (dichotomous and multiple choice) that collected the demographic and patronage information of the respondents also produced nominal data. The Likert scale gave a ranking order to the relevant responses thereby offering ordinal data. Ordinal data is used to aid in calculating summary statistics such as means, medians, modes, frequency distributions and ranges (Hair *et al.*, 2013:162) that may assist with determining the position and relative magnitude of differences between the constructs identified for this study. The Likert scales therefore also offered interval data.

Furthermore, it was necessary for the researcher to address the sequence of the questions asked, together with question content, phrasing and layout. The following recommendations were implemented to make certain that the correct procedures were followed.

6.6.3.1.3 Question sequence and content

According to Parasuraman *et al.* (2007:299), questions that are arranged in a logical order will assist in minimising data errors and facilitate as well the easy and smooth management of the questionnaire. In any given situation, the ordering of specific questions must take features unique to that situation into account (Parasuraman *et al.*, 2007:299). These authors further indicate some guidelines about question sequence. They are:

- *The position of demographic and sensitive questions.* If questions about personal information (such as age, education level and income) are asked up front, they could raise concerns with some respondents and affect their willingness to complete the rest of the survey. Therefore they should preferably be placed towards the end of a questionnaire. The answers to these questions are important as they provide classification data that can be used to determine the profile of the respondents and to cross classify responses to other questions that relate directly to the study objectives.
- *Arrangement of related questions.* If a questionnaire addresses a variety of topics, it is advisable to deal with one topic at a time. Topics dealt with haphazardly could be confusing to respondents and may cause errors in the data because their train of thought could be broken. Respondents can feel more comfortable in answering questions when they have been grouped into meaningful clusters and thus reduce the chance of response errors.
- *Skip patterns.* A researcher should make sure that question sequencing will result in clear and simple skip patterns. Questions that do not pertain to certain respondents must be skipped by them only. As the number of questions asked and their sequence could vary across respondents, this could give rise to different skip patterns. Placing items in a certain sequence in the questionnaire is very important to avoid the creation of complicated skip patterns that may confuse respondents (Parasuraman *et al.*, 2007:31).

The contents of the questionnaire provide the basic information required for satisfying the research objectives (Silver *et al.*, 2013:148). Every question in the questionnaire must serve a specific purpose or provide information that is needed (Malhotra *et al.*, 2010:336). Superfluous questions must be eliminated (Malhotra *et al.*, 2010:336) to keep the size of the most substantial portion of the questionnaire within reason (Silver *et al.*, 2013:148).

6.6.3.1.4 Question phrasing

Researchers must design questionnaires that can be completed by the targeted respondents as fully as possible. This will require asking questions which are properly phrased (Shao, 2002:274) according to the profile of the target respondents, where they are domiciled and the information being sought (Shao, 2002:275). To be able to get as many valid responses as possible, three main conditions need to be satisfied: (1) The questions must be understandable and all respondents should understand them in the same way; (2) they must be answerable by the respondents; and (3) the respondents must not want to hold back the information (Kent, 1999:55).

6.6.3.1.5 Questionnaire layout

Particular attention has to be paid to the layout of the questionnaire to avoid errors by respondents (Iarossi, 2006:80). An appropriate layout will make the questionnaire interesting and easy to administer. Variables that are important for self-administered questionnaires include the quality of the paper, the clarity of copies reproduced and avoiding crowding (Aaker *et al.*, 2011:289). A researcher could ensure that the questionnaire is not crowded, precise instructions are provided, and flow diagrams with arrows and boxes are used for better guidance (Aaker *et al.*, 2011:289).

The ease of use for respondents and data processing are vital considerations for the layout of questionnaires. Questionnaires are easy to use when the layout provides a simple, consistent way for questions to be answered; an uncluttered presentation; questions that are adequately separated; headings and fonts that are consistent; and response categories that are clearly associated with each question and coded for data entry (Anderson & Morgan, 2008:117).

6.6.3.2 Pilot testing

A questionnaire must preferably be pre-tested before it is administered. Pre-testing of a questionnaire implies that it is sent out to a small number of respondents to get their reaction to the questionnaire (Beri & Ortinau, 2013:134). These completed questionnaires can help the researcher to decide whether the question content or the phrasing of the questions needs changing (Beri & Ortinau, 2013:134). If so, specific changes that have been identified can be incorporated in the questionnaire (Beri & Ortinau, 2013:134).

More specifically, a questionnaire may be too long, ambiguous, incomplete, unclear or biased in some way (Webb, 2002:106). A thorough pre-test could overcome these problems as it will evaluate and fine tune the questionnaire, estimate the time required for completion and allow for setup of coding refinements for tabulations. Also, a pre-test must be administered under the actual field conditions to get an accurate response (Silver *et al.*, 2013:149).

As part of the pilot test, the questionnaire was pre-tested amongst 41 respondents from the target population. The researcher interviewed the 41 respondents face to face in order to identify any problem areas regarding the questionnaire. The pilot study covered aspects such as question sequencing, content, phrasing, layout, and question difficulty that could lead to the misunderstanding of questions. Instructions for each section were also tested. The feedback obtained from the respondents was used to identify any necessary changes, and these were implemented. For example, participant reluctance to disclosing their age in the pilot test was observed, and this was altered in the final version of the survey by using multiple choice questions from which they selected their choice. An outline of the final questionnaire that was used in the empirical part of the research study is provided in the next section.

6.6.4 Overview of final questionnaire

The final questionnaire is presented in Appendix A, and it included four sections (sections 1 to 4):

(i) Section 1: Post-usage belief questions

Section 1 had post-usage belief questions that numbered nineteen in total. Regarding the mobile banking app, they used most often, the main objective of this section was to measure the respondents' opinions about their post-usage beliefs.

Nineteen post-usage belief statements were generated from previous studies. Respondents were required to indicate their level of agreement with each statement using a five-point unlabelled Likert scale where 1 indicated strongly disagree and 5 indicated strongly agree.

(ii) Section 2: Attitude and relationship quality questions

Section 2 consisted of six questions relating to mobile banking apps used most often by the respondents. The objective of this section was to measure the respondents' answers about the attitude constructs including customer satisfaction and affective commitment (backwards and forward-looking attitudes respectively).

The six statements were generated from previous studies. Respondents indicated their level of agreement with each of them using a five-point unlabelled Likert scale where 1 indicated strongly disagree and 5 indicated strongly agree.

(iii) Section 3: Citizenship behaviour questions

Section 3 contained seven questions concerning the respondents' behaviour towards the bank and other customers regarding the mobile banking app they use most often. Its objective was to measure the respondent's views about the citizenship behaviour construct

including positive customer citizenship behaviour, relating to advocacy and helping behaviour.

The seven statements were generated from previous studies. Respondents indicated their level of agreement with each of them on a five-point unlabelled Likert scale where 1 indicated strongly disagree and 5 indicated strongly agree.

(iv) Section 4: Demographic and patronage information questions

Section 4 consisted of eight questions. The main objective was to obtain the demographic and patronage information such as the respondents gender, age, employment status, marital status, ethnicity, all banks whose mobile banking app they use to carry out banking transactions, one bank whose mobile banking app they use most often, the types of transactions they perform with the mobile banking app used most often.

Table 6-4 presents a summary of the statements that appeared in the questionnaire used for this research study, together with all the statements that were adapted and their sources. Table 6-4 also indicates the relevant response format and level of measurement that was used for each statement. Where appropriate, the table also shows the relevant objective and hypothesis findings that each statement assisted in addressing.

Table 6-4: Summary of questions, sources, response format, measurement level, secondary objectives and hypotheses

Question/Statement	Source	Response format	Level of measurement	Secondary objective(s)	Hypotheses
Section 1: Post-usage beliefs					
PB1: This mobile banking app is useful in my daily life PB2: Using this mobile banking app helps me to carry out my banking transactions more quickly PB3: Using this mobile banking app increases my productivity PB4: Using this mobile banking app assists me in carrying out my banking transactions more efficiently	Hew <i>et al.</i> , 2015	Multi-item scale – unlabelled Likert type scale	Interval	3 and 7	H ₁ , H ₂ and H ₃

PB5: It is easy to use this mobile banking app	Venkatesh <i>et al.</i> , 2011	Multi-item scale – unlabelled Likert type scale	Interval	3 and 7	H ₁ , H ₂ and H ₃
PB6: Learning to use this mobile banking app is easy for me					
PB7: It is easy for me to become skilful at using this app					
PB8: I have the necessary resources (such as money or data) to use this mobile banking app					
PB9: I have the knowledge necessary to use this app					
PB10: Assistance is available when I experience difficulties in using this banking app (friends/family/banking personnel etc.)					
PB11: People, who influence my behaviour in general, think that I should use this mobile banking app					
PB12: People who are important to me think that I should use this mobile banking app					
PB13: People who are in my social circle think that I should use this mobile banking app					
PB14: Using this mobile banking app is fun					
PB15: Using this mobile banking app is enjoyable					
PB16: Using this mobile banking app is entertaining					
PB17: I can rely on the technology of this mobile banking app to execute my transactions reliably					
PB18: Technology related errors in using this mobile banking app are quite rare	Johnson, 2007				
PB19: The mobile banking app technology I use is very reliable					
Section 2: Attitude and relationship quality					
CS1: I am pleased using this mobile banking app	Venkatesh <i>et al.</i> , 2011	Multi-item scale – unlabelled Likert type scale	Interval	4, 5 and 7	H ₂ , H ₃ , H ₅ , H ₆ , and H ₇
CS2: I am content using this mobile banking app					
CS3: I am satisfied using this mobile banking app					
COMM1: It is easy to become attached to this mobile banking app	Nusair & Hua, 2010				
COMM2: This mobile banking app has a great deal of attraction for me					
COMM3: This mobile banking app has a great deal of personal meaning for me					
Section 3: Citizenship behaviour					
CB1: I assist other customers if they need my help in using this type of mobile banking app	Yi & Gong, 2013	Multi-item scale – unlabelled Likert type scale	Interval	6 and 7	H ₄ , H ₅ , and H ₆
CB2: I help other customers if they seem to have problems in using this type of mobile banking app					
CB3: I teach other customers to use this type of mobile banking app correctly					

CB4: I give advice to other customers regarding this type of mobile banking app					
CB5: I say positive things about this type of mobile banking app to other customers					
CB6: I recommend this type of mobile banking app to other customers					
CB7: I encourage friends and relatives to use this type of mobile banking app					
Section 4: Demographic and patronage information					
D1: What is your gender?	Self-generated	Dichotomous	Nominal		
D2: How old are you?	Self-generated	Multiple-choice	Ordinal		
D3: Which one of the following options best describes your employment status?				2	1
D4: What is your marital status?					
D5: Please indicate your ethnicity.	Self-generated	Multiple-choice	Nominal		
D6: Kindly indicate all banks whose mobile banking apps you are using to carry out your banking transactions.					
D7: Kindly indicate one bank whose mobile banking app you use most often to carry out your banking transactions.					
D8: Kindly indicate the types of transactions you perform with the mobile banking app you use most often.					

Data collection, step four, also requires an examination of the sampling plan of the research study, including the study population, sample selection procedure, data collection and sample size.

6.6.5 The study population

A population is defined as a complete group of people, retail outlets, products, etcetera whose members share some common characteristics (Zikmund & Babin, 2013:312). The defined population consists of four parts namely, element, sampling unit, extent and time (Wrenn *et al.*, 2007:179). The element is that body from which the researcher requires information (the respondents), and that should give a basic unit for analysis while contact could be gained to the element through a sampling unit. Extent is the geographical area that will be covered by the research and time relates to the temporal boundaries within which the research is to be conducted (Webb, 2002:48).

Using the definitions provided by Zikmund and Babin (2013:312); Wrenn *et al.* (2007:179); Webb (2002:48), the population for this research study is defined in Table 6-5 below:

Table 6-5: Study population and rationale

Component	Description	Rationale
Element	Males and females in Gauteng, who were using at least one mobile banking app of one of the five main retail banks in South Africa.	Males and females were included in the population to make certain that responses from both genders would be obtained.
Unit	Five main South African retail banks (ABSA, Standard Bank, Nedbank, FNB and Capitec).	These five main retail banks collectively account for 90% of the banking sector assets, therefore providing a representative view of the market (Ernst & Young, 2015:18).
Extent	Gauteng Province, South Africa	Gauteng was selected as this province records the highest number of people (13 200 349) and has the highest gross domestic product percentage change at 4% by province (Stats SA, 2016).
Time	Current users of mobile banking apps	This study took into consideration post-usage beliefs, and therefore current users of mobile banking apps were relevant.

6.6.6 Selecting the sample

Sampling involves obtaining information from a smaller portion of the population (Stevens *et al.*, 2006:182). Statistics about characteristics of a sample are then calculated and used to make interpretations about the population parameters (Malhotra *et al.*, 2010:366). The inferences made about the population parameters are the outcomes of estimation procedures and tests of hypotheses (Malhotra *et al.*, 2010:366). As less than the total population is surveyed, sampling has advantages over a census (where all the members of the selected population are surveyed) including lower costs, less time spent, and more in-depth information amongst others (Daniel., 2012:23; Stevens *et al.*, 2006:182).

Due to the lack of a sampling frame, the researcher was necessitated to implement a non-probability convenience sampling approach. Non-probability sampling, in contrast to probability sampling where each element in the population has an equal probability of selection, selects elements of the sample on the basis of judgement or convenience resulting in an unknown probability of any particular element of the population being chosen (Zikmund & Babin, 2006:411).

Various forms of non-probability sampling are available and include convenience, purposive, judgement and quota sampling (Arora & Mahankale, 2013:129; Parasuraman *et al.*, 2007:338).

In the case of convenience sampling, the choice of the sample is left completely to the researcher who will choose only members that are convenient to locate (Arora & Mahankale, 2013:129). Any member of the population should be eligible to be included in the sample without any restraint. However, when restrictions are imposed on the probable inclusion in the sample of members subject to the restrictions, the sampling is known as purposive (Arora & Mahankale, 2013:129). Judgement sampling requires that the basis for sample selection is elements having certain characteristics identified by an expert (Arora & Mahankale, 2013:129), for example, customers who buy a certain item regularly. When judgement sampling is applied, persons residing in a small geographical area could be considered representative of the population on the basis that the researcher feels that this is the case. Lastly, quota sampling requires subsets to be defined and then either convenience or judgement sampling is used to select the number of people from each subset that meets the quota (Sutherland & Canwell, 2008:53).

In this study a multi-stage non-probability sampling procedure was followed, which entailed:

- Firstly, the non-probability judgement sampling technique was employed to indicate the sampling units. The five main retail banks in South Africa (i.e. ABSA, Standard Bank, Nedbank, FNB and Capitec) were chosen as the sampling units, since they jointly own 90% of the banking industry assets and, as such, provide a representative view of the market (Ernst & Young, 2015:18).
- Secondly, convenience and quota sampling methods were employed to select the sampling elements. Males and females in Gauteng, who were using at least one mobile banking app of one of the five main retail banks in South Africa were chosen. After that, 100 sampling elements were chosen from each sampling unit with an equal split of 50 males and 50 females per main bank. The respondents were approached by convenience.

6.6.7 Data collection and sample size

The researcher intended to have self-administered questionnaires distributed by going into the field between 1 May and 31 July 2017. Whenever possible, the researcher collected the self-administered questionnaires upon completion by the respondents. Respondents who did not complete the questionnaire while the researcher was present, were given two weeks to participate by submitting their completed questionnaires. For questionnaires that were sent out by email,(see Section 1.8.2.3) reminders were sent to the prospective respondents once a week to encourage them to complete and submit the questionnaire.

The proposed sample size for this study was 500 participants who use mobile banking apps based on their availability. Hair *et al.* (2010:662) proposes suggested sample sizes based on model complexity and other model characteristics, in particular a minimum sample size of 500 for models with a large number of constructs, those having lower communalities, and those having fewer than three measured items (Hair *et al.*, 2010:662). As several constructs were investigated in this study, a sample size of 500 participants was used.

The sample size estimates by sample unit and gender were determined in Chapter 1 (section 1.8.3.3), and for convenience, purposes is repeated again in this section in Table 6-6.

Table 6-6: Sample size estimates by sample unit and gender

Sample units	Sample elements	Males	Females
ABSA	100	50	50
FNB	100	50	50
Nedbank	100	50	50
Capitec	100	50	50
Standard bank	100	50	50
Total	500	250	250

Source: Researcher's own construction.

The Table 6-6 highlighted that the study used 500 respondents (5 sampling units and 100 sampling elements from each sampling unit split between 50 females and 50 males).

Steps 1 to 4 of the marketing research process has been recognised thus far in this Chapter. The next step in the research process is data preparation and analysis that is discussed in the following section.

6.7 STEP 5: DATA PREPARATION AND ANALYSIS

This process starts with checking whether or not the returned questionnaires have been sufficiently completed by the respondents for analysis, with editing, coding, and transcribing the data (Malhotra *et al.*, 2010:446) to follow. It should begin promptly when the first batch of questionnaires is received, preferably during the fieldwork period (Malhotra *et al.*, 2010:446). If any errors or problems are disclosed by the data preparation procedures, corrective action can still be taken in time for implementation by the field force. Editing is the review of the questionnaires to increase the correctness and exactness (Malhotra *et al.*, 2010:447; Parasuraman *et al.*, 2007:368). Coding refers to numbering each response required on a standardised questionnaire with a unique code while transcribing data means to capture the data

received into computerised systems by keypunching or other means (Hair *et al.*, 2013:249; Malhotra *et al.*, 2010:448). The data is then 'cleaned', which includes consistency checks, detecting any missing responses, and prescribing their treatment (Malhotra *et al.*, 2010:446).

For this study, the research data was entered by the Statistical Consultation Services of the North-West University (Potchefstroom) into version 24 of the Statistical Package for the Social Sciences (SPSS) software program. Before data analysis, the above-mentioned steps were taken into consideration and applied where applicable:

The remainder of this section describes the data analysis strategy that was followed.

6.7.1 Reporting the descriptive and inferential statistics

The purpose of data analysis is to produce information from the data that was submitted by the respondents that will help address the research problem (Malhotra *et al.*, 2010:455). The use of descriptive statistics can summarise and describe the data according to two types of measures: (1) measures of central tendency such as mean, median, and mode; and (2) measures of dispersion such as range, variance, and standard deviation (Hair *et al.*, 2013:257; McDaniel & Gates, 2010:407). Table 6-7 provides the descriptive statistical techniques used in this study.

Table 6-7: Descriptive statistical techniques used in this research study

Technique	Definition	Applied in this study's results
Mean	This refers to the average value of the distribution. All the values of a distribution of responses are summed and then divided by the number of valid responses (Hair <i>et al.</i> , 2013:268).	Table 7.3 Table 7.4 Table 7.5 Table 7.6
Percentage	A percentage is a proportion who answered a question a certain way, multiplied by 100 (Aaker <i>et al.</i> , 2011:387).	Table 7.1 Table 7.2
Frequency (number)	The number of times a scale value occurred (Kent, 1999:36).	Table 7.2
Standard deviation	The measure of dispersion calculated by subtracting the mean of the series from each value in a series, squaring each result, summing the results, dividing the sum by the number of items minus 1, and taking the square root of this value (McDaniel & Gates, 2010:357). In other words, it relates to the square root of the variance (Aaker <i>et al.</i> , 2011:686).	Table 7.3 Table 7.4 Table 7.5 Table 7.6

The mean and standard deviation were calculated for each statement measuring specifically the post usage beliefs, customer satisfaction, affective commitment, and customer citizenship

behaviour for this research study. The sample rate and sample profile were expressed as percentages, and the frequency (number) was calculated to present the sample profile.

6.7.2 Examination of scale reliability and validity

Scale reliability, or consistency in measurement (Hair *et al.*, 2013:165), is whether a scale can produce consistent results after many measurements have been taken (Shao, 2002:242). Random errors produce inconsistencies in scale measurements that may result in lower scale reliability. However, a researcher can improve scale reliability by carefully designing scaled questions (Hair *et al.*, 2013:165).

According to Shao (2002:242), scale reliability can be assessed according to three main ways of assessment, specifically test-retest, alternative forms, and internal consistency. They are discussed further.

- **Test-retest reliability:** The same test is conducted at two different times and under similar conditions to determine whether or not the scores/results are reasonably the same. The results indicate the extent to which the scales are reliable. Essentially, the greater the difference in results the more random error is present, and the inference is that when a more random error is present, the scale reliability is lowered; conversely, a smaller difference between the two results increases the scale reliability.
- **Alternative forms reliability test:** This test measures the ability of two equivalent scales to acquire reliable results from the respondents. It first involves developing two equivalent scales (scales that respondents perceive to be different but that actually measure the same content). When a researcher carries out the alternative forms reliability test, he/she administers the first scale to respondents followed by the same statements to the same respondents to be responded to on the second scale after a fortnight
- **Internal consistency reliability test:** This is where at least two measurements are taken simultaneously of the same statements, using the same scale, and the outcomes are compared to see if they are reasonably the same. There are two ways to test for internal consistency being (a) the split-half and (b) the coefficient alpha techniques. For the split-half technique, test items are split at random into two equal groups, and their measurements are examined for correlation. In this case, the higher the correlation, the more reliable the measurement is found to be since high correlation indicates that the test items are associated in some way. On the other hand, when the coefficient alpha technique (Cronbach's alpha) is used the test, items are split in many possible ways, and the degree

of correlation between the average measurements of the different groupings is examined. The closer the correlation is to a score of 1 (completely consistent), the better the internal consistency of the measurement instrument is found to be. Cronbach's alpha score should normally be at least 0.70 for reliability to be regarded as good, although above 0.60 is also regarded as acceptable (Loewenthal, 2001:12; Nunnally, 1978).

In this research study, the reliability of the constructs post-usage beliefs, customer satisfaction, affective commitment, and customer citizenship behaviour was measured by calculating their Cronbach's alpha values. A Cronbach's alpha score more than 0.70 will mean that the scale of the construct will be deemed reliable (Hair *et al.*, 2013:166). Similarly, about internal consistency, composite reliability values above 0.7 indicate good internal consistency (Abu Bakar *et al.*, 2013:48; Malhotra & Dash, 2011; Nunnally & Bernstein, 1994; Bagozzi & Yi, 1988:82).

As reliable scales aren't necessarily valid, a researcher must also be concerned about validity. Scale validity is the extent to which an instrument's scale measurement has accurately measured the underlying variable (Parasuraman *et al.*, 2007:269). In other words, scale validity assesses whether a scale has measured the item that was intended to be measured (Hair *et al.*, 2013:166; Aaker *et al.*, 2011:269). Parasuraman *et al.* (2007:269) outlines several different types of validity:

- **Content validity:** Content validity is normally assessed before data is collected in an attempt to ensure that the construct includes items covering all relevant areas (Hair *et al.*, 2013:167). It is usually carried out in the process of developing or revising scales (Hair *et al.*, 2013:167). It represents the degree to which the content of a measurement scale appears to tap into all the applicable aspects of an issue that can influence respondents' attitudes.
- **Construct validity:** It is an assessment of the nature of the underlying variable that has been measured by the scale. The construct validity can be assessed quantitatively for convergent validity by determining its correlation with prior measurements of other constructs expected to be strongly linked with the attitude, and for discriminant validity by determining its correlation with prior measurements of constructs that would not be expected to be closely tied to the attitude. Convergent validity is confirmed by strong correlations, while weak correlations in the latter case confirm discriminant validity. A scale will be said to have high construct validity only if both its convergent and discriminant validity have been confirmed.
- **Predictive validity:** This is the ability of a scale to accurately predict a future incidence (Shao, 2002:247). Predictive validity and concurrent validity are both types of criterion-

related validity but differ regarding the period when the tests are administered (Shao, 2002:247). Predictive validity looks at how well the second of the measured variables predicts the occurrence of an event in the future, whereas concurrent validity looks at the degree of correlation between two variables measured at the same point in time (Parasuraman *et al.*, 2007:269; Shao, 2002:247).

In this research, attention was given to content and construct validity. Content validity was ensured by making use of previously validated scales in designing the questionnaire (section 3.3 and section 3.4). Furthermore, the questionnaire was pilot tested as discussed in section 5.6.3.2 to ensure that matters relevant to the study are correctly measured. To assess and ensure construct validity, confirmatory factor analysis (CFA) was used. CFA confirms on a theoretical basis if the number of constructs and their loadings of indicator variables comply with what is expected (Malhotra *et al.*, 2010:893). Indicator variables are selected from theory and CFA looks to see if they load as anticipated on the expected number of constructs. Convergent and discriminant validity assessments were made as part of the CFA process.

(i) Conducting a confirmatory factor analysis (CFA)

This technique is used to validate the appropriateness of the measurement model (Malhotra *et al.*, 2010:893). It tests if measurements of a construct are consistent with the researcher's perception of the composition of that particular construct (CTI Reviews, 2016). The objective of the CFA is, therefore, to test if the data fits a hypothesised measurement model (CTI Reviews, 2016). The AMOS statistical program version 24.0 was used for the confirmatory factor analysis.

Fit indices are broadly categorised as falling into three classes namely, absolute-fit, comparative/incremental fit, and fit-adjusting for model parsimony (Brown, 2015:70). More than one fit index can be examined to determine the appropriateness of the measurement model. A combination of fit indices taken from the first two categories was considered for this purpose as shown in Table 6-8.

Table 6-8: Overview of fit indices considered

Category	Type	Definition	Recommended cut-off value
Absolute fit indices	Relative/normed chi-square (χ^2/df)	As adopted from Hair <i>et al.</i> (2014:579) the normed chi-square is "a simple ratio of χ^2 to the degrees of freedom for a model"	≤ 5.0 (Wheaton <i>et al.</i> , 1977:85)
	Root Mean Square Error of	As suggested by Hair <i>et al.</i> (2014:579) the RMSEA	< 0.08

Incremental fit-indices	Approximation (RMSEA)	“attempts to correct for the tendency of the χ^2 GOF test statistic to reject models with a large sample or a large number of observed variables”	(Hair et al., 2010; MacCallum et al 1996)
	Comparative fit index (CFI)	Hair et al. (2014:580) indicate that the CFI “is an incremental fit index that is an improved version of the normed fit index”	≥ 0.90 (Hair et al., 2010; Hu & Bentler, 1999)
	Tucker-Lewis index, also known as Non-Normed Fit Index (TLI/NNFI)	Hair et al. (2014:580) state the TLI as “a comparison of the normed chi-square values for the null and specified model, which to some degree takes into account model complexity”	≥ 0.90 (Hair et al., 2014; Hair et al 2010)

(ii) Assessment of convergent validity

Convergent validity is the extent to which indicators of a specific construct converge or have high common proportions of the variance (Hair *et al.*, 2010:662). An estimate of the relative amount of convergent validity among item measures/indicators can be made using diverse tools such as factor loadings, average variance extracted (AVE), and reliability. In instances where convergent validity is estimated to be high, the factor loadings would show that the factors do converge on a common point, called the latent factor/latent construct. Standardised factor loadings must be at least 0.5 or higher and preferably be 0.7 or higher (Hair *et al.*, 2010). The square of a standardised factor loading characterises how much variation in an item is clarified by the latent construct. The amount of the explained variation is termed the ‘variance extracted’ of the item. For example, the square of a loading of 0.71 is equal to 0.5, which means that the factor is explaining half the variation in the item. The unexplained portion is termed the error variance. Loadings of less than 0.7 can produce a variance extracted that is still considered significant. However the error variance or the unexplained portion in the measure will be greater than the explained variance (Hair *et al.*, 2010).

The AVE is the average variance of the item loadings on a construct and provides a summary indicator of convergence; AVE can be calculated as follows:

$$AVE = \frac{\sum_{i=1}^n \lambda_i^2}{n}$$

Where:

λ = standard factor loading

n = the number of items

Estimates of reliability are also used to determine the convergent validity of a construct. Coefficient alpha is often used to estimate the reliability of a construct and is computed by using a formula as is set out below. It is noteworthy that both the squared sum of factor loadings and the squared sum of the error variances for a construct appear in the formula. Factor loadings of 0.7 or higher should be used to produce readings that suggest good reliability. Lower loadings of between 0.6 and 0.7 are still acceptable, provided that the other indicators of a model's construct are good. High construct reliability confirms that internal consistency exists, meaning that the measures all consistently represent the same latent construct. The construct reliability in a measurement model can be calculated as follows:

$$CR = \frac{(\sum_{i=1}^n \lambda_i)^2}{(\sum_{i=1}^n \lambda_i)^2 + (\sum_{i=1}^n \delta_i)}$$

Where:

λ = standard factor loading

n = the number of items

δ = error variance for an item

(iii) Assessment of discriminant validity

Discriminant validity is an assessment of the degree to which a construct is really distinct from other constructs (Hair *et al.*, 2010:662). It shows how much the construct correlates with the others and the variables that exclusively represent it (Hair *et al.*, 2010:662; Gatignon, 2014:85). Discriminant validity provides evidence of the uniqueness of a construct since it assesses some phenomena which other measures do not (Hair *et al.*, 2010). To test for discriminant validity, the computed AVE values for any two constructs are compared to the square of the correlation estimates of those constructs. The former value should be greater than the squared correlation estimates as logically a latent construct should explain more of the variance in its item measures than other constructs also having those item measures can. Passing this test provides good evidence of discriminant validity (Hair *et al.*, 2010).

Furthermore, testing for discriminant validity requires that the maximum shared variance (MSV) is less than average variance extracted (AVE); average shared variance (ASV) is less than average variance extracted and maximum shared variance; the square root of the AVE for each construct needs to be larger than one absolute value of the correlations with another factor (Cooper *et al.*, 2016:157; Hair *et al.*, 2014; Fornell & Larcker, 1981:45).

6.7.3 Structural equation modelling (SEM) for assessing the structural model

Structural equation modelling is the term used for "a family of statistical models that seek to examine relationships among multiple variables" (Hair *et al.*, 2010). SEM examines the structure of interrelationships, expressed in a series of equations that illustrate the relationships between constructs involved in the analysis (Janadari *et al.*, 2016:187; Hair *et al.*, 2010). Constructs are unobservable or latent factors having multiple variables (Arneric *et al.*, 2010:195). Hair *et al.* (2010) suggests that "although SEM models can be tested in different ways, all structural equation models are distinguished by three characteristics: (1) estimation of multiple and interrelated dependence relationships (2) an ability to represent unobserved concepts in these relationships and account for measurement error in the estimation process (3) defining a model to explain the entire set of relationships". However the SEM comprises both a measurement model (CFA) and a structural model (Schreiber *et al.*, 2006:325) and also examines the possibility of relationships among the latent variables. The SEM for this study was conducted using the AMOS statistical program version 24.0.

The goodness of fit indicates how well the specified model reproduces the observed covariance matrix between the indicator items and how well its outcomes define the measurement model's validity (Hair *et al.*, 2010). An array of fit measures were interpreted for this study's purposes with good fit being indicated as follows: (1) the relative chi-square ratio should be less than 5.0 (Wheaton *et al.*, 1977); (2) the Root Mean Square Error of Approximation (RMSEA) values should be close to .06 (Hu & Bentler, 1999) or a stringent upper limit of 0.08 (Hair *et al.*, 2010); (3) the comparative fit index should be ≥ 0.90 (Hair *et al.*, 2010); while (4) the Tucker-Lewis index should also be ≥ 0.90 (Hair *et al.*, 2010).

Three principles are applicable when determining the statistical significance of a theoretical model: (1) very small chi-square test values indicate similarity between the sample covariance matrix and the model implied covariance matrix; (2) the parameter estimates for each of the paths in the model that are known as critical values (t values) are considered to be statistically significant at the 0.05 level when the resultant t-value is more than 1.96. The t-values are calculated by dividing the unstandardized parameter estimates by their respective standard errors; and (3) a researcher must take into consideration the magnitude as well as the direction of parameter estimates to ascertain their consistency with the applicable theory (Teo *et al.*, 2013:14).

The last step of the marketing research process remains to be discussed briefly in the next section.

6.8 STEP 6: REPORT PREPARATION AND PRESENTATION

A written report must be produced that covers steps 1 to 6 so that the entire marketing research project is documented. The included steps are the specific research questions identified; a description of the approach; the research design formulation; the data collection procedures; the data analysis procedures used; and a presentation of the research results together with the major findings (Malhotra *et al.*, 2010:43) that will be addressed next in Chapter 7. After that Chapter 8 will provide the researcher's conclusions and recommendations.

6.9 SUMMARY

The empirical research methodology used has been presented in this Chapter by discussing each of the six steps in the marketing research process alluded to in the previous paragraph in sufficient detail. The methodology process for each step was elaborated on, and sufficient motivation was given for the approaches that were selected for use. The following Chapter (Chapter 7) presents the results and major findings obtained from the field study.

CHAPTER 7

DISCUSSION AND INTERPRETATION OF RESULTS

7.1 INTRODUCTION

The research methodology that was followed in this study has been comprehensively described in Chapter 6. In Chapter 7 the results acquired from the field survey are reported. The sample realisation rate is addressed first, followed by an analysis of the demographic and patronage profiles of the participating respondents. Once the descriptive results for all sections in the questionnaire have been reported, the measurement sets used to measure the main constructs are assessed for their reliability and validity. Finally, this chapter discusses the findings of the structural equation modelling (SEM) analysis and concludes on the hypotheses that were formulated for the purpose of this study.

7.2 RESPONSE REALISATION RATE

This study was carried out amongst males and females in Gauteng, who are using at least one mobile banking app of one of the five main retail banks in South Africa (FNB, ABSA, Standard Bank, Capitec Bank, Nedbank). As no sample frame could be obtained, the researcher resorted to the use of non-probability convenience sampling. A sample size of 500 respondents in the Gauteng region was used. Initially, the questionnaire was distributed to respondents through email. However, the researcher was unable to obtain enough responses using this method and had to resort to an alternative data collection method as well, involving the physical distribution of the self-administered questionnaire into the field in Gauteng.

A summary of the total number of respondents that were approached (including the respondents on the Consulta database e-mailed and other potential respondents in Gauteng) and the final realisation rate that was achieved is presented in Table 7-1.

Table 7-1: Response realisation rate

Total number of respondents contacted to complete the survey	4 251
Respondent refusals	3 718
Number of completed questionnaires	533
Response rate: $\left(\frac{533}{4\,251} \times 100\right)$	12.54%

Table 7-1 shows that a total of 4 251 respondents were contacted to participate in the field study. However, only 533 completed questionnaires were obtained. There were no questionnaires rejected due to incomplete questions. Hence, a response rate of 12.54% was achieved. The realised sample of 533 respondents does nevertheless fall within the minimum sample range recommended by Hair *et al.* (2010) for SEM analysis purposes with several second and first order constructs. These 533 completed questionnaires were therefore considered to be acceptable for this study's purpose.

The following sections present a summary of the results acquired from the completed questionnaires.

7.3 DEMOGRAPHIC AND PATRONAGE PROFILE

Constructing a demographic and patronage profile of respondents that participated in the study is essential as it assists in attaining an inclusive understanding of the research results. As such, the respondents' demographic and patronage information are reported in this section. Table 7-2 provides an indication of the counts (n) as well as percentages (%) (n/533) that was acquired for the demographic and patronage variables measured, namely being an electronic banking user, gender, age, employment status, marital status, ethnicity, all banks whose mobile banking app respondents use to carry out banking transactions, one bank's mobile banking app respondents use most often to carry out banking transactions, and types of transactions respondents perform with the mobile banking app they use most often.

Table 7-2: Demographic and patronage profile

Demographic and patronage variables	Count (N)	Percentage (%)
Screening question		
Are you currently making use of one or more mobile banking apps to carry out your banking transactions? (For example, paying bills.)	533	100.0
Gender		
Male	297	55.7
Female	235	44.1
(Missing value)	1	0.2

Table7-2: Demographic and patronage profile (cont.)

Demographic and patronage variables	Count (N)	Percentage (%)
Age		
18 to 26 years	60	11.3
27 to 35 years	128	24.0
36 to 47 years	150	28.1
48 to 66 years	158	29.6
67 years and older	36	6.8
(Missing value)	1	0.2
Employment status		
Self-employed	75	14.1
Full-time employed	379	71.1
Part-time employed	28	5.3
Full-time student	7	1.3
Housewife or Househusband	2	0.4
Retired	28	5.3
Unemployed	12	2.3
Other:	0	0.0
(Missing value)	2	0.4
Marital status		
Single	134	25.1
Married	280	52.5
Living with a partner	72	13.5
Divorced or separated	36	6.8
Widowed	7	1.3
(Missing value)	4	0.8
Ethnicity		
White	266	49.9
Black	176	33.0
Coloured	48	9.0
Indian	27	5.1
Asian	4	0.8
Other:	1	0.2
(Missing value)	11	2.1

Table 7-2: Demographic and patronage profile (cont.)

Demographic and patronage variables	Count (N)	Percentage (%)
All banks whose mobile banking app respondents use to carry out banking transactions*		
ABSA	227	42.6
(Missing value)	306	57.4
Nedbank	79	14.8
(Missing value)	454	85.2
FNB	227	42.6
(Missing value)	306	57.4
Capitec Bank	127	23.8
(Missing value)	406	76.2
Standard Bank	104	19.5
(Missing value)	429	80.5
Other:	4	0.8
(Missing value)	529	99.2
African Bank	1	0.2
Investec	2	0.4
Old Mutual	1	0.2
One bank's mobile banking app respondents used most often to carry out banking transactions		
ABSA	180	33.8
Nedbank	32	6.0
FNB	165	31.0
Capitec Bank	85	15.9
Standard Bank	68	12.8
Other:	3	0.6
Types of transactions respondents perform with the mobile banking app they use most often*		
Transfer money	488	91.6
(Missing value)	45	8.4
Pay beneficiaries	445	83.5
(Missing value)	88	16.5
Pay bills	387	72.6
(Missing value)	146	27.4
Pay fines	139	26.1
(Missing value)	394	73.9
Buy airtime	370	69.4
(Missing value)	163	30.6

Table 7-2: Demographic and patronage profile (cont.)

Demographic and patronage variables	Count (N)	Percentage (%)
Types of transactions respondents perform with the mobile banking app they use most often*		
Buy electricity	123	23.1
(Missing value)	410	76.9
Other:**	35	6.6
(Missing value)	498	93.4
Lotto	5	0.9
Check balances	12	2.3
International banking	1	0.2
Unit Trusts	1	0.2
Download to Pastel accounting	1	0.2
Share Trading	1	0.2
Change limits for debit card	1	0.2
Cash send transaction	5	0.9
Invest and buy online	3	0.6
View transactions	1	0.2
Debit orders	1	0.2
e-Wallet	1	0.2
Management of licences and finance leases	2	0.4

*Respondents were permitted to indicate more than one option

**Some respondents mentioned more than one other type of transaction

Table 7-2 shows that all the respondents who participated in this study are currently making use of one or more mobile banking app to carry out their banking transactions. The respondents overall appear to be registered for more than one type of mobile banking app, as indicated by their responses to question 13 (All banks whose mobile banking app respondents use to carry out banking transactions). The ABSA and FNB mobile banking app options received the highest number of responses (42.6% in both instances), reflecting the popularity of these options. Capitec Bank received the third highest responses (23.8%), followed by Standard Bank (19.5%), Nedbank (14.8%) and other banks (0.8%), such as African Bank, Investec and Old Mutual. One of the respondents using an Investec app is also making use of an FNB app, while the other respondent using an Investec app, also makes use of a Nedbank app. The respondent using the Old Mutual app is using an FNB app as well, and the respondent using the African Bank app is using both the ABSA and Standard Bank apps as well. These findings, therefore, indicate that all the respondents who participated in the study are using at least one mobile banking app of one of

the five main retail banks in South Africa (ABSA, Standard Bank, Nedbank, FNB and Capitec). Furthermore, it seems that the ABSA and FNB apps are used most often to carry out banking transactions, with a response rate of 33.8% and 31% respectively, followed by Capitec Bank (15.9%), Standard Bank (12.8%), Nedbank (6%) and other banks (0.6%). The types of transactions respondents perform using these apps include transfer money (91.6%), pay beneficiaries (83.5%), pay bills (72.6%), buy airtime (69.4%), pay fines (26.1%), buy electricity (23.1%) and other transactions (6.6%) such as check balances (2.3%), lotto (0.9%), cash send transaction (0.9%), invest and buy online (0.6%), management of licences and finance leases (0.4%), international banking (0.2%), unit trusts (0.2%), download to Pastel Accounting (0.2%), share trading (0.2%), change limits for debit card (0.2%), view transactions (0.2%), debit orders (0.2%) and e-Wallet (0.2%).

Concerning the gender of the respondents, more males (55.7%) than females (44.1%) took part in this study. The majority of respondents who participated in the study are between the ages 27 years and 66 years and are almost equally divided between the age groups 27-35 years (24%), 36-47 years (28.1%) and 48-66 years (29.6%). The employment status of the respondents reflected that most of them were employed full time (71.1%) and self-employed (14.1%), representing 85.2% of the sample population. Additionally, the majority of the respondents who participated in this study were either married (52.5%) or single (25.1%). About ethnicity, the majority of the respondents who participated in the study are from the white (49.9%) and black (33%) racial groups. Also concerning ethnicity, one respondent selected the “other” option (0.2%) but unfortunately did not specify race.

Accordingly, considering the findings presented in Table 7-2, it is evident that while a sample size of 100 respondents per main bank (split equally among gender) was proposed, it was not possible to fill these quotas with the convenience sampling approach followed. However, as indicated in Table 7-2, the research findings are still representative of the views of both male and female respondents who are making use of mobile banking apps from the five main retail banks in South Africa. Hence, the following main findings can be derived from Table 7-2:

- | | |
|----------------|--|
| Main finding 1 | The respondents who participated in this study are males and females in Gauteng, who are using at least one mobile banking app of one of the five main retail banks in South Africa. |
| Main finding 2 | The ABSA and FNB mobile banking apps are the most popular type of options and are also used most often to carry out banking transactions. |

Main finding 3	Most of the respondents that participated in this study are between the ages of 27-66 years, full time or self-employed, married or single and from a white or a black racial group.
Main finding 4	The types of transactions most often executed on a mobile banking app are transferring money and paying beneficiaries.

7.4 POST-USAGE BELIEFS, ATTITUDES AND CITIZENSHIP BEHAVIOUR

The principal aim of sections 1, 2 and 3 respectively of the questionnaire was to get information from the respondents concerning the post-usage beliefs, attitudes and citizenship behaviour constructs.

7.4.1 Post-usage beliefs

The aim of section 1 was to measure the post-usage belief constructs. The questionnaire had nineteen individual statements measuring respondents' levels of post-usage beliefs. The respondents' level of agreement with each statement was ascertained by using a five-point unlabelled Likert scale with 1 representing strongly disagree and progressing to 5 representing strongly agree. Table 7-3 shows the mean, as well as standard deviation (SD), realised for each statement that measured the different types of post-usage beliefs (PB).

Table 7-3: Respondents' level of agreement with post-usage beliefs

Item & Statement	Mean	SD
Performance expectancy		
PB1: This mobile banking app is useful in my daily life.	4.44	0.78
PB2: Using this mobile banking app helps me to carry out my banking transactions more quickly.	4.46	0.78
PB3: Using this mobile banking app increases my productivity	4.31	0.84
PB4: Using this mobile banking app assists me in carrying out my banking transactions more efficiently.	4.36	0.83
Effort expectancy		
PB5: It is easy to use this mobile banking app.	4.37	0.76
PB6: Learning to use this mobile banking app is easy for me.	4.37	0.73
PB7: It is easy for me to become skillful at using this mobile banking app.	4.36	0.72
Facilitating conditions		
PB8: I have the necessary resources (such as money or data) to use this mobile banking app.	4.09	0.96
PB9: I have the knowledge necessary to use this mobile banking app.	4.39	0.71

Chapter 7: Discussion and interpretation of results

PB10: Assistance is available when I experience difficulties in using this mobile banking app (friends/family/banking personnel etc.).	3.83	1.04
Social influence		
PB11: People, who influence my behaviour in general, think that I should use this mobile banking app.	3.76	1.11
PB12: People who are important to me think that I should use this mobile banking app.	3.76	1.13
PB13: People who are in my social circle think that I should use this mobile banking app.	3.71	1.14
Hedonic motivation		
PB14: Using this mobile banking app is fun	3.89	1.05
PB15: Using this mobile banking app is enjoyable.	3.96	1.02
PB16: Using this mobile banking app is entertaining.	3.74	1.13
Trust		
PB17: I can rely on the technology of this mobile banking app to execute my transactions reliably.	4.19	0.86
PB18: Technology related errors in using this mobile banking app are quite rare.	3.91	1.03
PB19: The mobile banking app technology I use is very reliable.	4.13	0.86

Note: PB = Post usage beliefs; SD = Standard deviation

It appears from Table 7-3 that regarding performance expectancy, the respondents agreed most with statement PB2 “using this mobile banking app helps me to carry out my banking transactions more quickly” (mean = 4.46; SD = 0.78) and agreed least with the statement PB3 “using this mobile banking app increases my productivity” (mean = 4.31; SD = 0.84).

The main findings regarding the performance expectancy beliefs of the respondents concerning the mobile banking app they use most often can be reported as follows:

- | | |
|----------------|--|
| Main finding 5 | The respondents agreed most that the mobile banking app helps them to carry out their banking transactions more quickly. |
| Main finding 6 | The respondents agreed least with the statement that using the mobile banking app increases their productivity. |

About effort expectancy, the respondents agreed most with statements PB6 “learning to use this mobile banking app is easy for me” (mean = 4.37; SD = 0.73) and PB5 “it is easy to use this mobile banking app” (mean = 4.37; SD = 0.76). The respondents agreed least with statement

PB7 “it is easy for me to become skilful at using this mobile banking app” (mean = 4.36; SD = 0.72).

The main findings regarding the effort expectancy beliefs of the respondents concerning the mobile banking app they use most often can be reported as follows:

- | | |
|----------------|---|
| Main finding 7 | The respondents agreed most that learning to use the mobile banking app was easy for them and it is easy to use the mobile banking app. |
| Main finding 8 | The respondents agreed least that it is easy for them to become skilful at using the mobile banking app. |

With respect to facilitating conditions the respondents agreed most with the statement PB9 “I have the knowledge necessary to use this mobile banking app” (mean = 4.39; SD = 0.71) and agreed least with statement PB10 “assistance is available when I experience difficulties in using this mobile banking app (friends/family/banking personnel etc.)” (mean = 3.83; SD = 1.04).

The main findings regarding the facilitating conditions beliefs of the respondents concerning the mobile banking app they use most often can be reported as follows:

- | | |
|-----------------|---|
| Main finding 9 | The respondents agreed most with the statement that they have the knowledge necessary to use the mobile banking app. |
| Main finding 10 | The respondents agreed least that assistance is available when they experienced difficulties in using the mobile banking app (friends/family/banking personnel etc.). |

Regarding social influence the respondents agreed most with statements, PB11 “people who influence my behaviour in general, think that I should use this mobile banking app” (mean = 3.76; SD = 1.11) and PB12 “people who are important to me think that I should use this mobile banking app” (mean = 3.76; SD = 1.13). They furthermore agreed least with statement PB13 “people who are in my social circle think that I should use this mobile banking app” (mean = 3.71; SD = 1.14).

The main findings regarding the social influence beliefs of the respondents concerning the mobile banking app they use most often can be reported as follows:

Main finding 11 The respondents agreed most that people who influence their behaviour in general think they should use the mobile banking app, and people who are important to them think that they should use the mobile banking app.

Main finding 12 The respondents agreed least that people who are in their social circle think that they should use the mobile banking app.

Concerning hedonic motivation, the respondents agreed most with statement PB15 “using this mobile banking app is enjoyable” (mean = 3.96; SD = 1.02) and least with statement PB16 “using this mobile banking app is entertaining” (mean = 3.74; SD = 1.13).

The main findings regarding the hedonic motivation beliefs of the respondents concerning the mobile banking app they use most often can be reported as follows:

Main finding 13 The respondents agreed most that using the mobile banking app is enjoyable.

Main finding 14 The respondents agreed least that using the mobile banking app is entertaining.

Regarding trust, the respondents agreed most with statement PB17 “I can rely on the technology of this mobile banking app to execute my transactions reliably” (mean = 4.19; SD = 0.86) and least with statement PB18 “technology-related errors in using this mobile banking app are quite rare” (mean = 3.91; SD = 1.03).

The main findings regarding the trust beliefs of the respondents concerning the mobile banking app they use most often can be reported as follows:

Main finding 15 The respondents agreed most that they could rely on the technology of the mobile banking app to execute their transactions reliably.

Main finding 16 The respondents agreed least that technology-related errors in using the mobile banking app are quite rare.

7.4.2 Attitudes

The aim of section 2 of the questionnaire was to measure the attitude constructs being customer satisfaction and affective commitment. The questionnaire consisted of six individual statements

measuring attitudes (three individual statements for customer satisfaction and three individual statements for affective commitment). The respondents' level of agreement with each statement was ascertained by using a five-point unlabelled Likert scale with 1 representing strongly disagree and progressing to 5 representing strongly agree. Table 7-4 shows the mean as well as the standard deviation realised for each statement measuring customer satisfaction (CS).

Table 7-4: Respondents' level of customer satisfaction

Item & Statement	Mean	SD
CS1: I am pleased using this mobile banking app.	4.35	0.90
CS2: I am content using this mobile banking app.	4.29	0.91
CS3: I am satisfied using this mobile banking app.	4.32	0.91

Note: CS = Customer satisfaction; SD = Standard deviation

It seems from Table 7-4 that the respondents agreed most with statement CS1 "I am pleased using this mobile banking app" (mean = 4.35; SD = 0.90). The respondents agreed least with statement CS2 "I am content using this mobile banking app" (mean = 4.29; SD = 0.91).

The subsequent main findings can be stated about the respondents' level of customer satisfaction towards the mobile banking app they use most often:

- Main finding 17 The respondents most agreed to feel pleased about using the mobile banking app.
- Main finding 18 The respondents least agreed feeling content about using the mobile banking app.

Furthermore, the respondents' level of affective commitment was measured with three individual statements. The mean and standard deviation realised for each statement measuring affective commitment (COMM) are presented in Table 7-5.

Table 7-5: Respondents' level of affective commitment

Item & Statement	Mean	SD
COMM1: It is easy to become attached to this mobile banking app.	4.13	1.04
COMM2: This mobile banking app has a great deal of attraction for me.	4.06	1.02
COMM3: This mobile banking app has a great deal of personal meaning for me.	3.85	1.18

Note: COMM = Affective commitment; SD = Standard deviation

It is apparent from Table 7-5 that the respondents most agreed with statement COMM1 “it is easy to become attached to this mobile banking app” (mean = 4.13; SD = 1.04). The respondents least agreed with statement COMM3 “this mobile banking app has a great deal of personal meaning for me” (mean = 3.85; SD = 1.18).

Therefore, main findings about the respondents’ level of affective commitment toward the mobile banking app they use most often can be reported as follows:

Main finding 19 The respondents most agreed that it was easy to become attached to the mobile banking app.

Main finding 20 The respondents least agreed that the mobile banking app has a great deal of personal meaning for them.

7.4.3 Citizenship behaviour

It was the intention of section 3 of the questionnaire to measure the citizenship behaviour constructs. The questionnaire had seven individual statements measuring respondents’ citizenship behaviours. The respondents’ level of agreement with each statement was ascertained by using a five-point unlabelled Likert scale with 1 representing strongly disagree and 5 representing strongly agree.

The mean and standard deviation recognised for each statement measuring citizenship behaviour (CB) is presented in Table 7-6.

Table 7-6: Respondents’ level of citizenship behaviour

Item & Statement	Mean	SD
Helping behaviour		
CB1: I assist other customers if they need my help in using this type of mobile banking app.	3.29	1.35
CB2: I help other customers if they seem to have problems in using this type of mobile banking app.	3.25	1.34
CB3: I teach other customers to use this type of mobile banking app correctly.	3.19	1.30
CB4: I give advice to other customers regarding this type of mobile banking app.	3.37	1.27
Advocacy		

Chapter 7: Discussion and interpretation of results

CB5: I say positive things about this type of mobile banking app to other customers	3.86	1.03
CB6: I recommend this type of mobile banking app to other customers.	3.95	1.00
CB7: I encourage friends and relatives to use this type of mobile banking app.	3.92	1.05

Note: CB = Customer citizenship behaviour; SD = Standard deviation

With respect to helping behaviour it is evident from Table 7-6 that the respondents agreed most with statement CB4 “I give advice to other customers regarding this type of mobile banking app” (mean = 3.37; SD = 1.27) and agreed least with statement CB3 “I teach other customers to use this type of mobile banking app correctly” (mean = 3.19; SD = 1.30).

Hence, the following main findings can be reported regarding the respondents’ helping behaviours towards other customers, interested in the mobile banking app they use most often:

- Main finding 21 The respondents most agreed that they advise other customers regarding the mobile banking app.
- Main finding 22 The respondents least agreed that they teach other customers to use the mobile banking app correctly.

Regarding advocacy, it is evident from Table 7-6 that the respondents most agreed with statement CB6 “I recommend this type of mobile banking app to other customers” (mean = 3.95; SD = 1.00) and agreed least with statement CB5 “I say positive things about this type of mobile banking app to other customers” (mean = 3.86; SD = 1.03).

Therefore, the main findings regarding the respondents’ advocacy behaviours towards other customers, about the mobile banking app they use most often can be reported as follows:

- Main finding 23 The respondents agreed most that they recommend the mobile banking app to other customers.
- Main finding 24 The respondents agreed least that they say positive things about the mobile banking app to other customers.

7.5 RELIABILITY AND VALIDITY ASSESSMENT

To confirm that the data set was valid and reliable and thereby suitable for the Structural Equation Modelling analysis, both reliability testing and a Confirmatory Factor Analysis (CFA) were carried out.

7.5.1 Reliability test

Reliability concerns the degree to which an instrument (for example a questionnaire) is consistent and produces the same outcomes when trials are repeated (Andrew *et al.*, 2011:202). Internal consistency reliability is usually measured by determining Cronbach's alpha estimates that take into account variance attributable to subjects and the interactions among these subjects (Cortina, 1993:98; Cronbach, 1951). Cronbach's alpha fundamentally measures the correlation among item responses in a questionnaire directed toward a set of items intended to measure the same construct. When Cronbach's alpha values are high, the correlation between the relevant questionnaire items is high (Andrew *et al.*, 2011:202). Hence, Cronbach's alpha values were ascertained to measure the reliability of the results attained for this study.

Cronbach's alpha values should normally be at least 0.70 for reliability to be regarded as good, although above 0.60 is also regarded as acceptable (Loewenthal, 2001:12; Nunnally, 1978). The results shown in Table 7-7 indicate that the constructs' performance expectancy, social influence, hedonic motivation, affective commitment, customer satisfaction, help, advocacy, effort expectancy and competence trust revealed good internal consistency and reliability as they were all measured at above 0.80. Facilitating conditions displays an internal consistency measurement of 0.69 which is still acceptable.

Table 7-7: Cronbach's alpha values

Construct	Cronbach's alpha values
Performance expectancy	0.92
Effort expectancy	0.90
Facilitating conditions	0.69
Competence trust	0.85
Social influence	0.96
Hedonic motivation	0.95
Affective commitment	0.92
Customer satisfaction	0.93
Help	0.96
Advocacy	0.93

Main finding 25 All the measurement scales measuring the constructs performance expectancy, social influence, hedonic motivation, affective commitment, customer satisfaction, help, advocacy, effort expectancy, competence trust, and facilitating conditions generally reveal acceptable to good internal consistency and can be regarded as reliable.

7.5.2 Confirmatory factor analysis (CFA)

To evaluate the measurement model properties applied to the latent constructs of the theoretical model, a Confirmatory Factor Analysis was done. Performance expectancy (PE), social influence (SI), hedonic motivation (HM), affective commitment (AC), customer satisfaction (CS), help (H), advocacy (A), effort expectancy (EE), competence trust (CT) and facilitating conditions (FC) were included in the measurement model in order to establish their validity.

Furthermore, as mentioned in Chapter 1, section 1.4.3, it was the intention of this study to examine two second-order factors that may contribute to a parsimonious model. The first second-order factor concerns post-usage beliefs (PB) relating to the various types of beliefs explored in this study. The other second-order factor is customer citizenship behaviour (CCB), relating to the helping and advocacy dimensions previously associated with customer citizenship behaviours. Hence, the CFA analysis explored an option that excluded the second order factors as well as an option that included the two-second order factors. The findings assisted in reaching an informed decision on the suitability of including post-usage beliefs and customer citizenship behaviour as higher order factors in the proposed model.

7.5.2.1 Model fit

The fit statistics that were determined by the measurement model that excluded the second order factors are presented in Table 7-8.

Table 7-8: Fit statistics for measurement model that excludes two second-order factors

Model	χ^2	df	χ^2/df or CMIN/df	TLI	CFI	RMSEA
	1362.253	419	3.25	0.93	0.95	0.065
Suggested value			< 5.00	> 0.90	> 0.90	< 0.08

Note: χ^2 = Chi-square; df = Degrees of freedom; TLI = Tucker-Lewis index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation

Table 7-8 indicates that the chi-square/degrees of freedom (χ^2/df) ratio is 3.25 which is less than the recommended cut-off value of 5.00 (Wheaton *et al.*, 1977:85). Being a most fundamental model fit test, the chi-square is the discrepancy function termed CMIN in the AMOS program (Westland, 2015:54). Other model fit tests included the Tucker-Lewis index (TLI), comparative fit index (CFI), and Root Mean Square Error of Approximation (RMSEA) (Hair *et al.*, 2010). Besides the (χ^2/df), the RMSEA is an absolute fit index which in Table 7-8 is listed as 0.065, that is less than the cut-off value of 0.08 (Hair *et al.*, 2010; MacCallum *et al.*, 1996). The TLI value (0.93) is slightly lower than the CFI value (0.95). Both these values, however, are greater than 0.90, the recommended cut-off value (Hair *et al.*, 2014; Hu & Bentler, 1999).

As a result, the main finding ensuing from the measurement model fit statistics is as follows:

Main finding 26 The confirmatory factor analysis fit statistics calculated for the measurement model that excludes the two second-order factors confirm that an adequate model fit was realised.

The fit statistics that were determined by the measurement model that included the two second-order factors are presented in Table 7-9.

Table 7-9: Fit statistics for measurement model that includes two second-order factors

Model	χ^2	df	χ^2/df or CMIN/df	TLI	CFI	RMSEA
	1775.201	450	3.95	0.91	0.93	0.074
Suggested value			< 5.00	> 0.90	> 0.90	< 0.08

Note: χ^2 = Chi-square; df = Degrees of freedom; TLI = Tucker-Lewis index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation

Secondly, the confirmatory factor analysis results that include the two second-order factors reflect a chi-square/degrees of freedom (χ^2/df) ratio of 3.95 which is less than the maximum cut-off value of 5.00 (Wheaton *et al.*, 1977:85). The TLI (0.91), as well as the CFI (0.93) values, are greater than the suggested threshold of 0.90 (Hair *et al.*, 2014; Hu & Bentler, 1999). Also, the RMSEA of 0.074 is less than the cut-off value of 0.08 (MacCallum *et al.*, 1996; Hair *et al.*, 2014).

Therefore, the main finding from the measurement model fit statistics that included the two second-order factors are as follows:

Main finding 27 The confirmatory factor analysis fit statistics calculated for the measurement model that includes the two second-order factors confirms that an adequate model fit was attained.

7.5.2.2 Convergent validity

The convergent validity of the measurement model that excluded the two second-order factors was examined first. Table 7-10 indicates the standardised factor loadings that were determined for the measurement items, standard error (SE) of effect sizes as well as the significance (p-value) for each statement.

Table 7-10: Standardised factor loadings, standard errors and p-values of measurement model that excludes the two second-order factors

Latent variable	Items	Standardised factor loadings	S.E.	p-value*
Performance expectancy	PB1	0.82	0.00	0.001
	PB2	0.90	0.04	0.001
	PB3	0.88	0.05	0.001
	PB4	0.87	0.05	0.001
Effort expectancy	PB5	0.85	0.00	0.001
	PB6	0.87	0.04	0.001
	PB7	0.87	0.04	0.001
Facilitating conditions	PB8	0.63	0.00	0.001
	PB9	0.82	0.07	0.001
	PB10	0.58	0.09	0.001
Social influence	PB11	0.94	0.00	0.001
	PB12	0.96	0.02	0.001
	PB13	0.93	0.03	0.001
Hedonic motivation	PB14	0.94	0.00	0.001
	PB15	0.92	0.02	0.001
	PB16	0.91	0.03	0.001
Trust	PB17	0.87	0.00	0.001
	PB18	0.70	0.05	0.001
	PB19	0.88	0.04	0.001
Customer satisfaction	CS1	0.90	0.00	0.001
	CS2	0.90	0.03	0.001
	CS3	0.91	0.03	0.001

Chapter 7: Discussion and interpretation of results

Affective commitment	COMM1	0.88	0.00	0.001
	COMM2	0.93	0.03	0.001
	COMM3	0.89	0.04	0.001
Help	CB1	0.94	0.00	0.001
	CB2	0.96	0.02	0.001
	CB3	0.94	0.02	0.001
	CB4	0.86	0.03	0.001
Advocacy	CB5	0.90	0.00	0.001
	CB6	0.94	0.03	0.001
	CB7	0.89	0.03	0.001

*Note: $p < 0.001$; PB = Post-usage beliefs; CS = Customer satisfaction; COMM = Affective commitment; CB = customer citizenship behaviour; SE = Standard Error

About convergent validity, standardised factor loadings being parameter estimates must exceed 0.5 and be statistically significant (Abu Bakar *et al.*, 2013:48; Hair *et al.*, 2014:632). In Table 7-10 it is apparent that all standardised factor loadings exceed 0.5 (Hair *et al.*, 2014:632), are positive and loaded significantly onto their corresponding constructs ($p < 0.001$), Therefore all factor loadings presented in Table 7-10 were retained in the model.

Main finding 28 The standardised factor loadings of the measurement model that excludes the two second-order factors indicate that all the measurement items loaded significantly on their matching factors and can be retained in the model.

Also, Table 7-11 indicates that the composite reliability (CR) value for each latent variable is ranging between 0.72 and 0.96. Composite reliability that exceeds 0.6 suggests acceptable internal consistency, while estimates greater than 0.7 can be considered as good (Abu Bakar *et al.*, 2013:48; Malhotra & Dash, 2011; Nunnally & Bernstein, 1994; Bagozzi & Yi, 1988:82).

In Table 7-11 all the composite reliability values are over 0.7 and thus, indicate good internal consistency.

Main finding 29 The composite reliability values of the measurement model that excludes the two second-order factors indicated good internal consistency of the respective latent variables.

Furthermore, Table 7-11 shows that the average variance extracted (AVE) values fall within a range from 0.47 to 0.88. These AVE values measure the amount of variance exhibited by a set of items in a scale relative to measurement error (Netemeyer *et al.*, 2003:153) All the AVE values surpass the recommended criterion of 0.5, except the AVE value for facilitating conditions reflecting a value of 0.47 (Fornell & Larcker, 1981:45). Therefore, based on these findings as well as those from the factor loadings and composite reliabilities, it can be established that the latent variables of affective commitment, performance expectancy, social influence, trust, customer satisfaction, effort expectancy, hedonic motivation, help and advocacy have reliability and convergent validity. Owing to the low AVE value of facilitating conditions, the convergent validity of this factor could not be confirmed.

Main finding 30 Only nine of the ten constructs of the measurement model that excludes the two second-order factors (affective commitment, performance expectancy, social influence, trust, customer satisfaction, effort expectancy, hedonic motivation, help, and advocacy) have convergent validity.

Table 7-11: Test of composite reliability and validity for measurement model that excludes two second-order factors

Variable	CR	AVE	MSV	ASV
Affective commitment	0.93	0.81	0.60	0.43
Performance expectancy	0.92	0.75	0.58	0.42
Social influence	0.96	0.88	0.49	0.28
Trust	0.86	0.67	0.65	0.45
Customer satisfaction	0.93	0.81	0.60	0.40
Effort expectancy	0.90	0.74	0.82	0.42
Facilitating conditions	0.72	0.47	0.82	0.43
Hedonic motivation	0.95	0.86	0.58	0.40
Help	0.96	0.86	0.45	0.22
Advocacy	0.94	0.83	0.46	0.38
Recommended value	> 0.60	> 0.50	MSV<AVE	ASV<MSV

Note: CR = Composite reliability; AVE = Average variance extracted; MSV = Maximum shared variance; ASV = Average shared variance

Table 7-12 further provides a summary of the standardised factor loadings, standard error (SE) of effect sizes as well as the respective p-values, as obtained from the measurement model that includes the two second-order factors.

Table 7-12: Standardised factor loadings, standard errors and p-values of measurement model that includes the two second-order factors

Latent variable	Items	Standardised factor loadings	S.E.	p-value*
Post-usage beliefs	PB-PE	0.85	0.00	0.001
	PB-EE	0.86	0.06	0.001
	PB-FC	0.91	0.08	0.001
	PB-SI	0.63	0.09	0.001
	PB-TRUST	0.88	0.07	0.001
	PB-HM	0.78	0.09	0.001
Customer citizenship behaviour	CCB-Help	0.69	0.00	0.001
	CCB-ADV	0.97	0.07	0.001
Performance expectancy	PB1	0.82	0.00	0.001
	PB2	0.90	0.04	0.001
	PB3	0.88	0.05	0.001
	PB4	0.87	0.05	0.001
Effort expectancy	PB5	0.86	0.00	0.001
	PB6	0.87	0.04	0.001
	PB7	0.86	0.04	0.001
Facilitating conditions	PB8	0.57	0.00	0.001
	PB9	0.76	0.08	0.001
	PB10	0.66	0.11	0.001
Social influence	PB11	0.93	0.00	0.001
	PB12	0.96	0.02	0.001
	PB13	0.92	0.03	0.001
Hedonic motivation	PB14	0.94	0.00	0.001
	PB15	0.93	0.02	0.001
	PB16	0.90	0.03	0.001
Trust	PB17	0.87	0.00	0.001
	PB18	0.70	0.05	0.001
	PB19	0.88	0.04	0.001
Customer satisfaction	CS1	0.90	0.00	0.001
	CS2	0.90	0.03	0.001
	CS3	0.91	0.03	0.001
Affective commitment	COMM1	0.88	0.00	0.001
	COMM2	0.94	0.03	0.001
	COMM3	0.88	0.04	0.001
Help	CB1	0.94	0.00	0.001

	CB2	0.96	0.02	0.001
	CB3	0.94	0.02	0.001
	CB4	0.86	0.03	0.001
Advocacy	CB5	0.90	0.00	0.001
	CB6	0.94	0.03	0.001
	CB7	0.89	0.03	0.001

*Note: $p < 0.001$; PB = Post-usage beliefs; CS = Customer satisfaction; COMM = Affective commitment; CB = Customer citizenship behaviour; SE = Standard Error

From Table 7-12 it is evident that all standardised factor loadings exceed 0.5 and are statistically significant at $p < 0.001$ (Hair *et al.*, 2014:632) hence showing acceptable loadings.

Main finding 31 All standardised factor loadings of the measurement model that includes the two second-order factors were retained as they exceed 0.5 and are statistically significant.

Table 7-13 also shows that the composite reliability values for each latent variable (that includes the two second-order factors) range from 0.83 to 0.93. These values are all above 0.6 and therefore indicate good internal consistency (Abu Bakar *et al.*, 2013:48; Malhotra & Dash, 2011; Nunnally & Bernstein, 1994; Bagozzi & Yi, 1988:82).

Main finding 32 The composite reliability values of the measurement model that includes the two second-order factors indicated good internal consistency of the respective latent variables.

Furthermore, as indicated in Table 7-13, the average variance extracted (AVE) values range from 0.68 to 0.81, and all surpassed the recommended criterion of 0.50 (Fornell & Larcker, 1981:45). Consequently, based on these findings as well as those from the factor loadings and composite reliabilities, it is recognised that the latent variables of customer citizenship behaviour, customer satisfaction, affective commitment and post-usage beliefs all have convergent validity.

Main finding 33 All four constructs of the measurement model that includes the two second-order factors (customer citizenship behaviour, customer satisfaction, affective commitment, and post-usage beliefs) have strong convergent validity.

Table 7-13: Test of composite reliability and validity for measurement model that includes two second-order factors

VARIABLE	CR	AVE	MSV	ASV
Customer citizenship behaviour	0.83	0.71	0.58	0.48
Customer satisfaction	0.93	0.81	0.64	0.54
Affective commitment	0.93	0.81	0.62	0.57
Post-usage beliefs	0.93	0.68	0.64	0.61
Recommended value	> 0.60	> 0.50	MSV<AVE	ASV<MSV

Note: CR = Composite reliability; AVE = Average variance extracted; MSV = Maximum shared variance; ASV = Average shared variance

7.5.2.3 Discriminant validity

In this study, discriminant validity was verified as an aid to conclude whether the constructs in the measurement model indeed differed from one another. Discriminant validity confirms that a construct measure is empirically unique and characterises occurrences of interest not captured by other measures (Henseler *et al.*, 2015:116; Hair *et al.*, 2010). The results in Table 7-11 above indicate the average variance extracted (AVE), maximum shared variance (MSV) and average shared variance (ASV) values for each measured construct, as determined by the measurement model that excludes the two second-order factors.

To test discriminant validity, several criteria must apply: (1) the maximum shared variance (MSV) should be less than the average variance extracted (AVE) (2) the average shared variance (ASV) should also be less than average variance extracted as well as the maximum shared variance and (3) the square root of the AVE for each construct must be larger than one absolute value of the correlations with another factor (Cooper *et al.*, 2016:157; Hair *et al.*, 2014; Fornell & Larcker, 1981). On the other hand, for any two constructs, the AVE for both constructs should both be larger than the shared variance, which is the square of the correlation between the two constructs. Therefore, both the AVE estimations must be greater than the shared variance estimate (Farrell & Rudd, 2009:5; Fornell & Larcker, 1981).

Table 7-14 presents the covariance matrix for the latent variables that exclude the two second-order factors with AVE on the diagonal.

Table 7-14: Covariance matrix for the latent variables that exclude the two second-order factors with AVE on the diagonal

Variable	AC	PE	SI	T	CS	EE	FC	HM	H	ADV
AC	(0.81)									
PE	0.47	(0.75)								
SI	0.40	0.22	(0.88)							
T	0.39	0.55	0.27	(0.67)						
CS	0.60	0.49	0.25	0.55	(0.81)					
EE	0.38	0.58	0.19	0.60	0.44	(0.74)				
FC	0.35	0.53	0.19	0.65	0.39	0.82	(0.47)			
HM	0.58	0.41	0.49	0.44	0.41	0.35	0.33	(0.86)		
H	0.23	0.15	0.26	0.18	0.11	0.12	0.24	0.23	(0.86)	
ADV	0.46	0.41	0.26	0.40	0.36	0.34	0.39	0.38	0.45	(0.83)

Note: AC = Affective commitment; PE = Performance expectancy; SI = Social influence; T = Trust; CS = Customer satisfaction; EE = Effort expectancy; FC = Facilitating conditions; HM = Hedonic motivation; H = Help; ADV = Advocacy

AVE on the diagonal in brackets; AVE > 0.50

From Table 7-11 above, it is evident that for all the constructs, the maximum shared variance (MSV) is less than the corresponding average variance extracted (AVE) values except for effort expectancy (EE) and facilitating conditions (FC). All the average shared variance (ASV) values are less than the corresponding average variance extracted (AVE) values, and all the average shared variance (ASV) values are less than maximum shared variance (MSV) values. Concerning the third criterion, the AVEs for any two constructs is larger than the squared correlations between the two constructs, except for effort expectancy (EE) and facilitating conditions (FC).

For example, from Table 7-14 it can be seen that the AVE of both affective commitment (0.81) and performance expectancy (0.75) was greater than the shared variance between them (0.47). The same conclusion can be made concerning the remaining AVE and covariance results, except for one case. The AVEs of effort expectancy (0.74) and facilitating conditions (0.47) are not both greater than the shared variance between them (0.82). Therefore, it appears that there are some validity concerns in the CFA model that excludes the two second-order factors.

Main finding 34 The results obtained from the covariance matrix, AVE, MSV and ASV values indicate that only eight of the ten latent variables of the measurement model that excludes the two second-order factors have discriminant validity. Effort expectancy and facilitating conditions presented validity concerns.

Table 7-15 presents the results of the discriminant validity test that includes the two second-order factors.

Table 7-15: Covariance matrix for the latent variables that include the two second-order factors with AVE on the diagonal

Variable	CCB	CS	AC	PB
CCB	(0.71)			
CS	0.37	(0.81)		
AC	0.49	0.59	(0.81)	
PB	0.58	0.64	0.62	(0.68)

Note: CCB=customer citizenship behaviour; CS=customer satisfaction; AC= affective commitment; PB=post-usage beliefs. AVE on the diagonal in brackets; AVE > 0.50

From Table 7-13 above it is evident that for each latent variable (1) the maximum shared variance (MSV) is less than the corresponding average variance extracted (AVE) value; (2) the average shared variance (ASV) is also less than the corresponding average variance extracted (AVE) values, as well as the maximum shared variance (MSV) values and (3) the AVEs for any two constructs, are larger than the squared correlations between the two constructs (Cooper *et al.*, 2016:157; Hair *et al.*, 2014).

For example, from Table 7-15 it can be seen that the AVE of both customer citizenship behaviour (0.71) and customer satisfaction (0.81) were greater than the shared variance between them (0.37). The same deduction can be made for the AVE and covariance results of the remaining constructs. Thus, these outcomes affirm the claim to distinguish customer citizenship behaviour (CCB) from customer satisfaction (CS), customer satisfaction (CS) from affective commitment (AC) and affective commitment (AC) from post-usage beliefs (PB). As a result, the constructs of the measurement model indicate discriminant validity in all instances.

Main finding 35 The results obtained from the covariance matrix, AVE, MSV and ASV values indicate that all the latent variables of the measurement model that include the two second-order factors have discriminant validity.

7.5.2.4 Summary of model validity

The correctness and truthfulness of scientific results in research are called validity (Brink, 1993:35; Le Comple & Goetz, 1982:32). When a study is said to be valid it must validate what

really exists (Brink, 1993:35). Secondly, a valid instrument/measure must truly measure what it's intended to measure (Brink, 1993:35). Validity entails the "meaningfulness of research components" (Drost, 2011:114). In this study, content validity and construct validity were explored.

The content validity of a measurement ascertains if the contents of a measure sufficiently describe the construct (Privitera, 2015). In this study, content validity was realised since the measurement items were adopted from present studies which already proved that the scales were valid as well as reliable. Furthermore, a pilot test was carried out to confirm that the measurement items measured what they were supposed to measure (see section 6.6.3.2).

Construct validity relates to the extent to which the research effectively captures the relevant construct (Mackey & Gass, 2016). As it is evaluated through convergent and discriminant validity, construct validity can affirm how well the outcomes achieved from using the measure fit the theories on which the test was planned (Bajpai & Bajpai, 2014:174). For this study, Confirmatory Factor Analysis (CFA) was used to assess construct validity. From the research findings, it became evident that both the model that excludes the two second-order factors, as well as the measurement model including them, obtained an acceptable model fit. However, the model that excluded the two second-order factors presented convergent and discriminant validity problems. On the other hand, the CFA assessment of the measurement model that includes the two second-order factors, provided strong evidence of both convergent and discriminant validity. Hence, considering these findings it can be concluded that the measurement model that includes the two second-order factors has construct validity and can be regarded as superior to the measurement model that excluded the two second order factors.

Therefore:

- | | |
|-----------------|---|
| Main finding 36 | The content validity verified that the measurement items measured what they were meant to measure. |
| Main finding 37 | The measurement model that includes the two second-order factors have construct validity and is regarded as superior to the measurement model that excluded the two second-order factors. |

Considering these main findings, the decision was made to continue only with the model that included the two second-order factors to assess the fit of the proposed structural model.

7.6 STRUCTURAL EQUATION MODELLING (SEM)

The theoretical model was tested by using Structural Equation Modelling. This section reports the findings about the SEM model. For reference purpose, Figure 7-1 presents a summary of proposed interrelationships that were incorporated in the conceptual model that includes the two second-order factors. The maximum likelihood estimation method was used to determine the estimates of the relationships among the constructs as indicated in Figure 7-1.

Figure 7-1: The proposed theoretical model

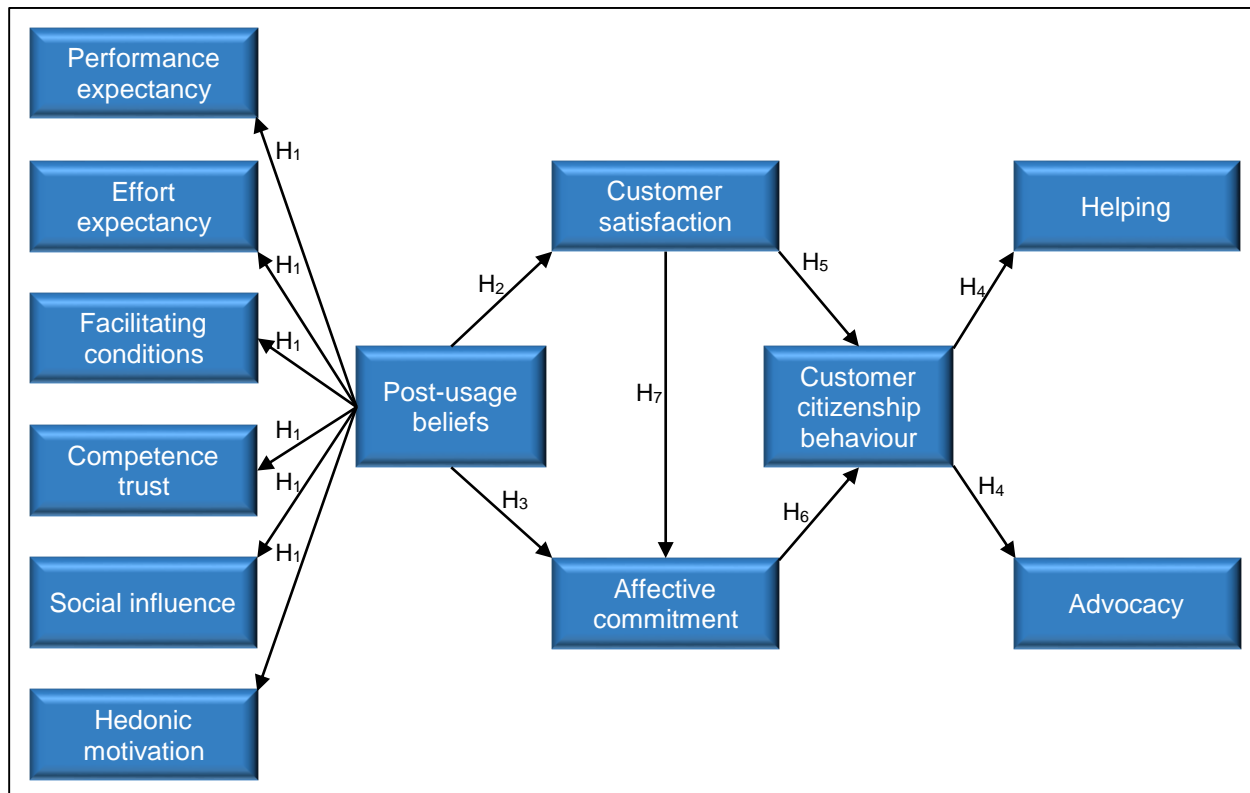


Table 7-16 presents the resulting alternative hypotheses for the study.

Table 7-16: Hypotheses formulated for structural equation modelling

Hypotheses for SEM	
H ₁	Post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust
H ₂	Post-usage beliefs have a positive and significant impact on customer satisfaction
H ₃	Post-usage beliefs have a positive and significant impact on affective commitment
H ₄	Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour.

H ₅	Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour
H ₆	Affective commitment has a positive and significant impact on positive customer citizenship behaviour
H ₇	Customer satisfaction has a positive and significant impact on affective commitment

7.6.1 Structural model assessment

To evaluate the overall goodness of fit of the structural model and to assist in verifying the relationships among constructs as deliberated in section 6.7.3, Structural Equation Modelling was used. Table 7-17 provides a summary of the fit statistics of the structural model that includes the two second-order factors.

Table 7-17: Fit statistics of structural model that includes the two second-order factors

Model	χ^2	df	χ^2/df or CMIN/df	TLI	CFI	RMSEA
	1841.604	451	4.08	0.91	0.92	0.076
Suggested value			< 5.00	> 0.90	> 0.90	< 0.08

Note: χ^2 = Chi-square; df = Degrees of freedom; TLI = Tucker-Lewis index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation

Table 7-17 shows the value of the chi-square/degrees of freedom (χ^2/df) ratio to be 4.08, which complies with the suggested cut off value of <5 (Wheaton *et al.*, 1977:85). The RMSEA displayed a value of 0.076 that is less than 0.08 (Hair *et al.*, 2010; MacCallum *et al.*, 1996). Also, the values of the Tucker-Lewis fit index (TLI) as well as the comparative fit index (CFI) are both above 0.90 and are therefore regarded as acceptable (Hair *et al.*, 2010; Hu & Bentler, 1999).

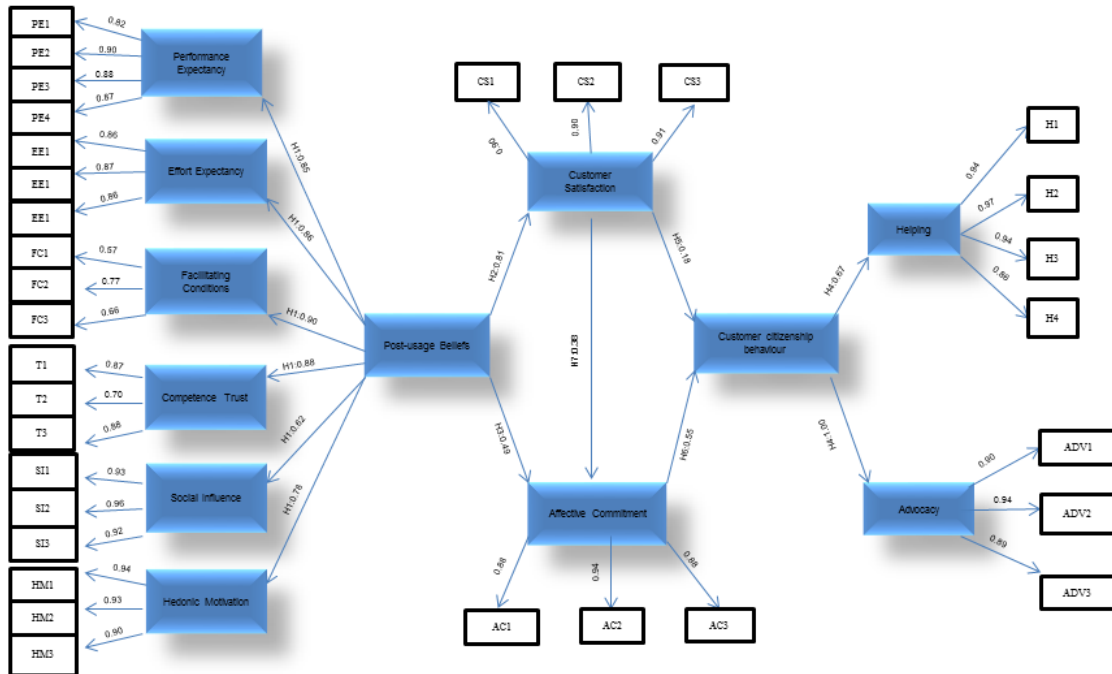
Therefore, the results determined by the Structural Equation Modelling (SEM) analysis as presented in Table 7-17 show that the model does indeed fit the observed data reasonably well.

Main finding 38 Rendering the assessment of the structural model it can be established that the fit indices indicate an acceptable model for this study.

7.6.2 Hypotheses testing

After establishing model fit, the model and tests of hypotheses can be examined. Figure 7-2 presents a diagram of standardised regression weights obtained for each specified relationship.

Figure 7-2: The structural model estimation that includes two second-order factors



Considering the hypotheses about the two second-order factors (H1 and H4), the Confirmatory Factor Analysis discussion in section 7.5.2 concluded that the measurement model that includes the two second-order factors has a superior fit above the measurement model that excluded them. Convergent and discriminant validity problems were detected in the model that excluded the two second-order factors, while the model that retained these higher order factors presented acceptable construct validity. Hence considering these findings, it can be concluded that the presence of the two second-order factors are important, as it was confirmed that they loaded significantly into a number of underlying sub-constructs and assisted in contributing to the overall validity of the model. H1 and H4 should therefore be accepted and the two second order factors should be retained in the model.

Table 7-18 further displays the alternative hypothesised relationships (H2, H3, H5, H6 and H7) with their respective Beta coefficients (β weights), standard errors (SE) and corresponding statistical significance (p-value). Beta weights are regression coefficients of independent variables assessed on a common scale (Archdeacon 1994).

Table 7-18: Hypotheses testing: direct effects

Hypothesis	Relationship	β weights	S.E.	p-value
H2	Post-usage beliefs → customer satisfaction	0.81	0.07	0.001*
H3	Post-usage beliefs → affective commitment	0.49	0.10	0.001*
H5	Customer satisfaction → customer citizenship behaviour	0.18	0.07	0.003**
H6	Affective commitment → customer citizenship behaviour	0.55	0.07	0.001*
H7	Customer satisfaction → affective commitment	0.38	0.07	0.001*

Note: *Relationship is statistically significant at $p < 0.001$; ** Relationship is statistically significant at $p < 0.01$; β = beta coefficient; S.E = standard error.

The Table 7-18 indicates that the standardised regression weights between all constructs range between 0.18 and 0.81 and are positive and significant at $p < 0.001$ or $p < 0.01$.

Concerning the second hypothesis (H2), Table 7-18 indicates that post-usage beliefs have a positive and significant impact on customer satisfaction (β weight = 0.81; $p < 0.001$). Similarly, regarding the third hypothesis (H3), post-usage beliefs have a positive and significant effect on affective commitment (β weight = 0.49; $p < 0.001$). Hypothesis 5 showed that customer satisfaction has a positive and significant influence on customer citizenship behaviour (β weight = 0.18; $p < 0.01$) while hypothesis 6 was also supported showing affective commitment has a positive and significant impact on customer citizenship behaviour (β weight = 0.55; $p < 0.001$). Finally, hypothesis 7 was supported by showing a direct effect of customer satisfaction to affective commitment being positive and significant (β weight = 0.38; $p < 0.001$). Based on these findings it can be concluded that H2, H3, H5, H6 and H7 should be accepted.

Table 7-19 summarises the research findings concerning the alternative hypotheses formulated for this study.

Table 7-19: Summary of main findings about hypotheses

Hypotheses for SEM	Finding
H1 Post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust.	Supported
H2 Post-usage beliefs have a positive and significant impact on customer satisfaction.	Supported
H3 Post-usage beliefs have a positive and significant impact on affective commitment.	Supported
H4 Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour.	Supported
H5 Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour.	Supported

H6	Affective commitment has a positive and significant impact on positive customer citizenship behaviour.	Supported
H7	Customer satisfaction has a positive and significant impact on affective commitment.	Supported

Consequently, the following main findings can be stated concerning the alternative hypotheses formulated for this study. Considering the respondents' perceptions of mobile banking apps:

Main finding 39	Post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation, and competence trust.
Main finding 40	Post-usage beliefs have a positive and significant impact on customer satisfaction.
Main finding 41	Post-usage beliefs have a positive and significant impact on affective commitment.
Main finding 42	Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour.
Main finding 43	Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour.
Main finding 44	Affective commitment has a positive and significant impact on positive customer citizenship behaviour.
Main finding 45	Customer satisfaction has a positive and significant impact on affective commitment.

7.7 SUMMARY OF MAIN FINDINGS

An outline of all the main findings established in this chapter is presented in this section.

7.7.1 Main findings according to the research objectives

All of the main research results are arranged in accordance with the secondary objectives developed for this study (see Chapter 6, section, 6.4.2). The secondary objectives 1a, 1b and 1c were earlier accomplished by carrying out a theoretical background search as presented in Chapters 2, 3 and 4. Hence, Table 7-20 starts with the main findings associated with secondary objectives 2 to 7.

Table 7-20: Summary of the main empirical research results according to the secondary objectives of this research study

<p>Secondary objective 2: To develop a sample profile of mobile banking app users who participated in this research study.</p>	
Main finding 1	The respondents who participated in this study are males and females in Gauteng, who are using at least one mobile banking app of one of the five main retail banks in South Africa.
Main finding 2	The ABSA and FNB mobile banking apps are the most popular type of options and are also used most often to carry out banking transactions
Main finding 3	Most of the respondents that participated in this study are between the ages of 27-66 years, full time or self-employed, married or single and from a white or a black racial group
Main finding 4	The types of transactions most often executed on a mobile banking app are transferring money and paying beneficiaries
<p>Secondary objective 3: To examine the level of favourable post-usage beliefs of bank clients regarding the mobile banking app they use most often, as measured by:</p> <p>3a) Performance expectancy 3b) Effort expectancy 3c) Facilitating conditions 3d) Social influence 3e) Hedonic motivation</p> <p>Also: 3f) To measure the extent to which bank clients have competence trust in the mobile banking app they use most often.</p>	
Main finding 5	The respondents agreed most that the mobile banking app helps them to carry out their banking transactions more quickly.
Main finding 6	The respondents agreed least with the statement that using the mobile banking app increases their productivity
Main finding 7	The respondents agreed most that learning to use the mobile banking app was easy for them and it is easy to use the mobile banking app.
Main finding 8	The respondents agreed least that it is easy for them to become skilful at using the mobile banking app
Main finding 9	The respondents agreed most with the statement that they have the knowledge necessary to use the mobile banking app
Main finding 10	The respondents agreed least that assistance is available when they experienced difficulties in using the mobile banking app (friends/family/banking personnel etc.)
Main finding 11	The respondents agreed most that people who influence their behaviour in general, think they should use the mobile banking app, and people who are important to them think that they should use the mobile banking app.
<p>Secondary objective 3: To examine the level of favourable post-usage beliefs of bank clients regarding the mobile banking app they use most often.</p>	
Main finding 12	The respondents agreed least that people who are in their social circle think that they should use the mobile banking app

Main finding 13	The respondents agreed most that using the mobile banking app is enjoyable
Main finding 14	The respondents agreed least that using the mobile banking app is entertaining
Main finding 15	The respondents agreed most that they can rely on the technology of the mobile banking app to execute their transactions reliably
Main finding 16	The respondents agreed least that technology-related errors in using the mobile banking app are quite rare

Secondary objective 4:

To measure the level of customer satisfaction of bank clients towards the mobile banking app they use most often.

Main finding 17	The respondents most agreed to feel pleased about using the mobile banking app.
Main finding 18	The respondents least agreed feeling content about using the mobile banking app.

Secondary objective 5:

To assess the level of affective commitment of bank clients towards the mobile banking app they use most often.

Main finding 19	The respondents most agreed that it was easy to become attached to the mobile banking app.
Main finding 20	The respondents least agreed that the mobile banking app has a great deal of personal meaning for them.

Secondary objective 6:

To assess the positive customer citizenship behaviour of bank clients concerning the mobile banking app they use most often.

More specifically, to measure the extent to which bank clients:

- 6a) Advocate the benefits of the mobile banking app they use most often to other prospective users.
- 6b) Provide help to other prospective users interested in the mobile banking app they use most often.

Main finding 21	The respondents most agreed that they advise other customers regarding the mobile banking app.
Main finding 22	The respondents least agreed that they teach other customers to use the mobile banking app correctly.
Main finding 23	The respondents agreed most that they recommend the mobile banking app to other customers.
Main finding 24	The respondents agreed least that they say positive things about the mobile banking app to other customers.

Secondary objective 7:

To examine the interrelationships between the research constructs of this study, namely post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour.

Main finding 25	All the measurement scales measuring the constructs performance expectancy, social influence, hedonic motivation, affective commitment, customer satisfaction, help, advocacy, effort expectancy, competence trust and facilitating conditions generally reveal acceptable to good internal consistency and can be regarded as reliable.
Main finding 26	The confirmatory factor analysis fit statistics calculated for the measurement model that excludes the two second-order factors confirm that an adequate model fit was realised.

Chapter 7: Discussion and interpretation of results

Main finding 27	The confirmatory factor analysis fit statistics calculated for the measurement model that includes the two second-order factors confirms that an adequate model fit was attained.
Main finding 28	The standardised factor loadings of the measurement model that excludes the two second-order factors indicate that all the measurement items loaded significantly on their matching factors and can be retained in the model
Main finding 29	The composite reliability values of the measurement model that excludes the two second-order factors indicated good internal consistency of the respective latent variables.
Main finding 30	Only nine of the ten constructs of the measurement model that excludes the two second-order factors (affective commitment, performance expectancy, social influence, trust, customer satisfaction, effort expectancy, hedonic motivation, help and advocacy) have convergent validity.
Main finding 31	All standardised factor loadings of the measurement model that includes the two second-order factors were retained as they exceed 0.5 and are statistically significant.
Main finding 32	The composite reliability values of the measurement model that includes the two second-order factors indicated good internal consistency of the respective latent variables.
Main finding 33	All four constructs of the measurement model that includes the two second-order factors (customer citizenship behaviour, customer satisfaction, affective commitment and post-usage beliefs) have strong convergent validity.
Main finding 34	The results obtained from the covariance matrix, AVE, MSV and ASV values indicate that only eight of the ten latent variables of the measurement model that excludes the two second-order factors have discriminant validity. Effort expectancy and facilitating conditions presented validity concerns.
Main finding 35	The results obtained from the covariance matrix, AVE, MSV and ASV values indicate that all the latent variables of the measurement model that include the two second order factors have discriminant validity.
Main finding 36	The content validity verified that the measurement items measured what they were meant to measure
Main finding 37	The measurement model that includes the two second-order factors have construct validity and is regarded as superior to the measurement model that excluded the two second-order factors.
Main finding 38	Rendering the assessment of the structural model it can be established that the fit indices indicate an acceptable model for this study.
Main finding 39	Post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust.
Main finding 40	Post-usage beliefs have a positive and significant impact on customer satisfaction.
Main finding 41	Post-usage beliefs have a positive and significant impact on affective commitment.
Main finding 42	Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour.
Main finding 43	Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour.
Main finding 44	Affective commitment has a positive and significant impact on positive customer citizenship behaviour.
Main finding 45	Customer satisfaction has a positive and significant impact on affective commitment

7.8 CONCLUSION

This chapter reported on the empirical results obtained from the field study. The sample realisation rate was presented first, after which an overview was provided of the demographic and patronage profile of the participating respondents. The respondents' views and behaviour concerning the constructs and statements measured were reported next, followed by assessments of the validity and reliability of the CFA model that excludes the two second-order factors and the model that includes them. The assessments indicated that the model that includes the two second-order factors have construct validity and is therefore superior to the model that excludes them. Hence the decision was made to only continue with the model that included the two second-order factors and to assess the fit of the proposed structural model. The SEM analysis indicated that the structural paths between all constructs investigated are positive and significant and that all hypothesised relationships can be accepted. The chapter ended with a summary of the main findings of the study arranged per the secondary research objectives that had been developed for this study. The conclusions of the research study will be presented next in Chapter 8 that also provides some direction for further research on this topic.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

Chapter 8 presents the conclusions with regards to positive customer citizenship behaviour in the mobile banking application (app) environment. The discussion is informed by the empirical results that were reported in Chapter 7 as well as the theoretical findings that were presented in Chapters 1 to 5.

The chapter commences with an overview of the research study, serving as a background to the rest of the discussion. The subsequent section presents the conclusions, highlights the implications and offers recommendations for all secondary objectives formulated. The chapter ends with a table that links the objectives of the study, the chapters that provided the theoretical background, the relevant sections of the questionnaire, the hypotheses formulated, the main findings, as well as the conclusions and relevant recommendations. The limitations of this research study are also discussed and recommendations are provided that may guide further research on this topic.

8.2 OVERVIEW OF THE STUDY

As explained in Chapter 1, section 1.3, the retail banking industry in South Africa is highly competitive with customers demanding good services. The pressure to deliver a high level of service stems from the evolution of technology and heightened customer expectations combined with the emergence of disruptive competitors. Accordingly, a dynamic era of technological developments that are irreversibly changing the retail banking landscape has emerged in response to the importance of being relevant and competitive (PWC, 2015).

As further explained in Chapter 1, section 1.2.1, mobile banking apps are of particular interest to retail banks as they offer safe and secure banking services on the go (Standard Bank, 2014:1). Customers can perform a multitude of banking functions anytime, anywhere (Turowski & Pousttchi, 2003). Banks also support this application as it could assist in preventing fraud (Balabanoff, 2014). Additionally, it could make banking more convenient for their customers and increase the bank's profitability since the customers would make use of technology (mobile banking app) and not be transacting via the bank's staff (Pousttchi & Schurig, 2004:2). Bankers also expect the bank's income to increase due to a higher volume of transactions (Balabanoff, 2014:258).

Despite the advantages above, the use of mobile devices by banking customers, however, has not met the predicted adoption (Dineshwar & Steven, 2013; Shih *et al.*, 2010; Luarn & Lin, 2005). According to the latest available statistics, the growth rate in mobile banking app users in South Africa is just 9 % (KPMG, 2015:4). It seems that customers may be reluctant to use electronic tools like the mobile banking app due to a lack of trust or scepticism (Munoz-Leiva *et al.*, 2017:26).

Customer citizenship behaviour may present a solution to this problem and could assist retail banks in ensuring a greater number of customers adopt and use their mobile banking app services. As customer citizenship behaviour is embedded in the social exchange theory (Blau, 1964; Hormans, 1958), it justifies the reason for a customer to be willing to give back a positive gain toward an organisation because they are appreciative of a good service and feel obliged to do so (Lii & Lee, 2012:73). This positive gain toward an organisation could include customers helping other customers that experience problems with using a mobile banking app or even advocacy where they spread positive word of mouth to family and friends thereby acting as good citizens (Gruen, 1995:461). Hence, existing users of the service can engage in citizenship behaviours and teach the correct usage of the service to other customers and perhaps do the marketing on behalf of the bank. Customer citizenship behaviour, therefore, is of significance for service organisations such as retail banks because it may create a competitive advantage (Shahsavari & Faryabi, 2013:3746). If banks provide the environment for customer citizenship behaviours, they can use customers to ensure greater adoption of mobile banking apps and to reach their goals.

Little however is known about factors that may contribute to positive customer citizenship behaviour within the mobile banking app environment and given the background provided it appeared necessary to explore a model of this nature formally. Hence, the first chapter of this study offered an introduction and research background. It was established that building quality relationships with customers who are users of mobile banking apps could show to be favourable for the retail banks. Specifically, customer satisfaction (a backward-looking attitude) and affective commitment (a forward-looking attitude) may contribute to positive customer citizenship behaviour in the form of advocacy and help behaviour. As was summarised in section 1.5, based on the premise of the social exchange theory (Blau, 1964), satisfied customers who are convinced that the bank has met its contractual obligation as evidenced by their positive beliefs, may want to give back to the bank by engaging in customer citizenship behaviours towards other prospective users. Customer citizenship behaviours may secondly be impacted by the affective commitment (emotional attachments) existing users of the service develop as a consequence of the positive beliefs they have formed about the service. Customers may feel that considering the positive beliefs they have formed, they now are emotionally attached to the bank, and given their

future relationship with the bank, they must give back to the bank from whom they have benefited, by displaying customer citizenship behaviour. It was further pointed out that the belief factors of the extended UTUAT model (Venkatesh *et al.*, 2012; Venkatesh *et al.*, 2011; Venkatesh *et al.*, 2003) as well as competence trust may have a positive and significant impact on the attitudes of existing users of mobile banking apps. Therefore, based on the literature study in Chapter 1, a conceptual model was proposed as presented in Figure 2-1.

Further research was required to validate the conceptual model within the mobile banking app environment, which also has the potential to make a great contribution to marketing theory. As pointed out in Chapter 1, little attention has been given to customer citizenship behaviour within the electronic banking environment, and its connection to technology adoption models is not known. Therefore, it was proposed that an investigation into selected belief factors as identified from technological adoption models (Venkatesh *et al.*, 2012; Venkatesh *et al.*, 2011; Yousafzai *et al.*, 2010; Venkatesh *et al.*, 2003; Wang *et al.*, 2003; Davis, 1989; Ajzen, 1985; Fishbein & Ajzen, 1975), and their impact on consumer attitudes and ultimately customer citizenship behaviours, may provide further insight into the connection between technology adoption models and the customer citizenship behaviour domain. Hence, a primary research objective was formulated to assist in addressing the stated research gap. The primary objective was to develop a model for positive customer citizenship behaviour in the mobile banking app environment (Chapter 1, section 1.7.1). Various secondary objectives were also formulated to assist in achieving the primary research objective (Chapter 1, section 1.7.2).

The next section concludes on the research findings obtained from the theoretical and empirical investigations and aims to provide more insight into the connection between technology adoption models and the customer citizenship behaviour domain. For each secondary objective, implications are also highlighted, and strategic recommendations are provided to guide retail banks in strategies that can be employed to foster greater customer citizenship behaviour and that in turn may lead to greater adoption of mobile banking apps.

8.3 CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The secondary objectives related to the literature study are addressed first.

8.3.1 Secondary objectives 1a to 1c

Table 8-1 presents secondary objectives 1a to 1c.

Table 8-1: Secondary objective 1

Secondary objective 1
To provide an overview of the extant literature related to:
1a) The theory grounding the research constructs, including the technology adoption models, the tripartite model of attitude formation, the relationship marketing theory and the social exchange theory.
1b) The main constructs of this research study, namely, post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour.
1c) The potential interrelationships between the main constructs of this research study.

The secondary objectives 1a to 1c of this study were realised as follows:

- Secondary objective 1a, that concerns the theory grounding the research constructs as well as the technology adoption models, the tripartite model of attitude formation, the relationship marketing theory and the social exchange theory are addressed in Chapter 1 (section 1.2; section 1.4; section 1.4.1; section 1.4.2; section 1.4.2.1; section 1.4.2.2), Chapter 3 (section 3.2; section 3.2.1; section 3.2.2; section 3.2.3; section 3.2.4; section 3.2.5; section 3.5.1; section 3.5.2) and Chapter 4 (section 4.2; section 4.4.2; section 4.4.2.1; section 4.4.2.2).
- The secondary objective 1b that concerns the main constructs of this research study is addressed in Chapters 1, 3 and 4. In Chapter 1 post-usage beliefs (section 1.4.1), customer satisfaction (section 1.4.2.1), affective commitment (section 1.4.2.2) and customer citizenship behaviour (section 1.2; section 1.2.1). Chapter 3 provides more insight into post-usage beliefs (section 3.3), including performance expectancy (section 3.3.1), effort expectancy (section 3.3.2), social influence (section 3.3.3), facilitating conditions (section 3.3.4), hedonic motivation (section 3.3.5) and competence trust (3.4). Chapter 4 provides greater understanding into customer satisfaction (section 4.3.2.1), affective commitment (section 4.3.2.2) and customer citizenship behaviour (section 4.4; section 4.4.1; section 4.4.3; section 4.4.4; section 4.4.4.1; section 4.4.4.2; section 4.5).
- Secondary objective 1c, referring to the interrelationships between the main constructs of this study is addressed in Chapters 1 (section 1.4.3) and 5 (section 5.2; section 5.2.1; section 5.2.2; section 5.2.3; section 5.2.4; section 5.2.5; section 5.3) that presented the conceptual model.

No main findings are presented concerning secondary objectives 1a to 1c. Insight attained from realising these objectives serve to assist with the assessment of the remaining secondary objectives and to develop relevant conclusions and recommendations from the research findings.

8.3.2 Secondary objective 2

Secondary objective 2 is listed in Table 8-2

Table 8-2: Secondary objective 2

Secondary objective 2
To develop a sample profile of mobile banking app users who participated in this research study.

To realise secondary objective 2, demographic and patronage information was acquired from section 4 of the questionnaire. This particular section of the questionnaire measured the respondents' gender, age, employment status, marital status and ethnicity. Information was also obtained on all banks whose mobile banking apps the respondents use to carry out banking transactions, the bank's mobile banking app they use most often and the types of transactions they perform when using this app.

The main findings concerning the demographic and patronage information acquired from the field study are presented in section 7.3 (main finding 1, 2, 3 and 4). Main finding 1 indicates that the respondents who participated in this study are males and females in Gauteng, who are using at least one mobile banking app of one of the five main retail banks in South Africa. Main finding 2 shows that the ABSA and FNB mobile banking apps are the most popular type of options and are also used most often to carry out banking transactions. Main finding 3 shows that most of the respondents that participated in this study are between the ages of 27-66 years, full time or self-employed, married or single and from a white or a black racial group. Main finding 4 states that the types of transactions most often executed on a mobile banking app are transferring money and paying beneficiaries.

Following the main findings from section 7.3, the subsequent main conclusion, implication and recommendation can be noted:

Main conclusion 1: The typical respondent that participated in this study is between the ages of 27-66 years, full time or self-employed, married or single and from a white or a black racial group. The respondents that participated in this study furthermore are representative of both genders being male and female in Gauteng and use at least one mobile banking app of one of the five main retail banks in South Africa. Therefore, all respondents who participated in this study form part of the target population as described in section 1.8.3 and section 1.8.3.1, although they seem to favour the ABSA and FNB mobile banking apps. They predominantly use the mobile banking app to make transfers and pay beneficiaries.

Implication 1: It seems that the respondents who participated in this study were in a position to make an informed decision in registering for and using the mobile banking app services of at least one of the five main retail banks in South Africa. The respondents that participated in this study are mature (most of them are older than 27 years), earn an income (full-time or self-employed) and thus have experience in conducting banking transactions. These respondents enjoy the advantages that come with electronic banking, such as convenience and having the freedom to make transfers and pay beneficiaries, without being restricted by place and time. Therefore, they seem to be males and females, mostly married or single consumers, from a white or a black racial group, who move with the trends of time and make use of retail banks in South Africa's most recent electronic banking addition (the mobile banking app) to enjoy convenience, improved business systems and having the option to make quick transfers and pay beneficiaries in real time. Accordingly, they seem to be well suited to advocate the benefits of mobile banking app services to fellow consumers and to assist them in registering and using the service correctly, although they appear to favour the FNB and ABSA mobile banking apps.

Recommendation 1: Considering the potential of these respondents to act as citizens, it is advisable that retail banks conduct more research to understand their needs and to implement strategies that will help the bank to deliver excellent customer service to them reliably. Retail banks should gain more insight into the reasons why, after making an informed decision, the respondents prefer mobile banking app services in general. It is also advisable that the app services provided by ABSA and FNB be further studied to understand why the respondents favour them. Further understanding must also be gained into developments male and female respondents that are mostly married or single and from a white or a black racial group see as trendy, and that may inspire future decisions. To ensure continued enjoyments of the benefits that come with mobile banking services, retail banks, for example, could then improve the customer experience by investing in trendy mobile strategies and ensuring that the app capabilities are updated and upgraded regarding for example functionality and an intuitive user interface. Customers need to be confident that their mobile banking app is secure and will not let them down when they make payments or conduct other types of transactions. The app developers must further be trained continually so that they keep abreast of changes and trends in technology as it is a fast-paced environment.

8.3.3 Secondary objectives 3

Secondary objective 3 is presented in Table 8-3.

Table 8-3: Secondary objective 3

Secondary objective 3
<p>To examine the level of favourable post-usage beliefs of bank clients regarding the mobile banking app they use most often, as measured by:</p> <ul style="list-style-type: none"> 3a) Performance expectancy 3b) Effort expectancy 3c) Facilitating conditions 3d) Social influence 3e) Hedonic motivation <p>Also:</p> <ul style="list-style-type: none"> 3f) To measure the extent to which bank clients have competence trust in the mobile banking app they use most often.

In Chapter 3, section 3.2, it was noted that fundamentally, there are two main streams of research relating to the acceptance, adoption and usage of technological innovations. The first stream of research concerns the usage and adoption of technology from the diffusion of innovation perspective (Rogers, 1962). The second stream of research concentrates on the importance of the intentions of users in determining their acceptance and adoption behaviour. Three of the most prominent models identified under this stream of research is set out in the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behaviour (TPB) (Ajzen, 1991) and the Technology Acceptance Model (TAM) (Davis, 1989). This study was then specifically interested in the second research stream and the extended Unified Theory of Acceptance and Use of Technology (extended UTAUT) model (Venkatesh *et al.*, 2012) that was developed from TRA, TPB, TAM and also an earlier version of the UTAUT model (Venkatesh *et al.*, 2003).

Table 3-1 presented a summary of the three technology-based models (TRA) (Fishbein and Ajzen, 1975), TPB (Ajzen, 1985) and TAM (Davis *et al.*, 1989:985) as well as the UTAUT (Venkatesh *et al.*, 2003) model (that followed the TAM model and that provides a more comprehensive understanding of consumers' acceptance towards new technology or systems) and the Extended UTAUT (Venkatesh *et al.*, 2012) model that includes additional factors. Following an evaluation of the various models, it became evident that compared to the other four models, the extended UTAUT model shows a higher percentage of variance for behavioural intention and technology use (Samaradiwakara & Gunawardena, 2014:31). The explanatory power of technology usage intention regarding variance ranges from 0.36 (TRA) to 0.74

(extended UTAUT). The extended UTAUT has also been shown to be relevant in a self-service technology environment. Furthermore, Venkatesh *et al.* (2011) was able to confirm the relevance of the belief factors of the extended UTAUT model among existing users of technology and found that it had a positive and significant impact on their post-usage attitudes. In their study, the original factors of the extended UTAUT model were investigated but were tested regarding how they may impact existing users' post-usage attitudes. Within the context of their study, they made reference to the extended UTAUT factors as post-usage perceived usefulness (synonymous with performance expectancy), post-usage effort expectancy, post-usage social influence and post-usage facilitating conditions. All factors were found to have a significant impact on the post-usage attitudes of existing consumers (Venkatesh *et al.*, 2011). Similarly, another study conducted by Childers *et al.* (2001:525) verified the impact that hedonic motivation (the fifth factor in the extended UTAUT model) may have on the attitudes of existing users of technology (Childers *et al.*, 2001:525).

Owing to these findings the decision was made in this study to focus on the extended UTUAT model. It was not the aim of this study to merely retest the extended UTAUT model within the mobile banking app environment. Instead, to address the research objectives of this study and to test the theoretical model proposed in Chapter 1, it was rather the intention to examine the impact of the belief factors of the extended UTAUT model on the post-usage attitudes of existing users of mobile banking apps. However, as mentioned in Chapter 1, section 1.4.1, this study did not focus on the price and habit factors of the extended UTAUT model since mobile banking apps are free (Standard Bank, 2014:1). Furthermore, the habit constructs equated to automaticity (Venkatesh *et al.*, 2012:9; Kim *et al.*, 2005) was also not measured due to the personalised nature of the banking environment.

Hence, section 3.3 and section 3.4 of Chapter 3 provided more insight into the belief factors of the extended UTAUT model that was further examined in the empirical investigation. Specifically, section 3.3.1, noted that *performance expectancy* relates to one's views of benefits to be gained from technology use in carrying out some actions (Venkatesh *et al.*, 2012:159). As suggested by Yang (2009), [reflecting an array of system attributes that provide benefits to users, performance has been conceptualised by focussing on efficiency, speed, accuracy in the task completion which eventually would set that information system apart from its rivals]. Section 3.3.2 explained that *effort expectancy* relates to the belief by consumers that technology is easy to use (Venkatesh *et al.*, 2003). A technology that is hard to use and requires much effort from a consumer will less likely be adopted (Venkatesh & Brown, 2001; Brown & Venkatesh, 2005). Family and friends play a major role regarding being supportive of one's use of technology (Venkatesh *et al.*, 2012:159). Therefore as indicated in section 3.3.3, *social influence* relates to consumers' perceptions of

whether significant people in their lives would be supportive of their use of a certain technology (Venkatesh *et al.*, 2012:159). *Facilitating conditions*, on the other hand, enables a good computerised infrastructure to be in place to support the use of the technology (Venkatesh *et al.*, 2003). Therefore as explained in section 3.3.4, facilitating conditions relate to the degree to which an individual believes that computerised infrastructure exists to support the use of the information system (Venkatesh *et al.*, 2003). Furthermore, as explained in section 3.3.5, *hedonic motivation* is important as customers want to enjoy the use of technology. Customers may be able to enjoy using technology if it is pleasurable and also fun to use (Lee, 2009). Lastly, since trust is vital in a self-service technology environment, customers expect a competent and reliable performance of technology (Johnson *et al.*, 2008:421; Johnson, 2007). Section 3.4 further indicated that competence trust might also impact on post-usage attitudes in a self-service technology environment. This trusting belief plays a vital role about technology and more specifically within online environments in a post-usage stage (Munoz-Leiva *et al.*, 2017; Giovannini *et al.*, 2015; Venkatesh *et al.*, 2011; Johnson *et al.*, 2008:426). Therefore, *competence trust* was investigated as the sixth belief factor within the context of this study.

Consequently, the main findings from the literature study relating to post-usage beliefs can be summarised as follows:

- Concerning self-service technologies, five of the belief factors of the extended UTAUT model (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation) appear to be relevant within the post-usage stage and accordingly were deemed suitable for further investigation.
- Competence trust also appears to be a relevant belief that consumers of self-service technologies may develop within the post-usage stage (Munoz-Leiva *et al.*, 2017; Giovannini *et al.*, 2015; Venkatesh *et al.*, 2011; Johnson *et al.*, 2008:426) and as such was further examined as well.
- Regarding the use of technologies, customers further seem to expect:
 - Efficient, quick and accurate services to complete tasks effectively.
 - Technology that is easy to use.
 - A service their family and friends will support.
 - Good computerised infrastructure to be in place to support the use of the technology.
 - Technology that is pleasurable and fun to use.

- Competent and reliable technology they can trust when performing a task.

Following the main findings from the literature, several significant findings were also recognised from the empirical investigation. To gain insight into the empirical results related to the third secondary objective and to draw the main conclusion, it is necessary to integrate the main findings from the literature study and the empirical investigation.

Specifically, considering the *performance expectancy belief factor*, the literature revealed that for customers to perceive the technology as having high-performance expectancy, the organisation must deliver efficient, quick and accurate service for customers to complete tasks successfully. The empirical research showed that concerning performance expectancy, the respondents agreed most that the mobile banking app helps them to carry out their banking transactions more quickly (main finding 5, Chapter 7, section 7.4.1). Therefore the importance of a quick service when using the technology was emphasised by the high rating obtained from the empirical findings. The respondents agreed least that using the mobile banking app increases their productivity (main finding 6, Chapter 7, section 7.4.1). Table 7-3, however, further indicates that the mean values for all statements measuring performance expectancy were above 4. These values show that the respondents were generally in agreement with the statements measuring performance expectancy. Therefore, it can further be concluded that the matters raised in the literature study concerning customers' performance expectations are also relevant to mobile banking app users. Customers agree that the mobile banking app service they use most often are useful in their daily lives, assist them in performing quick and effective transactions and increases their productivity.

Considering the *effort expectancy belief factor*, the literature study indicated that customers expect technology that requires little effort and that is easy to use. Empirically it was found that the respondents agreed most that learning to use the mobile banking app was easy for them and it is easy to use the mobile banking app (main finding 7, Chapter 7, section 7.4.1). The respondents agreed least that it is easy for them to become skilful at using the mobile banking app (main finding 8, Chapter 7, section 7.4.1) As further indicated in Table 7-3, all items measuring effort expectancy obtained a mean value of more than 4, thereby indicating that the respondents overall were in agreement with the statements measuring effort expectancy. Considering the good ratings obtained it can be concluded that the effort expectancy belief, relating to ease of use as identified from the literature study, also appear to be relevant and important among mobile banking app users. The mobile banking apps used most often by the respondents seem to be easy to use.

Regarding the *facilitating conditions belief factor*, the literature study recognised that consumers expect a good computerised infrastructure to be in place to support the use of the technology and that applicable knowledge and assistance is required (Venkatesh *et al.*, 2011:534). The main findings from the empirical results show that the respondents agreed most with the statement that they have the knowledge necessary to use the mobile banking app (main finding 9, Chapter 7, section 7.4.1). Therefore, the respondents seem to have selected and most often use mobile bank apps they understand and have knowledge of operating. Furthermore, the respondents agreed least that assistance is available when they experienced difficulties in using the mobile banking app (such as friends/family/banking personnel) (main finding 10, Chapter 7, section 7.4.1). A mean value of 3.83 was obtained for this statement. Considering the lower mean value, it seems that there are some respondents who are reluctant to agree that assistance is available when they experience difficulties in using the mobile banking app. Table 7-3 further indicates that the mean values for the statements measuring facilitating conditions range between 3.83 and 4.39 and two of the three statements obtained a mean value higher than 4. Therefore, while statement PB10, representing main finding 10, obtained a mean value that is somewhat lower than 4, it seems that the respondents overall were still positive and agreed with the statements measuring facilitating conditions. Therefore, it can further be concluded that the matters raised in the literature study concerning facilitating conditions expectations are also relevant among mobile banking app users. The respondents were in agreement that they have the necessary resources and knowledge to use the mobile banking app and to some extent believe assistance is available when help is required.

It was further pointed out in the literature study that the *social influence belief factor* refers to the extent to which consumers perceive that important others such as family and friends believe they should use a particular technology or information system (Venkatesh *et al.*, 2012:159). The main findings from the empirical results display that the respondents agreed most that people who influence their behaviour in general, think they should use the mobile banking app and people who are important to them think that they should use the mobile banking app (main finding 11, Chapter 7, section 7.4.1). The respondents agreed least that people who are in their social circle think that they should use the mobile banking app (main finding 12, Chapter 7, section 7.4.1). Table 7-3 further indicates that overall, the mean values for all three statements measuring social influence was lower than 4 and range between 3.71 and 3.76. Therefore, it seems that while the respondents lean towards the higher end of the scale concerning aspects related to social influence, as identified from the literature study, they were generally more conservative in their ratings, compared to the first three measurement scales (performance expectancy, effort expectancy and facilitating conditions). Some respondents appear to be a bit reluctant to agree

that important others such as family and friends or people in their social circle believe they should use the particular mobile banking app. It is possible that concerning these respondents, their friends and family have not really expressed an opinion regarding their mobile banking app usage or that they are using the app regardless of the opinion of friends and family.

Considering the *hedonic motivation belief factor*, the literature study indicated that customers want to enjoy using technology (Lee, 2009). The main findings presented that the respondents agreed most that using the mobile banking app is enjoyable (main finding 13, Chapter 7, section 7.4.1). The respondents agreed least that using the mobile banking app is entertaining (main finding 14, Chapter 7, section 7.4.1). Table 7-3 also indicated that the mean values for the statements measuring hedonic motivation range between 3.74 and 3.96. Similar to the social influence construct, the respondents therefore also seem to lean towards the higher end of the scale concerning aspects related to enjoyment, as identified from the literature study, although they were a bit more conservative in their assessment. Some respondents appear to be reluctant to agree that using a mobile banking app is entertaining. It is possible that these consumers have negative associations with conducting banking transactions and therefore perhaps were reluctant to confirm that using the service is entertaining. Overall, however, all three statements measuring hedonic motivation obtained mean values greater than 3 (leaning towards the higher end of the scale) and therefore were still deemed relevant in this study.

Finally, concerning competence trust, the literature study indicated that customers want competent and reliable technology they can trust when performing a task. The main findings from the empirical research demonstrate that the respondents agreed most that they could rely on the technology of the mobile banking app to execute their transactions reliably (main finding 15, Chapter 7, section 7.4.1). Therefore, the respondents seem to have selected and most often use mobile bank apps they consider as reliable. Furthermore, the respondents agreed least that technology-related errors in using the mobile banking app are quite rare (main finding 16, Chapter 7, section 7.4.1). A mean value of 3.91 was obtained for this statement. Considering the lower mean value, it seems that there are some respondents who may have experienced technical problems and are reluctant to agree that technology-related errors in using this mobile banking app are quite rare. Table 7-3 further indicates that the mean values for the statements measuring competence trust range between 3.91 and 4.19, with two of the three statements that obtained a mean value above 4. Therefore, although statement PB18, representing main finding 16, obtained a slightly lower rating, overall the respondents tend to agree with the statements that measured competence trust. Therefore, it can be further concluded that the matters raised in the literature study concerning competence trust are also relevant to mobile banking app users. The respondents agreed that they can rely on the app technology to execute their transactions reliably;

they believe the app technology they use is very reliable and to some extent that technology-related errors in using this mobile banking app are quite rare.

Consequently, given the above discussion, the next main conclusion, implication and recommendation can be noted:

Main conclusion 2: Considering the respondents' overall agreement with the statements measured, it appears that the factors of the Venkatesh *et al.* (2012) model, performance expectancy, effort expectancy, facilitating conditions, social influence and hedonic motivation are all relevant within the context of this study and represent beliefs banking customers hold towards the mobile banking app they use most often. Specifically, they believe the mobile banking app they use most often assists them in completing their transactions quickly and effectively, which contributes to greater productivity and that may ultimately lead to more free time to complete other tasks. Furthermore, the respondents believe the mobile banking apps are easy to use and that, although assistance does not seem to be available in all instances, they generally believe they have the knowledge and resources necessary to operate the app. Family, friends and people in the respondents' social circles do seem to play a role in influencing app usage, but more research would be required to verify the reasons why the respondents rated the statements concerning social influence more conservatively. Overall, completing banking transactions with the mobile banking app often used furthermore seems to be an enjoyable activity, but further research would also be required to verify why some respondents rated the statements relating to hedonic motivation more conservatively. The respondents further appear to have selected and most often use mobile bank apps they consider as reliable, indicating that competence trust is also a relevant belief factor within the context of this study. Some of the respondents, however, may have experienced technical problems in using the app and therefore are reluctant to agree that technology-related errors in using this mobile banking app are quite rare. Overall, however, the respondents tend to agree with the statements that measured competence trust, indicating the relevance of this factor within the context of this study.

Implication 2: The empirical findings of this study, therefore, offers further confirmation that Venkatesh *et al.*'s (2011:531) belief factors may also be relevant within the post-usage stage of information technology. Only a few studies have noted their application within the post-usage stage of technology before (Venkatesh *et al.*, 2011; Agarwal *et al.*, 2009:348; Childers *et al.*, 2001:525) and the extent to which they may be relevant and present post-usage beliefs of mobile banking app users have not previously been tested. Accordingly, the findings of this study make a valuable contribution in this regard.

A further implication is that it seems the respondents overall have positive beliefs about the mobile banking apps and have reasons for using a banking app most often. It may subsequently be necessary for retail banks to delve deeper into the factors and statements measured in this study to fully understand, for example, why customers enjoy using the service, find it easy to use, think that the service is reliable etc. While it is the intention of retail banks to grow their number of mobile banking app users, they would also need to employ strategies to keep up with the expectation of existing customers and to retain them. Retail banks would need to ensure they successfully manage the service delivery of their mobile banking app offering. Continuous revisions and improvements may be required to manage the post-usage beliefs of retail banking customers better.

Recommendation 2: Considering the relevance of the six belief factors examined in this study to the post-usage environment, it is recommended that future research pay special attention to them when examining the belief structure of existing users of information technology. Collectively, these six factors provide a comprehensive account of favourable beliefs consumers may hold about a technological service they previously consumed. Furthermore, the same set of belief factors may be relevant and represent the views of existing users of self-service technologies in other service environments. It may, therefore, be useful for other service industries and also government organisations to test them and determine the extent to which they may apply within other service contexts. For retail banks, it is recommended that they ensure customers find the app useful and that it performs as expected. They need to ensure the technology presented is user-friendly and easy to use. A good service must be offered, which family and friends will support. Good infrastructure must be provided that brings joy and happiness to customers, and that may attract more users. Retail banks also need to ensure that customers' privacy is protected and that a reliable service is provided. Ultimately, a focus on these belief factors that is supplemented by more research to fully understand the reasons why customers have developed these beliefs and consider them as important may aid retail banks in maintaining their current market share of mobile banking app users and understand the requirements for attracting more customers.

8.3.4 Secondary objective 4

Secondary objective 4 is presented in Table 8-4.

Table 8-4: Secondary objective 4

Secondary objective 4
To measure the level of customer satisfaction of bank clients towards the mobile banking app they use most often.

In Chapter 1, section 1.4.3, it was noted that consumers' beliefs about technology could have an impact on their attitudes towards the technology (Fishbein & Ajzen, 1975; Ajzen, 1985; Davis, 1989; Wang *et al.*, 2003; Yousafzai *et al.*, 2010). Hence, in addition to investigating consumer beliefs, customer satisfaction was examined as an attitude consumers with positive beliefs about mobile banking apps may develop.

Chapter 4, section 4.1, furthermore noted that the concept customer satisfaction is grounded in relationship marketing theory and is considered as a key element of relationship quality (Vieira *et al.*, 2008:4; Morgan & Hunt, 1994:22). Section 4.2.1 stated that relationship marketing concerns the building of relationships between organisations and their customers (Sheth *et al.*, 2012; Palmatier, 2008:6; Hennig-Thurau & Hansen, 2000:5; Gronroos, 1997:407). Relationship marketing has a generally high degree of mutual dependence (Hennig-Thurau & Hansen, 2000:5). Gronroos (1994:9) defines relationship marketing as follows "Marketing is to establish, maintain, and enhance relationships with customers and other partners, at a profit, so that the objectives of the parties involved are met".

Section 4.3.1 explained that relationship quality relates to the overall assessment of the strength of a relationship (Ryu & Lee, 2017:69; Vize *et al.*, 2011:4; Walsh *et al.*, 2010:132; Palmatier *et al.*, 2006:139; de Wulf *et al.*, 2001:36). It shows customer perceptions of the extent to which their expectations and desires are satisfied by their relationship with service providers (Ryu & Lee, 2017:69; Kim *et al.*, 2006).

Customer satisfaction, as an element of relationship quality, has been described in section 1.4.2.1 and section 4.3.2.1 as a backward-looking attitude resulting from the interaction of customer's expectations with performance perceptions (Gustafsson *et al.*, 2005:211). It is a function of execution to date (Gustafsson *et al.*, 2005:211). In other words, a customer who has already experienced a service looks back and forms perceptions about satisfaction when he thinks what should have happened indeed happened. Satisfaction is furthermore rooted in the expectancy

disconfirmation paradigm where a customer makes a positive assessment of a product based on its performance, in comparison to the customer's expectations held before the encounter with the product (Anaza & Zhao, 2013:131; Kotler, 2000). The expectancy disconfirmation paradigm as proposed by Oliver (1980) measures the difference between expectation and perceived experience. This difference results in either confirmation or disconfirmation (Bhattacharjee & Premkumar, 2004). This approach to customer satisfaction has been described as cognitive in nature and was considered for this study (Oliver, 1993:419).

Accordingly, based on the literature study, customer satisfaction for this study was defined as the bank customer's post-purchase (post-use) evaluation of performance versus pre-purchase (pre-use) expectations and perceived performance of the mobile banking app.

Accordingly, the main findings from the literature study relating to customer satisfaction can be summarised as follows:

- Customer satisfaction is grounded in the relationship marketing theory and is believed to be a core dimension of relationship quality.
- Relationship marketing concerns the building of relationships with customers that are mutually beneficial, while relationship quality indicates the strength of this relationship.
- Customer satisfaction is considered a backward-looking attitude and is furthermore also rooted in the expectancy disconfirmation paradigm where a customer makes a positive assessment of a product based on its performance, in comparison to the customer's expectations held prior to the encounter with the product (Anaza & Zhao, 2013:131; Kotler, 2000).
- Therefore customer satisfaction in the context of this study is defined as the bank customer's post-purchase (post-use) evaluation of performance versus pre-purchase (pre-use) expectations and perceived performance of the mobile banking app.

Following the main findings from the literature, several significant findings were also recognised from the empirical investigation. To gain insight into the empirical results related to the fourth secondary objective and to draw the main conclusion, it is necessary to integrate the main findings from the literature study and the empirical investigation.

The literature study indicated that customer satisfaction is considered a backward-looking attitude that relates to the assessment of a performance in comparison to pre-determined expectations. The main findings of this study specify that about respondents' level of customer satisfaction

towards a mobile banking app the respondents agreed most that they felt pleased about using the mobile banking app (main finding 17, Chapter 7, section 7.4.2). Respondents agreed least with feeling content about using the mobile banking app (main finding 18, Chapter 7, section 7.4.2). Table 7-4, however, further indicated that the mean values for all statements measuring customer satisfaction were above 4. These values show that the respondents were generally in agreement with the statements measuring customer satisfaction. Therefore it can be further concluded that as predicted by theory, within the context of this study the respondents also reflected on past experiences in using the mobile banking app, and about their pre-determined expectation concluded that they are overall pleased, content and satisfied in using the mobile banking app. Hence, given past experiences, a backward-looking attitude of satisfaction developed towards the mobile banking app they use most often.

Accordingly, the following main conclusion, implication and recommendation can be noted:

Main conclusion 3: It seems that mobile banking app users make comparisons between post-usage app performance and pre-usage expectations in determining their overall satisfaction with the mobile banking app they use most often. Given the respondents' overall agreement with the statements measured it further seems that they subsequently have developed a backward-looking attitude of satisfaction towards the mobile banking app, they use most often. The principles of the expectancy disconfirmation paradigm therefore also appear to be relevant when customers develop attitudes towards mobile banking apps.

Implication 3: This finding implies that further confirmation is provided that in the post-consumption (usage) stage customers will relate back to their pre-conceived ideas to form an overall perception and conclude on the extent to which they are satisfied by using the information technology. (Chih *et al.*, 2012; Venkatesh *et al.*, 2011; Bhattacharjee & Premkumar, 2004). Accordingly, it is imperative for retail banks to understand and manage customer expectations with regards to the use of mobile banking apps. As retail banks operate in a competitive environment, they must be prepared to meet high customer expectations.

Recommendation 3: Considering the confirmation of customer satisfaction as a backward-looking attitude that similar to previous studies are based on pre-conceived ideas and an overall perception of the service rendered, it seems to be imperative for researchers and retail banks to approach customer satisfaction as a long-term goal of the organisation. Retail banks should use customer satisfaction as a measure that distinguishes them from rivals in the industry. Customer satisfaction can help a retail bank develop and maintain long-term relationships with customers. Retail banks should constantly work at keeping customers happy. Happy or satisfied customers

will continue to use the mobile banking app and even advocate for it by telling others of its advantages.

For retail banks to meet the expectations of customers, they must ensure a high-level service is delivered that will appeal to the needs of mobile banking app users. They must further be consistent with the delivery of the service. Research may also be required to keep up with changing consumer demands and technological developments that may affect mobile banking app services. Customers must feel satisfied, content and pleased about deciding to use the service. Furthermore, training of bank employees could be crucial for continued success as they could gather customer feedback and complaints concerning their existing service experience with the app.

8.3.5 Secondary objectives 5

Secondary objective 5 is presented in Table 8-5.

Table 8-5: Secondary objective 5

Secondary objective 5
To assess the level of affective commitment of bank clients towards the mobile banking app they use most often.

Affective commitment was examined as a second potential attitude, consumers with positive beliefs about mobile banking apps may develop.

In Chapter 1, section 1.4.2.2, it was mentioned that customer commitment relates to the consumers' desire to maintain a long-term mutually beneficial relationship with an organisation (Su *et al.*, 2017:241). Therefore, similar to customer satisfaction, customer commitment is also based on the relationship marketing theory (Morgan & Hunt, 1994). Customer commitment is further comprised of three sub-dimensions, namely cognitive commitment, affective commitment and behavioural commitment. For this study, the affective commitment has been selected for further investigation.

Affective commitment is considered as a forward-looking attitude. It captures the strength of a relationship between two parties and the resultant commitment to proceed forward (Gustafsson *et al.*, 2005:211). Affective commitment, therefore, relates to a person's emotional attachment which concerns the bond or connection that the customer has with an organisation or perhaps even a brand. Individuals experiencing an emotional attachment are inclined to favour the relevant

exchange partners for buying decisions, translating affective commitment into specific actions (Gundlach *et al.*, 1995; Allen & Meyer, 1990) to a specific target (Curth *et al.*, 2014:148; Meyer & Allen, 1991). In the electronic technology environment, affective commitment is formed after use of a service (Shaikh *et al.*, 2015; Gustafsson *et al.*, 2005). More specifically in the mobile banking app context, it can be presumed that affective commitment will translate to retention and relationship development between a customer and a retail bank (Shaikh *et al.*, 2015:213).

Therefore, for this study, affective commitment is explored from an affective (emotional) perspective and relates to the attitudes existing users of the mobile banking app service have formed, in consideration of their future attachments and relationships with the mobile banking app service.

The main findings from the literature study relating to affective commitment can, therefore, be summarised as follows:

- Similar to customer satisfaction, customer commitment is based on the relationship marketing theory.
- Affective commitment is a sub-dimension of customer commitment.
- Affective commitment is a forward-looking attitude and concerns the emotional bond or connection that the customer has with an organisation.
- Therefore, for this study, affective commitment is explored from an affective (emotional) perspective and relates to the attitudes existing users of the mobile banking app service have formed, in consideration of their future attachments and relationships with the mobile banking app service.

Furthermore, to advance understanding of the empirical results related to the fifth secondary objective and to draw the main conclusion, it is also necessary to integrate the main findings from the literature study relating to affective commitment and the empirical investigation.

As pointed out by the literature study affective commitment is considered as a forward-looking attitude and generally relates to a customer's emotional attachment to an organisation. The empirical findings then revealed that it was easy for the respondents to become attached to the mobile banking app they use most often (main finding 19, Chapter 7, section 7.4.2). This statement received the highest mean value (4.13). Table 7-5 further indicates that the respondents also tend to agree that the mobile banking app they use most often has a great deal of attraction to them. This statement too has received a mean value greater than 4 (4.06). The

respondents were a bit more reluctant to agree that the mobile banking app they use most often has a great deal of personal meaning for them. The respondents least agreed with this statement (main finding 20, Chapter 7, section 7.4.2) and a mean value of 3.85 was obtained. Considering the slightly lower mean value, it seems that there are some respondents who are attached to the apps they use most often but do not necessarily feel that the app has a great deal of personal meaning to them. Furthermore, as indicated in Table 7-5, the mean values for the statements measuring affective commitment range between 3.85 and 4.13, with two of the three statements that obtained a mean value of greater than 4. Therefore, although statement COMM3, representing main finding 20, obtained a slightly lower rating, overall the respondents tend to agree with the statements that measured affective commitment. Consequently, it can be further concluded that the matters raised in the literature study concerning affective commitment are also relevant to mobile banking app users. The respondents agreed that they are attracted to the app they use most often, find it easy to become attached to the app and to some extent the app has a great deal of personal meaning to them.

Consequently, given the above discussion, the next main conclusion, implication and recommendation can be noted:

Main conclusion 4: It seems that the respondents have an emotional connection with the mobile banking apps they use most often. They are affectively committed towards this mobile banking app, as indicated by the extent to which they are attracted to the app, believe it is easy to become attached to the app and that it has a great deal of meaning to them.

Implication 4: The implication of this finding is that in the post-consumption (usage) stage, it seems that customers' forward-looking attitudes are inspired by their consideration of future attachments and relationships with the mobile banking app service to which they feel attracted. Therefore, it seems that consumers having an emotional bond with the organisation's service offering present the ideal target market for relationship development and to benefit from retention strategies. As such, it is imperative for retail banks to understand the reasons why customers find it easy to become attached to the app they use most often, why they are attracted to the app and why it may have a personal meaning to them. Retail banks need to be sensitive to the emotions of their customers and ensure the relationship is well-managed.

Recommendation 4: Researchers should take note that in the post-consumption (usage) stage customer emotions could play a prominent role in their future relationship with the organisation and strategies should be examined that may assist organisations in nurturing this relationship with customers. To enhance affective commitment and further strengthen the relationship, retail

banks, for example, could focus on their corporate image as well as their technological service offering and ensure that it is aligned to the view and service needed and expected by customers. They further need to honour their word and ensure reliable services are provided. Competence is key to communicate to customers that the bank cares about them and strive to offer excellent service at all times.

8.3.6 Secondary objectives 6

Secondary objective 6 is presented in Table 8-6.

Table 8-6: Secondary objective 6

Secondary objective 6
To assess the positive customer citizenship behaviour of bank clients concerning the mobile banking app they use most often. More specifically, to measure the extent to which bank clients: 6a) Advocate the benefits of the mobile banking app they use most often to other prospective users. 6b) Provide help to other prospective users interested in the mobile banking app they use most often.

In Chapter 4, section 4.4.1, it was noted that customers acting as good citizens are considered to be partial employees of the organisation (Bettencourt, 1997). These performances, however, may not be formally recognised or rewarded by the organisation (Fowler, 2013:3). Therefore, customer citizenship behaviour is seen as individual customers' actions of free will, which the organisation does not directly or explicitly expect or reward, but collectively could promote the effective functioning of service organisations and result in higher service quality (Groth, 2005).

As further indicated in Chapter 4, section 4.4.1, customer citizenship behaviour is based on the social exchange theory (Blau, 1964). The social exchange theory postulates that the interactions of exchange participants are interdependent and generate obligations amongst them (Blau 1964; Emerson, 1976). For example, when one party supplies a resource of value to another, an obligation is generated by the other party to make payment (Mitchell *et al.*, 2012:99) of a social or even material means (Blau, 1964). When a series of mutually beneficial exchanges occur, it strengthens the quality of the relationship between the exchange parties resulting in beneficial and productive behaviours (Cropanzano & Mitchell, 2005:875; Blau, 1964).

Chapter 1, section 1.2, further noted that customers thought of as partial employees can promote the organisation's interests by acting in various ways: they may cooperate with employees, help other customers, offer suggestions to the organisation, willingly spread positive word-of-mouth about it and enhance the organisation's services, offerings and overall performance (Rosenbaum

& Massiah, 2007; Bettencourt, 1997). Chapter 1, section 1.4, then indicated that two dimensions of positive customer citizenship behaviour, namely helping other customers and advocacy by positive word of mouth would be the focus of this study. Helping is the act of assisting others in using a product or a service (Yi & Gong, 2013:1281; Groth, 2005). Advocacy by positive word of mouth is recommending an organisation's products or services to others by highlighting positive qualities of the product or service (Yi & Gong, 2012) and is a progressive act of promoting the app to others (Hsu *et al.*, 2015:4). These dimensions have been chosen because they are common features of positive customer citizenship behaviour that have been identified in some studies, as shown in Table 1-2. They further have the potential to apply to the mobile banking app environment. New app users can benefit from the helping behaviour of existing users in finding direct solutions for their problems, and the amount of effort app developers spend on serving customers may be reduced (Hsu *et al.*, 2015:4). Additionally, in discussion with mobile banking app customers, these constructs (helping and advocacy) have been recognised as being directly related to the social exchanges that take place between customers when they recommend and help one another to use the mobile banking app.

The main findings from the literature study relating to customer citizenship behaviour can, therefore, be summarised as follows:

- Customer citizenship behaviour concerns individual customers' actions of free will, which the organisation does not directly or explicitly expect or reward, but collectively could promote the effective functioning of service organisations and result in higher service quality (Groth, 2005).
- Customer citizenship behaviour is based on the social exchange theory (Blau, 1964). For example, when one party supplies a resource of value to another, an obligation is generated by the other party to make payment (Mitchell *et al.*, 2012:99) of a social or even material means (Blau, 1964).
- This study examines advocacy by positive word of mouth and helping behaviour as dimensions of customer citizenship behaviour.
- Advocacy by positive word of mouth concerns customers highlighting positive qualities of a product or service to others.
- Helping is the act of assisting fellow customers in using a product or service.

The empirical results then provide more insight into customer citizenship behaviour within the mobile banking app environment and assist in drawing the main conclusion regarding the sixth secondary objective.

Specifically, the literature study indicated that customers might engage in citizenship behaviours by helping their fellow customers to use a product or service. The empirical results then revealed that concerning the helping behaviour construct, the respondents most agreed that they advise other customers regarding the mobile banking app (main finding 21, Chapter 7, section 7.4.3). The respondents least agreed that they teach other customers to use the mobile banking app correctly (main finding 22, Chapter 7, section 7.4.3). Overall, the mean ratings for the statements measuring helping behaviour range between 3.19 and 3.37. The respondents, therefore, seem to lean towards the higher end of the scale considering aspects related to helping behaviour, although they were a bit more conservative in their assessment. These findings then confirm the presence of helping behaviour within the mobile banking app environment.

The literature study further indicated that customers might engage in citizenship behaviours by advocating the benefits of a product or service to other customers. The empirical results then evidenced that the respondents agreed most that they recommend the mobile banking app to other customers (main finding 23, Chapter 7, section 7.4.3). Respondents agreed least that they say positive things about the mobile banking app to other customers (main finding 24, Chapter 7, section 7.4.3). Overall, the mean ratings for the statements measuring advocacy behaviour range between 3.86 and 3.95. The respondents therefore also seem to lean towards the higher end of the scale considering aspects related to advocacy behaviour, although they were a bit more conservative in their assessment. These findings then confirm the presence of advocacy behaviour within the mobile banking app environment.

Consequently, given the above discussion, the next main conclusion, implication and recommendation can be noted:

Main conclusion 5: Customer citizenship behaviour appears to be relevant within the mobile banking app environment. Existing users of the service engage in helping and advocacy behaviours to assist fellow customers with the mobile banking app they use most often. Forms of helping behaviour acknowledged include assisting other customers if they need help in using the app, helping other customers if they seem to have problems in using the app, teaching other customers to use the app correctly and giving advice to other customers regarding the app. Advocacy behaviour mentioned include saying positive things about the app to other customers, recommending the app to other customers and encouraging friends and relatives to use the app.

Implication 5: This finding implies that in the post-consumption (usage) stage of electronic banking apps, it seems that customers do fulfil their obligational role by helping other customers and telling them about the service that benefitted them. Customer citizenship behaviour is impacted by a customer's prior experience with a mobile banking app of a retail bank. If the experience is favourable one may spread positive word of mouth about it to others and help them in using the service. As such, retail banks are under pressure to provide customers with the motive to engage in positive customer citizenship behaviours.

Recommendation 5: Customers in the post-consumption (usage) stage seem to voluntarily act as co-marketers that may directly benefit retail banks. It may subsequently be beneficial to understand further customers' network of relationships and the extent to which they create value for each other and contribute to a greater service experience. Furthermore, it seems that customers may perform diverse customer roles (advocate or teacher in skill development when helping other customers with the service). It may also be beneficial to gain further insight into the requirements of these roles within the post-consumption (usage) stage. Since retail banks may directly benefit from customer citizenship behaviours, it is imperative that they provide customers with a great mobile banking app experience and ensure customers are aware and understand the benefits they receive from using the service. Attention also needs to be paid to customers that are hesitant to teach other customers to use the mobile banking app correctly or to say positive things about the mobile banking app to them. Strategic interventions are required to build the confidence of these users and to encourage them to engage in citizenship behaviours that will be to the benefit of the bank.

8.3.7 Secondary objectives 7

Secondary objective 7 is presented in Table 8-7.

Table 8-7: Secondary objective 7

Secondary objective 7
To examine the interrelationships between the research constructs of this study, namely post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour.

Chapter 5 provided more insight into the potential interrelationships between the research constructs examined in this study, namely post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour.

The following main findings could be derived from the literature study provided in Chapter 5:

- Post-usage beliefs (as a second-order factor) may underlie perceptions of performance expectancy, effort expectancy, facilitating conditions, competence trust, social influence and hedonic motivation.
- Post-usage beliefs may have a positive and significant impact on customer satisfaction.
- Post-usage beliefs may have a positive and significant impact on affective commitment.
- Positive customer citizenship behaviour (as a second-order factor) may underlie consumer advocacy and helping behaviour.
- Customer satisfaction may have a positive and significant impact on positive customer citizenship behaviour.
- Affective commitment may have a positive and significant impact on positive customer citizenship behaviour.
- Customer satisfaction may have a positive and significant impact on affective commitment.

Following the literature study, the empirical investigation also delivered some important main findings worth noting. Main findings 25 to 45 relate to secondary objective 7.

It was found that all the measurement scales measuring the constructs performance expectancy, social influence, hedonic motivation, affective commitment, customer satisfaction, help, advocacy, effort expectancy, competence trust and facilitating conditions generally reveal acceptable to good internal consistency and can be regarded as reliable (main finding 25, Chapter 7, section 7.5.1).

It was further noted that while content validity verified that the measurement items measured what they were meant to measure (main finding 36, Chapter 7, section 7.5.2), the validity assessment of the measurement model that excluded the two second-order factors was slightly different from the measurement model that included the two second-order factors.

Concerning the measurement model that excluded the two-second order factors, the confirmatory factor analysis fits statistics calculated confirms that an adequate model fit was realised (main finding 26, Chapter 7, section 7.5.2). The standardised factor loadings indicate that all the measurement items loaded significantly on their matching factors and can be retained in the model (main finding 28, Chapter 7, section 7.5.2). The composite reliability values indicated good

internal consistency of the respective latent variables (main finding 29, Chapter 7, section 7.5.2). Only nine of the ten constructs (affective commitment, performance expectancy, social influence, trust, customer satisfaction, effort expectancy, hedonic motivation, help and advocacy), however, have convergent validity (main finding 30, Chapter 7, section 7.5.2). The results obtained from the covariance matrix, AVE, MSV and ASV values indicate that only eight of the ten latent variables have discriminant validity. Effort expectancy and facilitating conditions presented validity concerns (main finding 34, Chapter 7, section 7.5.2).

Considering the measurement model that included the two second-order factors, adequate model fit statistics were also attained, as proven by the confirmatory factor analysis fit statistics calculated (main finding 27, Chapter 7, section 7.5.2). All standardised factor loadings were retained as they exceed 0.5 and are statistically significant (main finding 31, Chapter 7, section 7.5.2). Likewise, the composite reliability values indicated good internal consistency of the respective latent variables (main finding 32, Chapter 7, section 7.5.2). All four constructs (customer citizenship behaviour, customer satisfaction, affective commitment and post-usage beliefs) have strong convergent validity (main finding 33, Chapter 7, section 7.5.2). The results obtained from the covariance matrix, AVE, MSV and ASV values indicate that all the latent variables have discriminant validity (main finding 35, Chapter 7, section 7.5.2).

Following an assessment of the above-mentioned results, it was accordingly noted that the measurement model that includes the two- second-order factors have construct validity and is regarded as superior to the measurement model that excluded the two second-order factors (main finding 37, Chapter 7, section 7.5.2). Hence, it was concluded that the empirical results showed that post-usage beliefs (as a second-order factor) underlies perceptions of performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation and competence trust (main finding 39, Chapter 7, section 7.6.2). Positive customer citizenship behaviour (as a second-order factor) underlies consumer advocacy and helping behaviour (main finding 42, Chapter 7, section 7.6.2).

Rendering the subsequent assessment of the structural model (that included the two-second order factors), it was established that the fit indices indicate an acceptable model for this study (main finding 38, Chapter 7, section 7.6.1). Furthermore, post-usage beliefs have a positive and significant impact on customer satisfaction (main finding 40, Chapter 7, section 7.6.2). Post-usage beliefs have a positive and significant impact on affective commitment (main finding 41, Chapter 7, section 7.6.2). Customer satisfaction has a positive and significant impact on positive customer citizenship behaviour (main finding 43, Chapter 7, section 7.6.2). Affective commitment has a positive and significant impact on positive customer citizenship behaviour (main finding 44,

Chapter 7, section 7.6.2) and customer satisfaction has a positive and significant impact on affective commitment (main finding 45, Chapter 7, section 7.6.2).

Main conclusion 6: Considering the findings from the empirical analysis, it was possible to conclude that all hypotheses formulated for the study should be accepted. Concerning mobile banking apps, it seems that post-usage beliefs could impact on customer satisfaction and affective commitment. Customer satisfaction and affective commitment may contribute to customer citizenship behaviour in the form of helping and advocacy, and customer satisfaction can also have an impact on affective commitment. Therefore, the research findings offer insight into the interrelationship between belief factors and attitudes that may ultimately contribute to customer citizenship behaviours.

Implication 6: The research findings then shed more light on two well-known models explaining consumer behaviour.

First, understanding is gained into the links between technology adoption models and customer citizenship behaviour. Specifically, it seems that within the self-service technology environment, the sequence of positive beliefs of the service, contributing to positive attitudes and that may lead to behaviour, such as the adoption of a service (Ajzen, 1985; Davis, 1989; Fishbein & Ajzen, 1975; Wang *et al.*, 2003; Yousafzai *et al.*, 2010), may also be relevant in the post-consumption (usage) stage. However, the difference is that after the service has been consumed, beliefs have developed and attitudes of satisfaction and commitment have been gained, the behaviour may take the form of citizenship actions (advocacy and helping), as explained by the social exchange theory (Blau, 1964; Hormans, 1958).

Second, understanding is obtained into the extent to which a consumer attitude focused on the past (customer satisfaction), and a consumer attitude that is focused on the future (affective commitment) may be affected by belief factors of the extended UTAUT model, and impact on behaviour in the form of citizenship actions. These results provide new insight into the tripartite model of attitude formation (Schiffman & Kanuk, 2004) that was discussed in Chapter 3, section 3.5.1. Understanding is gained into the types of antecedent stimuli that may contribute to *cognitive* and *affective* attitudinal responses in the form of customer satisfaction and affective commitment, and that may ultimately contribute to *behaviour* in the form of citizenship actions.

Furthermore considering the various theories grounding the research constructs, as discussed in Chapters 1, 3 and 4, a further implication of the research findings is that more insight is provided into the connection between the extended UTUAT model and the relationship marketing theory that may ultimately have an impact on the customer citizenship behaviour theory.

Accordingly, the research findings provide strategic direction to the retail banking industry in South Africa that is experiencing slow adoption of their mobile banking apps. Retail banks should focus on the belief factors investigated in this study and ensure their mobile banking service offering is well managed, as it has been confirmed that users who rated the beliefs favourably may develop positive attitudes about the service. Specifically, greater customer satisfaction and affective commitment may be facilitated which ultimately could translate into more business and a good reputation for the bank when existing users engage in customer citizenship advocacy and helping behaviour. Additionally, satisfied and committed customers may result in mobile banking app users wanting to have a long-lasting relationship with their retail banks and the service they provide.

Finally, as explained in Chapter 2, section 2.1, mobile banking app services is regarded as a form of self-service technology. Therefore, the findings and structural model may further assist other industries and governments offering self-service technologies to have a better understanding of the range of factors contributing towards attitude formation about the service offering, and that may lead to customer citizenship behaviours and ultimately greater adoption of the service.

Recommendation 6: The research findings serve as a starting point in understanding the link between technology adoption models and customer citizenship behaviour in a post-consumption (usage) stage. Positive beliefs, as well as relationship marketing and relationship quality, needs to be managed as it may contribute to existing users of technology helping fellow customers and advocating the benefits of the service to them. Further research, however, is required to expand on this model and understand the extent to which consumer beliefs may impact on attitudes and citizenship behaviours.

For retail banks to benefit from positive customer citizenship behaviours, they must make the most of their necessary means to improve beliefs, attitudes and behaviour. Therefore, for retail banks, it is vital to pay particular attention to the belief constructs of the extended UTUAT model as well as competence trust and ensure customers experience relationship quality. Post-usage beliefs are critical antecedents to the relationship quality constructs customer satisfaction and affective commitment and must be appropriately managed. It is suggested that retail banks consider the various strategies regarding the belief factors as well as customer satisfaction and affective commitment as was provided under recommendation 1 to 5. Ultimately, these strategies may contribute to greater relationship quality and enable retail banks to profit from positive customer citizenship behaviour and greater adoption and use of mobile banking apps.

8.4 LINKS BETWEEN THE RESEARCH OBJECTIVES, THEORETICAL BACKGROUND, QUESTIONNAIRE SECTIONS, HYPOTHESES, MAIN FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This section aims to connect the research objectives that were formulated in Chapter 1, to the relevant theoretical discussion, sections in the questionnaire, hypotheses, main findings, conclusions and recommendations. The established links are summarised in Table 8-8.

Table 8-8: Links between the objectives, literature chapters, questionnaire sections, hypotheses, main findings, main conclusions, conclusions and recommendations

Objective	Theoretical background	Questionnaire section	Hypotheses	Main finding	Main conclusion	Recommendation
Secondary objective 1a	Chapter 1 Section 1.2 Section 1.4 (1.4.1, 1.4.2) Chapter 3 Section 3.2 (3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5) Section 3.5 (3.5.1, 3.5.2) Chapter 4 Section 4.2 (4.4.2, 4.4.2.1, 4.4.2.2)					
Secondary objective 1b	Chapter 1 Section 1.2 (1.2.1) Section 1.4.1 (1.4.2.1, 1.4.2.2) Chapter 3 Section 3.3 (3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5) Section 3.4 Chapter 4 Section 4.3.2.1, 4.3.2.2 Section 4.4 (4.4.1, 4.4.3, 4.4.4) Section 4.5					The conclusions and recommendations developed for secondary objectives 2 to 7 are informed by the theoretical background as presented in Chapters 1, 2, 3, 4 and 5
Secondary objective 1c	Chapter 1 Section 1.4.3 Chapter 5 Section 5.2 (5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5) Section 5.3		The formulation of hypotheses 1 to 7 was due to the theoretical background presented in Chapter 5			
Primary objective						

Table 8-8: Links between the objectives, literature chapters, questionnaire sections, hypotheses, main findings, main findings, conclusions and recommendation (cont.)

Objective	Theoretical background	Questionnaire section	Hypotheses	Main finding	Main conclusion	Recommendation
Secondary objective 2		Section 4 Questions 8 to 15		Chapter 7 Section 7.3 Main finding 1 to 4	Main conclusion 1	Recommendation 1
Secondary objective 3	Chapter 1 Section 1.4.1 Chapter 3 Section 3.3 (3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.5) Section 3.4	Section 1 Statements 1.1 to 1.19		Chapter 7 Section 7.4.1 Main findings 5 to 16	Main conclusion 2	Recommendation 2
Secondary objective 4	Chapter 1 Section 1.4.2.1 Chapter 4 Section 4.3.2.1	Section 2 Statements 5.1 to 5.3		Chapter 7 Section 7.4.2 Main findings 17 and 18	Main conclusion 3	Recommendation 3
Secondary objective 5	Chapter 1 Section 1.4.2.2 Chapter 4 Section 4.3.2.2	Section 2 Statements 6.1 to 6.3		Chapter 7 Section 7.4.2 Main findings 19 and 20	Main conclusion 4	Recommendation 4
Secondary objective 6	Chapter 1 Section 1.2 (1.2.1) Section 1.4 Chapter 4 Section 4.4 (4.4.1, 4.4.3, 4.4.4, 4.4.4.1, 4.4.4.2) Section 4.5	Section 3 Statements 7.1 to 7.7		Chapter 7 Section 7.4.3 Main findings 21 to 24	Main conclusion 5	Recommendation 5
Primary objective						

Table 8-8: Links between the objectives, literature chapters, questionnaire sections, hypotheses, main findings, main findings, conclusions and recommendation (cont.)

Objective	Theoretical background	Questionnaire section	Hypotheses	Main finding	Main conclusion	Recommendation
Secondary objective 7	Chapter 1 Section 1.4.3 Chapter 5 Section 5.2 (5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5) Section 5.3	Section 1 Statements 1.1 to 1.19 Section 2 Statements 5.1 to 5.3 Section 2 Statements 6.1 to 6.3 Section 3 Statements 7.1 to 7.7	Hypotheses 1 to 7	Chapter 7 Section 7.5 to 7.7 Main findings 25 to 45	Main conclusion 6	Recommendation 6
Primary objective						

Based on the information displayed in Table 8-8 it can be established that both the primary and secondary objectives developed for this research study have been met.

8.5 LIMITATIONS

Although this study made a valuable contribution to customer citizenship behaviour theory, the theoretical and empirical limitations should be noted in this section:

8.5.1 Limitations of the theoretical background

- To the best of the researcher's knowledge, no studies have been conducted to specifically examine the interrelationships among post-usage beliefs, customer satisfaction, affective commitment and positive customer citizenship behaviour in a mobile banking app environment in South Africa. The researcher thus predominantly depended on related literature as examined in other service sectors.
- About relationship quality, the researcher didn't focus on all the diverse constructs as recognised by different scholars (Giovanis *et al.*, 2015:745; Ismail *et al.*, 2014:140; Vieira *et al.*, 2008:4). The focus was given to the most appropriate constructs that had been identified for this study. Also, about post-usage beliefs, the researcher only adopted the research constructs that were recognised as suitable for the study.
- Only advocacy and helping behaviour were examined as forms of customer citizenship behaviours, as they were deemed relevant within the context of this study.

8.5.2 Limitations of the empirical research

- This research study was conducted among mobile banking app users in the Gauteng province. Therefore, the results acquired cannot be generalised to other geographical provinces. The findings are limited to Gauteng province only.
- Because convenience sampling was employed, it may not reflect the views of the entire population under investigation.
- The use of cross-sectional data was employed in this study. Future research could explore longitudinal data to discover if the interrelationships of the constructs examined in this research study would remain unchanged within different time periods and under different circumstances.

8.6 RECOMMENDATIONS FOR FUTURE RESEARCH

The following recommendations are proposed for further research:

- Since only a limited number of studies have examined the belief factors of the extended UTUAT model within the post-consumption (usage) stage, it is suggested that more research be conducted in different service industries and also governments, to further verify the extent to which these belief factors may provide a true account of the belief structure of existing users of self-service technologies within the broader service spectrum.
- A similar study can be conducted by targeting an equal number of respondents from different service providers, other provinces as well as other forms of electronic banking services to verify the structural model results among the broader population of South Africa.
- Future research could expand the structural model by including additional relationship quality factors as well as belief factors that may be relevant to other service sectors.
- Other forms of customer citizenship behaviours, applicable to self-service technologies in general, could also be explored to advance knowledge on the connection between self-service technologies and customer citizenship behaviours.
- A qualitative study could be conducted to refine further behaviours related to consumer advocacy and helping behaviour within the mobile banking app environment and other forms of self-service technologies.
- It is further recommended that a longitudinal study is conducted to discover if the interrelationships among the constructs examined in this research study would vary over time and under different circumstances.

8.7 CONCLUSION

Chapter 8 provides a conclusion to this study. It begins with an overview of the study and then addresses the main conclusions, implications and recommendations for each secondary objective that was developed for the study. The Table 8-8 follows by the presentation of the links between the research objectives, theoretical background chapters, questionnaire sections, hypotheses, main findings, conclusions and recommendations. After that, the limitations for both the theoretical background and the empirical research are itemised. Finally, Chapter 8 concludes this research study by providing recommendations for potential future research.

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APPENDIX A

FINAL QUESTIONNAIRE

CUSTOMER CITIZENSHIP BEHAVIOUR IN THE MOBILE BANKING APP ENVIRONMENT STUDY

Dear Respondent,

I am a PhD student at the North-West University in Potchefstroom and as part of the requirements for my degree, I need to conduct a study to develop a model for positive customer citizenship behaviour in the mobile banking application environment.

It would be greatly appreciated if you could kindly take 15 minutes of your time to complete this questionnaire. Taking part in this survey is completely voluntary and anonymous. Your responses will be kept confidential.

Should you have any further questions about the study, you are welcome to contact me at:

inongewaza@yahoo.com

076 834 4125

Sincerely,

Inonge Theresa Lisita.

Appendix A: Final questionnaire

Kindly note:

- The research data collected for this study formed part of a larger study on customer citizenship behaviour.
- Hence, only the questions relevant to this study are noted in this section.

Customer Citizenship Behaviour in the Mobile Banking App Environment

This questionnaire is designed to obtain feedback regarding your views and behaviour concerning mobile banking applications (apps). (A mobile banking app refers to the software provided by banking institutions that can be downloaded on electronic devices and that enables you to conduct financial transactions remotely from any location.)

We would appreciate it if you could kindly complete this questionnaire. Taking part in this survey is completely voluntary and anonymous. Your responses will be kept confidential.

The questionnaire consists of four sections and should take no more than 15 minutes of your time to complete. Your co-operation is highly appreciated. Some of the questions may appear to be similar than others. We need this information for statistical purposes and kindly request you to answer all questions in this survey as truthfully as possible.

Should you have any questions, please feel free to contact Inonge Lisita at the North-West University in South Africa (inongewaza@yahoo.com).

Screening question:

1. Are you currently making use of one or more mobile banking apps to carry out your banking transactions? (For example paying bills.)

	x
Yes	
No	

If you have answered YES in Question 1, kindly complete the rest of the questionnaire.
If you have answered NO in Question 1, thank you for your willingness to participate, however, you do not qualify to continue with the questionnaire.

Section 1 measuring post-usage beliefs

Thinking about the mobile banking app you use **MOST OFTEN**, indicate on a scale of 1-5 the extent to which you agree with each of the following statements:

AFTER USING THIS MOBILE BANKING APP IT IS MY BELIEF THAT:

Statements	Strongly disagree \longleftrightarrow Strongly agree				
	1	2	3	4	5
This mobile banking app is useful in my daily life.	1	2	3	4	5
Using this mobile banking app helps me to carry out my banking transactions more quickly.	1	2	3	4	5
Using this mobile banking app increases my productivity	1	2	3	4	5
Using this mobile banking app assists me in carrying out my banking transactions more efficiently.	1	2	3	4	5
It is easy to use this mobile banking app.	1	2	3	4	5
Learning to use this mobile banking app is easy for me.	1	2	3	4	5
It is easy for me to become skillful at using this mobile banking app.	1	2	3	4	5
I have the necessary resources (such as money or data) to use this mobile banking app.	1	2	3	4	5
I have the knowledge necessary to use this mobile banking app.	1	2	3	4	5
Assistance is available when I experience difficulties in using this mobile banking app (friends/family/banking personnel etc.).	1	2	3	4	5
People, who influence my behaviour in general, think that I should use this mobile banking app.	1	2	3	4	5
People who are important to me think that I should use this mobile banking app.	1	2	3	4	5
People who are in my social circle think that I should use this mobile banking app.	1	2	3	4	5
Using this mobile banking app is fun.	1	2	3	4	5
Using this mobile banking app is enjoyable.	1	2	3	4	5
Using this mobile banking app is entertaining.	1	2	3	4	5
I can rely on the technology of this mobile banking app to execute my transactions reliably.	1	2	3	4	5
Technology related errors in using this mobile banking app are quite rare.	1	2	3	4	5
The mobile banking app technology I use is very reliable.	1	2	3	4	5

Appendix A: Final questionnaire

Section 2 measuring attitude and relationship quality

The statements in this section also concern the mobile banking app you use **MOST OFTEN**. Kindly rate each of the statements in this section on the 5-point scale provided.

Indicate your views about using this mobile banking app:

Statements	Strongly disagree \rightleftarrows Strongly agree				
	1	2	3	4	5
I am pleased using this mobile banking app.	1	2	3	4	5
I am content using this mobile banking app.	1	2	3	4	5
I am satisfied using this mobile banking app.	1	2	3	4	5

Indicate your views on the following matters:

Statements	Strongly disagree \rightleftarrows Strongly agree				
	1	2	3	4	5
It is easy to become attached to this mobile banking app.	1	2	3	4	5
This mobile banking app has a great deal of attraction for me.	1	2	3	4	5
This mobile banking app has a great deal of personal meaning for me.	1	2	3	4	5

Section 3 measuring customer citizenship behaviour

The statements in this section concern your behaviour towards the bank and other customers regarding the mobile banking app you use **MOST OFTEN**. Kindly rate each of the statements in this section on the 5-point scale provided.

Statements	Strongly disagree \rightleftarrows Strongly agree				
	1	2	3	4	5
I assist other customers if they need my help in using this type of mobile banking app.	1	2	3	4	5
I help other customers if they seem to have problems in using this type of mobile banking app.	1	2	3	4	5
I teach other customers to use this type of mobile banking app correctly.	1	2	3	4	5
I give advice to other customers regarding this type of mobile banking app.	1	2	3	4	5
I say positive things about this type of mobile banking app to other customers.	1	2	3	4	5
I recommend this type of mobile banking app to other customers.	1	2	3	4	5
I encourage friends and relatives to use this type of mobile banking app.	1	2	3	4	5

Appendix A: Final questionnaire

Section 4 measuring demographic and patronage information

8. What is your gender?

	x
Male	
Female	

9. How old are you?

	x
18 to 26 years	
27 to 35 years	
36 to 47 years	
48 to 66 years	
67 years and older	

10. Which **ONE** of the following options best describes your employment status?

	x
Self-employed	
Full-time employed	
Part-time employed	
Full-time student	
Housewife or Househusband	
Retired	
Unemployed	
Other, please specify:	

11. What is your marital status?

	x
Single	
Married	
Living with a partner	
Divorced or separated	
Widowed	

12. Please indicate your ethnicity:

	x
White	
Black	
Coloured	
Indian	
Asian	
Other, please specify:	

13. Kindly indicate **ALL** banks whose mobile banking apps you are using to carry out your banking transactions (More than one option can be selected):

	x
ABSA	
Nedbank	
FNB	
Capitec Bank	
Standard Bank	
Other, please specify:	

14. Kindly indicate **ONE** bank whose mobile banking app you use **MOST OFTEN** to carry out your banking transactions (Only one option may be selected):

	x
ABSA	
Nedbank	
FNB	
Capitec Bank	
Standard Bank	
Other, please specify:	

15. Kindly indicate the types of transactions you perform with the mobile banking app you use **MOST OFTEN**. (More than one option may be selected):

	x
Transfer money	
Pay beneficiaries	
Pay bills	
Pay fines	
Buy airtime	
Buy electricity	
Other, please specify:	

APPENDIX B

ETHICAL CLEARANCE LETTER



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
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Private Bag X6001, Potchefstroom
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Tel: 018 299-1111/2222
Web: <http://www.nwu.ac.za>

WorkWell Research Unit
Tel: 018 299-1347
Fax: 087 231-5396
Email: 11930497@nwu.ac.za

9 May 2016

Ms TI Lisita
PO Box 50459
MAFIKENG
2745

Dear Ms Lisita

ETHICAL CLEARANCE

This letter serves to confirm that the research project of Theresa Inonge Lisita, with the title "**A model for positive customer citizenship behaviour in the mobile banking application environment**" has undergone ethical review. The proposal was presented at a Faculty Research Meeting and accepted. The Faculty Research Meeting assigned the project number **EMSONB16/03/08-01/02**. This acceptance deems the proposed research as being of minimal risk, granted that all requirements of anonymity, confidentiality and informed consent are met. This letter should form part of your dissertation manuscript submitted for examination purposes.

Yours sincerely

Louise Jansen van Rensburg
Senior Administrative Assistant

Original details: (11930497) C:\Users\11930497\Documents\2. BESTUUR\2.2.2.20_FEMS-WorkWell_Voorleggingvergadering\2016\Ondersiemingsbestuur\2016-05-08\Lisita, TI
18013821_Ethical clearance.docm
9 May 2016

Appendix B: Ethical clearance letter



Laai asb. die nuutste weergawe van Adobe Acrobat Reader hier af voor u hierdie vorm invul.



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOMKAMPUS

FAKULTEIT EKONOMIESE- EN BESTUURSWETENSKAPPE

Studenteverklaring rondom navorsingsetiek

(word voltooi as deel van die voorleggingskollokwium)

Naam en Van: Inonge Lisita

Studentenommer: 1 8 0 1 3 8 2 1

Beantwoord asseblief elke vraag deur die korrekte blokkie met 'n regmerkje te merk!:

	Ja	Nee
1. Behels die studie deelnemers wat spesifiek kwesbaar ² is of wat nie ingeligte toestemming kan gee nie? (bv. kinders, mense met leer of ander geestelike of fisiese gebreke, mense wat in die tronk is, werkloos of anders gekomprimeerde persone wat moet reageer op u vrae)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Gaan dit vir deelnemers nodig wees om aan die studie deel te neem sonder dat hulle op daardie stadium daarvan kennis dra of hul toestemming gegee het? (bv. koverte waarneming van mense)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Gaan die studie die bespreking van, of vrae oor 'n sensitiewe onderwerp behels? (bv. seksuele aktiwiteite, dwelmmisbruik, misdada, teistering, geweld)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Word dwelms plasebo's of ander middelle (bv. voedsel, vitamienes) aan deelnemers aan die studie geadministreer, of behels die studie ingrypende, indringende of potensieel skadelike prosedures van enige aard of enige fisiese, psigologiese of sosio-ekonomiese intervensies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Gaan bloed- of weefselmonsters van die deelnemers verkry word?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Kan die studie fisiese, psigologiese of sosiale stres of angstigheid induuseer, of kan die studie leed of negatiewe resultate veroorsaak wat meer is as die risiko's ³ wat in die normale gang van die lewe ervaar word?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Gaan die studie die identifisering van individue vir opvolg-evaluasie vereis? (i.e. deur middel van name en vanne, identiteits- of personeelnummers)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Gaan finansiële instrumente (anders as aanvaarbare uitgawes en kompensasie vir tyd) of oorrudingsmiddelle van enige aard aan deelnemers aangebied word?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Is dit moontlik dat die beeld van die NWU, die relevante akademiese departement, u werkgewer, of enige ander instelling insover hul betrokke is of geaffekteer kan word deur die projek, negatief geaffekteer word deur hierdie navorsing, of in 'n slegte lig geplaas word?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wanneer die volgende twee vrae beantwoord word, oorweeg die klassifikasie van die navorsing volgens die risikovolak – geen, lae, medium of hoë risiko – volgens die NWU-riglyne. Heg die dokumentasie aan waarin u, u motivering vir hierdie klassifikasie uitlig/beskryf.		
10. Beplan u om van NWU-studente en/of direkte en/of sekondêre/gekontraakteerde personelede as proefpersone in hierdie navorsing gebruik te maak? Toon ook asseblief die verwagte risikovolak aan:	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="radio"/> Geen risiko <input type="radio"/> Lae risiko <input type="radio"/> Medium risiko <input type="radio"/> Hoë risiko		

1. Aangepas uit Economic and Social Research Council (2005). Research Ethics Framework (VERWI). (REF). www.esrcsocietytoday.ac.uk

2. **Kwesbaar** groepe opper spesiale sake rakende ingeligte toestemming en potensieel risiko. "Kwesbare" deelnemers word nie duidelik gedefinieer nie, maar daar is reeds geseem dat die volgende ingesluit word: "... kinders, gewangenes, swanger vroue, geestelik-versteurde persone, ekonomies of opvoedkundig benadeelde persone". (Common Federal Policy, 1991). Weijer en Emanuel (2000) ervaar deelnemers om kwesbaar te wees indien hulle nie in die posisie is om ongeligte toestemming te verleen nie weens hul posisie (soos om in die tronk te wees), of dat hul nie oor genoegsame intellektuele beskikning (soos kinders of die geestelik-versteurdes). "Kinders" word hier gedefinieer as deelnemers jonger as 18 jaar oud.

3. **Risiko:** Hierdie moontlike risiko's word beskryf as 'n skending van privaatheid, verlies aan konfidensialiteit, psigologiese trauma, indirekte fisiese leed, verleentheid, stigma, en groepsstereotipering (Dukes, 2002), sowel as risiko's opgedrewe aan 'n groepspersoon se persoonlike stand, privaatheid, persoonlike waardes en oortuigings, hul bande met familie en die wjer gemeenskap, sowel as hul posisie binne beroepsomgewings en die verrekende gevolge geassosieer met die opeitbaring van inligting wat te doen het met onwettige, seksuele of afwykende godrag (Economic and Social Research Council (ESRC), 2005: 21). Minimale risiko kan gedefinieer word as wanneer die waarskynlikheid en omvang van leed of ongemak wat in die voorgesomme navorsing verweg word nie inherent groter is as dié wat normaalweg in hul daaglikse bestaan ervaar word nie (Code of Federal Regulations, 2005).

Appendix B: Ethical clearance letter

<p>11. Gaan die studie die samewerking van 'n hekwagter vir aanvanklike toegang tot die groepe of individue wat gewerf gaan word, vereis? (bv. studente by 'n skool, lede van selfhelpgroepe, inwoners van 'n verpleeginrigting, die Minister van Onderwys, 'n stamhoof of stamoudste). Toon ook asseblief die verwagte risikovlak aan:</p>	Ja Nee <input type="checkbox"/> <input checked="" type="checkbox"/>
<p style="text-align: center;"> <input checked="" type="radio"/> Geen risiko <input type="radio"/> Lae risiko <input type="radio"/> Medium risiko <input type="radio"/> Hoë risiko </p>	

Indien u **ja** by enige van die bogenoemde vrae geantwoord het, sal u volledig moet beskryf hoe u beoog om die etiese aspekte geopper deur u voorstel aan te spreek. *Hierdie beteken nie dat u nie die navorsing sal kan doen nie, maar slegs dat u voorstel deur die Fakulteit se Navorsingsetiëkomitee goedgekeur moet word. Heg 'n volledige beskrywing van die spesifieke aspekte aan hierdie verklaring, vir bespreking deur die paneel tydens die voorleggingskollokwium. Verder moet u, u motivering vir die klassifikasie van die navorsing as lae, medium of hoë risiko uitlig/beskryf (Verwys asseblief na die aangehegte NWU etiese risikovlakbeskrywers).*

Let asseblief daarop dat dit u verantwoordelikheid is om die NWU se *Riglyne vir Etiese Navorsing* te volg, soos uiteengesit in die Handleiding vir Nagraadse Studies en enige ander relevante akademiese of professionele riglyne tydens die uitvoering van u studie. *Hierdie sluit in die verskaffing van toepaslike inligtingsblaaie en toestemmingsbriewe, en die versekering van konfidensialiteit tydens die stoor en gebruik van die data, sowel as die anonimiteit van die deelnemers.* Enige beduidende verandering in die vraag, ontwerp of uitvoering gedurende die verloop van die navorsing behoort aan die studieleier gekommunikeer te word en 'n nuwe aansoek vir etiekgoedkeuring mag nodig wees.

Kandidaat

Studente behoort in afskrif van hierdie vorm te behou en moet dit saam met hul verhandeling/proefskrif inhandig.

Ek het die NWU se Handleiding vir Nagraadse Studies gelees en is vertroud met die Riglyne vir Navorsingsetiek daarin vervat⁴.

Ek het myself vertrou gemaak met die NWU beleid oor Plagiaat en Akademiese Oneerlikheid, en onderhewig myself daaraan.

	Ja Nee
✓	<input type="checkbox"/>
✓	<input type="checkbox"/>

<p>Kandidaat Naam en van:</p> <p>Inonge Lisita</p> <p>Handtekening: </p>	<p>Studieleier/Promotor Naam en van:</p> <p>Estelle van Tonder</p> <p>Handtekening: </p>
<p>Voorsitter: Navorsingskollokwium Naam en van:</p> <p>Nedia Mackay</p> <p>Handtekening: </p>	<p>Datum: <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="6"/> <input type="text" value="0"/> <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="8"/></p> <p>Vlak van goedkeuring</p> <p><input checked="" type="radio"/> Fakulteit</p> <p><input type="radio"/> Institusioneel (Verwys na volledige oorsig)</p>

⁴ <http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-research-support/ResearchLinkdocs/EnglishPDFs/PGManual.pdf>

Appendix B: Ethical clearance letter

Navorsingskollokwiumpaneellede

Naam en van:

Dr Nedia Mackay

Naam en van:

Prof Estelle van Tonder

Naam en van:

Me Hester Spies

Naam en van:

Me Carinda Williams

Naam en van:

Mnr Roland Goldberg

Naam en van:

Me Stefanie Kühn

Naam en van:

STUUR UITVEE PRINT STOOR

APPENDIX C

LETTER FROM STATISTICIAN



NORTH-WEST UNIVERSITY
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Suid-Afrika, 2520

Tell: 018 299-1111/2222

Web: <http://www.nwu.ac.za>

24 October 2017

RE: Statistical Analyses for Inonge Theresa Lisita

To whom it may concern,

This is to confirm that I, the undersigned, acted as a statistical consultant for the above mentioned student's PhD thesis. A wide variety of techniques were implemented which included: Structural equation modelling methods (measurement and structural models) with latent and observed variables in the AMOS software package.

I trust you will find this in order.

Yours sincerely,

Prof. Leon de Beer
Associate Professor
Industrial Psychologist
Research Psychologist
WorkWell Research Unit
Potchefstroom Campus
DeBeer.Leon@nwu.ac.za



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

APPENDIX D

LETTER FROM LANGUAGE EDITOR



Antoinette Bisschoff
71 Esselen Street, Potchefstroom
Tel: 018 293 3046
Cell: 082 878 5183
antoinettebisschoff@mweb.co.za
CC No: 1995/017794/23

Saturday, 11 November 2017

To whom it may concern,

Re: Letter of confirmation of language editing

The thesis **A model for positive customer citizenship behaviour in the mobile banking application environment** by T.I. Lisita (18013821) was language and technically edited. The referencing and sources were checked as per NWU referencing guidelines. Final corrections remain the responsibility of the author.



Antoinette Bisschoff

Officially approved language editor of the NWU since 1998
Member of SA Translators Institute (no. 100181)

Precision ... to the last letter