Drivers of Customer loyalty in the South African mobile phone telecommunications Industry

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ABSTRACT

The research focuses on the drivers of customer loyalty in the mobile phone telecommunications industry in South Africa. It investigates how the subscribers' behaviour and attitude influence the subscriber propensity to switch mobile phone operators. The report attempts to establish a sustainable service strategy by interrogating the key factors that influence customer loyalty.

The industry faces challenges presented by a competitive marketplace, shorter product life cycles, instability, an uncertain future and threats of new entrants. Of these challenges, customer retention is within the control of the individual mobile phone operator and addresses the threat of competitors, as well as new entrants. Mobile phone operators may achieve customer retention through developing customer loyalty.

The research makes use of an online survey to collect the data from a sample of mobile phone subscribers and the data is processed using CFA (Confirmatory factor analysis). The findings confirm that customer satisfaction, perceived value, trust and habit are the key drivers of customer loyalty.

As the industry matures, and in the absence of population explosion, the only sustainable strategy for mobile phone operators lies in customer retention or customer loyalty, while increasing their product lines.

DECLARATION

I, Prince Mashayahanya, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration within the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Prince Mashayahanya

Signed at ……

On the …….. day of …… 20…..

DEDICATION

To my wife, Merrymore, my daughter, Charlene and my son, Anesu for all the sacrifices and support.

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Sincere appreciation goes to:

- Interactive Intelligence for funding my MBA studies and affording me time to study
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this research is to analyse and evaluate determinants of customer loyalty in the telecommunications industry in South Africa. It investigates subscribers' propensity to switch mobile providers by focusing on their behaviours and perceptions. The report attempts to establish a sustainable service strategy by investigating all the factors which influence customer loyalty.

The introduction of mobile number portability has shifted mobile operators' strategic focus away from attracting new subscribers to retaining existing subscribers through promoting customer loyalty (Faccio & Zingales, 2017). Number portability allows customers to shift from one service provider to another, in the comfort of their homes, without changing their mobile number, which in the past may have resulted in the customer losing the number known to family, friends and business associates.

Creating and entrenching customer loyalty seems to be one of the central objectives in today's telecommunications industry. Business around the globe have embraced the concept of customer loyalty. Examples include the customer loyalty programs by the aviation, hospitality and retail industries.

South African examples include Cell C's "Contract Buy-out" of May 2015, where prospective subscribers willing to cancel their contract with the competing mobile phone operators and switch to CellC were offered up to R10 000, an amount that was further revised to R20 000. The promotion had an overwhelming response. (CELLC, 2016). Evidently, lock-in contracts afford service providers some exit barriers which are not applicable to prepaid subscribers. The challenge that faces mobile phone providers is how to retain prepaid customers when exit barriers are almost not existent. These subscribers can easily switch from one provider to another through number porting.

Elsewhere, according to Roberts (2016), T-Mobile, a US mobile provider launched its unique "Un-carrier" initiative, which offered free shares in T-Mobile US common stock

to certain new or existing customers, weekly gift packs, and free WIFI on domestic flights. The initiative saw the US subscriber base nearly doubling from 34 million to 64 million between March 2013 and March 2016, doubling its NASDAQ share price (Roberts, 2016).

In 2015, Zain entered into a multiple country partnership with Uber, a strategic partnership that saw Zain mobile phone customers and Uber drivers getting discounts on Zain's mobile services. Customers in Bahrain, Jordan and Saudi Arabia are already enjoying these programmes. The partnership has also seen engagements on enabling Wi-Fi for Zain customers taking Uber rides (McCormick, 2015).

1.2 Context of the study

Competition in the mobile phone industry is based to a greater extent on the volume of subscribers and may be maintained by attracting more subscribers, both new subscribers and those from competing mobile phone operators while retaining the existing subscribers. Retention of existing subscribers call for customer loyalty, which service providers have to prioritise and guard against loosing subscribers to competitors (Aydin, Özer, & Arasil, 2005). Loyal customers are less price sensitive and are willing participants of customer feedback and continuous service improvement processes (Wallace, Giese, & Johnson, 2004). Customer loyalty is defines as a favourable attitudinal commitment towards a product or service resulting in a behavioural intention to re-purchase (Lin & Wang, 2006). Customer loyalty can be split into purchase loyalty and attitudinal loyalty where, the former is defined as behavioural intention to repurchase the brand and the latter as a favourable attitude and commitment toward a product or service brand (Chaudhuri & Holbrook, 2001). Customer experience is transforming exponentially, customers expect more for less out of every interaction and the shareholders expect maximum value out of technology solutions (Ismail, 2014)

The South African mobile operator landscape can be defined as a two-tier system. One, prepaid, where the subscriber buys the phone and subscribes with a mobile phone operator of his choice without any commitment. The second one is where the subscriber enters into a contract, usually 24 to 36 months with a service provider. In

this case, the provider will supply the phone and lock the customer in for the duration of the contract wherein the subscriber pays monthly instalments for the device. The retention of the prepaid subscribers, having the freedom to switch from one mobile provider to another at no cost are the subject of this study.

1.2.1 *Telecommunications History*

According to Huurdeman (2003), the history of communications dates back centuries, where messages were conveyed by messengers, and signals such as fire, smoke or sound were used to signal pre-arranged messages. The mechanical telegraph was invented in 1794, copper wires in 1837, electromagnetic waves in 1896 and optic fibre in 1973. Technology has since evolved from line transmission to radio transmission where information is now electromagnetically transmitted through high frequencies and cellular radio systems (Huurdeman, 2003). Today's most common radio access technology is digital cellular, with a worldwide subscriber base that exceeded six billion in 2013 (Dahlman, Parkvall, & Skold, 2013). “Mobile communication technologies are often divided into generations, with 1G being the analogue mobile radio systems of the 1980s, 2G the first digital mobile systems, and 3G being the first mobile systems handling broadband data. The nest generation, 4G or Long-Term Evolution (LTE), provides even better support for mobile broad band.” (Dahlman et al., 2013, p.154)

1.2.2 *The South African Telecommunications historical overview*

According to Horwitz (1999), the Post Office Amendment Act of 1991 saw the birth of Telkom with the separation of posts and telecommunications services. The new state-owned telecommunications entity was granted exclusive rights in the telecommunications industry, rights the company held until 1996. Cellular licences were granted to Vodacom and MTN in 1993 following a lot of political bickering and operations started in 1994 (R. Horwitz, 1999). According to Horwitz and Currie (2007), legislation and a reform programme to revamp the telecommunications sector was passed just after South Africa’s first democratic election in 1994. Its mandate was to roll out telecommunications services to the previously disadvantaged communities and also to establish an independent body to oversee the rollout. Despite the effort and massive investment, the ten-year reform project that ran from 1996 to 2006 dismally failed with only a slight increase in fixed line subscribers, from 3,919 million

to 4,708 million, just a 10 per cent penetration. On the other hand, the mobile subscriber numbers increased phenomenally from one million to over 19 million (R. B. Horwitz & Currie, 2007). The mobile telephone increased coverage, but charged exorbitant rates compared to countries with similar characteristics, resulting in constrained usage. The price structure became a barrier to accessing the services for the majority of the low income earners (R. B. Horwitz & Currie, 2007).

According to The International Telecommunications Union (ITU), the global number of mobile subscribers surpassed that of fixed line subscribers in the year 2002, and in SA, the mobile subscriber numbers have been exponentially growing in line with the global trends (Srivastava, 2005).

1.2.3 *The current South African Telecommunications overview*

The mobile phone has evolved from being a technology gadget to a device that has become part of people's daily lives (Srivastava, 2005). Salehan and Negahban (2013) describe exponential technological advancements in software and introduction of smartphones as tools that have augmented information and communication technology (ICT) uses. Mobile phone functions range from traditional voice calls to data functions such as research, learning, gaming and other online social networking services. Many social networking application vendors have introduced mobile phone applications that can be downloaded straight from the internet, iTunes, or android. These applications can be installed on any smart Internet Protocol capable devices such as smartphones, for easy access to collaborative social platforms like Facebook, LinkedIn and WhatsApp. (Salehan & Negahban, 2013).According to Statista (2017), the Europe and North America revenue in the "Mobile phones" Segment amounted to US$93,893m and US$70,662m in 2017,respectively. The market is expected to grow annually by 2.3 % and 2,5% respectively, all of which can be attributed to an increase in the popularity of smartphones and affordability. There are currently 14.1 million smartphone users in South Africa, and the number is estimated to grow to 19, 2 million by the year 2019.

BusinessTech (2015); (Tarrant, 2016) of Money web reported a scramble for mobile market share among the South African Mobile Network Operators citing Vodacom, MTN, Cell C, and others as holding estimated market shares of 35.1 per cent, 29.8per

cent, 12.6 per cent, and 2.7 per cent respectively. Others included Telkom and virtual mobile operators such as Virgin mobile and FNB connect.

MTN lost 2 per cent of its prepaid segment to Cell C within a six months' period of June to November 2014. Vodacom reported a 3.8 per cent drop in its subscriber base in the year ended December 2014. CellC realised a year on year growth staring from 13,2 per cent mobile market share in 2011 to 22.7 per cent by 2014 while Virgin Mobile has been hovering on an average of 0.6 per cent mobile market share. According to Bloomberg (2016), Cell C, the youngest and a subsidiary of 3C Telecommunications has been making great strides since its launch.

1.3 Problem statement

The past two decades have been characterised by market growth and a scramble for the new subscribers. All mobile phone providers focused on market penetration and signing up new subscribers. The regulations and switching barriers made it difficult for subscribers to move from one service provider to another. Given these barriers, mobile operators found no reason to focus on customer retention and service, but rather, engaged in an aggressive strategy targeting new subscribers sign up

In the absence of exit barriers and switching costs, it has now become a "zero sum game" where one mobile provider's increase in subscribers means a loss of subscribers on the part of the other mobile provider. This calls for retention of existing subscribers as a first line of defence before attempting to wrestle the competitor's subscribers, with a focus on service.

In the absence of exit barriers and switching costs, mobile providers may only retain their subscribers by developing customer loyalty among their subscriber base. This research investigates the drivers of customer loyalty and the concomitant propensity for subscribers to switch from one mobile provider to another, within the SA mobile telephone sector in the context of the above outlined challenge faced by the mobile providers. Understanding the dynamics of customer loyalty will provide a firm conceptual framework for the mobile service providers to develop robust customer

retention strategies and programs. The research question is to investigate the drivers of customer loyalty.

1.3.1 *Main problem*

The main problem is to determine the drivers and sub-drivers of customer loyalty within the telecommunication industry in South Africa, and the customer propensity to switch from one mobile phone operator to another.

1.3.2 *Propositions*

- **Proposition 1:** The drivers of customer loyalty in the telecommunication industry are customer satisfaction, perceived value, trust, habit and customer loyalty.
- **Proposition 2:** There is an interrelationship between the drivers namely; customer satisfaction, perceived value, trust and habit.
- **Proposition 3:** The older generation is more brand loyal than the younger generation.

1.3.3 *Hypothesis*

- H1. Customer satisfaction has a positive effect on customer loyalty.
- H2. Perceived value has a positive relationship with customer loyalty.
- H3. Perceived value has a positive effect on customer satisfaction.
- H4. Trust has a positive effect on customer loyalty.
- H5. Trust has a positive effect on customer satisfaction.
- H6. Habit has a positive effect on customer loyalty

1.4 Significance of the study

To the researcher's understanding, most customer loyalty papers focused in the hospitality, aviation and retail industry, and yet nothing in the South African

telecommunications industry. Examples of a few latest reports include Terblanche (2017)'s research on customer loyalty in the SA retail environments and Solomon, Stanley, and Ufuoma (2017)'s research on customer loyalty in the Nigerian commercial banks

Customer loyalty in the telecommunications sector has been done mostly in America, Europe and Asia, as in M.-K. Kim, Park, and Jeong (2004), Lin and Wang (2006) and Thaiyalnayaki and Varshney (2012).

To the researcher's knowledge, this research is likely the first attempt to investigate the customer loyalty in the South African mobile telephone sector. It is expected that the research will stimulate discussions and further research on the matter.

The study provides guidance to the formulation of sustainable service strategies. To that end, the study pivots on customer feedback. Sustained growth depends on how well a business gauges the needs of its customers. Sustainable competitive advantage has shifted from structural characteristics such as economies of scale or product ranges/lines to a market oriented culture that strives to deliver superior value to its customers

Reports drawn from interviews with customers are vital in building unique service value propositions and help review benchmarks for any mobile operator that is interested in mapping a customer journey that ensures an ever-improving service value delivery.

A service SWOT analysis can be drawn from the interview data and firms can build their service strategies through a clear understanding of their weaknesses and strengths, in line with the threats and opportunities in the marketplace. Firms could also gain clarity on service investments because the data collected will advise them on the aspects which customers value most and channel most of their research and development to those areas. An interaction with subscribers has high chances of educating customers on how best they can optimise the products and services at their disposal. This is an added advantage to the mobile operators because educated customers participate better in customer feedback and service improvements engagements.

1.5 Delimitations of the study

- This study, being limited in time, scope and material resources proposes a research sample size of 250 drawn from South Africa, where the researcher is domiciled.
- The sample constituted of subscribers who are above 18 years of age and reside in South Africa.
- The sample was constituted by MTN, Vodacom or Cell C subscribers.
- Limited to personal cell phone users and excludes business users.
- Limited to Prepaid and excludes contract (Locked-In) subscribers
- Mobile operators have a variety of technology offerings which include hosting (Secure device Manager Hosted CRM and SharePoint), internet (Broadband connections through LTE, DSL, fiber Optic, wireless and satellite), mobile voice (Hosted call centers, Video collaboration, One Net Connect and VoIP) and Data storage and tracking (Vodacom, 2016), but the study is limited to mobile phone voice, data, and any other functions performed on a basic or smart phone.

1.6 Definition of terms

- Telecommunications is defined as “any transmission, emission or reception of signs, signals, writings, images, and sounds; or intelligence of any nature by wire radio, visual or other electromagnetic systems” (Huurdeman, 1997).

- International Telecommunication Union (ITU) is “an agency of the United Nations (UN) whose purpose is to coordinate telecommunication operations and services throughout the world. Originally founded in 1865, as the International Telegraph Union” (ITU 2016)

- Internet Protocol is an RFC standard protocol whose function is to "move datagrams through an interconnected set of networks. This is done by passing the datagrams from one internet module to another until the destination is reached.” (Postel, 1981).

- Low income refers to individuals within LSM 1 to 4, where 1 is the lowest and 10, the highest (SAARF 2014).

- Mobile phone operators – the document refers to MTN, Vodacom and Cell C.

1.7 Assumptions

The following assumptions were made concerning this research:

- The respondents expressed themselves freely and gave honest responses as no questions of a sensitive nature were included in the questionnaire.
- The respondents and the interviewees trusted the interviewer that confidentiality and discretion would be maintained and formal approval would be requested if the data is to be shared with any third party.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

The concept of customer loyalty has been extensively researched and is believed to be the company's most enduring asset. Most mature industries use customer loyalty to compute customer lifetime value (CLV). (Ng, Wong, & Ma, 2017).

For decades, customer loyalty was defined by the behavioural view point, and Day (1969) conceptualised customer loyalty as a combination of both attitude and behaviour. According to the behavioural angle of loyalty, a loyal customer is one who for example, buys the same brand, eats from the same restaurant and buys from the same grocery store. On the other hand, attitudinal loyalty refers to the psychological process that influences the customer 's predisposition towards a brand. Dick and Basu (1994) developed a conceptual framework to fully understand the cognitive, affective, and conative antecedents of customer loyalty.

Ng et al. (2017) concurs with Oliver (1997 p.392)'s definition of customer loyalty, as "a deeply held commitment to rebuy or patronise a preferred product/service consistently in the future, thereby causing repetitive same brand set purchasing, despite situational influences and, marketing efforts having the potential to cause switching behaviour."

2.2 The South African Telecommunications Landscape

According to (BusinessTech, 2015), South Africa's mobile phone subscriptions had grown to 84, 5 million, with 81.9% accounted for by prepaid subscriptions. Competition among the country's four major mobile operators is high as they scramble for a share in the highly penetrated market. The South African mobile network operators, Vodacom, MTN, Cell C and Telkom held an estimated market shares of 37.7 per cent, 35.9 per cent, 23.0 per cent, 2.6 per respectively. In competition for a slice of the pie, South Africa is home to Mobile Virtual Network operators(MVNO) such as Virgin Mobile, Mr Price Mobile and FNB Connect which also hold 0.8% of the market share.

By the end of second quarter of 2016, Vodacom's market capitalisation had grown to ZAR 252.88 billion with a Price Per Earning (P/E) Ratio 19.32, MTN's market cap had grown to 256.62 Billion with a P/E Ratio 12.58 and Telkom Market Cap had grown to ZAR 33.77 Billion with a P/E Ratio 14.81 (JSE, 2016). Cell C was not publicly listed at the time and its financials were not publicly available.

Table 1 : South Africa, mobile subscriptions by operator in year 2015

Mobile operator market share (Year 2015)		
Operator	**Number of subscribers**	**Market share**
Vodacom	32.12 million	37.7%
MTN SA	30.55 million	35.9%
Cell C	19.6 million	23.0%
Telkom	2.19 million	2.6%
MVNOs	650,000	0.8%

Source: (BusinessTech, 2015)

According to the Number Portability Company (2016), MTN, Vodacom and Cell C jointly formed Number Portability Company (NPC) following the 2001 amendment to the Telecommunications Act where ICASA was mandated to “prescribe measures to ensure that number portability shall be introduced in 2005.” In April 2010, Neotel and Telkom joined the league. NPC administered a Central Reference Database (CRDB) which engineered the porting process and the network routes. NPC ported 4,789,641 mobile numbers between November 2006 and June 2016, with Average Monthly Mobile ports of +-38,940 mobile numbers. Since the introduction of GNP (Geographic Number Portability) in 2010, 54,228 Geographic numbers have been ported, with an average monthly Geographic ports of +- 10,332 (NPC, 2016).

In response to number porting and frequent customer switching, the South African mobile phone operators started to seriously engage in customer retention programmes. In 2009, MTN South Africa launched its unique “MTN 1-4-1” loyalty programme that rewarded active customers, promote usage and reduced overall customer churn. The programme rewarded subscribers with one point for every ZAR1 spent on any mobile media interaction. The programme has since been adopted by other MTN subsidiaries in Rwanda, Uganda and Ghana (Njue, 2014). Accumulated points could be exchanged for airtime, internet or SMS bundles, "MTN MUZIQ" and MTN to MTN transfers (MTN, 2016). The programme rewarded both prepaid and post-paid customers. (Njue, 2014),

Vodacom's "Talking points" loyalty programme rewarded prepaid and other top up customers with a single point for every ZAR10 airtime, data bundle or SMS recharge. Accumulated points could be exchanged for SMS, MMS, Data bundle Rewards, Call discounts or devices such as mobile phones or tablets. The initiative gained a lot of momentum as it did not require registration and customers only registered when exchanging their points for devices. Its downside was that, it did not reward post-paid customers (Njue, 2014), but this has since changed to include both pre-paid and post-paid customers (Vodacom, 2016).

Table 2 below shows the loyalty programs for both Vodacom and MTN

Table 2 : South Africa loyalty programs, Vodacom vs. MTN

South Africa loyalty programs, Vodacom vs MTN			
Operator	Loyalty Program	**Key Characteristics**	**Strengths and Weaknesses**
Vodacom	Talking Points	A free loyalty program that awards Vodacom prepaid and colour registered top up customers with 1 point for every ZAR 10 airtime recharge data bundle, or SMS voucher purchase. Accumulated points can be exchanged for airtime, SMS and data bundles, or device	Does not require registration by users to start earning points; Registration is only required when exchanging the points for mobile device. Users are notified of the number of points earned for each airtime recharge. The programme does not reward post-paid users, who can easily churn to other networks to benefit from new offers
MTN SA	MTN 141	A free loyalty program that rewards both prepaid and post-paid customers with 1 point for every ZAR1 spent on mobile calls, SMS, or data on the MTN network. The service requires registration for first time users through *141#. Customers can exchange the accumulated points for airtime, SMS and data bundles, or MTN-sponsored competitions or to donate to MTN	MTN1-4-1 rewards both prepaid and post-paid customers, which greatly helps the operator reduce churn in its network. However, customers can not exchange points for mobile devices as they can with the Vodacom loyalty program

Source: OVUM (2015. p. 3)

CELLC embarked on a marketing campaign with the launch of "MEGA DATA", a promotion that rewarded prepaid customers with three times the value of data every time a customer recharges with ZAR 50 or more, "MEGA BONUS", a promotion that rewarded 200% bonus Cell C to Cell C airtime at every recharge. In addition to these loyalty programmes, it also rolled out the "Woza Weekend", "Super Charge" and many more other promotions tailor-made for different packages. (CELLC, 2016).

In October 2015, Telkom responded by forming the Telkom - Old Mutual partnership, an initiative that offered added value to existing prepaid customers by offering a ZAR 10 000 funeral cover to any customers recharging ZAR100 or more in one month (Telkom, 2015).

Elsewhere, other operators have looked beyond loyalty programmes by increasing service offerings. NET Servicos, a Brazilian cable operator combined differentiation in technology and services offerings to bump up customer loyalty (Passoni, 2012)

For South African market, as outlined earlier in this paper, customer loyalty holds the key to the success of mobile phone operators.

2.3 Customer Loyalty

Ng et al. (2017) agrees with Oliver (1997 p.392)'s definition of customer loyalty, as "a deeply held commitment to rebuy or patronise a preferred product/service consistently in the future, thereby causing repetitive same brand set purchasing, despite situational influences and, marketing efforts having the potential to cause switching behaviour."

Customer loyalty is a favourable attitudinal commitment towards a product or service resulting in a behavioural intention to re-purchase (Lin & Wang, 2006), and can be split into purchase loyalty and attitudinal loyalty where the former is defined as behavioural intention to repurchase the brand and the latter as a favourable attitude and commitment toward a product or service brand (Chaudhuri & Holbrook, 2001).

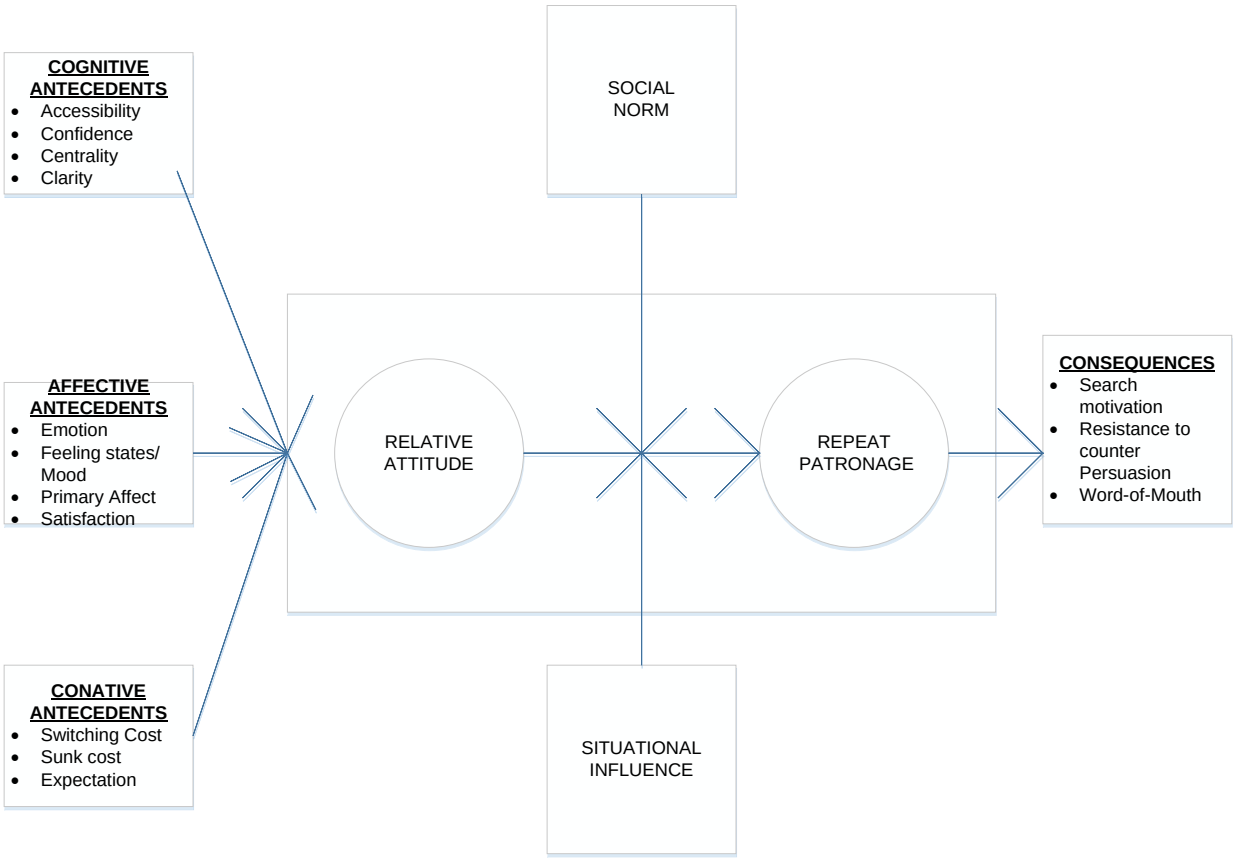
According to Dick and Basu (1994, p. 100) "Customer loyalty is viewed as the strength of the relationship between an individual's relative attitude and repeat patronage. The relationship is seen as mediated by social norms and situational factors. Cognitive, affective, and conative antecedents of relative attitude are identified as contributing to loyalty, along with motivational, perceptual, and behavioral consequences." Dick and Basu (1994), Hallowell (1996) and Lin and Wang (2006) agree that customer loyalty is an attitudinal commitment towards a product or service, resulting in a behavioural intention to re-purchase. A high favourable attitude compared to alternatives and repeated purchases are required for loyalty. The framework conceptualises loyalty as an attitude towards an entity (brand or service) and patronage behaviour (Dick & Basu, 1994).

For decades, customer loyalty was defined by the behavioural view point, and Day (1969) conceptualised customer loyalty as a combination of both attitude and behaviour. According to the behavioural angle of loyalty, a loyal customer is one who for example, buys the same brand, eats from the same restaurant and buys from the same grocery store. Dick and Basu (1994) developed a conceptual framework to fully understand the cognitive, affective, and conative antecedents of customer loyalty.

The introduction of Mobile Number Portability (MNP) has shifted mobile operators' strategic focus away from attracting new subscribers to retaining existing subscribers through promoting customer loyalty. New subscribers do not make the numbers anymore as the service product has reached maturity. MNP significantly reduced switching costs from one mobile provider to the other as customers can move from one service provider to another and still keep their phone numbers. Before then, regardless of satisfaction, customers stayed with their service providers for fear of losing the phone number known by friends, family and business associates, and mobile providers directed all their efforts to attracting new customers rather than customer retention. This revolution has seen industries adopting a customer focus, often through customer loyalty programmes and CRM (Customer Relationship Management).

Figure 1 by Dick and Basu (1994) illustrates customer's relative attitude and repeat purchases as influenced by social and situational factors, and points out antecedents of relative attitude namely cognitive, affective, and conative factors, and further drills down to sub-factors of each antecedent.

Figure 1 : A framework of customer loyalty



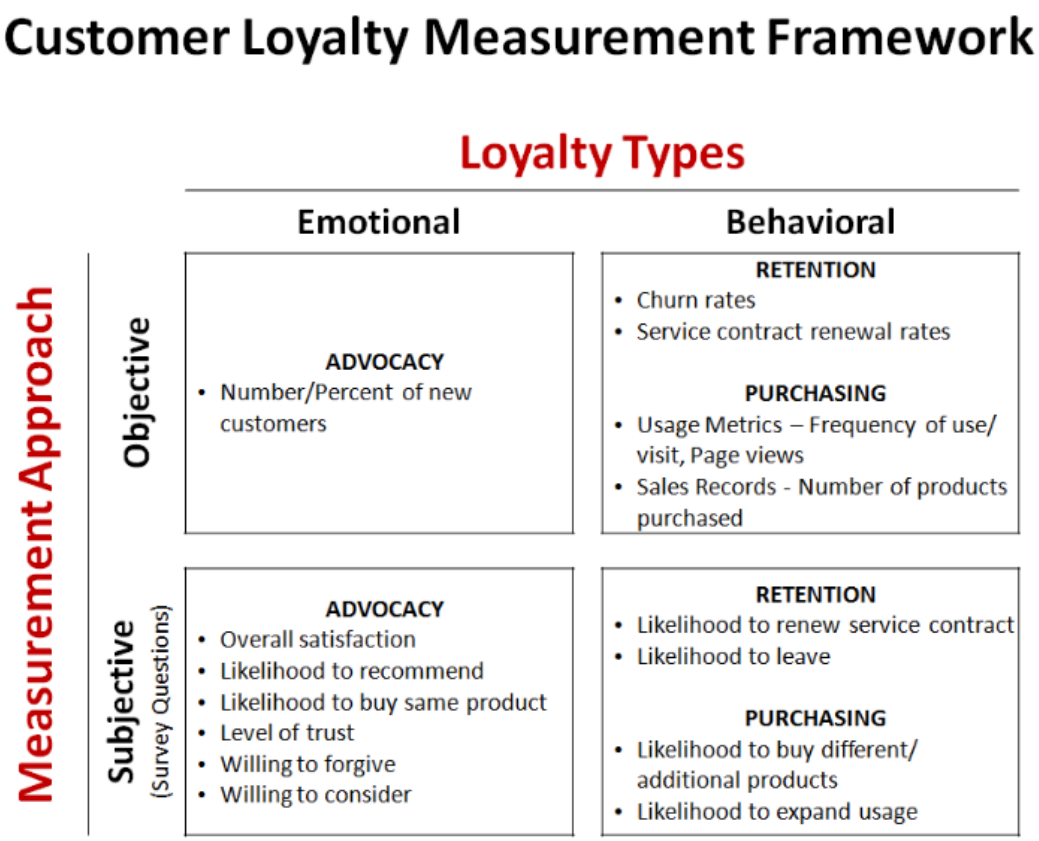
Source: Dick and Basu (1994)

Dick and Basu (1994) conceptualised the relationship between Relative attitude and repeat patronage in a two by two matrix, where loyalty is defined as high Relative attitude and high Repeat patronage, Latent loyalty as high relative attitude and low repeat patronage, Spurious Loyalty as low relative attitude and high repeat patronage, No loyalty as low relative attitude and low repeat patronage. Low relative attitude may be due to similar competing brands but managers can stimulate "spurious Loyalty" through manipulating situational influences and social norms and examples of such are convenience stores and an increased product or service accessibility.

Customer loyalty is evident in an organisation's churn rate, service contract renewal rates, frequency of use and sales records. Some other subjective metrics include likelihood to recommend increased usage and propensity to switch (M.-K. Kim, Wong, Chang, & Park, 2016).

Most organisations have adopted a measurement framework that measure emotional and behavioural loyalty where the earlier looks at advocacy and the later looks at retention and purchase behaviours. Retention reflects a customer's willingness to stick with an organisation's products and services, and its metrics include asking questions around a customer's future behaviour or their likeliness to switch, and both are indicative of customer satisfaction. Measuring advocacy includes asking questions around the customer's likeliness to recommend and repeat purchases behaviours (M.-K. Kim et al., 2016).

Figure 2 : Customer loyalty measurement framework



Source: Business Over Broadway (2013)

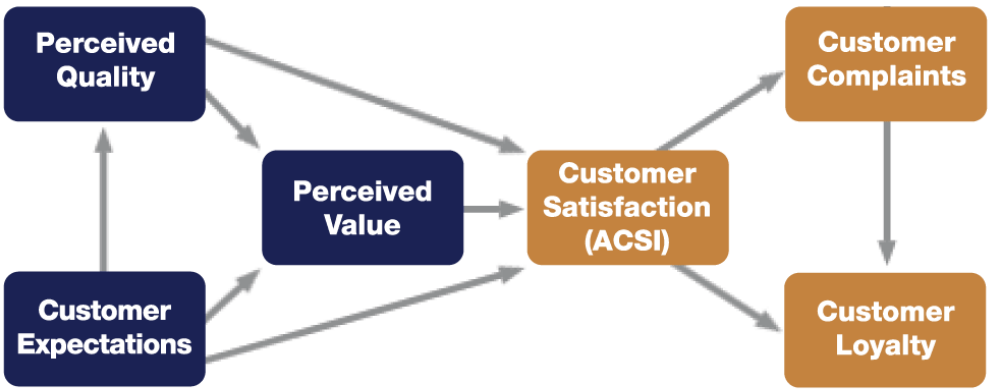
2.3.1 *Customer satisfaction*

Lin and Wang (2006) defined customer satisfaction as the customers' evaluation and effective response to a product, service or experience, and is considered a strong factor for behavioural variables such as repeat purchases, recommendations or loyalty, and their empirical research revealed a positive relationship between customer satisfaction and customer loyalty. Satisfaction is met when the expected is met or exceeded. The level of satisfaction depends on the level of the supplied products service or experience (Khan, 2012). The key ingredient to retain the existing customers is Customer satisfaction (Guo, Xiao, & Tang, 2009). Unsatisfied customers are less likely to develop a long term relationship with the service provider, and as such, firms must commit to developing satisfaction, reliability in service provision and nurturing the customer relationships (Wu, Lin, & Hsu, 2011).

Gronholdt, Martensen, and Kristensen (2000) regard customer satisfaction as the key to customer loyalty and further regard customer satisfaction to be a function of perceived corporate image, customer expectations, perceived quality and perceived value, where perceived quality is divided into two elements namely "hardware" and "human ware". Perceived quality of "hardware" is the perceived quality of the attributes of the products or services while perceived quality of "human ware" is the perceived quality associated with human interactive elements in the service offering and this includes personal behaviour or environmental experience. In addition to Yang and Peterson (2004)’s Customer satisfaction and perceived value, Lin and Wang (2006) added trust and habit as other determinants of Customer loyalty.

Many organisations have built their strategies around customer satisfaction and have adopted the ACSI (The American Customer Satisfaction Index) as a standard measure. The ACSI is a model that measures the quality of service as experienced by customers, and also provides market based measures of firms and industries. According to ACSI (2016, p. 1), the ACSI model is "a cause-and-effect model with indices for drivers of satisfaction on the left side (customer expectations, perceived quality, and perceived value), satisfaction (ACSI) in the centre, and outcomes of satisfaction on the right side (customer complaints and customer loyalty, including customer retention and price tolerance)".

Figure 3 : The American Customer Satisfaction Model (ACSI)



Source: The American Customer Satisfaction Model (ACSI, 2016)

The model, as shown in figure 4 illustrates customer satisfaction as having three antecedents, namely, perceived quality, value and expectations. All the three determinants have a positive effect on overall customer satisfaction. An increased perceived quality has a positive effect on customer satisfaction, perceived value and perceived expectations incorporates the consumers' prior experience with the organisation's services and offerings.

Previous studies done in different industries by Lin and Wang (2006) Zakaria et al. (2014) and Othman, Chowdhury, Bo, Omar, and Osman (2015) revealed that customer satisfaction has a positive relationship with customer loyalty. This study probes the applicability of Lin and Wang (2006)'s model in the SA mobile telecommunications industry.

The last, and most important relationship of the model is complaint handling and customer loyalty (Tung, 2013). According to Homburg and Fürst (2005), organisational complaint handling drives customer satisfaction which in turn, is a major driver of customer loyalty. According to Tung (2013), Organisational complaint handling can make or break an organisation, and empirical research has shown a positive relationship between organisational complaint handling and financial performance. This is measured by complaint satisfaction, overall customer satisfaction and customer loyalty post the complaint by asking questions like the customer experience during

and after the complaint handling process and repurchase behaviour after the complaint.

Homburg and Fürst (2005, p. 96) go on to split organisation complaint handling into organic and mechanistic approach where the latter is based on the fact that, “complainants base their evaluations on perceptions of the complaint process, interpersonal treatment, and complaint outcome.

Many organisations have built contact centres and walk-in offices for complaint handling, and have built in flexible processes to deal with complaints. MTN customer service numbers 808 (post-paid) or 173 (pre-paid), or Vodacom's 082 111 are good examples of such.

2.3.2 *Perceived value*

Perceived value involves a customer's assessment of the ratio of perceived benefits versus perceived costs, and Lin and Wang (2006)’s study revealed a positive relationship between perceived value and customer loyalty and with customer satisfaction. According to Bitner (1990, p. 70), “Consumers reach satisfaction decisions by comparing product or service performance with prior expectations about how the product or service would or should perform", and each consumer is expected to hold such expectations on how a service or product should perform. Value is an overall assessment of the service received with a bias of perception versus the cost. Simply defined, value is the difference between the perceived value and the cost of the service received.

Previous studies by Lin and Wang (2006), H. S. Lee (2015), Chen (2015) and Piyathasanan, Mathies, Wetzels, Patterson, and de Ruyter (2015) revealed that perceived value has a positive relationship with both customer satisfaction and customer loyalty, and hence, the second and third hypotheses are:

2.3.3 *Trust*

Trusting intentions imply that the customer feels secure, and is willing to depend, or intends to depend, on the trustee. Previous studies by Lin and Wang (2006), J. Lee,

Lee, and Tan (2015) and Rasheed and Abadi (2014) revealed that trust has a positive relationship with both customer satisfaction and customer loyalty.

2.3.4 *Habit*

A well-practiced behaviour becomes automatic and is executed without any conscious decision. Habitual consumers do not consciously evaluate perceived benefits or costs and consumers with well-entrenched habits tend to ignore any rational marketing strategies and external information. Previous studies by Lin and Wang (2006), Hsiao, Chang, and Tang (2016) and Shaw and Hamilton (2016) revealed that there is a positive relationship between habit and customer loyalty.

2.4 Drivers of Customer Loyalty

Lin and Wang (2006, p. 1)'s empirical research revealed that customer loyalty is affected by "perceived value, trust, habit, and customer satisfaction, with customer satisfaction playing a crucial intervening role in the relationship of perceived value and trust to loyalty". An empirical study by Turel and Serenko (2006) adapted the American Customer Satisfaction Model to examine the antecedents of Satisfaction with mobile operators in Canada. The study revealed that the degrees of perceived quality and perceived value are the key factors that affect an individual's satisfaction with mobile telecommunications operators. In turn, satisfaction influences the extent of loyalty. Regardless of price increase by the service providers or price decreases by competitors, a highly satisfied customer will stick around.

Eshghi, Haughton, and Topi (2007)'s study on customer loyalty in the wireless telecommunications industry revealed that customer's propensity to switch is mainly determined by customer satisfaction and restrictive contracts work in the short term but a long term customer retention strategy is influenced by customer loyalty. Even if alternative solutions are significantly cheaper, customers satisfied with their current services are less likely to consider alternative solutions. Relentless campaigns which woo customers through financial incentives, like free phones or free minutes can only attract new customers, as opposed to increasing satisfaction of the existing customers.

Service providers must invest in new technical solutions that can improve customer satisfaction.

Shin and Kim (2008)'s study on factors that influence mobile number portability in the US mobile market revealed that customer satisfaction, switching barriers, and customer demographics significantly affect the customers' propensity to switch, and among them, switching barriers stood out as the most significant influence. Lai, Griffin, and Babin (2009) studied how service quality, perceived value, brand image, and satisfaction create loyalty at a Chinese telecommunications company. Wu et al. (2011) investigated the relationship that exist between service quality and perceived value, and how the two impact customer satisfaction, corporate/brand image, and behavioural intentions to repurchase and concluded that firms must pursue these factors in order to gain customer loyalty.

Ahmad, Hussain, and Rajput (2015)'s empirical study revealed that customer satisfaction and trust are the main predictors of customer loyalty in the telecommunication service market, and the players must focus on establishing trust in order to retain customers. For the telecommunication service market, trust is mainly created through the provisioning of reliable services. He also pointed out switching costs as a factor that plays a moderating role.

H.-S. Kim and Yoon (2004)'s empirical study of the Korean mobile telephony market on factors that affect customer churn or loyalty, revealed that long time subscribers stick along with their service providers because of satisfaction with service performance and not because of lock-in contracts. The demographic variables' estimated coefficients indicated that the probability of switching has nothing to do with the respondent's age, but monthly income has a linear relationship with the probability of switching

2.4.1 *The inter-relationships between drivers of customer loyalty*

Tung (2013)'s study revealed that customer satisfaction plays the most significant role in customer loyalty, and factors that influenced customer satisfaction included, "perceived expectations, perceived quality, perceived value, perceived usefulness, and perceived ease of use". Customer satisfaction has a direct negative relationship

with customer complaints, thus as level of satisfaction increases, customer complaints decreases.

According to Lin and Wang (2006), “customer satisfaction, perceived value, trust, and habit accounted for 85% of the variance in customer loyalty, with customer satisfaction exerting a stronger direct effect on customer loyalty than perceived value, trust, or habit. Sixty-two percent of the variance in customer satisfaction was explained by perceived value and trust.”

Shin and Kim (2008)’s study revealed that, service quality is associated with high levels of customer satisfaction, high levels of perceived price is associated with high levels of customer satisfaction, high levels of customer satisfaction is associated with lower levels of propensity to switch and high levels of switching cost is associated with high levels of switching barrier.

Lai et al. (2009)’s study revealed that service quality has a direct influence on perceived value and image perceptions, satisfaction is influenced by value and image, value is influenced by corporate image, and that value and customer satisfaction are significant factors that affect loyalty.

Wu et al. (2011)’s proposed model indicated that delivering high service quality and creating superior customer value can result in achieving high customer satisfaction, thus affecting the firm’s image, and ultimately leading to consumer retention.

2.4.2 *Customer Loyalty variances across different demographics*

According to Patterson (2007), age and income band are associated with services loyalty (repurchase and loyalty behaviour), but gender is not. More mature age groups exhibit significantly more loyal behaviour than their younger counterparts. “The concept of social support explains why older consumers satisfy their social needs by engaging in social conversation with service providers”, for example, staying with one hairdresser or dentist gives them a sense of familiarity and recognition. The characteristics of an aging consumer are cited as the major contributors to the differences in loyalty behaviour because a customer from the older generation is less

willing to try new brands and exhibits more loyal behaviour than the young generation. Reduced mobility within the older generation restricts brand choices.

Patterson (2007, p. 113) highlights three motives for service loyalty as "social benefits, special treatment and confidence benefits". As people age, their loyalty behaviour becomes an outcome of cognitive aging and accumulated life experiences

Finally, the impact of gender and income is such that consumers with less income are price sensitive and less loyal as compared to their higher income counterparts.

2.5 Conclusion of Literature Review

Customer satisfaction is the strongest determinant of customers' propensity to switch service providers. This empirical finding implies that mobile service providers are better off in the long run if they improve customer satisfaction in a bid to minimise the loss of subscribers to competitors through switching. This finding is a sharp contrast to the traditional strategies where firms go all out to attract new customers and bind them in "lock-in" contracts, which were relevant at the time given low penetration of the service and favourable legislative environment obtaining then. (Eshghi et al., 2007).

Mobile number portability has made it possible by significantly reducing switching costs as customers can move from one mobile provider to the other at zero cost and still keep their number. Switching providers has become a painless effort because the customers get to keep the numbers known to family, friends and associates. (M.-K. Kim et al., 2004) This paradigm shift has seen many firms incorporating customer relationship management. Relentless campaigns to woo customers through financial incentives like free phones, or free minutes can only attract new customers as opposed to increasing satisfaction of the existing customers. Service providers must invest in new technical solutions that can improve customer satisfaction (Eshghi et al., 2007); A market penetration strategy in a mature sector is fundamentally flawed as it results in misallocation of funds while chasing new customers. The cost of acquiring a new customer is very high as compared to retaining the existing customer, and is even worse when the new customer base has dwindled drastically. However, firms must

focus on customer satisfaction as it drives customer loyalty as that sustains the firm's survival in business.

According to Eshghi et al. (2007), the model presented that income only adds to the cell phone talk time and internet surfing time, but is a weak predictor of customer loyalty, and regardless of the customer's age, the relationship between customer satisfaction and customer loyalty is very strong. Customers may choose to stay with current service providers because the subscribers can tolerate small price differences or solely because they are satisfied and happy with their current service (Shin & Kim, 2008). Customer loyalty becomes a form of differentiation in a commoditized product, which enable the firm real financial rewards above its competitors.

Lai et al. (2009) investigated the determinants of customer loyalty and uncovered that, among the other factors like service quality and value image, customer loyalty is mainly influenced by perceived value and customer satisfaction, with value being the most significant determinant. Service quality has less influence on satisfaction and loyalty but has a significant effect on value and image, implying that service quality is the key block for improving value and image, which in turn, determine satisfaction and loyalty. Finally, image is often overlooked as a determinant for customer loyalty, but is key to improving customer value and satisfaction, which in turn, increases customer loyalty.

In the light of changing market conditions that now affect customer loyalty, it becomes necessary to pin down the mechanisms by which loyalty functions. Accordingly, these are the research propositions explored in this study;

- The drivers of customer loyalty are customer satisfaction, perceived value, trust and habit
- AN interrelationship exists between the drives of customer loyalty
- The older generation exhibit a much more loyal behaviour than the younger generation

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology that was employed in this research. Creswell (2013) defined research as unveiling relevant true statements, which can help explain situations of concern or causal relationships. Broadly, it covers the research strategy and design in section 3.1 and 3.2 respectively, population and sampling methods (section 3.3), research instruments and constructs measures (section 3.4), procedure for data collection (section 3.5), data analysis and interpretation (section 3.6), limitations of the measurements instruments (Section 3.7), validity and reliability of the measures (section 3.8).

3.2 Research Methodology/Paradigm

The researcher used quantitative methodology to confirm the propositions. The first proposition states that, “the drivers of customer loyalty in the telecommunication industry are customer satisfaction, perceived value, trust, habit and customer loyalty.”

The second one confirms the interrelationship between these factors (customer satisfaction, perceived value, trust and habit), and the third one says that, “the older generation exhibit more loyal behaviour than the younger generation.”

Jarvis, George, Holland, and Newman (2014) define research strategy as a step-by-step guide that enables a systematic approach of data collection, validation, analysis and interpretation of results. There are three types of research strategies namely quantitative, qualitative and mixed methods. Blaxter (2010), Punch (2013) and Jarvis et al. (2014) defined quantitative research as a strategy that is objective and seeks facts or causes, and has the ability to explore an area and generate hypotheses and theories based on qualitatively collected data or large scale surveys. It involves relatively large samples of data, and is often perceived as facts gathering, and is also both verification and outcome oriented.

Creswell (2013, p. 32) defined qualitative research as “an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem”. The process of research involves emerging questions and procedures, data

typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data. Finally, mixed methods include strategic enquiries that involve the collection of numeric information as well as text information where the earlier uses instruments such as standard questionnaires and the later put emphasis on interviews, so as to construct a quantitative and qualitative information database. In short, quantitative research data is in the form of numbers, qualitative data is not in the form of numbers and Mixed methods is a combination of both (Punch, 2013).

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3.3 Research Design

This study used the survey methodological approach incorporating extensive use of questionnaires that were conveniently distributed to a selected population sample within South Africa in the period August 2016 to February 2017. Surveys encompass cross sectional and longitudinal studies through the use of questionnaires or interviews to collect the required data, with an intention to generalise from a sample to a population.

According to Creswell (2013), the researcher's task does not end with the selection of either qualitative or quantitative research strategy, but will need to select the type of enquiry within the selected approach. These types of enquiries include case studies, interviews, surveys, and mathematical modelling.

I Advantages of using surveys

- If appropriate samples are used, surveys may truly represent the population.
- Administration is relatively easy and does not require a lot of field work
- Surveys can be reproduced in the future
- Surveys with good response rate can be relatively quicker in gathering data

II Disadvantages of using surveys

- Data in tabular or graphical representation take away the qualitative feel

- The data does not focus on the underlying processes or changes but rather provide snapshots
- Often the researcher will not be able to check the respondent's understanding or reasoning
- Reliability on breadth rather than depth for validity

3.4 Population and sample

3.4.1 *Population*

The research population comprised smart phone users who are 18 years and above, reside in South Africa, and are prepaid subscribers of MTN, Vodacom and Cell C.

South Africa is one of the highly populated countries in Africa (StatsSA 2015). BusinessTech (2015) reported the SA mobile subscriber numbers to be around 79.8 million, of which 14.1 million of them are smartphone users and the number is estimated to grow to 19, 2 million by the year 2019.

According to BusinessTech (2015), Telkom Mobile and Virgin mobile only held 3% of the market, and as such, the sample comprised prepaid MTN, Vodacom and Cell C subscribers; only prepaid subscribers were interviewed because they have very low switching costs as they are not locked in to contracts.

3.4.2 *Sample and sampling method*

The study used convenient sampling and targeted 250 participants who are 18 years or older smart phone users of any race or gender residing in South Africa, and subscribe to MTN, Vodacom or Cell C mobile phone providers on prepaid contracts.

The researcher limited the research to MTN, Vodacom and Cell C because they constitute 97% of the market share. The remaining 3% is shared among Telkom and the MVNOs. Other reasons for the restriction included data availability and resource constraints.

A sample is a section of the population that is representative of the entire population (Patton, 2005). Using a sample saves resources such as time and money and workload, and also gives results whose accuracy is as close as the sample is to the population.

According to Blaxter, Hughes, and Hughes (2006), two general sampling approaches are probability sampling and non-probability sampling, where probability sampling is a method where persons or objects in the population have an equal or fair chance or opportunity of being included in the sample. With nonprobability sampling, the sample is selected on the basis of availability or the researcher's personal judgement or discretion that they are a true representation of the population. Examples of probability sampling are systematic random sampling (selection at random), stratified random sampling (sampling within groups of the population), stage sampling (sampling clusters sampled at random), cluster sampling (surveying whole clusters of the population sampled at random) and systematic sampling (selecting every nth case).

Examples of non-probability sampling are convenience sampling (Extracting a convenient sample), voluntary sampling (the sample is self-selected), quota sampling (convenience sampling within groups of the population), purposive sampling (handpicking supposedly typical or interesting cases), dimensional sampling (multi-dimensional quota sampling) and Snowball sampling – (building up a sample through informants) (Blaxter et al., 2006).

I. Advantages of Non-Probability sampling

Use of non-probability sampling methods such as convenience sampling and voluntary sampling is cheaper and faster than probability sampling.

II. Disadvantages of Non-probability sampling

There is a greater risk of obtaining biased results as the sample is selected conveniently and at times on a voluntary basis, and an unknown population or persons who did not volunteer are ignored. Regardless of the sample size, the sample may not be a true representation of the entire population.

However, given the matter under study, there are no reasonable grounds to suspect sampling bias. There is no need to differentiate users according to the service provider to which they subscribe.

3.5 The research instrument

This study used a standardised questionnaire adapted from Lin and Wang (2006)'s paper on "factors that affect customer loyalty of the m-commerce system users in Taiwan."

Examples of research instruments are; open questionnaires, interview schedules, mathematical models, and conjoint questionnaires. A well-planned and executed questionnaire campaign can produce rich data that can be easily analysed and interpreted, and if managed properly, can be less expensive than any other research instruments (Wilkinson & Birmingham, 2003).

3.5.1 Measures of the constructs

The questions around customer loyalty constructs (perceived value, trust, level of customer satisfaction, and habit) were adapted from Lin and Wang (2006), and measured on a seven point Likert scale, with anchors from ''strongly disagree''(Value1) to ''strongly agree'' (Value7).

According to Alwin (1997), a Likert scale with more response categories is both more reliable and more valid, and as such, a seven point scale was used instead of the five point scale. Similar past studies supported similar measurement practices, for example, Gerpott, Rams, and Schindler (2001) provided respondents with a 5-point scale to rate variables that affect customer loyalty, retention and satisfaction in the German mobile telecommunications market study. H.-S. Kim and Yoon (2004)'s empirical research on "Determinants of subscriber churn and customer loyalty in the Korean mobile telephony market", and Lin and Wang (2006) used 5 point Likert scale for factors that affect customer loyalty in m-commerce.

Perceived value was measured by three-item measures adopted from Dodds, Monroe, and Grewal (1991) where independent variables were assigned to the attributes which measure the mobile provider's products and services' value for money and acceptability of the service charges. The five measures of the trust construct were adapted from Gefen, Karahanna, and Straub (2003) and the three items for the customer satisfaction construct were taken from Palvia (1996)'s model for measuring user satisfaction as cited by Lin and Wang (2006)'s paper. The four items for the habit construct were adapted from Gefen (2003), and so were the customer loyalty construct measures.

To help develop a service strategy, the questionnaire included one open ended question adapted from Van Doorn and Verhoef (2008)'s literature on critical incidents and the impact of customer satisfaction.

I. Types of questionnaires

There are three types of questionnaires, namely, mail survey, group-administered questionnaires and the household drop-off survey. These surveys can be conducted through face-to-face, online or telephone interviews. The mail/online survey is the most common one and can be an efficient way of gathering large amounts of data. However, it is also considered impersonal and can potentially suffer from low response rates. The group-administered questionnaires can be used on respondents who can be grouped for the purpose e.g. students attending classes or employees in a particular company, and studies which use this type of instrument can take advantage of high response rates as the group is often assembled for the purpose. With household drop-off, the researcher drops off the questionnaire for collection at a later date, and this affords the respondents an opportunity to clarify any posed questions and enough time to fill up the questionnaires with honest responses (Wilkinson & Birmingham, 2003).

The questionnaire questions can be closed questions, multiple choice questions or open ended questions. With closed questions, all possible answers are provided, and the often used are dichotomous questions requiring a 'yes' or 'no' response. Multiple-choice questions provide a wider range of predefined answers and an example of such

are Likert scales. Finally, open ended questions do not impose any restrictions and are often used with qualitative research.

I. Advantages

Relative to other instruments, questionnaires are much cheaper to administer, easy to develop, and interpretation and analysis can be quick and easy.

II. Disadvantages

Designing and analysing questionnaires can be a challenge, and there is a high risk of posing misleading or ambiguous questions. Secondly, the targeted group may be difficult to reach and the collected data may take weeks to analyse.

3.6 Procedure for data collection

The researcher conducted a pilot study to establish content validity of the questionnaire. For this, structured online surveys were conducted with a few mobile phone subscribers. This helped administer, revise and complement all the survey questions, the respondents gave feedback on clarity and ambiguity of the questions thereof. The final questionnaire incorporated the feedback of the pilot study.

The researcher used a seven point Likert scale ranging from ‘‘strongly disagree (value 1)’’ to ‘‘strongly agree (Value 7)’’, and for each question, respondents were asked to circle the response which best describes their degree of agreement. Respondents were 18 and above, and active prepaid subscribers of either MTN, Vodacom or Cell C.

For behavioural intentions, questions on repurchase intentions, willingness to recommend and price sensitivity were asked and rated on the same Likert scale.

3.7 Data analysis and interpretation

Confirmatory Factor Analysis (CFA) was used to test Proposition one and two which respectively stated that the drivers of customer loyalty in the telecommunication industry are customer satisfaction, perceived value, trust, habit, and that an interrelationship exists between these factors.

CFA is employed to test whether the measures of the constructs are consistent with the researcher's understanding of the literature behind the constructs.

According to Brown (2015, p. 2), "Confirmatory factor analysis (CFA) is a type of structural equation modelling that deals specifically with measurement models; that is, the relationships between observed measures or indicators (e.g., test items, test scores, behavioral observation ratings) and latent variables or factors".Covariation among the observed variables is assumed to be due to the presence of one or more latent variables that exert some directional influence on the observed variables. To single out the number and the nature of these latent variables, exploratory factor analysis can be used.

The use of Factor analysis instead of principal component analysis is preferred because PCA makes no assumption about any underlying causal structures but is just a variable reduction procedure. FA can capture true variance and measurement error, and examines the entire set of independent relationships.

Factor analysis uses commonality estimates to verify uniqueness, where a very high commonality factor depicts very low uniqueness factor and vice versa.

A Kruskal Wallis test was conducted to determine if the drivers of customer loyalty in the telecommunication industry were different for the different age groups.

Kruskal-Wallis test, is a nonparametric statistical method used to test for significance of variation. When concluding that there is no difference, it calculates the probability of being wrong (King, McKenzie-McHarg, & Horsch, 2017)

3.8 Limitations of the measurements instruments

- Final mathematical calculations are always some approximations of a small relative error, and standard criteria that assess the quality of certain FA methods are mainly based on the amount of the explained variance of other particular factors, instead of basing on the detection of test–statistics distribution or any other significance testing statistical method.
- Wrong conclusions can be drawn if FA is incorrectly applied

- Some of the constructs are not confirmed by empirical research
- FA requires that the sample size be larger than twice or three times the number of variables.
- FA gives validity of research findings if complemented by another research approach, such as qualitative research.

3.9 Validity and reliability

The questionnaire comprised twenty questions as adapted from Lin and Wang (2006), and were categorically separated to measure different constructs (perceived value, customer satisfaction, trust, habit and customer loyalty).

Before collecting any data, a pilot study was run to verify validity and reliability and the necessary corrective measures were implemented. To check reliability, Cronbach's Alpha (α) of all the constructs were computed, and benchmarked against the globally acceptable values. The results fell within the acceptable values, so the questionnaire can be considered as reliable

3.9.1 *External validity*

External validity includes questions like, "Do we have the right data?" and "Do we have enough data?" Although triangulated data is better, the research gathered up a convenience sample across different demographics in South Africa. The survey was sent to 250 participants, which was envisaged as a logical number that was large enough to represent the population. However, the response fell below the anticipated number and ended up with a convenience sample size of 94 respondents. This could potentially increase the level of bias of the results.

3.9.2 *Internal validity*

Internal consistency measures such as Cronbach's alpha, which measure consistency of the individual's response were used to test internal reliability. All independent variables were checked for acceptable values in Cronbach's alpha coefficients, and all outliers discarded. This method was used by Shin and Kim (2008) to test internal reliability of their research data. An additional cover letter and an ethics letter

accompanied the questionnaires to assure respondents that their information would remain confidential and would not be used for anything else. This helped to solicit honest responses from the respondents. Finally, to enhance validity, the researcher ran pilot programmes and made sure all ambiguity in questions was cleared, and the responses were a fair reflection of the respondents' views.

3.9.3 *Reliability*

Just like Lai et al. (2009), the researcher ran factor load estimates to assess item reliability and check composite reliability. Confirmatory factor analysis was also employed which established the validity of the measurement model.

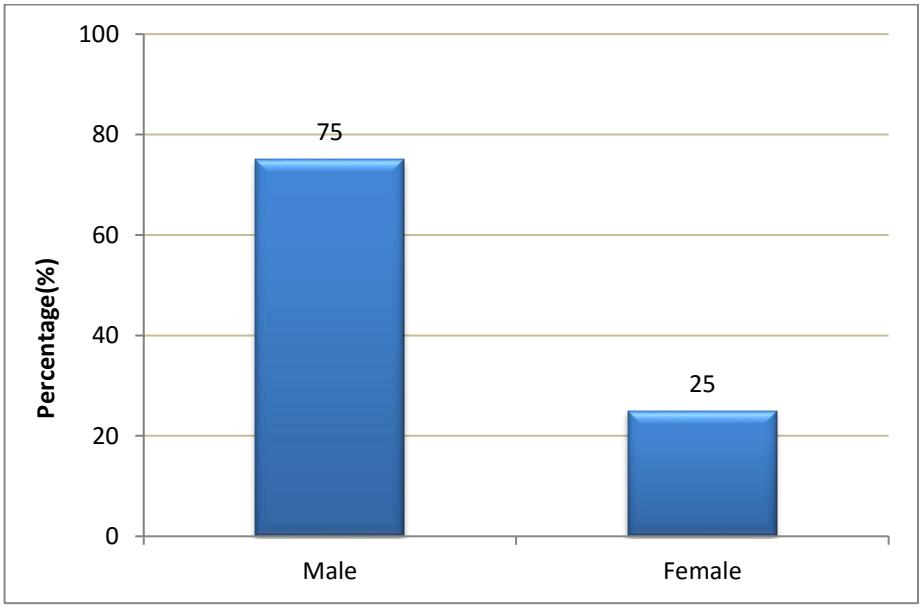
3.10 Demographic profile of respondents

The survey was sent to 250 participants, which was envisaged as a reasonable number that was large enough to represent the population. However, the response fell below the anticipated number and ended up with a sample size of 94 respondents. This could potentially increase the level of bias of the results.

The demographic profiles of the convenience sample of 94 respondents is summarised as follows.

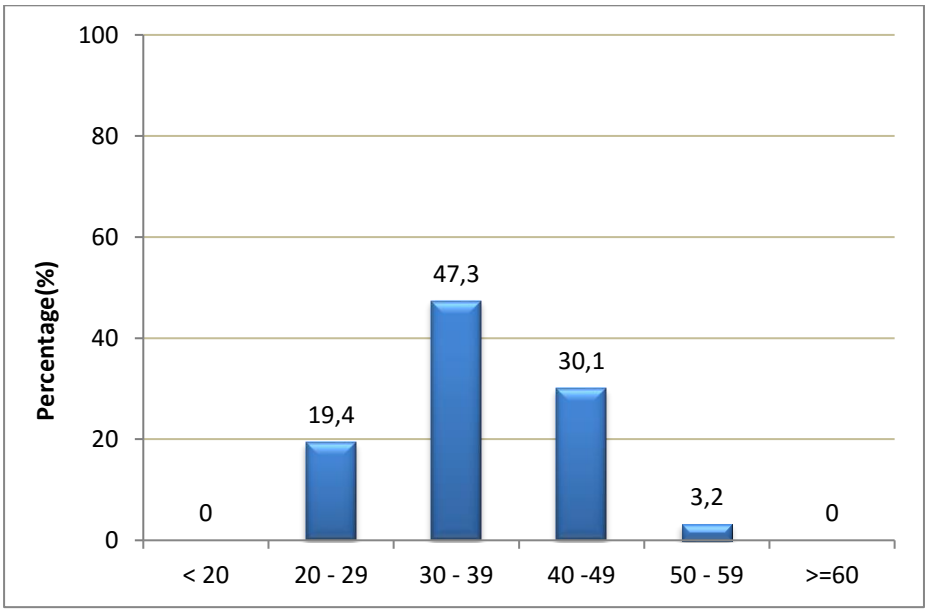
Gender: The Gender composition of the sample was, 75% Males and 25 % Females. This caveat could not defer the overall conclusions which will follow, but rather give an understanding of where bias may have crept into the sample, inadvertently.

Figure 4 : Gender



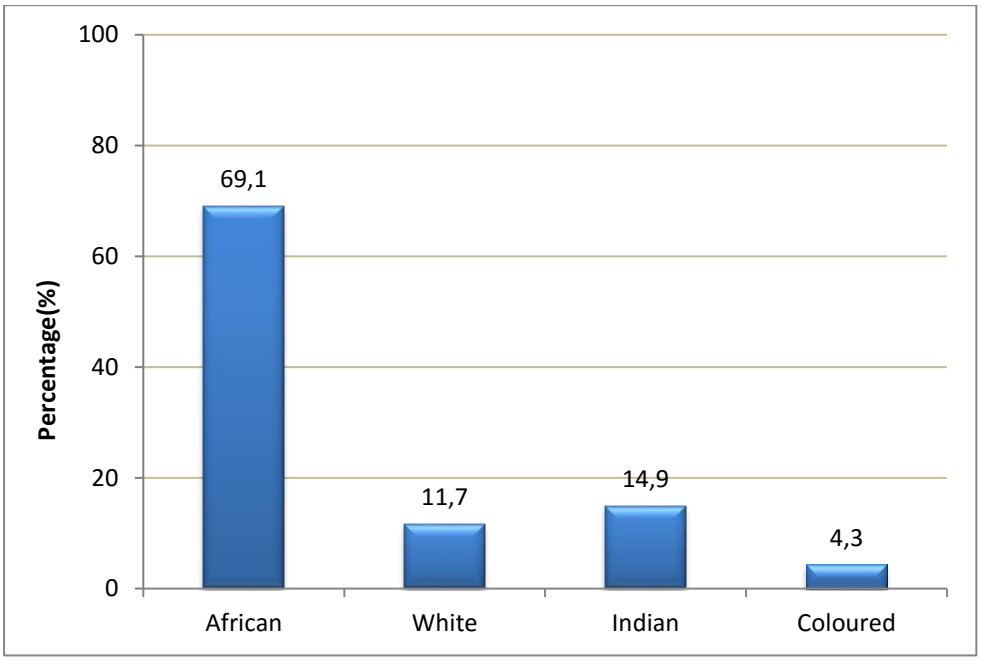
Age: The bar graph indicates that the majority of the respondents in the survey are in the middle age group. This could be as a result of the middle age group using more advanced phones than the older age group.

Figure 5 : Age Composition



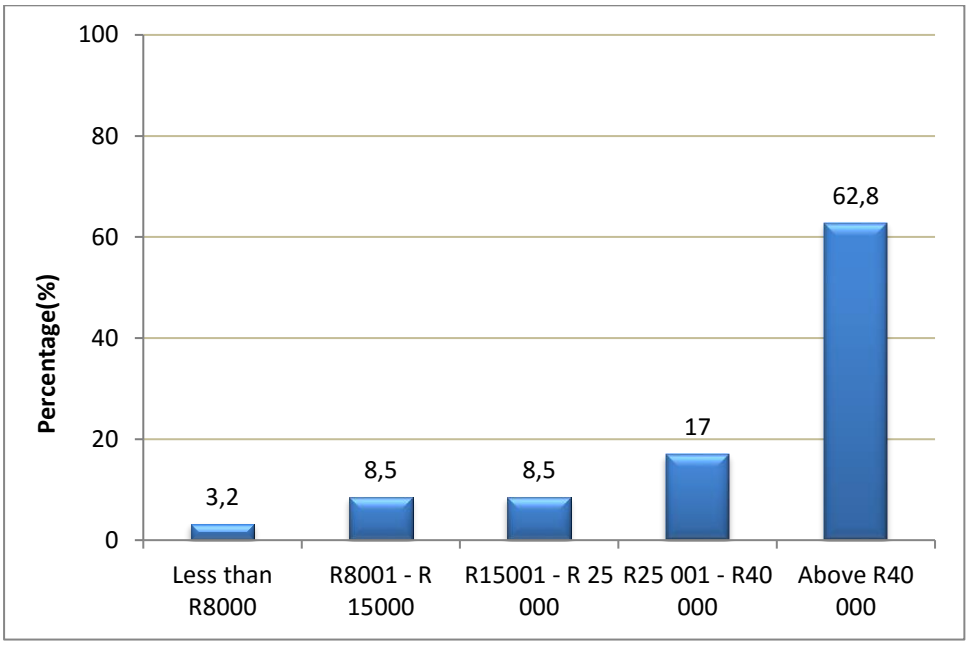
Race: The bar graph shows the distribution of the different races that took part in the survey. From the bar graph, it is evident that the majority of the participants are Africans while the least number of participants are Coloured. Fig 6 shows the race composition

Figure 6 : Race Composition



Income: The distribution of the income groups of the participants shows that majority of them earn more than R40000 while the least income group earn less than R8000. The income composition is as shown in figure 7

Figure 7 : Income



Age influences the socio-economic activities which in turn, influence the level of service expected from a service provider. The expected level may skew the Likert scale. A strongly agree (7) for a certain age group may mean agree (5) for a certain age. The Likert scale measures how the service received by an individual compares with the individual's expectation. A shift in expectation result in shift in the Likert scale which then introduce some bias in the results.

Income is directly linked to economic activities engaged by the income earner. Notably that higher income is associated with higher economic activities and transactions that are supported by network services. Differentiated use of the network services based on income lead to differentiated expectations or perceptions of network services based on income.

For gender, there are goods and services that are of more concern to one gender than the other. For example, in purchasing a house, a male might be more concerned by the workshop and a female more concerned about the layout of the kitchen. The researcher found no reason to believe that network services may be gender biased.

Satisfaction with a product or service may vary from one cultural group to another, and different economic groupings (rich versus poor). In South Africa, these two groupings are strongly linked to race. A case in point, Zulu or Xhosa as a social grouping is expected to be black and due to apartheid, whites dominate the higher income groups. Therefore, race in South African context may have an impact on service perception.

3.11 Conclusion

The researcher used surveys in the form of standardised questionnaire to collect the data and then used quantitative method to analyse the data. The standardised questionnaire was adapted from Lin and Wang (2006)'s paper on "factors that affect customer loyalty of the m-commerce system users in Taiwan." To evaluate the degree of agreement of different respondents to the questions, a seven point Likert scale ranging from ''strongly disagree (value 1)'' to ''strongly agree (Value 7)'' was used. To check data reliability, Cronbach's Alpha (α) of all the constructs were computed, and benchmarked against the globally acceptable values

For data sampling, convenience sampling was used to reach participants 18 years or older, any gender race, residing in South Africa, and subscribe to MTN, Vodacom or Cell C mobile phone providers on prepaid contracts. The researcher limited the research to MTN, Vodacom and Cell C because they constitute 97% of the market share. The remaining 3% is shared among Telkom and the MVNOs. Other reasons for the restriction included data availability and resource constraints

To test the different propositions, confirmatory factor analysis was employed to test whether the measures of the constructs were consistent with the researcher's understanding of the literature behind the constructs. To determine if the drivers of customer loyalty varied with age groups, a Kruskal Wallis test was run.

The data was found to be reliable and valid, and the results presented in the next chapter can therefore be more readily accepted.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

The results are in the form of summary output tables and schematic diagrams.

CFA was conducted for all the latent constructs before modelling their respective interrelationships in a structural equation model.

4.2 Proposition 1

- **The drivers of customer loyalty in the telecommunication industry are customer satisfaction, perceived value, trust, and habit.**

The results, as shown in figure 8 confirm proposition 1

Figure 8 : CFA Test results

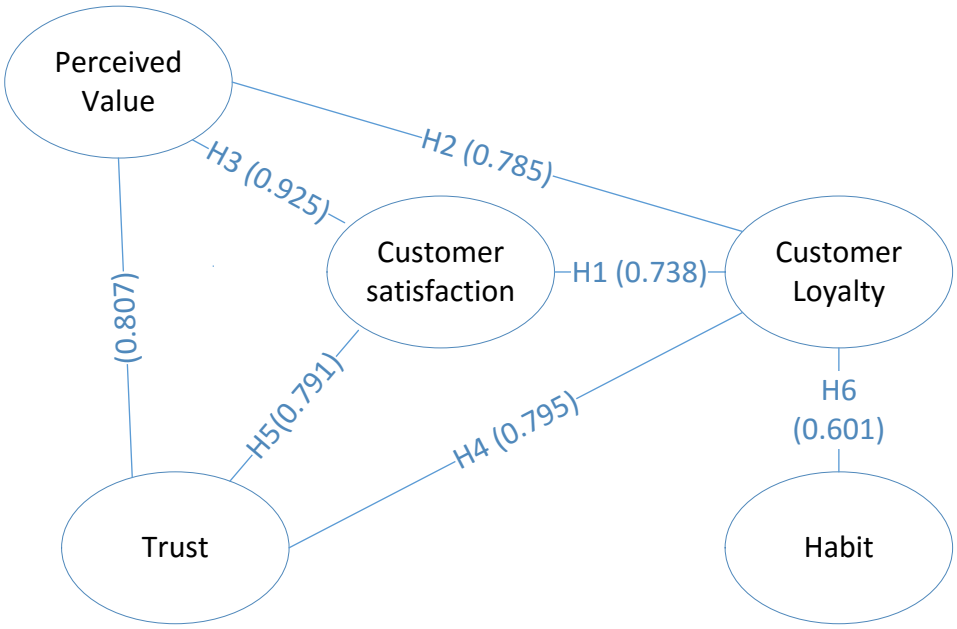


Table 3: The direct effect of dominants on customer loyalty

	Direct effect	
	Customer Satisfaction	Customer loyalty (P < 0.001).
Perceived value	0.925	0.785
Trust	0.791	0.795
Habit		0.601
Customer Satisfaction		0.738

The factor dominant, 0.925 in the first column highlight a strong connection between customer satisfaction and perceived value. The numbers highlighted in yellow show the direct factor dominance of the different drivers on customer loyalty. The higher the value (Maximum = 1), the stronger the relationship between the driver and customer loyalty. Of the four factors, habit, at 0.601, exhibits the weakest relationship with customer loyalty while Trust, at 0.795 exhibit the strongest relationship with customer loyalty.

In line with the hypothesis proposed in this paper

- **H1. Customer satisfaction has a positive effect on customer loyalty.**
  This has been supported by the factor value $\hat{y} = 0.738$ which is statistically significant at $P < 0.001$.

- **H2. Perceived value has a positive effect on customer loyalty.**
  This has been supported by the factor value $\hat{y} = 0.785$ which is statistically significant at $P < 0.001$.

- **H4. Trust has a positive effect on customer loyalty.**

This has been supported by the factor value $\bar{y} = 0.795$ which is statistically significant at $P < 0.001$.

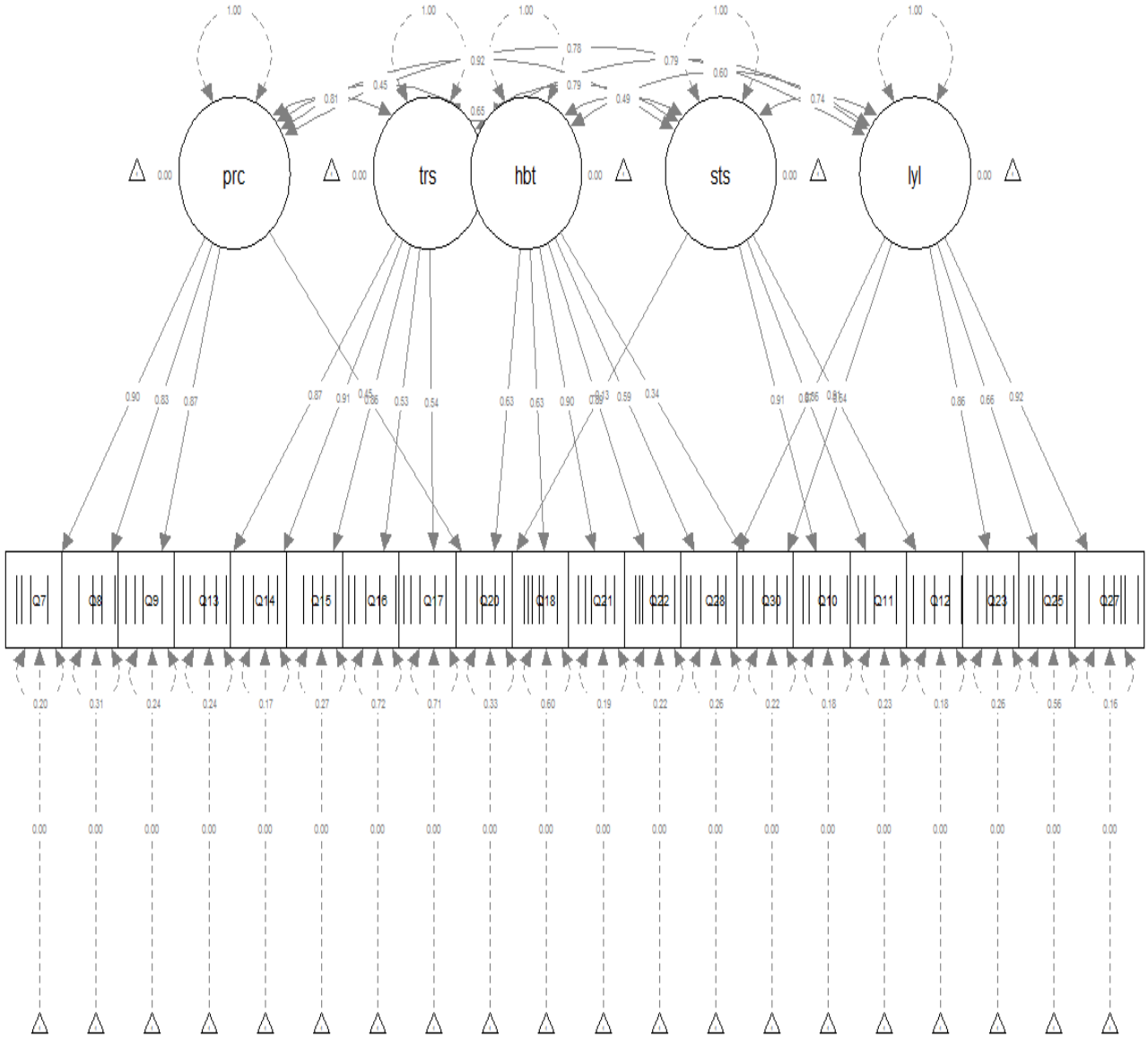
- **H6. Habit has a positive effect on customer loyalty.**
  This has been supported by the factor value $\bar{y} = 0.601$ which is statistically significant at $P < 0.001$.

4.3 Proposition 2

- **There is an interrelationship between these factors (customer satisfaction, perceived value, trust and habit)**

Proposition 2 is supported by the results as illustrated in figure 9 below.

Figure 9 : Interrelationships between drivers of customer loyalty



where;

prc = Perceived value

trs = Trust

hbt = Habit

sts = Customer satisfaction

lyl = Customer loyalty

Hence the hypothesis H3 and H4 confirmed;

- **H3. Perceived value has a positive effect on customer satisfaction**
  This has been supported by the factor value $\gamma = 0.925$ which is statistically significant at $P < 0.001$.
- **H5. Trust has a positive effect on customer satisfaction.**
  This has been supported by the factor value $\gamma = 0.791$ which is statistically significant at $P < 0.001$.

4.4 Proposition 3

- **The older generation is more loyal than the younger generation.**

The proposition is rejected by the results as appearing in Table 4

Table 4 : Kruskal Wallis test

	Degrees of freedom	Chi square value	p-value
Q7	3	0.57129	0.903
Q8	3	3.2187	0.3591
Q9	3	1.8005	0.6148
Q13	3	0.88651	0.8287
Q14	3	1.0639	0.7858
Q15	3	3.066	0.3816
Q16	3	2.1566	0.5406
Q17	3	1.3147	0.7256
Q18	3	1.0219	0.796
Q20	3	4.1813	0.2425
Q21	3	4.4213	0.2194
Q22	3	2.3751	0.4983
Q10	3	0.60931	0.8943
Q11	3	0.3721	0.9459
Q12	3	1.4484	0.6942
Q23	3	0.47871	0.9235
Q25	3	0.87604	0.8312

Q27	3	0.14105	0.9865
Q28	3	0.70234	0.8727
Q30	3	0.97952	0.8062

The results of the Kruskal Wallis test indicated that there was no statistically significant difference among the different age groups on the various sub-drivers of the telecommunication industry since all the p-values were far greater than 0.05.

4.5 Summary of the results

The results of the CFA confirmed that customer loyalty in the telecommunication industry is influenced by customer satisfaction, perceived value, trust, and habit. This was supported by p Values less than 0.001($P < 0.001$). $P < 0.001$ show that the results are statistically significant.

The direct factor dominance of the different drivers on customer loyalty were 0.785 for perceived value,0.795 for trust, 0.601 for habit, and 0.738 for customer satisfaction. The higher the value (Maximum = 1), the stronger the relationship between the driver and customer loyalty. Of the four factors, habit, at 0.601, exhibits the weakest relationship with customer loyalty while Trust, at 0.795 exhibit the strongest relationship with customer loyalty.

The numbers also highlight the strong connection between customer satisfaction and perceived value with a factor dominance of 0.925.

Proposition 2 that states that, there is an interrelationship between customer loyalty factors (customer satisfaction, perceived value, trust and habit) was supported by the results with by p Values less than 0.001($P < 0.001$). $P < 0.001$ show that the results were statistically significant. The results confirmed, for example that perceived value and trust have a positive effect on customer satisfaction.

The results of the Kruskal Wallis test indicated that there was no statistically significant difference among the different age groups on the various sub-drivers of the

telecommunication industry since all the p-values were far greater than 0.05, and hence rejects the proposition

Accordingly, both propositions 1 and 2 are accepted. The next chapter explores the meaning of these results.

CHAPTER 5. DISCUSSION OF THE RESULTS

This chapter discusses and explains the researcher's results, with reference to literature review.

5.1 Introduction

This chapter discusses the meaning of the results, particularly in relation to the literature, showing similarities, differences and / or alternatives between the researcher's findings and findings by other researchers. It also offers possible explanations and presents logical arguments where appropriate.

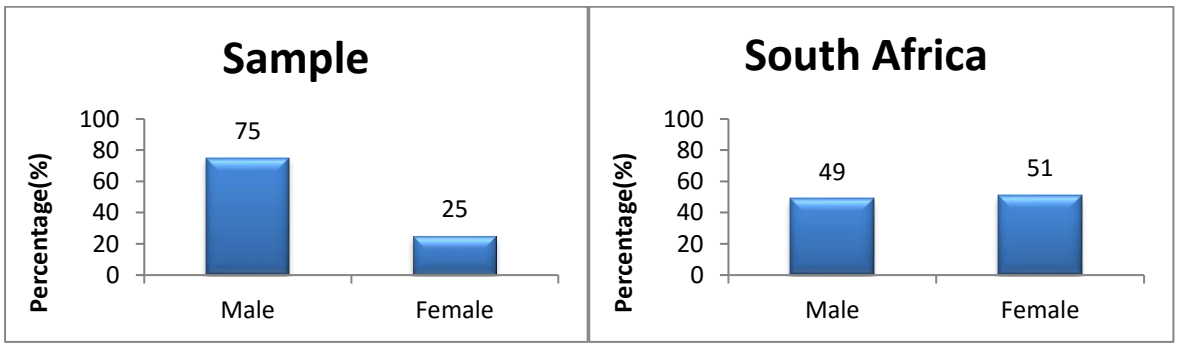
The chapter discusses the steps taken to conduct CFA for all the latent constructs before modelling their respective interrelationships in a structural equation model.

5.2 Demographic profile of respondents

This section probes the degree to which latent bias in the convenience sample may defer the conclusions. This is done in figures 10 through to 12 comparing the convenience sample data distribution to the South African demographics.

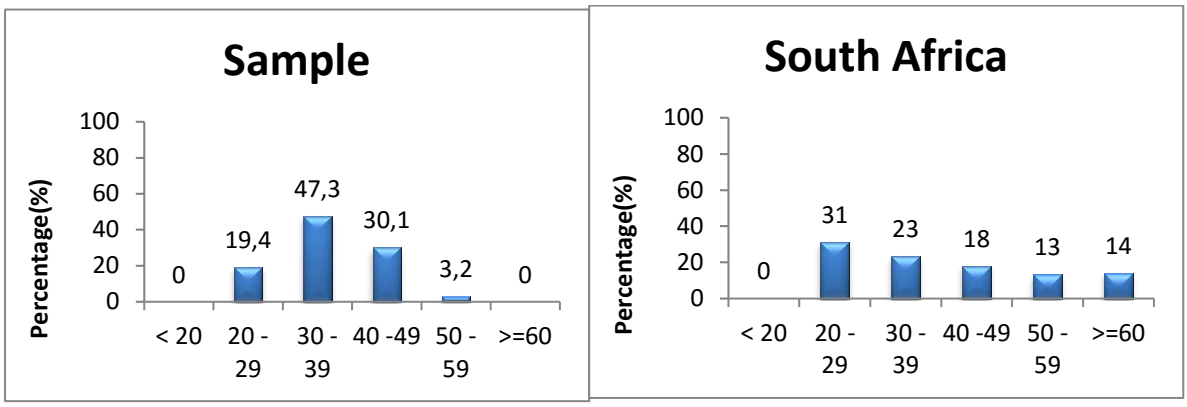
This activity determines the extent to which the convenience sample resembles the population.

Figure 10 : Gender (Sample versus South African demographics)



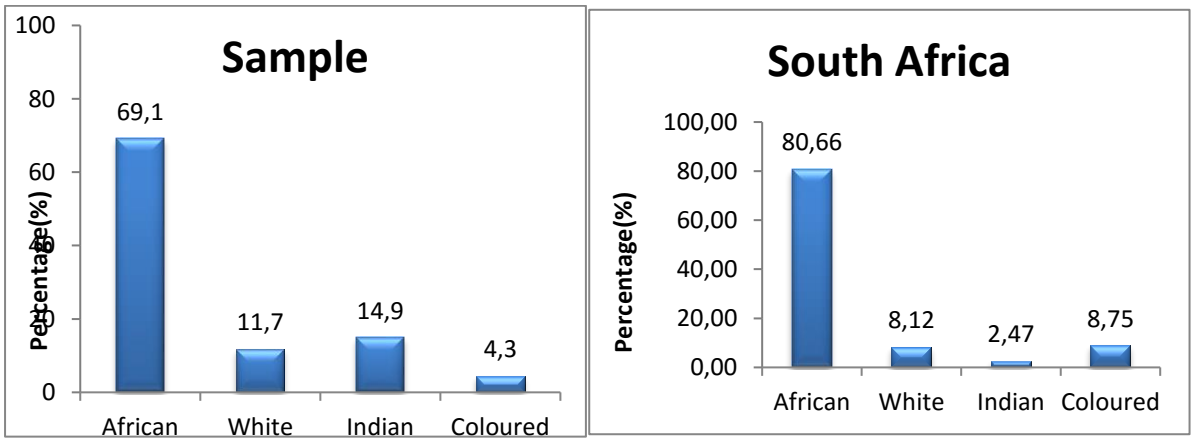
Source (Statsa 2016)

Figure 11 :Age (Sample versus South African demographics)



Source (Statsa 2016)

Figure 12 : Race (Sample versus South African demographics)



Source (Statsa 2016)

For Gender, the sample had 75% males and 25% females while the South African population has 49% males and 51% females. The sample is significantly different from the population and this can be a potential source of bias in the results. However, the researcher is of the view that gender has minimal bearing on the issue under study.

For Age, the sample does not resemble the population in any way and this is a cause for concern. It would be difficult to generalise the results of the impact of age on customer loyalty. Literature as per proposition 3 notes generational impact on customer loyalty but this proposition was rejected by the results. Because of the huge mismatch between the population and sample, the researcher deems the results inconclusive.

For Race, the graphs are skewed to the right and one important irregularity to note is the differences in the percentage numbers of Indian race in the sample and the population. It has been noted earlier on that socio-economic or/and cultural issues have an impact on customer loyalty.

To build a better sample, the researcher could have used percentage ratios of the population to figure out the demographics to use for each item, if this was not a convenience sample.

There may be a need to adopt sampling methods that improve the sample resemblance with the population, notably, stratified random sampling.

The survey was sent to 250 people but only 94 people responded. Was this a random occurrence or not? The possibility that not getting a response from a particular person was not random meaning that a substantial number of potential respondents with some similar characteristics that have a bearing on the subject under study chose not to respond. The sample thus moves away from the population and potentially introduces a bias in the result as the result may have been different if they had responded. Any subsequent study should control for these variables.

5.3 Validating the measurement model: CFA

The researcher performed CFA for all latent constructs before modelling the construct inter relationships in a structural model. According to Awang, Afthanorhan, Mohamad, and Asri (2015, p. 54), SEM (structural Equation modelling) is a “confirmatory method providing a comprehensive means for validating the measurement model of latent constructs. The validating procedure is called Confirmatory Factor Analysis (CFA).

The CFA method has the ability to assess the Unidimensionality, Validity and Reliability of a latent construct."

5.3.1 *Unidimensionality*

Unidimensionality is achieved when all the drivers/constructs have acceptable factor loading for their respective latent construct. In this study, the benchmark for the factor loadings is 0.5. Any factor loading below 0.5 was deleted. From the analysis, all the factor loadings were all above 0.5 and were positive. The lowest factor loading was 0.528 which is also above the 0.5 factor loading benchmark adopted.

5.3.2 *Validity*

Convergent Validity: This is achieved when all the drivers in a measurement model are statistically significant. From the measurement model, all the items were statistically significant. The AVE (Average Variance Extracted) was computed for every construct. All the values were above the acceptable minimum value of 0.5. The results are presented in Table 7 page 51

Construct Validity. This validity is achieved when the Fitness Indexes for a construct used in the study achieve the recommended value. The fitness indexes indicate how fit are the sub-drivers in measuring their respective latent constructs. The Fitness Indexes, their respective category, and the recommended value are presented in Table 7 page 51. From the fitness indexes, we can conclude that construct validity is achieved.

Discriminant Validity. This validity indicates the measurement model of a construct is free from redundant items. The ideal value is 15 and below. Higher values of MI indicate that the respective items are redundant. From our study, the redundant items were Q28 with a value of 17.975, Q20 17.225 and Q20 with 17.073 which are all greater than 15. This indicates that the model can still be improved. This validity suggests that Q28 should be loaded onto latent construct habit; Q20 be loaded onto

customer satisfaction; and Q20 be loaded again onto perceived value. The results for discriminant validity are shown in table 5

Table 5 : Discriminant Validity

```
> head(mod_ind[order(mod_ind$mi,decreasing = TRUE),],10)
             lhs op rhs     mi mi.scaled    epc sepc.lv sepc.all sepc.nox
267        habit =~ Q28 17.975    17.969  0.591   0.591    0.591    0.591
278 satisfaction =~ Q20 17.225    17.219  0.366   0.366    0.366    0.366
227    perceived =~ Q20 17.073    17.067  0.359   0.359    0.359    0.359
461          Q22 ~~ Q28 14.427    14.422  0.218   0.218    0.218    0.218
242        trust =~ Q20 13.488    13.484  0.413   0.413    0.413    0.413
483          Q23 ~~ Q28 13.252    13.248 -0.283  -0.283   -0.283   -0.283
295      loyalty =~ Q20 11.379    11.376  0.590   0.590    0.590    0.590
395          Q15 ~~ Q23 10.362    10.359  0.173   0.173    0.173    0.173
400          Q16 ~~ Q17  9.503     9.499  0.221   0.221    0.221    0.221
487          Q25 ~~ Q30  8.620     8.618  0.168   0.168    0.168    0.168
```

5.3.3 *Reliability*

Internal reliability: The data from the questionnaire was used to perform validity and reliability tests on the drivers of customer loyalty in South African mobile phone telecommunications industry that were identified from literature. The reliability of the questionnaire was tested using Cronbach's Alpha on each of the identified drivers of customer loyalty. The Cronbach's Alpha for each of the drivers is shown in table below. As can be seen from table 6, the Cronbach's Alpha for all the identified drivers of customer loyalty exceed 0.6 which indicates that the questionnaire used for the study is reliable.

Table 6 : Internal Validity

Construct	**Cronbach's Alpha**
Trust	0.856
Perceived value	0.887
Customer satisfaction	0.899
Habit	0.817
Customer loyalty	0.878

Composite Reliability: The composite reliability of all the latent constructs in the measurement model is more than 0.6 as shown in Table 7. This indicates that the latent constructs are reliable and consistent.

Table 7 : Composite Reliability

Construct	Item	Factor loading	AVE	CR
Perceived value	Q7	0.896	0.753	0.902
	Q8	0.835		
	Q9	0.872		
Trust	Q13	0.874	0.578	0.866
	Q14	0.909		
	Q15	0.856		
	Q16	0.528		
	Q17	0.536		
Habit	Q18	0.592	0.795	0.877
	Q20	0.889		
	Q21	0.845		
	Q22	0.855		
Customer satisfaction	Q10	0.906	0.896	0.925
	Q11	0.875		
	Q12	0.908		
Customer loyalty	Q23	0.828	0.811	0.908
	Q25	0.635		
	Q27	0.883		
	Q28	0.831		
	Q30	0.878		

Table 8 : Fit indices for measurement and structural models

Name of category	Name of index	Recommended value	Measurement model	Structural model
Incremental fit	AGFI	≥0.80	0.978	0.83
	NFI	≥0.90	0.987	0.92
	NNFI	≥0.90	0.996	0.94
	CFI	≥0.90	0.996	0.95
	RFI	≥0.90	0.984	0.91
Absolute fit	RMSEA	≤0.08	0.068	0.075
Parsimonious fit	Chisq/df	≤3	1.375	2.41

5.3.4 *Measurement Model*

A confirmatory factor analysis using R software version 3.3.3 was conducted to test the measurement model. Seven common model-fit measures were used to assess the model's overall goodness of fit: the ratio of x2 to degrees-of-freedom (d.f.), adjusted goodness-of-fit index (AGFI), normalised fit index (NFI), non-normalised fit index (NNFI), comparative fit index (CFI), relative fit index (RFI) and root mean square error of approximation (RMSEA). As shown in Table 7, all the model-fit indices exceeded the respective common acceptance levels suggested by previous research, demonstrating that the measurement model exhibited a good fit with the data collected. Therefore, we proceeded to evaluate the psychometric properties of the

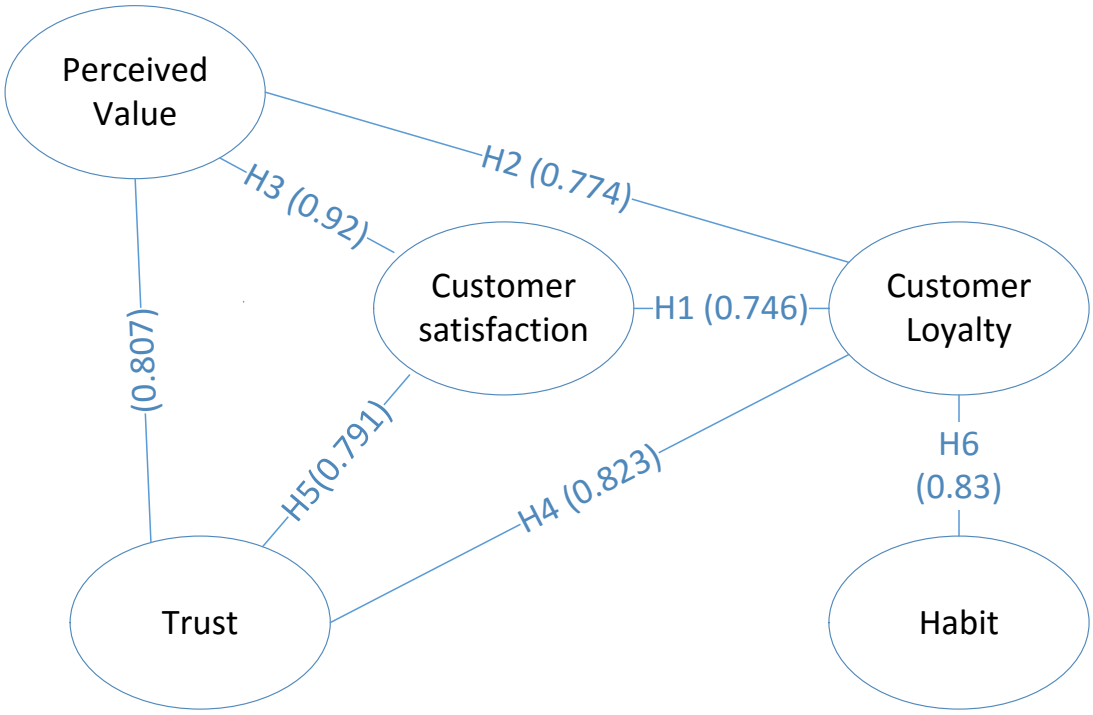
measurement model in terms of reliability, convergent validity, and discriminant validity.

Reliability and convergent validity of the factors were estimated by composite reliability and average variance extracted (see Table 6). Composite reliability for all factors in our measurement model was above 0.80. The average extracted variances were all above the recommended 0.50 level, which meant that more than one-half of the variances observed in the items were accounted for by their hypothesised factors. Convergent validity can also be evaluated by examining the factor loadings and squared multiple correlations from the confirmatory factor analysis. All of the items in the research model had factor loadings greater than 0.50. Thus, all factors in the measurement model had adequate reliability and convergent validity. To examine discriminant validity, we computed the modification indices and anything above 15 was regarded as high. From our model, some of the modification indices were more than 15 hence we needed a model improvement. In summary, the measurement model demonstrated adequate reliability, convergent validity but not discriminant validity.

5.3.5 *Structural Equation Modelling*

a. Improved Model

Figure 13 : CFA Improved model



A similar set of fit indices was used to examine the structural model. Comparison of all fit indices, with their corresponding recommended values, provided evidence of a good model fit (x2/d.f. = 1.85, AGFI = 0.86, NFI = 0.94, NNFI = 0.96, CFI = 0.96, RFI = 0.92, RMSEA = 0.058). Thus, we could proceed to examine the path coefficients of the structural model. Properties of the causal paths, including standardized path coefficients is shown in Figure 13. The effect of customer satisfaction on customer loyalty was significant (b = 0.746, P < 0.001). Thus, H1 was supported.

As expected, perceived value had a strong positive and highly significant impact on both customer satisfaction (g = 0.922, P < 0.001) and customer loyalty (g = 0.774, P < 0.001). Therefore, H2 and H3 were also supported. Trust was found to be a significant factor in determining customer satisfaction (g = 0.790, P < 0.001) and customer loyalty (g = 0.823, P < 0.001), supporting hypotheses H4 and H5. Finally, habit appeared to be a significant determinant of customer loyalty (g = 0.830, P < 0.001), supporting H6. Habit exerted a stronger direct effect on customer loyalty than

perceived value, trust and customer satisfaction. The direct and total effect of customer satisfaction on customer loyalty was 0.746.

b. Composite Reliability

The composite reliability of all the latent constructs in the measurement model is more than 0.6 as shown in Table 9 This indicates that the latent constructs are reliable and consistent.

Table 9 : Composite Reliability – Improved model

Construct	Item	Factor loading	AVE	CR
Perceived value	Q7	0.895	0.751	0.900
	Q8	0.832		
	Q9	0.871		
Trust	Q13	0.875	0.578	0.867
	Q14	0.909		
	Q15	0.855		
	Q16	0.528		
	Q17	0.536		
Habit	Q18	0.629	0.546	0.853
	Q20	0.628		
	Q21	0.898		
	Q22	0.886		
	Q30	0.591		
Customer satisfaction	Q10	0.906	0.804	0.925
	Q11	0.875		
	Q12	0.908		
Customer loyalty	Q23	0.860	0.606	0.857

	Q25	0.661		
	Q27	0.918		
	Q28	Deleted		
	Q30	0.637		

c. Fit indices for measurement and structural models

Table 10 : Fit Indices – Improved Model

Name of category	Name of index	Recommended value	Measurement model	Structural model
Incremental fit	AGFI	≥0.80	0.983	0.83
	NFI	≥0.90	0.99	0.92
	NNFI	≥0.90	0.999	0.94
	CFI	≥0.90	1	0.95
	RFI	≥0.90	0.988	0.91
Absolute fit	RMSEA	≤0.08	0.025	0.075
Parsimonious fit	Chisq/df	≤3	1.05	2.41

d. Discriminant Validity

This validity indicates the measurement model of a construct is free from redundant items. High value of MI indicates the respective items are redundant. From our study, the highest MI value was 10.617 which is less than 15. This indicates that the model passes the discriminant validity assumption.

Table 11 : Discriminant Validity – Improved model

```
> head(mod_ind1[order(mod_ind1$mi,decreasing = TRUE),],10)
             lhs op rhs     mi mi.scaled    epc sepc.lv sepc.all sepc.nox
410          Q15 ~~ Q23 10.617    11.609  0.178   0.178    0.178    0.178
254        trust =~ Q25 10.166    11.116 -0.527  -0.527   -0.527   -0.527
413          Q16 ~~ Q17  9.515    10.404  0.221   0.221    0.221    0.221
474          Q30 ~~ Q25  9.164    10.020  0.176   0.176    0.176    0.176
263        habit =~ Q17  7.362     8.049  0.258   0.258    0.258    0.258
467          Q28 ~~ Q23  7.241     7.918 -0.214  -0.214   -0.214   -0.214
378          Q13 ~~ Q28  7.094     7.757  0.139   0.139    0.139    0.139
260        habit =~ Q14  6.770     7.402 -0.244  -0.244   -0.244   -0.244
275 satisfaction =~ Q15  6.600     7.216 -0.345  -0.345   -0.345   -0.345
361          Q20 ~~ Q21  6.176     6.753  0.177   0.177    0.177    0.177
```

Having established reliability and validity, we are now in a position to evaluate the res earch propositions

5.4 Proposition 1

- The drivers of customer loyalty in the telecommunication industry are customer satisfaction, perceived value, trust, and habit

Customer satisfaction, perceived value, Trust and Habit showed a strong positive effect on customer loyalty. The effect of customer satisfaction on customer loyalty was significant ($\hat{\gamma}$ = 0.738, P < 0.001). Thus, H1 was supported. As expected, perceived value had a strong positive and highly significant impact on both customer satisfaction ($\hat{\gamma}$ = 0.925, P < 0.001) and customer loyalty ($\hat{\gamma}$ = 0.785, P < 0.001). Therefore, H2 and H3 were also supported. Trust was found to be a significant factor in determining customer satisfaction ($\hat{\gamma}$ = 0.791, P < 0.001) and customer loyalty ($\hat{\gamma}$ = 0.795, P < 0.001), supporting hypotheses H4 and H5. Finally, habit appeared to be a significant determinant of customer loyalty ($\hat{\gamma}$ = 0.601, P < 0.001), supporting H6.

Trust exhibited a strongest and direct effect on customer loyalty followed by Perceived value, customer satisfaction and habit respectively.

Lin and Wang (2006)'s empirical study showed that 85% of the variance in customer loyalty is accounted for by customer satisfaction, perceived value, trust and habit, with customer satisfaction exerting the strongest effect on customer loyalty when comparing with its counterparts.

Therefore, the results reflect the same findings shown in the Lin and Wang (2006)'s study.

5.5 Proposition 2

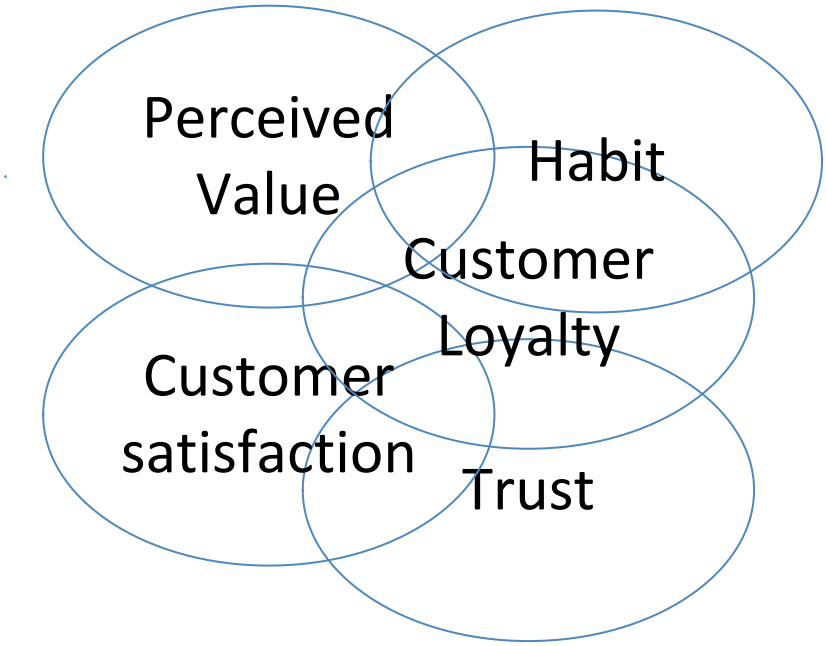
- **There is an interrelationship between these factors (customer satisfaction, perceived value, trust and habit)**

The research showed that perceived value and trust have a strong positive and highly significant impact on customer satisfaction with values of ($\gamma = 0.925$, $P < 0.001$) and ($\gamma = 0.791$, $P < 0.001$) respectively. In addition to Trust having a positive effect to customer satisfaction, it also has a great influence on customer loyalty and, the same goes for Perceived value. This is a clear indication of the interconnectedness of the drivers of customer loyalty.

According to Lin and Wang (2006, p. 277), "Sixty-two percent of the variance in customer satisfaction was explained by perceived value and trust. The direct and total effect of customer satisfaction on customer loyalty was 0.45. However, the total effect of perceived value on customer loyalty was 0.67. Perceived value, despite showing a weaker direct effect than customer satisfaction on customer loyalty, exhibited a stronger total effect on customer loyalty than that of customer satisfaction."

Customer satisfaction is only fulfilled after a process of interaction, and it is hard to satisfy a customer before gaining their trust. Hence, trust has a positive effect on customer satisfaction. This is consistent with Lin and Wang (2006).

Figure 14 : Interconnectedness of drivers of customer loyalty



The drivers of customer loyalty share many interdependences. Customer satisfaction is positively influenced by trust and perceived value, and this can be classified as an indirect influence to customer loyalty. On the other hand, a direct positive influence exists for all three. Should any of the factors drop, the correlation factor between the factors would affect the other constructs. Trust has a positive relationship with both customer satisfaction and customer loyalty.

Drivers of customer loyalty are therefore interconnected. This has significant implications for the management of customer loyalty and therefor impact the research problem directly.

5.6 Proposition 3

- **The older generation is more brand loyal than the younger generation.**

The results of the Kruskal Wallis test indicated that there was no statistically significant difference among the different age groups on the various sub drivers of the telecommunication industry since all the p-values were greater than 0.05.

According to Patterson (2007), age and income band are associated with services loyalty (repurchase and loyalty behaviour) in the context of services such as dental services or hairdressers. More mature age groups exhibit significantly more loyal behaviour than their younger counterparts. As people age, their loyalty behaviour becomes an outcome of cognitive aging and accumulated life experiences. In the South African market, the said experience does not apply because the older generation is less exposed to new technology. They tend to stick with old technologies while the younger jump to a new technology or opportunity thereof. In practice, the older generation accumulates less experience than the newer generation as the newer generation was born into technology. Patterson (2007)'s empirical research noted differences in consumer acceptance of technology and revealed that the younger generation are more likely to adopt newer technology than the older generation.

This concept is true for other services such as dental care, shopping malls, and hair dressers, but not particularly true for a mobile service because of the consumption differences. As consumers age, mobility, which is a crucial factor for brand choices is reduced and this tends to lock down the aging consumers. A mobile phone subscriber can dial special USSD (Unstructured Supplementary Service data) codes from the comfort of their homes and number port or switch to a different mobile provider without changing their number, and thus eliminating mobility.

The concept of social aging by Patterson (2007) defines how the aging customer behaves as they take on new roles such as grand parenting, community leaders and consumer right groups, and all these changes impact physical goods consumption and convenient purchases. An example will be a 75-year-old community leader and grandparent buying his cigarettes at a nearby convenient shop.

Given the challenges with the sample not being a representative of the population, it would be difficult to generalise the results of the impact of age on customer loyalty and the results are deemed inconclusive.

5.7 Conclusion

The researcher performed CFA for all latent constructs before modelling the constructs inter relationship in a structural model. The measurement model passed validity with all factor loadings and convergent validity greater than 0.5. The composite reliability of all the latent constructs in the measurement model was more than 0.6 indicating that the latent constructs are reliable and consistent.

The results supported the researcher's expectations based on theory, except for proposition 3 which was rejected. It is surprising that generational differences have no significant bearing in customer loyalty in the mobile phone sector.

A similar set of fit indices was used to examine the structural model. Comparison of all fit indices, with their corresponding recommended values, provided evidence of a good model fit (x2/d.f. = 1.85, AGFI = 0.86, NFI = 0.94, NNFI = 0.96, CFI = 0.96, RFI = 0.92, RMSEA = 0.058). Thus, we could proceed to examine the path coefficients of the structural model. Properties of the causal paths, including standardized path coefficients is shown in Figure 1. The effect of customer satisfaction on customer loyalty was significant (b = 0.746, P < 0.001). Thus, H1 was supported. As expected, perceived value had a strong positive and highly significant impact on both customer satisfaction (g = 0.922, P < 0.001) and customer loyalty (g = 0.774, P < 0.001). Therefore, H2 and H3 were also supported. Trust was found to be a significant factor in determining customer satisfaction (g = 0.790, P < 0.001) and customer loyalty (g = 0.823, P < 0.001), supporting hypotheses H4 and H5. Finally, habit appeared to be a significant determinant of customer loyalty (g = 0.830, P < 0.001), supporting H6. Habit exerted a stronger direct effect on customer loyalty than perceived value, trust and customer satisfaction. The direct and total effect of customer satisfaction on customer loyalty was 0.746.

This means the model has direct applicability as a way of addressing the research problem of customer loyalty in the mobile phone market in SA and very much congruent with the findings of the Lin and Wang (2006) paper in the Taiwan market.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

This chapter concludes the study and makes recommendations and suggestions for future research.

6.2 Conclusions of the study

The changed market conditions where subscribers can switch from one mobile provider to the other painlessly has probed the research question on customer loyalty. The research probes the dynamics of customer loyalty and the intricate relationship between the different drivers of customer loyalty in the mobile phone market. The results unravelled an intricate relationship between the drivers of customer loyalty as the results confirmed how loyalty develops from the underlying drivers.

The study revealed that the changed market conditions where exit barriers or switching costs are not existent call for mobile companies to protect their existing subscriber base. The past two decades were characterised by market growth and signing up new subscribers. Switching a mobile provider resulted in a loss of contact numbers known to friends and family but number portability has cleared up this hurdle completely.

Trust exhibited the strongest and most direct effect on customer loyalty followed by perceived value, customer satisfaction, and habit, respectively. The effect of customer satisfaction on customer loyalty was significant ($b = 0.746$, $P < 0.001$). Thus, H1 was supported. As expected, perceived value had a strong positive and highly significant impact on both customer satisfaction ($g = 0.922$, $P < 0.001$) and customer loyalty ($g = 0.774$, $P < 0.001$). Therefore, H2 and H3 were also supported. Trust was found to be a significant factor in determining customer satisfaction ($g = 0.790$, $P < 0.001$) and customer loyalty ($g = 0.823$, $P < 0.001$), supporting hypotheses H4 and H5. Finally, habit appeared to be a significant determinant of customer loyalty ($g = 0.830$, $P < 0.001$), supporting H6. Habit exerted a stronger direct effect on customer loyalty than

perceived value, trust and customer satisfaction. The direct and total effect of customer satisfaction on customer loyalty was 0.746.

In addition to trust having a positive effect to customer satisfaction, it also has a great influence on customer loyalty, and the same goes for perceived value. This is a clear indication of the interconnectedness of the drivers of customer loyalty.

6.3 Recommendations

The study provides guidance to the formulation of sustainable service strategies. To that end, the study pivots on customer feedback. The intelligence gathered can be used by management to add to their service strategy. Sustained growth depends on how well a business gauges the needs of its customers (Levitt, 2004). Sustainable Competitive advantage has shifted from structural characteristics such as economies of scale or product ranges/lines to a market oriented culture that strives to deliver superior value to its customers (Slater & Narver, 1994).

Customer loyalty is strongly influenced by trust, perceived value, customer satisfaction and habit, and as such, management should appropriately manage these drivers. Customer loyalty has ripple effects in that it adds customer retention and reduces churn rates.

Business should be more concerned with service experience from the first encounter, purchasing and post purchase support as this goes a long way in building trust. Most mobile providers have always engaged in lock-up 24-36 months' contract and thus forcing customers to stay put. This has since been diluted because of the contracts buy-out in which all the mobile providers are taking part. Secondly, the South African market is getting wiser by day, and is quickly understanding value and short sells.

The research showed Trust to be the main determinant of customer loyalty, and this comes as a hint to business to make sure they remain trusted and also build trustworthy brands with which any consumer would be happy to be associated. Only customers who trust a brand or business will come back for repurchases. Mobile providers should build an image which includes predictability and integrity. Business

should pay attention to the drivers of trust such as honesty, predictability and fair dealings with clients.

Perceived value has a strong relationship with both customer loyalty and customer satisfaction, and it is of paramount importance for business to focus on the antecedents of perceived value. These include quality services and products that are good value for money.

To be the preferred service provider, management should address habit and understand the psychological issues that influence repurchase behaviour. That way, no customer would willingly change or move to another service provider.

Finally, the most important takeaway on customer loyalty is the price insensitivity of loyal customers. Business can charge any price and customers can buy without blinking. Loyal customers make purchase decisions based on value and not price.

Reports drawn from interviews with customers are vital in building a unique service value proposition and the interviews with the customers help create a benchmark for any mobile operator that is interested in mapping a customer journey that ensures an ever improving service value delivery. A service SWOT analysis can be drawn from the interview data and firms can build their service strategies through a clear understanding of their weaknesses and strengths, in line with the threats and opportunities in the marketplace. Firms could also gain clarity on service investments because the data collected will advise them on the aspects which customers value most and they can channel most of their research and development to those areas. An interaction with subscribers has high chances of educating customers on how best they can optimise the products and services at their disposal. This is an added advantage to the mobile operators because educated customers participate better in customer feedback and service improvements engagements.

6.4 Suggestions for further research

To enhance reliability and broaden the scope, future research may consider the following;

- The research was limited to the three main mobile providers namely MTN, Vodacom and CELL C, and excluded mobile virtual network operators such as FNB and Virgin mobile. Future research can include other mobile virtual network operators and compare results.
- Given the challenges encountered in sampling, better or more appropriate sampling such as stratified random sampling.
- The sample consisted of 94 respondents and future research may consider using a larger sample to improve reliability.
- Non-response must be investigated and addressed.

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APPENDIX A Questionnaire

Introduction

My name is Prince Mashayahanya, and I am conducting research on drivers of customer loyalty in the mobile telecomms industry. This survey is for WITS Business School MBA research report and is not associated with any specific mobile provider. It is extremely important that you give your true opinions around the issues asked. All responses will be treated as anonymous. The interview will not be longer than 10 minutes and all the information provided will be treated with confidentially.

Gathering Demographic Information

1. Please select your age group

< 20	20-29	30-39	40-49	50-59	=>60
○	○	◉	○	○	○

2. Sex

○ Male

○ Female

3. Gross Monthly Income

Less than R8 000 R8 001 - R15 000 R15 001 - R 25 000 R25 001 - R 40 000 Above R40 000

4. Race

African	White	Asian	Coloured

5. Which of the following mobile operators do you subscribe to (Select all that apply)

- [ ] Vodacom
- [ ] MTN
- [ ] Cell C

Please Rate the following questions on a scale of 1 – 7 where 1 is strongly disagree, and 7 is strongly agree

PERCEIVED VALUE

1. The internet services or voice offerings of the mobile provider are a good value for money.

1	2	3	4	5	6	7

2. The service charge of the mobile provider is acceptable.

1	2	3	4	5	6	7

3. The product/service of the mobile provider is considered to be a good buy.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

CUSTOMER SATISFACTION

1. I am satisfied with this mobile provider.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

2. The mobile provider's service package is successful

1	2	3	4	5	6	7
○	○	○	○	○	○	○

3. The mobile provider's service offerings has met my expectations

1	2	3	4	5	6	7
○	○	○	○	○	○	○

TRUST

1. Based on my experience with the mobile provider in the past, I know it is honest.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

2. Based on my experience with the mobile provider in the past, I know it cares about customers.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

3. Based on my experience with the mobile provider in the past, I know it will not take advantage of customers.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

4. Based on my experience with the mobile provider in the past, I know it is predictable.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

5. Based on my experience with the mobile provider in the past, I know it knows its market.

1 2 3 4 5 6 7

HABIT

1. I usually buy prepaid voice offerings and internet data bundles from this mobile provider.

1 2 3 4 5 6 7

2. This is my preferred provider for both internet services and voice offerings.

1 2 3 4 5 6 7

3. When i need internet services or voice offerings, this is the first mobile provider i try.

1 2 3 4 5 6 7

4. I often buy both internet services and voice offerings from this mobile provider

1	2	3	4	5	6	7
○	○	○	○	○	○	○

CUSTOMER LOYALTY

1. My preference for this mobile provider would not willingly change.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

2. It would be difficult to change my beliefs about this mobile provider

1	2	3	4	5	6	7
○	○	○	○	○	○	○

3. Even if close friends recommended another mobile provider, my preference for this mobile provider would not change.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

4. I will buy from this mobile provider the next time I purchase any internet services or voice offerings.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

5. I intend to keep purchasing both internet services and voice offerings from this mobile provider.

1	2	3	4	5	6	7
○	○	○	○	○	○	○

CRITICAL INCIDENT

Do you remember an incident when you were most satisfied by your mobile provider?

APPENDIX B: Quantitative survey results

Demographics

Gender

	Frequency	Percentage
Male	69	75
Female	23	25

Age Distribution

	Frequency	Percentage
< 20	0	0
20 - 29	18	19,4
30 - 39	44	47,3
40 -49	28	30,1
50 - 59	3	3,2
>=60	0	0

Race

	Frequency	Percentage
African	65	69,1
White	11	11,7

Indian	14	14,9
Coloured	4	4,3
Total	94	100

Income

	Frequency	Percentage
Less than R8000	3	3,2
R8001 - R 15000	8	8,5
R15001 - R 25 000	8	8,5
R25 001 - R40 000	16	17
Above R40 000	59	62,8
Total	94	100

AVE (Average Variance Extracted) and CR (Composite Reliability)

model 2

AVE and CR

	factor	factr^2	1-factor^2	factor	factor^2	1-factor^2
perceived	0,896	0,802816	0,197184	0,895	0,801025	0,198975

	0,835	0,697225	0,302775
	0,872	0,760384	0,239616
count	3	3	3
sum	2,603	2,260425	0,739575
square	6,775609		
AVE	0,753475		
CR	0,901589236		

	0,832	0,692224	0,307776
	0,871	0,758641	0,241359
count	3	3	3
sum	2,598	2,25189	0,74811
square	6,749604		
AVE	0,75063		
CR	0,900222		

	factor	factor^2	1-factor^2
trust	0,874	0,763876	0,236124
	0,909	0,826281	0,173719
	0,856	0,732736	0,267264
	0,528	0,278784	0,721216
	0,536	0,287296	0,712704
count	5	5	5

	factor	factor^2	1-factor^2
	0,875	0,765625	0,234375
	0,909	0,826281	0,173719
	0,855	0,731025	0,268975
	0,528	0,278784	0,721216
	0,536	0,287296	0,712704
count	5	5	5

sum	3,703	2,888973	2,111027
square	13,712209		
AVE	0,5777946		
CR	0,866586898		

sum	3,703	2,889011	2,110989
square	13,71221		
AVE	0,577802		
CR	0,866589		

	factor	factor^2	1-factor^2
habit	0,592	0,350464	0,649536
	0,889	0,790321	0,209679
	0,845	0,714025	0,285975
	0,855	0,731025	0,268975

	factor	factor^2	1-factor^2
	0,629	0,395641	0,604359
	0,628	0,394384	0,605616
	0,898	0,806404	0,193596
	0,886	0,784996	0,215004
	0,591	0,349281	0,650719

count	4	4	4
sum	3,181	2,585835	1,414165
square	10,118761		
AVE	0,79525		
CR	0,877380207		

count	5	5	5
sum	3,632	2,730706	2,269294
square	13,19142		
AVE	0,546141		
CR	0,853222		

	factor	factor^2	1-factor^2
satisfaction	0,906	0,820836	0,179164
	0,875	0,765625	0,234375
	0,908	0,824464	0,175536
count	3	3	3
sum	2,689	2,410925	0,589075
square	7,230721		
AVE	0,896333333		
CR	0,924668751		

	factor	factor^2	1-factor^2
	0,906	0,820836	0,179164
	0,875	0,765625	0,234375
	0,908	0,824464	0,175536
count	3	3	3
sum	2,689	2,410925	0,589075
square	7,230721		
AVE	0,803642		
CR	0,924669		

	factor	factor^2	1-factor^2
loyalty	0,828	0,685584	0,314416
	0,635	0,403225	0,596775
	0,883	0,779689	0,220311
	0,831	0,690561	0,309439

	factor	factor^2	1-factor^2
	0,86	0,7396	0,2604
	0,661	0,436921	0,563079
	0,918	0,842724	0,157276
	0,364	0,132496	0,867504

	0,878	0,770884	0,229116
count	5	5	5
sum	4,055	3,329943	1,670057
square	16,443025		
AVE	0,811		
CR	0,907798297		

	0,637	0,405769	0,594231
count	5	5	5
sum	3,44	2,55751	2,44249
square	11,8336		
AVE	0,511502		
CR	0,82891		

Discriminant Validity (1)

```
> head(mod_ind[order(mod_ind$mi,decreasing = TRUE),],10)
```

	lhs	op	rhs	mi	mi.scaled	epc	sepc.lv	sepc.all	sepc.nox
267	habit	=~	Q28	17.975	17.969	0.591	0.591	0.591	0.591
278	satisfaction	=~	Q20	17.225	17.219	0.366	0.366	0.366	0.366
227	perceived	=~	Q20	17.073	17.067	0.359	0.359	0.359	0.359
461	Q22	~~	Q28	14.427	14.422	0.218	0.218	0.218	0.218
242	trust	=~	Q20	13.488	13.484	0.413	0.413	0.413	0.413
483	Q23	~~	Q28	13.252	13.248	-0.283	-0.283	-0.283	-0.283
295	loyalty	=~	Q20	11.379	11.376	0.590	0.590	0.590	0.590
395	Q15	~~	Q23	10.362	10.359	0.173	0.173	0.173	0.173
400	Q16	~~	Q17	9.503	9.499	0.221	0.221	0.221	0.221
487	Q25	~~	Q30	8.620	8.618	0.168	0.168	0.168	0.168

Discriminant Validity – Improved Model

```
> head (mod_ind1[order(mod_ind1$mi,decreasing = TRUE),],10)
```

	lhs	op	rhs	mi	mi.scaled	epc	sepc.lv	sepc.all	sepc.nox
410	Q15	~~	Q23	10.617	11.609	0.178	0.178	0.178	0.178
254	trust	=~	Q25	10.166	11.116	-0.527	-0.527	-0.527	-0.527
413	Q16	~~	Q17	9.515	10.404	0.221	0.221	0.221	0.221
474	Q30	~~	Q25	9.164	10.020	0.176	0.176	0.176	0.176
263	habit	=~	Q17	7.362	8.049	0.258	0.258	0.258	0.258
467	Q28	~~	Q23	7.241	7.918	-0.214	-0.214	-0.214	-0.214
378	Q13	~~	Q28	7.094	7.757	0.139	0.139	0.139	0.139
260	habit	=~	Q14	6.770	7.402	-0.244	-0.244	-0.244	-0.244
275	satisfaction	=~	Q15	6.600	7.216	-0.345	-0.345	-0.345	-0.345
361									

Final model

Latent Variables:

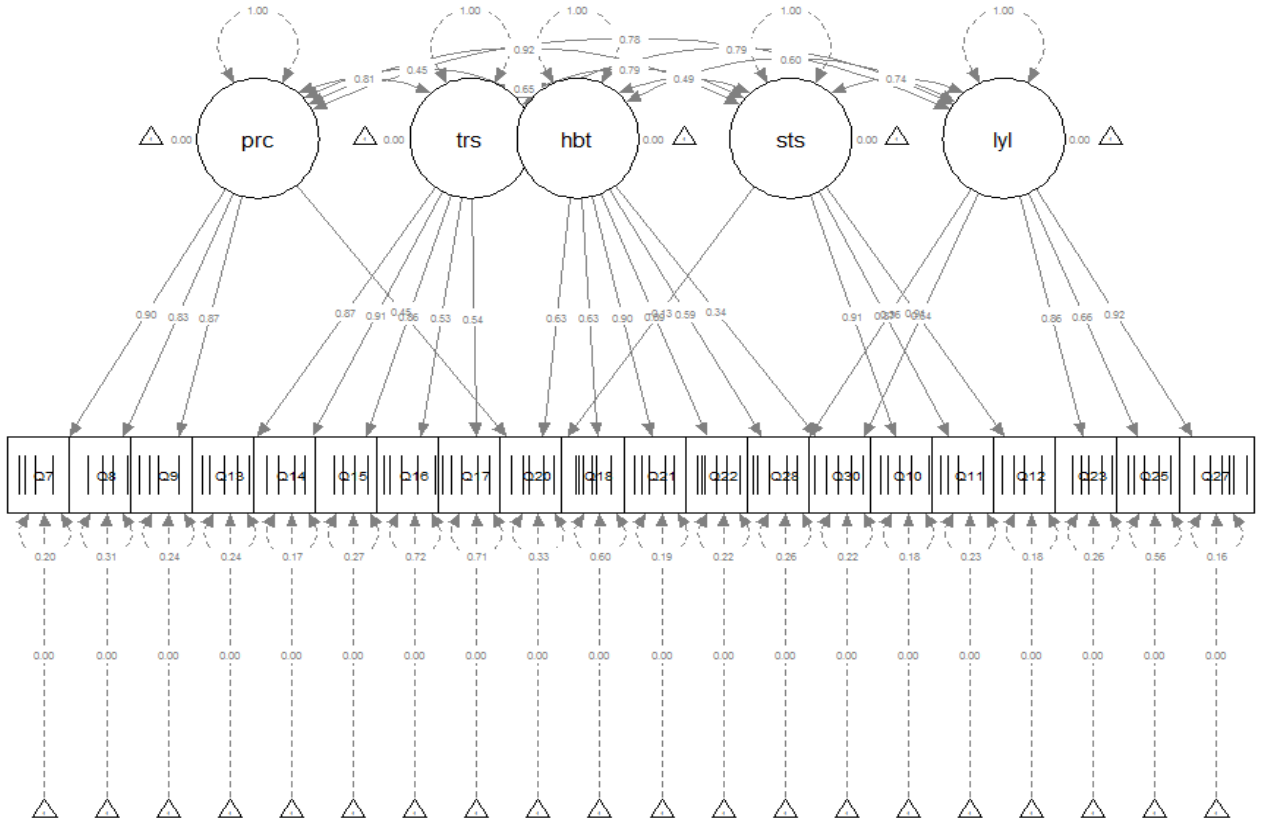
	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
perceived =~						
Q7	0.895	0.024	37.025	0.000	0.895	0.895
Q8	0.832	0.034	24.302	0.000	0.832	0.832
Q9	0.871	0.028	31.147	0.000	0.871	0.871
Q20	0.446	0.306	1.456	0.145	0.446	0.446
trust =~						
Q13	0.875	0.031	28.451	0.000	0.875	0.875
Q14	0.909	0.025	35.951	0.000	0.909	0.909
Q15	0.855	0.034	25.108	0.000	0.855	0.855
Q16	0.528	0.057	9.303	0.000	0.528	0.528
Q17	0.536	0.077	6.985	0.000	0.536	0.536
habit =~						
Q18	0.629	0.073	8.572	0.000	0.629	0.629
Q20	0.628	0.076	8.264	0.000	0.628	0.628
Q21	0.898	0.037	24.551	0.000	0.898	0.898
Q22	0.886	0.041	21.793	0.000	0.886	0.886
Q28	0.591	0.070	8.435	0.000	0.591	0.591
Q30	0.341	0.063	5.424	0.000	0.341	0.341
satisfaction =~						
Q10	0.906	0.025	35.992	0.000	0.906	0.906
Q11	0.875	0.032	27.764	0.000	0.875	0.875
Q12	0.908	0.025	36.263	0.000	0.908	0.908
Q20	-0.132	0.326	-0.406	0.684	-0.132	-0.132
loyalty =~						
Q23	0.860	0.037	23.100	0.000	0.860	0.860
Q25	0.661	0.053	12.470	0.000	0.661	0.661

```
  Q27          0.918   0.041  22.660   0.000   0.918   0.918
  Q28          0.364   0.074   4.953   0.000   0.364   0.364
  Q30          0.637   0.059  10.876   0.000   0.637   0.637
```

```
> fitMeasures(fit1, c("agfi","nfi","nnfi","cfi","rfi", "rmsea", "chisq"))
  agfi    nfi   nnfi    cfi    rfi  rmsea  chisq df
 0.983  0.990  0.999  1.000  0.988  0.025 163.844 154
```

```
> head(mod_ind1[order(mod_ind1$mi,decreasing = TRUE),],10)
        lhs op rhs     mi mi.scaled    epc sepc.lv sepc.all sepc.nox
410      Q15 ~~ Q23 10.617    11.609  0.178   0.178    0.178    0.178
254    trust =~ Q25 10.166    11.116 -0.527  -0.527   -0.527   -0.527
413      Q16 ~~ Q17  9.515    10.404  0.221   0.221    0.221    0.221
474      Q30 ~~ Q25  9.164    10.020  0.176   0.176    0.176    0.176
263    habit =~ Q17  7.362     8.049  0.258   0.258    0.258    0.258
467      Q28 ~~ Q23  7.241     7.918 -0.214  -0.214   -0.214   -0.214
378      Q13 ~~ Q28  7.094     7.757  0.139   0.139    0.139    0.139
260    habit =~ Q14  6.770     7.402 -0.244  -0.244   -0.244   -0.244
275 satisfaction =~ Q15  6.600     7.216 -0.345  -0.345   -0.345   -0.345
361      Q20 ~~ Q21  6.176     6.753  0.177   0.177    0.177    0.177
perceived~~trust perceived~~habit perceived~~satisfaction perceived~~loyalty
 0.807           0.453          0.925              0.785
trust~~habit   trust~~satisfaction  trust~~loyalty   habit~~satisfaction
  0.646        0.791            0.795            0.492
     habit~~loyalty   satisfaction~~loyalty
   0.601                          0.738
           Q20 ~~ Q21   6.176      6.753   0.177    0.177     0.177     0.1
```

MODELING THE MEASURMENT MODEL FOR MULTIPLE CONSTRUCTS Final Model



MODELING THE MEASURMENT MODEL FOR MULTIPLE CONSTRUCTS Model 1