

Factors influencing customer loyalty in the South African mobile phone market

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ABSTRACT

The competition in mobile phone market in South Africa has become fierce and all mobile operators have realised that they need to protect their existing customer base. Industry revenue grew at an average of 40% in the beginning of the last decade compared to 4% at the end of the decade. Customer churn to other technologies such as Internet Protocol Systems threatens the existence of mobile phone service providers. These technologies offer voice and/or video communication markets (e.g. Skype) using fixed line phones. It is therefore important to understand factors that influence customer loyalty in the South African mobile phone market to eliminate the churn. Mobile phone operators' tend to focus on customer lock-in strategies such as bundling of services and devices, fixed term contracts, and offering of handsets locked to a particular network (Pynnonen, 2008) rather than customer loyalty. The author is not aware of any academic study that focused on customer loyalty in the South African mobile phone market.

Given the nature of the research problem and the purpose of the research, the most appropriate research method was survey questionnaires that were administered to a stratified random sample of 107 mobile phone subscribers. The questionnaire contained various questions and statements that represented constructs suggested by the literature review. A five-point Likert scale rating and open-ended questionnaire was used in collecting responses.

The main findings of this study indicated that the South African mobile phone customers are influenced by seven (7) factors. Factors showed valid internal reliability with the construct identified in the literature survey. The resulting model used the F statistic that significantly suggested an overall relationship in the data, i.e. together these factors have a strong predictive value in Customer Loyalty. The study concluded that customer satisfaction and trust have a positive effect on customer loyalty. Corporate image and service quality have a weak influence on customer loyalty and switching cost demonstrated no positive effect on customer loyalty. South Africans appear to be more committed to their chosen network

provider and their chosen brand of handset.

There is not enough service and product differentiation in the mobile phone market in South Africa. Better handset deals at the time of acquiring the mobile phone seems to be what makes customer choose the service provider. Customers would rather keep to their current service provider as there are no compelling reasons to switch service provider.

In the long term, the mobile phone service providers should look beyond low rates when it comes to keeping good customers and encouraging loyalty. They should focus on the factors that influence customer loyalty as themes of Customer Relationship Management (CRM). Striving to improve CRM performance will help to attain a higher level of customer loyalty.

DECLARATION

I, Mpho Nkhumeleni, 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 in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Mpho Nkhumeleni

Signed at

On the day of 2012

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CHAPTER 1 INTRODUCTION

1.1 Purpose of the study

A loyal customer means a consistent source of revenue for a firm (Frazer-Robinson (1999). Customers stay with a specific vendor or brand for many different reasons (Linton, 1993). An improved understanding of why customers stay with a specific vendor or brand is required to align the value proposition of the firm or the brand to these reasons.

The purpose of this research was to determine factors that influence customer loyalty in the South African mobile phone market. The results of this study will guide the marketing strategy with an aim of improving shareholders value through focussed value proposition.

1.2 Context of the study

Global System for Mobile Communications (GSM) technology accounted in late 2004 for almost three quarters of the world mobile telephone market, both digital and wireless (Aydin, Özer & Arasil, 2005). Africa is a lucrative market for mobile telecoms operators, with the region showing phenomenal growth in mobile subscriber numbers that account for almost 60% of the continent's population of 999 million people in 2009, compared with 25% in 2000 (Barnard, 2010). Africa's population grew by 10.3 % between 2005 and 2009 (Population Reference Bureau, 2009).

A study by *World Wide Worx*, backed by South Africa's *First National Bank* and Canada's *Research in Motion* revealed that the South African mobile phone market reached a milestone of 50-million connections at the end of 2008. However, only 68% of these connections represented individual users (Magapatona, Botha & Goldstuck, 2009). Synovate market research revealed that 84% of South Africans cannot live without their mobile phones (Synovate, 2010)

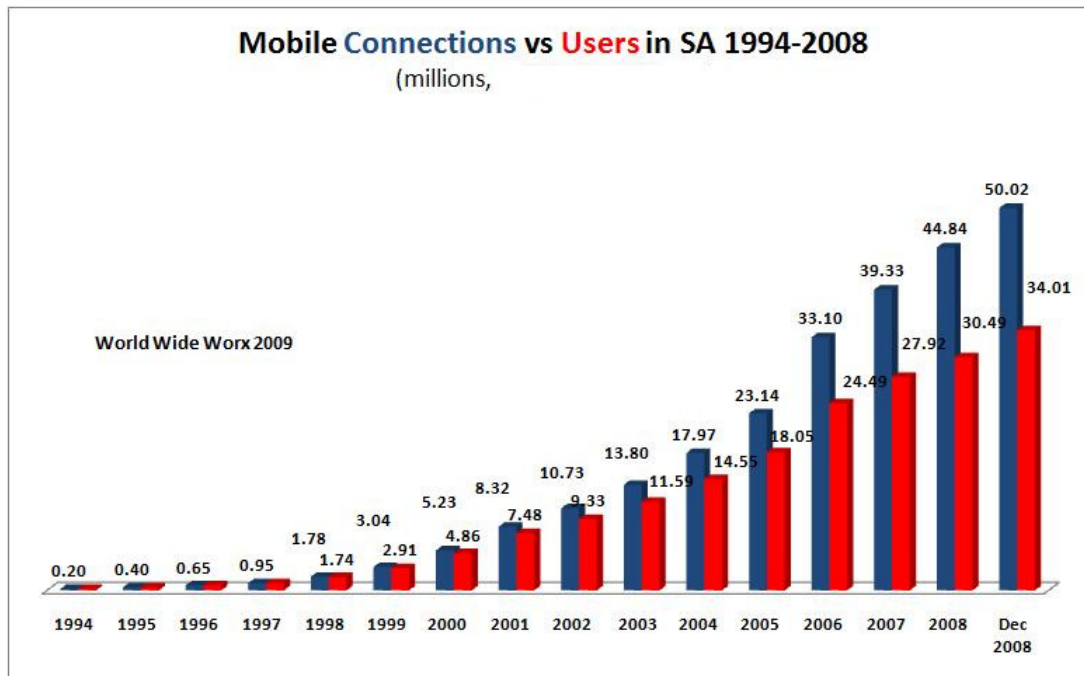


Figure 1: Mobile connections versus users (Source: World Wide Worx, 2009)

South Africa has four mobile phone network operators namely, Vodacom, MTN, Cell C and Virgin Mobile that provide mobile phones to over 50 million connected subscribers. There is a fierce competition and strong rivalry in the South African mobile phone industry. Buyers or subscribers have various options offered to them across all network operators. Capital requirements and the Independent Communications Authority of South Africa (ICASA) regulations make entry to the industry cumbersome. The mobile network industry uses common technology and therefore suppliers have less bargaining power. The mobile phone market is one of the fastest-growing service segments in the telecommunications market (Kim, Park & Jeong, 2004), and the industry constantly expands their data offerings (i.e. high speed broadband). It is therefore unlikely that there will be a substitution in the short term, as it is still in its infant stage.

Several changes were introduced recently in the South African mobile phone market which sought to re-shape the landscape of the market. These changes further exacerbated the industry competitiveness.

On 30 September 2005, regulations were promulgated which mandated the implementation of mobile number portability (MNP). MNP was introduced on 10

November 2006 (Business Monitor International Ltd, 2006). MNP allows customers to retain their telephone numbers while changing to a different mobile network operator. MNP is aimed at reducing switching costs, facilitating consumer choice and ensuring effective competition in mobile phone retail markets. From November 2006 to end February 2010, 527 742 subscribers were successfully ported. This represents an average port of approximately thirteen thousand eight hundred and eighty eight ($\pm 13\,888$) per month (Number Portability Company (Ltd), 2010).

In November 2009, an agreement was reached to reduce interconnection rates in South Africa (Business Monitor International Ltd, 2009). Interconnection fees are charges that the operator of one network must pay another network operator to in order to connect to that network. The *World Wide Worx study*, backed by South Africa's *First National Bank* and Canada's *Research in Motion*, showed that about one-third of South Africa's mobile subscribers own more than one SIM card (Magapatona, Botha & Goldstuck, 2009). Subscribers hold more than one SIM card in order to avoid incurring interconnection fees when calling a different network.

These changes fuel competition and influence customer loyalty in the South African mobile phone industry. An understanding of these changes influence customer loyalty and it is therefore necessary that the mobile phone operators develop a strategy to maintain the current customers as loyal patrons. The author of the study is not aware of any academic study that has focused on customer loyalty in the South African mobile phone market, and therefore this study will illuminate major factors that influence customer loyalty in the South African mobile phone market.

1.3 Problem statement

The competition in mobile phone market in South Africa has become fierce and all mobile operators have realised that they need to protect their existing customer base. Industry revenue grew at an average of 40% in the beginning of the previous decade compared to 4% at the end of the decade. In the past 5 years ICASA has passed various legislation aimed at increasing competition in the cell phone market. MTN and Vodacom had -3.5% and 0.7% subscription growth in the South African market respectively in the 2010 financial year compared to growth of 55% (MTN) and 73% (Vodacom) in 2001.

Other technologies such as Internet Protocol Systems enable non-traditional telecommunication players such as Internet Service Providers to enter into the voice and/or video communication market (e.g. Skype). These services can also be accessed using the fixed line phones system. Customer churn therefore threatens the existence of some mobile phone operators. Customer loyalty has now, more than ever before, moved to the top of agenda for the mobile phone operators, who would benefit if their customer loyalty increases. In-depth knowledge of what influences customer loyalty in the mobile phone market is therefore necessary.

1.3.1 *Main problem*

Customer churn to other technologies such as Internet Protocol Systems threatens the existence of mobile phone service providers. These technologies offer voice and/or video communication markets (e.g. Skype) using fixed line phones. It is therefore important to understand factors that influence customer loyalty in the South African mobile phone market to eliminate customer churn. Mobile phone operators' focus on customer lock-in strategies such as bundling of services and devices, fixed term contracts, and the offering of handsets locked to a particular network (Pynnonen,2008) rather than customer loyalty. The author of this study is not aware of any prior academic study that focused on customer loyalty in the South African mobile phone market. If these factors are not researched, customer churn will increase resulting in mobile phone operators losing revenue. Reductions in customer base will result in reductions in economies of scale in the mobile phone service and therefore costs will increase. If this happens individuals will lose the convenience associated with mobile phone services because these services will be unaffordable.

1.4 Significance of the study

This study fills a gap regarding how customer loyalty in the South African mobile phone market has been impacted by recent changes, namely mobile number portability, interconnection fee reduction and developments in other technologies that enable non-traditional telecommunication players such as Internet Service Providers to enter into

voice and/or video communication market. The findings of this study highlight major factors that customers focus on to be loyal to the mobile phone network provider.

The study provides guidance to the mobile network operators' marketing strategies for improving customer loyalty. The study also provides comparable results to other studies regarding customer loyalty in the mobile phone markets conducted in other markets that have mobile phone legislations similar to South Africa, such as Turkey, Korea, USA, Canada, France and Germany. The results could therefore be used to feed into the global marketing strategy of these companies.

1.5 Delimitations of the study

The scope of this study is limited to the major three mobile network providers, namely, Cell C, MTN and Vodacom. The survey will be completed in Pretoria/Tshwane and will cover mobile phone subscribers of all demographic backgrounds.

1.6 Definition of terms

- Mobile number portability (MNP) is the process that allows customers to retain their telephone numbers while changing to a different mobile network operator.
- Interconnection fees are fees that the operator of one network must pay another network operator to in order to connect to that network.
- Connections are numbers of mobile phones in use or active mobile phone accounts that can connect to the mobile network at any given time.
- GSM (Global System for Mobile communication) is a digital mobile telephony system that digitizes and compresses data, then sends it down a channel with two streams of user data, each in its own time slot. In South Africa, GSM operates at either the 900 MHz or the 1800 MHz frequency band.
- SIM (subscriber identity module or subscriber identification module) is an integrated circuit that securely stores the International Mobile Subscriber Identity (IMSI) and the

related key used to identify and authenticate subscribers on mobile telephony devices (such as mobile phones)

1.7 Assumptions

- It is assumed that no difference exists between customers of different mobile phone networks on the views of major factors that impact on customer loyalty.
- It is assumed that the views and perceptions of sampled Pretoria/Tshwane customers are representative to the industry in South Africa.

CHAPTER 2 LITERATURE REVIEW

2.1 Customer Loyalty

A critical issue for the continued success of a firm is its capability to retain its current customers and make them loyal to its brands (Dekimpe, Steenkamp, Mellens & Abeele, 1997). A firm is able to differentiate itself from competitors when services or products are available and appreciated by customers in a way that lead to perceived superiority along dimensions comprising and influencing the development of customer loyalty (Aydin & Özer, 2005). Loyal customers build businesses by buying more, paying premium prices, and providing new referrals through positive word of mouth over time (Ganesh, Arnold & Reynolds, 2000). The financial benefits of customer loyalty thus explain why one firm is more profitable than its competitors (Blackwell, Szeinbach, Barnes, Garner & Bush, 1999).

The mobile phone market is one of the fastest-growing service segments in the telecommunications industry (Kim, Park & Jeong, 2004). Aydin & Özer (2005) estimated that companies in telecommunications lose between 2% and 4% of their customers' monthly and these disloyal customers amount to millions of lost revenue and profit. They further pointed out that 20% of customers of the mobile phone operator *Orange* defect each year and, on average, it cost *Orange* £256 in 1996 to recruit each new customer, reflecting the cost of introductory offers, subsidised phones and advertising. With almost a million customers, therefore, reducing the churn rate from 20% to 10% would bring about annual savings of over £25 million (Palmer, 1998). In telecommunications services, it is frequently pointed out that once customers have been acquired and connected to the telecommunications network of a particular operator; their long-term relations with the focal operator are of greater importance to the success of the company in competitive markets than they are in other industry sectors (Gerpott, Rams & Schindler, 2001).

Loyalty is defined as "being faithful" or "true to allegiance" (Palmer, McMahon-Beattie & Beggs, 2000). Oliver (1997) defined customer loyalty as a deeply held commitment to rebuy or repatronise a preferred product/service consistently in the future, thereby

causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour.

There is a large body of literature about customer loyalty that defines two dimensions of loyalty, namely behavioural and attitudinal (Dick and Basu, 1994; Knox, 1996; O'Malley, 1998; Odin, Odin and Florence, 2001), as well as the links between these two dimensions (Baldinger and Robinson, 1996). At a behavioural level, the view can be advanced that repeat buying behaviour is an objective indicator of loyalty (Ehrenberg, 1988; Palmer, McMahon-Beattie & Beggs, 2000). This is supplemented by indicators such as the percentage of a buyer's expenditure within a product category that is spent with a particular supplier and their latest and frequency of spending. However, behavioural measures do not explain why repeat buying behaviour occurs and can be influenced by a variety of situational constraints. Low levels of repeat buying may merely indicate different usage situations, such as variety seeking or lack of brand preference on the part of a buyer (Dick and Basu, 1994).

Attitudinal approaches to defining loyalty have frequently used customer satisfaction as an indicator of loyalty on the grounds that satisfaction leads to repurchase intention. However, it may be too simplistic to say that dissatisfied customers will defect and that those who express satisfaction will continue to be loyal (Reichheld, 1993). In a situation where a number of suppliers provide satisfaction, loyalty at an affective level is likely to occur only where there is a clearly superior delivery of value that a consumer feels motivated to recommend to friends. It has been noted that buyers' evaluation criteria for a seller are influenced by the extent to which they have moved towards a relational rather than a transactional approach to exchange (Fournier and Yao, 1997). Garbarino and Johnson (1999) observed that for transaction-based buyers, overall satisfaction is the primary mediating construct, while high relational customers use trust and commitment as the mediators between the components of attitudes and future intentions.

2.2 Antecedents of Customer Loyalty

There are many antecedent factors affecting customer/brand loyalty, however it is impossible to find a study that has examined the effects of all factors simultaneously and jointly (Aydin & Özer, 2005). Zins (2001) in the relationship marketing study that

investigated the antecedents of future customer loyalty in the commercial airline industry found that the corporate image of the service provider, along with service quality and customer satisfaction, were found to be the powerful and illustrative components for explaining future customer loyalty.

A binomial logit model was used to identify the determinants of subscriber churn and customer loyalty in the Korean mobile phone market (Kim & Yoon, 2004). The factors such as call quality, handset type, and brand image were found to affect customer loyalty as measured by the intention/non-intention to recommend the service provider to other people. The insignificance of subscription duration in affecting the loyalty-induced action indicated that lock-in effects are likely to be concentrated among customers who are not willing to churn simply because of switching costs.

Iacobucci, Ostrom and Grayston (1995) confirmed that service quality and customer satisfaction are important concepts for creating competitive advantage and customer loyalty. Other studies depicted that corporate image (Nguyen and Leblanc, 2001), customer switching costs (Jones, Beatty & Mothersbaugh, 2002), trust (Lau & Lee, 1999), service quality (Bolton and Drew, 1991) and customer satisfaction (Turel & Serenko, 2004) have significant impacts on customer loyalty.

This study focuses on examining the following antecedents of customer loyalty in the South African mobile phone market: customer satisfaction, service quality, switching costs, corporate image and trust.

2.2.1 *Customer satisfaction.*

Customer satisfaction is an output, resulting from the customer's pre-purchase comparison of expected performance with perceived actual performance and incurred cost (Churchill and Surprenant, 1982). Marketing literature suggests that customer satisfaction operates in two different ways: transaction-specific and general overall (Yi, 1989). The transaction-specific concept concerns customer satisfaction as the assessment made after a specific purchase occasion. Overall satisfaction refers to the customer's rating of the brand, based on all encounters and experiences (Johnson and Fornell, 1991).

Cumulative customer satisfaction is an overall evaluation based on the total purchase and consumption experience with a good or service over time. Whereas transaction-specific satisfactions may provide specific diagnostic information about a particular product or service encounter, overall satisfaction is a more fundamental indicator of the firm's past, current and future performance (Anderson, Fornell, Lehmann, 1994). This is because customers make repurchase evaluations and decisions based on their purchase and consumption experience to date, not just on a particular transaction or episode (Johnson, Gustafsson, Andreassen and Cha, 2001). At the same time, services offered to mobile phone subscribers are continuously in flux. Therefore, customers' general evaluations are not based on satisfaction or dissatisfaction relating to a particular service transaction, but are based on all the service encounters involved in being a subscriber to date (Turel & Serenko, 2004). Customer satisfaction is assessed to reduce sensitivity to price by lessening price elasticity (Anderson, Fornell, and Lehmann, 1994) and minimising customer loss from fluctuations in service quality in the short term (Fornell, 1992).

Customer satisfaction is defined as a customer's overall evaluation of the performance of an offering to date (Johnson and Fornell 1991). This overall satisfaction has a strong positive effect on customer loyalty intentions across a wide range of product and service categories, including telecommunications services (Fornell 1992; Fornell, Johnson, Anderson, Cha and Bryant, 1996). As an overall evaluation that is built up over time, satisfaction typically mediates the effects of product quality, service quality, and price or payment equity on loyalty (Bolton and Drew 1991; Fornell, Johnson, Anderson, Cha and Bryant, 1996). In a service context, overall satisfaction is similar to overall evaluations of service quality.

Both practitioners and academics understand that consumer loyalty and satisfaction are linked inextricably and that this relation is asymmetric (Oliver, 1999). Oliver (1999) further argued that although loyal consumers are most typically satisfied, satisfaction does not universally translate into loyalty. To explain the satisfaction-loyalty conundrum, the author of the study investigated what aspect of the consumer satisfaction response has implications for loyalty and what portion of the loyalty response is due to this satisfaction component. The researcher's analysis concluded that satisfaction is a necessary step in loyalty formation but becomes less significant as loyalty begins to set through other

mechanisms. Palmer (1998) asserts that customers will not hold a favourable attitude towards the service provider compared to other alternatives available in the absence of some degree of satisfaction. The main result is high customer loyalty as confirmed by Brady and Robertson (2001), Oh, (1999), Eklöf and Cassel, (2001) as well as Hackl, Scharitzer and Zub (2000). Many other studies by researchers such as Kristensen, Gronholdt & Martensen (2000); Gerpott, Rams & Schindler (2001); Sharma, 2003; Bruhn and Grund, 2000) have shown that customer satisfaction positively affected loyalty.

A Canadian study on users' satisfaction with mobile services did not yield conclusive evidence that a relationship exists between customer loyalty and customer satisfaction (Turel & Serenko, 2004). However, a German study using the LISREL analysis support a two-staged model in which overall customer satisfaction has a significant impact on customer loyalty which in turn influences a customer's intention to terminate or extend the contractual relationship with his mobile cellular network operator (Gerpott, Rams & Schindler, 2001).

Proposition 1: Customer satisfaction has a positive effect on customer loyalty.

2.2.2 Service quality

Even though there is no consensus about conceptualising and measuring service quality, in a study by Carman (1990), it was assumed that service quality is "the consumer's judgment about the overall excellence or superiority of a service". This notion confirmed findings of study by Zeithaml (1988).

In understanding customer satisfaction, researchers have paid particular attention to the management of service quality; that is, developing strategies to meet customer expectations (Parasuraman, Zeithaml & Berry 1988), and explaining the impact of service quality on profit (Rust, Zahorik & Keiningham, 1995; Zeithaml, Berry & Parasuraman, 1988). Researchers have focused on the process in which customers form expectations of service, perceive service performance, and then decide to remain with or switch providers.

Service quality is seen as a critical factor for profitability, and thereby a firm's success. Two underlying processes generally explain the contribution of service quality to

profitability. First, service quality is regarded as one of the few means for service differentiation and competitive advantage that attracts new customers and contributes to the market share (Venetis and Ghauri, 2000). Second, service quality enhances customers' inclination to buy again, to buy more, to buy other services, to become less price-sensitive and to tell others about their favourable experiences (Venetis and Ghauri, 2000).

Bloemer, Ruyter and Wetzels (1998) and Jones, Beatty & Mothersbaugh (2002), among others, have pointed out that there is a positive relationship between service quality and repurchase intention, recommendation, and resistance to better alternatives. All these, repurchase intention, recommendation and resistance to better alternatives are behavioural intentions and constitute customer loyalty. A Turkish study (Aydin and Özer, 2005) in the mobile phone market demonstrated that service quality is positively and significantly related to customer loyalty. The study further showed that perceived service quality on customer loyalty indirectly stems from the positive relations between perceived service quality and factors such as trust, corporate image and switching cost.

Proposition 2: Service quality has a positive effect on customer loyalty

2.2.3 Switching costs

Porter (1998) defined switching costs as one-time costs facing the buyer when switching from one supplier's product to another's. In addition to objectively measurable monetary costs, switching costs may also pertain to the time and psychological effort involved in facing the uncertainty of dealing with a new service provider (Bloemer, Ruyter & Wetzels, 1998, Klemperer, 1987). Hence, switching costs are partly consumer-specific (Shy, 2002). For this reason, switching cost can be seen as a cost that deters customers from demanding a rival firms' brand.

Switching cost is the sum of economic, psychological and physical costs (Jackson, 1985). The economic or financial switching cost is a sunk cost which appears when the customer changes his/her brand, for example the costs of closing an account with one bank and opening another with a competitor, the cost of changing one's long-distance telephone service (Klemperer, 1987) or the costs of changing one's mobile phone

operator or costs to access another mobile network provider (Lee, Kim, Lee and Park, 2006).

2.2.3.1 Interconnection fee

An interconnection fee is the cost incurred by a subscriber when connecting a call between two subscribers on different networks. Interconnection rates are the rates charged for connecting these calls and are often referred to as mobile termination rates (MTR's) in the case of mobile telecommunication operators. *World Wide Worx study*, backed by South Africa's *First National Bank* and Canada's *Research in Motion*, showed that approximately one-third of South Africa's mobile subscribers own more than one SIM card (Magapatona, Botha & Goldstuck, 2009). South African mobile network subscribers hold more than one SIM in order to avoid incurring interconnection fees when calling a different network (Business Monitor International Ltd, 2009).

Physical or procedural switching cost is as a result of the process of buyer decision-making and the customer's implementation of the decision. The five-stage process entails need recognition, information search, evaluation of alternatives, purchase decision and post-purchase behaviour (Etzel, Stanton and Walker, 1997). A subscriber contemplating switching would ideally evaluate alternative operators with regard to different criteria, such as coverage area, billing procedures, customer service or added value, purchase a new mobile phone service, and finally notify contacts of a new mobile phone number (Ayadin and Özer, 2005). A Korean study by Lee, Kim, Lee and Park (2006) showed a positive link between switching costs and mobile number portability.

2.2.3.2 Mobile Number Portability (MNP)

A study by Shin (2006) investigated the effect of mobile number portability (MNP) by focusing on subscribers' perceptions and behaviours on MNP in USA. Statistical analyses in this study revealed that subscribers perceive that the switching barrier is still high, discouraging subscribers from switching mobile phone operators. Mobile phone operators developed new subscriber lock-in strategies that make subscribers maintain current mobile phone operators (Lee, Kim, Lee and Park, 2006). In addition, there were other hidden costs despite MNP

that subscribers should burden with number portaling. In all, MNP is upheld by subscribers' burden, not mobile phone operators and not regulators, which partly explains the low number of switching subscribers under MNP. The findings of this study by Shin (2006) implies that MNP has more directly affected the industries to a greater extent than subscribers, which suggests implications for both regulators and industries; how to effectively enforce MNP to achieve the intended goals and how to achieve competitive advantage with MNP.

Mobile service price and personal service benefit perceptions as well as (a lack of) number portability between various cellular operators were identified as supply-related variables with the strongest effects on customer retention in the mobile phone study in Germany by Gerpott, Rams & Schindler (2001). The findings suggest that an important lever for regulators to promote competition in mobile phone markets is the enforcement of efficient number portability procedures between mobile network operators.

The availability of MNP enables subscribers to choose the provider that best meets their needs without incurring switching costs by changing their phone numbers.

Fornell (1992) argued that the relationship between customer satisfaction and customer loyalty is affected by many factors, including the industry type, switching cost and the differentiation level of products in a category. Empirical studies in several sectors by researchers such as Jones, Beatty & Mothersbaugh (2002) and Lee, Lee and Feick, (2001) revealed that there is a weaker relationship between customer satisfaction and customer loyalty in market segments with high perceived switching cost than in those with low perceived switching cost. In short, perceived switching cost has a moderator effect on customer loyalty: as it increases, customers' sensitivity to satisfaction decreases (Hauser, Simester, and Wernerfelt, 1994). The probability that a subscriber will switch mobile network operators was found to be dependent on the level of satisfaction with alternative specific service attributes including call quality, tariff level, handsets, brand image, as well as income, and subscription duration (Kim & Yoon, 2004).

Psychological cost is perceived as the cost stemming from social bonds (e.g. staff-customer relations) that appear over the course of time and the uncertainty/risk of the unused brand. The customer perceives high risk regarding a brand he/she has never used (Frazer-Robinson, J., (1999) and Patterson, 2000). Especially in services where customers prefer a rival service provider, risk exists because service quality cannot be evaluated before purchasing (Sharma, Patterson, Cicic, Dawes, 1997).

A customer who has collected information in order to decrease their anxiety about an incorrect purchasing decision will use all previous purchase experience. This is called “post-purchase cognitive dissonance” (Etzel, Stanton & Walker, 1997). In this process, if the customer were to switch brand, he/she would compare the switched brand and the previous brand. Therefore the better the switched brand's performance, the higher the alternative's uncertainty. Hence, customers who want to decrease cognitive dissonance prefer brands that they have used before (Klemperer, 1995). Markets with high switching costs are generally characterised by consumer lock-in, where it is observed that consumers repeatedly purchase the same brand even after competing brands become cheaper. One important consequence of having consumer lock-in is the ability of firms to charge prices above marginal costs (Shy, 2002). In the case of a market devising switching costs, when customers select from a number of functionally identical brands, they display brand loyalty and go on buying the same brand (Klemperer, 1987). In short, ex-ante-homogeneous products may, after purchase, be differentiated ex-post by switching costs (Klemperer, 1987). Moreover, if customers are sensitive to a product's attributes, such as quality, uncertainty will decrease price sensitivity (Erdem, Louviere & Swait, 2002). In other words, the customer behaves in a loyal manner. For these reasons, switching costs is a factor that directly influences customers' sensitivity to price level, and so influences customer loyalty (Bloemer, Ruyter and Wetzels, 1998; Burnham, Frels, Mahajan, 2003; Lee, Lee, Feick, 2001). Caruana (2003) notes that higher switching between telecommunication companies costs are positively related to customer loyalty.

Proposition 3: High switching cost has a positive effect on customer loyalty.

2.2.4 Corporate image

Corporate image is described as the overall impression made on the minds of the public about a firm (Barich and Kotler, 1991; Dichter, 1985; Finn, 1961; Kotler, 1982). It is related to the various physical and behavioural attributes of the firm, such as business name, architecture, variety of products/services, tradition, ideology, and it is also related to the impression of quality communicated by each person interacting with the firm's clients. As such, corporate image has two principal components: the functional and the emotional (Kennedy, 1977). The functional component is related to tangible characteristics which can be easily measured, while the emotional component is associated with psychological dimensions which are manifested by feelings and attitudes towards a firm. These feelings are derived from individual experiences with a firm and from the processing of information regarding the attributes that constitute functional indicators of image.

Although various propositions are found in the literature vis-à-vis how image is formed in people's minds, MacInnis and Price (1987) report that researchers in the field agree that corporate image is the result of a process. This sensory process arises from ideas, feelings, and previous experiences with a firm that are retrieved from memory and transformed into mental images (Yuille and Catchpole, 1977). As a rule, people are exposed to realities created by the firms and may consciously or unconsciously select facts which are compatible with their configuration of attitudes and beliefs. These facts are retained and thereafter retrieved from memory to reconstruct an image when the firm is brought to mind (Dowling, 1986). Consequently, corporate image is the result of an evaluation process. Although a customer may not have enough information about a firm, information obtained from different sources such as advertisements and word-of-mouth will influence the process of forming the corporate image.

Fishbein and Ajzen (1975) argue that attitudes are functionally related to behavioural intentions, which predict behaviour. Subsequently, corporate image as an attitude must affect behavioural intentions such as customer loyalty (Johnson, Gustafsson, Andreassen, Lervik & Cha, 2001). Nguyen and Leblanc (2001) demonstrated that corporate image relates positively with customer loyalty in three sectors, namely telecommunication, retailing and education. The same relationship is demonstrated by

Kristensen, Gronholdt & Martensen (2000) in their study of Danish postal services, and by Juhl, Kristensen & Ostergaard (2002) in their study of the Danish food retailing sector. Ayadin and Özer (2005) in their mobile phone study in the Turkish market pointed out that corporate image stems from the sum of a consumer's consumption experiences, and service quality is a function of these consumption experiences.

The results of the study by Nguyen and Leblanc (2001) revealed that the degree of customer loyalty has a tendency to be higher when perceptions of both corporate reputation and corporate image are strongly favourable. Moreover, the addition of the interaction between both constructs contributes to better explanation of customer loyalty.

Proposition 4: Corporate Image has a positive effect on customer loyalty

2.2.5 Trust

Anderson and Narus (1990) emphasise that trust occurs when one party believes that the other party's actions would result in positive outcomes for itself. Trust has been recognised as an important role in affecting relationship commitment (Morgan and Hunt, 1994) and so customer loyalty is effected by trust (Gundlach and Murphy, 1993). It appears that if one party trusts another, it is likely to develop some form of positive behavioural intention towards the other party. Accordingly, when a customer trusts a brand, this means that he/she is also likely to form a positive buying intention towards the brand (Lau and Lee, 1999).

Trust works at preserving relationship investments by cooperating with partners, and the presence of trust allows a resistance of attractive short-term alternatives in favour of the expected long-term benefits of staying with existing partners. Furthermore, trust allows a perspective to be cultivated whereby potentially high-risk actions are viewed as being prudent because of the belief that current partners will not act opportunistically (Morgan and Hunt, 1994). Hence, it is claimed that there is a positive relationship between trust in a firm and customer loyalty, consistent with the past research completed by Chaudhuri and Holbrook (2001) and Lau and Lee (1999).

Doney and Cannon (1997) suggested that the construction of trust involves a calculative process based on the ability of a party to continue to meet its obligations, as well as

through an estimation of the costs versus rewards of staying in the relationship. Therefore, to trust a brand, customers should not only perceive positive outcomes but also believe that these positive outcomes will continue in the future. Consequently, service quality should positively affect trust in the operator.

Trust also reflects credibility (Ganesan, 1994), and credibility affects the long-term orientation of a customer by reducing the perception of risk associated with opportunistic behaviours by the firm (Erdem, Louviere & Swait, 2002; Ganesan, 1994). Specifically, trust reduces uncertainty in an environment in which consumers feel vulnerable, since they know that they can rely on the trusted brand (Chaudhuri and Holbrook, 2001). The fact that the customer trusts the operator in the mobile phone market reduces uncertainty associated with services which were delivered previously or which are yet to be delivered. Reducing the uncertainty associated with the operator relatively increases the uncertainty of alternatives and thereby the perceived switching cost.

Proposition 5: Trust in the service provider has positive effect on customer loyalty.

2.3 Conclusion of Literature Review

Loyal customers build businesses by buying more, paying premium prices, and providing new referrals through positive word-of-mouth over time (Ganesh, Arnold and Renolds, 2000). Customer loyalty therefore has to be the ultimate goal of any brand and marketing strategy. It has to become one of the most important strategic objectives of any business as customer loyalty brings a simple equation to the business:

- customers tell everyone they know about the business;
- They quite happily try new products and services;
- They spend more money with you;
- They give feedback on developing the growth of the business.

It is therefore necessary to gain more insight on factors that impact customer loyalty and the relationships among some of these factors. The following propositions will be investigated.

Proposition 1: Customer satisfaction has a positive effect on customer loyalty

Proposition 2: Service quality has a positive effect on customer loyalty

Proposition 3: Switching cost has a positive effect on customer loyalty.

Proposition 4: Corporate image has a positive effect on customer loyalty

Proposition 5: Trust in the service provider has positive effect on customer loyalty.

CHAPTER 3 RESEARCH METHODOLOGY

This chapter outlines the methodology that was used to conduct this research. The chapter commences by outlining the literature around quantitative and quantitative research methodology, followed by a review of the research design and research instrument used. Issues of data collection and analysis in relation to the study are provided, followed by a discussion on the validity and reliability of this study.

3.1 Research methodology

The purpose and objectives of the research determines the type of research design employed in the study (Welman & Kruger, 2001). A mixed methodological approach was employed in this study.

The primary method used was a quantitative analysis (factor analysis) of data collected through a survey. A measuring instrument was developed for this purpose based on the literature review. Quantitative analysis was complemented by a qualitative analysis (content analysis) based on open ended questions posed to respondents.

Data derived from quantitative research surveys provide hard statistical evidence (Bless and Higson-Smith, 1995). Quantitative research is however criticised for lack of in-depth insight and comprehensiveness associated with qualitative studies. As a result, the qualitative approach was used capture non-verbal communications and misunderstandings that are often overlooked by quantitative studies.

Qualitative data are based on the meanings expressed through words and other symbols or metaphors (Welman & Kruger, 2001). The intent of qualitative research is “to answer questions about the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants’ point of view” (Leedy & Ormrod, 2001). Open ended questions posed to respondents sought to extract underlying factors that influence customer loyalty.

The mixed methodological approach ensured that the study was well-rounded and rich in respondents’ insights.

3.2 Research design

Given the nature of the research problem and the purpose of the research, the most appropriate research method was deemed to be a survey. An assumption of honesty and candour from the respondents was taken within this study. According to Bless and Higson-Smith (1995) survey research is capable of collecting background information and *hard to find* data where the researcher would not have had the opportunity to motivate or influence respondents' responses. A survey is also able to evaluate attitudes, perceptions and behaviour. The researcher poses a series of questions to willing participants, summarises their responses with percentages, frequency counts or more sophisticated statistical indexes, and then draws inferences about a particular population response of the sample (Leedy & Ormrod, 2001).

The main data (Likert scale ratings) collected from this survey was analysed using factor analysis. This sought to find the underlying factors from the responses to the survey.

The qualitative approach of the research instrument is "concerned with exploring particular cases or events and providing the richest picture of what expires" (Bless and Higson-Smith, 1995). More specifically, it is proposed that the qualitative design takes the form of a content analysis. Leedy & Ormrod (2001) describe content analysis as "a detailed and systematic examination of the contents of a particular body of material for the purpose of identifying patterns, themes, or biases". In this research the content analysis was carried out through the open ended questions posed to the respondents.

3.3 Population and sample

3.3.1 Population

The population is the study object, which may be individuals, groups, organisations human products and events, or conditions to which they are exposed (Welman & Kruger, 2001). The size of the population makes it impractical or uneconomical to involve all members of the population in a research project. The population of this research comprised of all mobile phone users of MTN, Vodacom and Cell-C networks in South Africa.

3.3.2 *Sample and sampling method*

As a consequence of the size of the population, a representative sample was used to extract properties in the same proportion as the population from which it is drawn (Welman & Kruger, 2001). Sampling for this research was non-probable, and a convenient sample based on the location was used. The sample comprised of random mobile phone users who visited mobile phones retail shops of Cell-C, MTN and Vodacom in the Centurion and Menlyn Malls between beginning of January 2011 and end of March 2011.

3.4 The research instrument

The questionnaire consisted of two parts. The first part, section A, consisted of questions to elicit demographic data as well as information related to various moderators. The second part, section B, was made up of a number of measurement items developed using input from the review of the literature related to the study. Constructs in the model were measured using a multiple-item measurement scale, a five-point Likert-type response format, with “strongly disagree” and “strongly agree” as the anchors. The Likert scales for measuring all constructs was adapted from the literature reviewed. The questionnaire further posed open ended questions to capture respondents’ subject perspectives and attempted to make sense of, or interpret the respondents perspectives of the phenomena in terms of the meanings that the respondents brought to the questions.

The literature review revealed number of survey constructs used by different authors in their studies to determine factors that influence customer loyalty. Those constructs formed the basis of the questionnaire used in this study to determine factors that influence customer loyalty in the South African mobile phone market.

3.5 Pilot test

The survey underwent a brief pilot study to test the validity and reliability of the measurement instrument. This is consistent with the recommendations made by Leedy and Ormrod (2001) regarding the use of a measurement instrument developed for a

specific purpose and never previously tested or used in practice. The pilot test was used specifically to assist in eliminating any confusion or ambiguity that may have resulted from confusing instructions or statements and to determine whether the language used was clear and concise.

The survey was tested on a sample of 10 subscribers who currently own and use mobile phones. An interview was then held with each subscriber in which the person's understanding and interpretation of each question and construct was interrogated. The purpose of the interviews was to help assess whether the survey succeeded in measuring the desired factors, to verify that important factors had not been omitted and to confirm that the constructs were expressed unambiguously and clearly. Based on the results of the pilot test the questions were maintained.

3.6 Procedure for data collection

The data were collected by administering the survey to the sample. Three hundred (300) paper based questionnaires were printed and personally administered at the mobile phone retail outlets in the Centurion and Menlyn Malls with the assistance of the shop's staff. Permission was obtained from the shop owners in order to administer the survey to willing customers visiting the stores during the three months. One hundred and seven (107) respondents successfully completed the questionnaire. Completed surveys were collated by the researcher.

3.7 Data analysis and interpretation

The data analysis included both a factor analysis on the Likert scale ratings of the 31 survey statements, an advanced statistical analysis on the factor scores and content analysis on the open ended questions.

Factor analysis is a procedure used to "examine the correlations among a number of variables and identify clusters of highly interrelated variables that reflect underlying themes, or factors, within the data" (Leedy & Ormrod, 2001). Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved, uncorrelated variables called factors.

Factor analysis searches for joint variations in response to unobserved latent variables. The observed variables are modelled as linear combinations of the potential factors, plus "error" terms. The information gained about the interdependencies between observed variables can be used to reduce the set of variables in a dataset (Welman & Kruger, 2001).

The data from the survey was capture in a spread sheet. A number of control totals were used to ensure that all the data was captured correctly. Correspondence analysis was used to rescale the ordinal level data (obtained from the survey) to interval level data (Bendixen & Sandler, 1995). This was necessary so that factor analysis was applied to the data. The results were then compared to the propositions that were identified through the literature review and posited as propositions.

Further advanced statistical analysis was applied to the factor scores in order to extract possible groupings based on the motivational characteristics and the demographics of the respondents. Cronbach's coefficient was used to establish the internal validity of the factors extracted. The second part of the data analysis was to interpret the rank order and constant sum rankings. This was done using statistical techniques such as calculating means and medians, standard deviations and dispersions, to determine whether or not the relative importance of each customer loyalty factor could be considered equal.

To expand on the factors that could not have been revealed by the literature study, open ended question were asked. The data was reviewed in order to get a sense of the data in its entirety. The data was reduced to categories, coded and interpreted through the use of schemas (Bendixen & Sandler, 1995). The data was integrated and synthesized. This was represented in the form of bullet point list.

In addition, the frequency of each identifiable factor uncovered in the survey was listed. This informed the researcher as to the perceived importance of the identifiable factor across the respondents. No statistical analysis was performed on those results.

3.8 Limitations of the study

Certain limitations exist, which should caution against generalisation of the findings:

- The research is limited in that it is confined to a single typology, namely mobile phone providers market.
- The survey is a once-off event (not longitudinal) and cannot predict changes in customer loyalty due to changes in product/service quality, customer expectations, or competitors' advances.
- Sampling bias was present. The research was based mainly on a convenient sample from one city in South Africa. The sample was drawn from a non-probability convenience sample and does not fully represent the population at large.

3.9 Validity and reliability

The validity of an instrument is how well it measures what it is supposed to be measuring, while reliability refers to the accuracy and consistency with which the instrument produces results (Leedy & Omrod, 2001). In this case it was a measure of whether the questionnaire survey will lead to valid conclusions about customer loyalty in the South African mobile phone network market.

3.9.1 External validity

External validity is the degree to which the research findings for a particular group hold true for the general population. This required the use of a random and representative sample. The sample to be used for this study is convenient by nature. In a study such as this one the external validity is assessed by looking at the size of the sample and the sampling procedures (Leedy & Ormrod, 2001).

The external validity of this study is expected to be high as it is based on the thorough literature study as well as the proven combination of studies (Aydin & Özer;2005, Aydin, Özer & Arasil; 2005, Shin; 2006, Gerpott, Rams & Schindler; 2001, Kim, and Yoon; 2004, Lee, Kim, Lee & Park; 2006, Turel & Serenko; 2004).

3.9.2 *Internal validity*

Internal validity is defined as the extent to which the research findings are an accurate representation of what has been studied (Leedy & Ormrod, 2001). The first test is whether or not there is logical coherence in the interpretation of the data. In order for research to have internal validity the findings must be consistent and creditable.

A thorough literature review was conducted to ensure that the researcher of the study developed a questionnaire the measures its' intent accurately. This is to ensure that the topic being researched was adequately covered through the use of the measuring instrument. Plain language was used in the measuring instrument.

3.9.3 *Reliability*

Reliability is the extent to which results are consistent and yield the same results on repeated trials (Neuendorf 2002). The measurement instrument to be used in this research was used in the study by Aydin & Özer (2005). Leedy & Ormrod (2001) recommend the use of a brief pilot study to test the validity and reliability of a measurement instrument developed for a specific purpose and never previously tested or used in practise in a different language.

The pilot was used specifically to eliminate any ambiguities that could result in confusing statements or instructions, and to ascertain whether the language was clear, understandable and concise for the South African market. The survey was tested on a sample of ten respondents. The designed questionnaire was maintained as it addressed adequately what it was supposed measure.

CHAPTER 4 PRESENTATION OF RESULTS

4.1 Introduction

In this chapter the statistical techniques used to analyse the primary research are described and the corresponding results reviewed. The research results are presented in order to summarise the sample description as well as review the findings stemming from the statistical techniques used.

Section A of the questionnaire contained the demographic categories which included gender, age, network provider, experience (namely: number of SIM cards, expenditure, primary network provider and duration of mobile phone use) and ranking of usages. Section B of the questionnaire contained various questions or statements representing the constructs or variables used for the purposes of this research.

4.1.1 *Factor Analysis*

Factor Analysis was performed to determine whether the factors and the loadings of measured constructs on those factors conform to what was expected on the basis of pre-established constructs from the literature review. Indicator constructs were selected on the basis of prior theory based on the literature surveyed and factor analysis was used to ascertain whether they loaded as predicted on the expected factors.

Factors with eigenvalues greater than 1 were retained. In essence, one can explain that this is similar to saying that unless a factor extracts at least as much as the equivalent of one original variable, it is dropped. This criterion was proposed by Kaiser and is probably the one most widely used criterion. In the instances where there are more than one factor identified a component matrix was formulated. Factor Loadings of above about 0.5 were considered significant and to load to the same factor. In the cases where a construct did not load on any of the retained factors, the construct was removed and the factor analysis was reassessed in its absence. If a construct was a split between two or more factors (say with loadings above 0.4 on two or more factors, without one obvious

dominant loading), no loading was employed, however it was preferred to retain these constructs as they presented constituent variables of the factor space.

4.1.2 *Internal reliability*

Cronbach's Alpha is a measure of the internal validity of constructs. By coupling the correlations between associated constructs as well as their correlation with the factor, it gives a good understanding of this reliability. Alpha values above about 0.7 are considered an indication of strong reliability. As with factor analysis it can be necessary to remove variables in order to obtain a stronger level of reliability. The correlation coefficient measures the strength of a linear relationship between two variables. The correlation coefficient is always between -1 and +1. The closer the correlation is to +1, the closer it is to a perfect positive association.

4.1.3 *Regression Analysis*

Initial regression analysis with all factors used as predictor variables was performed in order to assess the overall influence of these factors on Customer Loyalty. The F statistic is highly significant as it suggests an overall relationship in the data. The significance value for the F test statistic is less than 0.001, which provides strong evidence against the null hypothesis. The R-squared term indicates the amount of the variability in the response is explained by the explanatory variable and could be expressed as a percentage.

4.2 Demographic profile of respondents

In the first section of the questionnaire (Appendix A) the demographic categories defined as moderators by Welman & Kruger) (2001), and included gender, age, network provider, experience (namely: number of SIM cards, expenditure, primary network provider and duration of mobile phone use) and ranking of usages. The sample consisted of 107 respondents, of whom 55 were males representing 51% of the sample and 52 were females representing 49% of the sample.

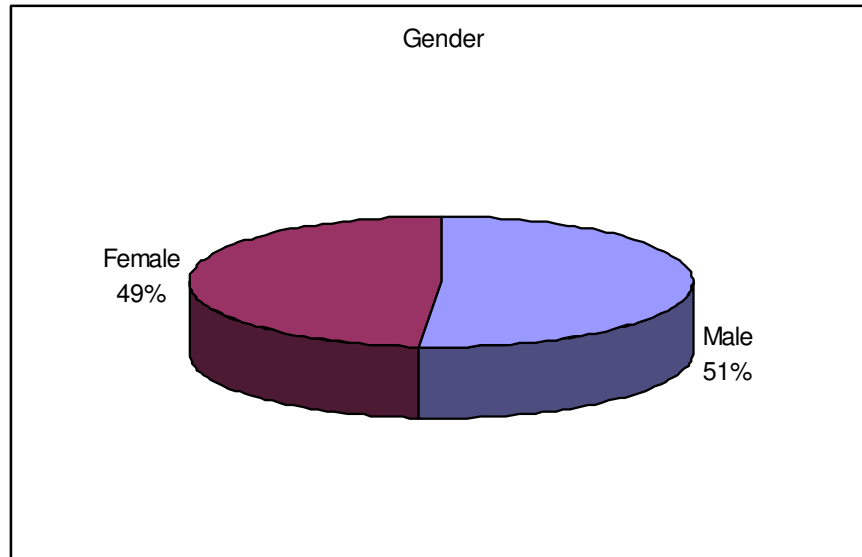


Figure 2: Respondents gender representation

The majority of the respondents, almost 75%, were young adults, aged between 20 and 35 years. Almost half of all the respondents were aged between 20 to 25 years.

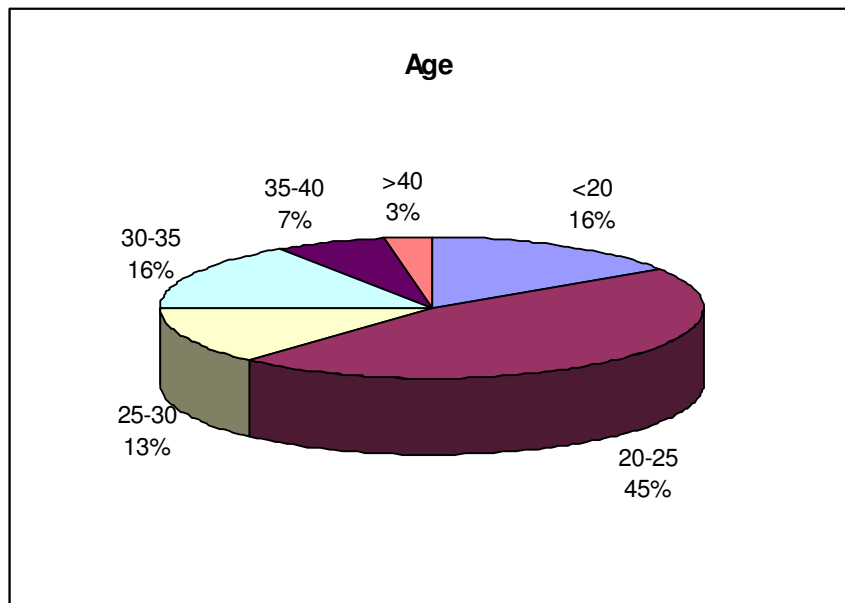


Figure 3: Respondents age representation

Seventeen per cent (17%) of the respondents were Cell C subscribers, while the remaining were almost equally split between MTN and Vodacom subscribers, with a slight bias towards MTN.

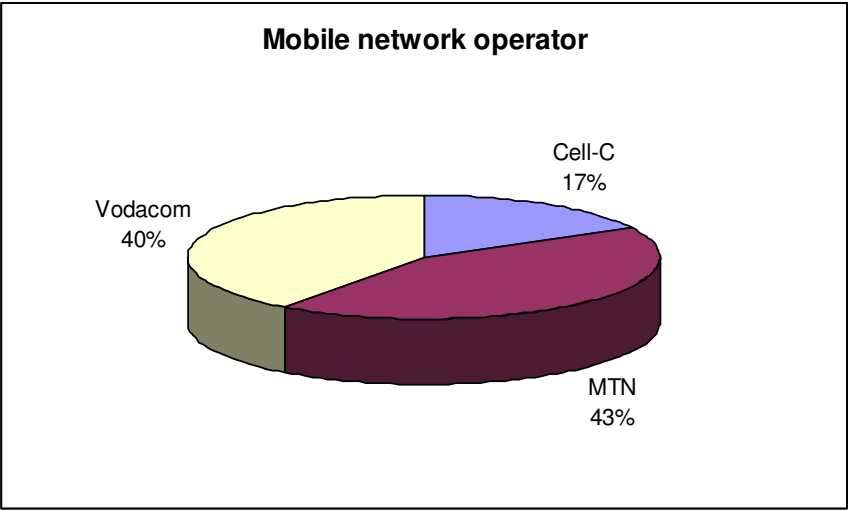


Figure 4: Respondents mobile network operator representation

Slightly more than of the respondents owned one SIM card. None of the respondents owned more than three SIM cards.

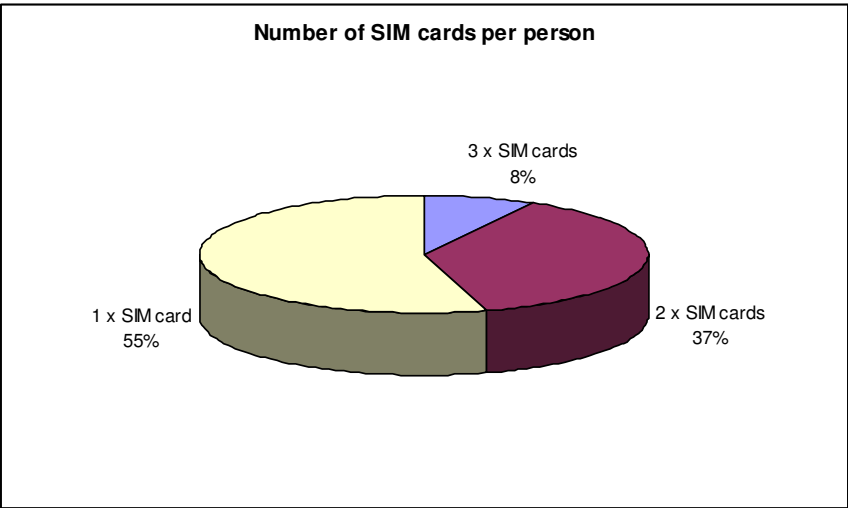


Figure 5: Respondents SIM card ownership per person representation

Nearly three quarters of the respondents were on the prepaid service, while the remaining quarter was on contract.

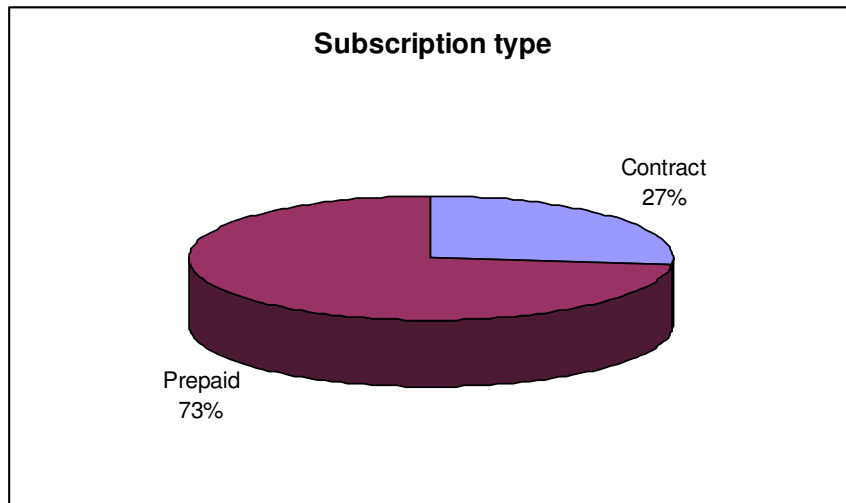


Figure 6: Respondents subscription representation

The majority of the respondents spend between R50 and R200 on their mobile phone bills.

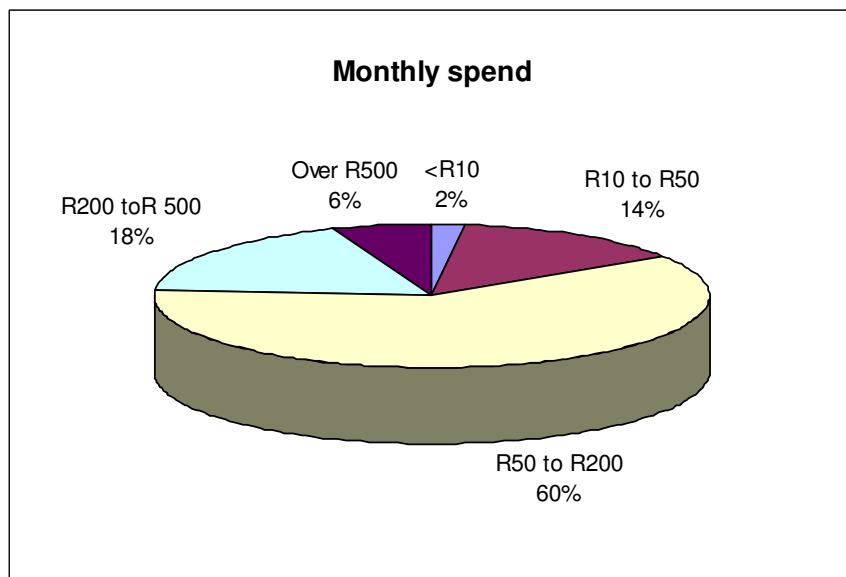


Figure 7: Respondents monthly mobile phone expenditure representation

4.3 Proposition 1: Customer Satisfaction has a positive effect on Customer Loyalty

4.3.1 Factor Analysis

A principal component analysis was conducted to determine whether the constructs related to customers satisfaction was unidimensional. This is depicted in table 1. Only one eigenvalue is greater than unity (i.e. eigenvalue is 1.916) indicating a single factor solution as being appropriate and therefore unidimensionality of the constructs for customer satisfaction is confirmed. This factor accommodated 63.9% of the variance in the space of these three constructs and indicates a good cohesion between them.

Table 1 Principal component analysis for customer satisfaction

	Eigenvalues		
	Total	% of Variance	Cumulative %
16. This service provider completely meets expectations that could be offered by any service provider	1.916	63.859	63.859
17. I am satisfied with this service provider	.753	25.111	88.970
18. This service provider meets my pre-purchase expectations	.331	11.030	100.000

Extraction Method: Principal Component Analysis.

4.3.2 Internal reliability

To determine the internal reliability of the constructs of customer satisfaction, Cronbach's coefficient alpha was calculated as being 0.699. The Cronbach's coefficient alpha is high and therefore indicates high internal reliability. All constructs associated with Customer Satisfaction loaded heavily on the same factor, indicating a high level of validity within the entire factor space and therefore the constructs could be accepted as part of the analysis. Looking at the column "Cronbach's Alpha if Item Deleted" it is interesting to observe that removal of question 16 would result in a higher level of alpha, however it was preferred to include as many variables as possible when reliability is still at an acceptable level so that their influence is not lost. Correlations are above 0.3 and therefore indicate that all the constructs for customer satisfaction have positive

association. It is therefore not necessary to remove any of the constructs. This is displayed in table 2.

Table 2 Internal consistency reliability of customer satisfaction items

Reliability Statistics	
Cronbach's Alpha	N of Items
.699	3

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
16. This service provider completely meets expectations that could be offered by any service provider	7.8667	2.059	.369	.801
17. I am satisfied with this service provider	7.4857	1.810	.610	.487
18. This service provider meets my pre-purchase expectations	7.6000	1.915	.595	.514

4.3.3 Open-ended questions

Approximately 16% of the respondents did not give additional factors or comments. Factors provided by the remainder of the respondents could be summarised as:

- Good customer service response
- Loyalty points offered by the service provider
- Meeting all expectations

4.3.4 Regression Analysis

Significance value is less than 0.001 and based on this, it can be supported that Customer Satisfaction has a positive effect on Customer Loyalty at all reasonable significance levels. R-squared is not overwhelmingly high, but for the model with one predictor it is considered acceptable. The model explains 23.2% of the variation.

Table 3 Customer Satisfaction regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.482a	.232	.225	2.91923	.232	31.193	1	103	.000

Table 4 Customer Satisfaction coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	5.734	1.601		3.581	.001	2.559	8.909
	Customer Satisfaction	1.356	.243	.482	5.585	.000	.875	1.838

4.4 Proposition 2: Service Quality has a positive effect on Customer Loyalty

4.4.1 Factor Analysis of Service Quality

If Kaiser's Criterion is absolutely adhered to, then only one factor is evident. However, a second factor has eigenvalue of 0.996, which is evidence of a second factor of considerable influence.

Factor analysis identified two fairly distinct factors within the variables associated with service quality. These two factors account for 65.4% of the total variance.

Table 5 Principal component analysis for service quality

Total Variance Explained			
	Eigenvalues		
	Total	% of Variance	Cumulative %
31. Coverage area of my service provider is acceptable	2.927	48.786	48.786
32. Quality of signal of my service provider is acceptable	.996	16.601	65.387
33. Customer service of my service provider is efficient	.683	11.389	76.775
34. Additional services such as internet speed etc, of my service provider meet acceptable standards	.554	9.239	86.014
35. Services of my service provider are as per their advertisement	.507	8.454	94.468
36. Signal of my service provider is reliable	.332	5.532	100.000

Extraction Method: Principal Component Analysis.

With this observation, factors are divided between the constructs as shown and are described below. Constructs with components that were greater than 0.5 were loaded to the same factor.

Table 6 Rotated component matrix for service quality

Rotated Component Matrix		
	Component	
	Factor 1	Factor 2
Question 31: Coverage area of my service provider is acceptable	0.865	0.17
Question 32: Quality of signal of my service provider is acceptable	0.83	0.148
Question 33: Customer service of my service provider is efficient	0.621	0.305
Question 34: Additional services such as internet speed etc., of my service provider meet acceptable standards	0.081	0.836
Question 35: Services of my service provider are as per their advertisement	0.225	0.763
Question 36: Signal of my service provider is reliable	0.385	0.687

There was a scattering of loadings of the variables associated with Service Quality among the factors. The divide observed showed a split between survey questions 31, 32

and 33 and survey questions 34, 35 and 36. This split displays sufficient cohesion constructs to be considered valid within two factors.

Observing these service quality constructs there were divide between the variables as shown below:

Factor 1: Service quality - efficiency

- Coverage area of my service provider is acceptable
- Quality of signal of my service provider is acceptable
- Customer service of my service provider is efficient

Factor 2: Service quality - effectiveness

- Additional services such as internet speed etc., of my service provider meet acceptable standards
- Services of my service provider are as per their advertisement
- Signal of my service provider is reliable

4.4.2 Internal reliability

To determine the consistency of the data and internal reliability of the group a constructs Cronbach's coefficient alpha was calculated. Of the high internal reliability of the constructs of service quality, efficiency was found due to the value of Cronbach's coefficient alpha being 0.786. High coefficients of correlations indicate that of all the constructs for service quality, efficiency has a positive association. It is therefore not necessary to remove any of the constructs. The results indicated that all constructs could be accepted as part of the analysis. This is displayed in the table 7.

Table 7 Internal consistency reliability of Service quality - efficiency

Reliability Statistics				
Cronbach's Alpha	N of Items			
.786	6			
Item Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
31. Coverage area of my service provider is acceptable	7.6058	2.183	.683	.551
32. Quality of signal of my service provider is acceptable	7.4423	2.735	.618	.637
33. Customer service of my service provider is efficient	7.4135	3.138	.473	.789

To determine the consistency of the data and internal reliability of the group a constructs Cronbach's coefficient alpha was calculated. Again, of high internal reliability of the constructs of service quality, effectiveness was found due to the value of Cronbach's coefficient alpha being 0.755. High coefficients of correlations indicate that of all the constructs for service quality, effectiveness have positive association. It is therefore not necessary to remove any of the constructs. The results indicated that all constructs could be accepted as part of the analysis, if any of the constructs are deleted it would result in lower overall Cronbach's coefficient Alpha than calculate. This is displayed in table 8.

Table 8 Internal consistency reliability of Service quality – effectiveness

Reliability Statistics	
Cronbach's Alpha	N of Items
.755	3

Item Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
34. Additional services such as internet speed etc., of my service provider meet acceptable standards	7.7273	1.557	.529	.634
35. Services of my service provider are as per their advertisement	7.7045	1.912	.531	.632
36. Signal of my service provider is reliable	7.6364	1.682	.547	.604

4.4.3 Open-ended questions

The opened questions revealed that key strength was found to be on building and maintaining customer relationship through:

- Good signal
- Quick and efficient customer service

4.4.4 Regression Analysis

The two significance values are greater than 0.001 and therefore there is no strong support of the claim that Service Quality has a positive effect on Customer Loyalty, though there is some evidence that this is the case. R-squared is low for a model with two predictor variables as it only explains 13.8% of the variability.

Table 9 Service Quality regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.393a	.155	.138	3.07845	.155	9.335	2	102	.000

Table 10 Service Quality coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	8.027	1.536		5.226	.000	4.981	11.074
	ServiceQuality1	.950	.314	.294	3.022	.003	.327	1.574
	ServiceQuality2	.350	.191	.178	1.835	.069	-.028	.729

4.5 Proposition 3: Switching cost has a positive effect on Customer Loyalty

4.5.1 Analysis of switching cost

A principal component of analysis was conducted to determine whether the constructs relating to switching cost were unidimensional. This is depicted in Table 11. There are two eigenvalues that are greater than 1. This therefore identifies that there are two fairly distinct factors within the variables associated with Switching Costs. These two factors account for 53.1% of the total variance.

Table 11 Principal component analysis for service quality

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1. Switching to a new service provider is expensive	2.565	32.059	32.059
2. If I switched to a new service provider, the service offered by the new service provider might not work as well as I expected	1.687	21.089	53.148
3. I am not sure that the billing of a new service provider would be better for me	.920	11.504	64.652
4. To switch to a new service provider; I should compare all service provider, (on account of services, coverage area, billing, etc.)	.858	10.721	75.373
5. Even if I have enough information, comparing service providers with one another takes a lot of energy, time and effort	.706	8.827	84.200
6. If I switched to a service provider; I couldn't use some services (MMS, GPRS, WAP, etc.)	.581	7.263	91.463
7. Calling a different service provider is expensive	.414	5.171	96.634
8. I would be concerned about the people who would dial my previous number and couldn't reach me	.269	3.366	100.000

With this observation, factors were divided between the constructs as shown and described below. The constructs with components greater than 0.5 were loaded to the same factor.

Table 12 Rotated component matrix for switching costs

	Component	
	Factor 1	Factor 2
Question 1: Switching to a new service provider is expensive	.724	.075
Question 2: If I switched to a new service provider, the service offered by the new service provider might not work as well as I expected	.821	.111
Question 3: I am not sure that the billing of a new service provider would be better for me	.603	.445
Question 4: To switch to a new service provider; I should compare all service providers, (on account of services, coverage area, billing, etc.)	.085	.562
Question 5: Even if I have enough information, comparing service providers with one another takes a lot of energy, time and effort	.671	-.134
Question 6: If I switched to a service provider; I couldn't use some services (MMS, GPRS, WAP, etc.)	.640	-.030
Question 7: Calling a different service provider is expensive	.045	.804
Question 8: I would be concerned about the people who would dial my previous number and couldn't reach me	-.112	.781

The variables associated with Switching Costs were fairly scattered among the factors. When restricting the view to the divide observed, i.e. survey questions 1, 2, 3, 5, and 6 and survey questions 4, 7, and 8, then a better understanding of this scattering is obtained. Survey questions 1, 5, and 6 load heavily on the same factor, with question 2 loading quite heavily on the same factor. Question 3 deviated slightly from the rest. Overall this posterior measure showed sufficient cohesion to be considered a valid construct. Questions 7 and 8 loaded very heavily together, while question 4 had its strongest positive loading on the same factor, though not at an overly convincing level. Again this posterior observed measure showed adequate cohesion to be considered.

Overall, there is strong evidence that the constructs associated with Switching Costs in fact represent two latent structures rather than the prior defined one. The two identified factors as summarised as the following:

Factor 1: Switching cost - emotional

- Switching to a new service provider is expensive
- If I switched to a new service provider, the service offered by the new service provider might not work as well as I expected
- I am not sure that the billing of a new service provider would be better for me
- Even if I have enough information, comparing service providers with one another takes a lot of energy, time and effort
- If I switched to a service provider; I couldn't use some services (MMS, GPRS/EDGE/3G and WAP.)

Factor 2: Switching cost - physical

- To switch to a new service provider; I should compare all service provider, (on account of services, coverage area and billing)
- Calling a different service provider is expensive

- I would be concerned about the people who would dial my previous number and couldn't reach me

4.5.2 Internal reliability

To determine the consistency of the data and internal reliability of the group a statements Cronbach's coefficient alpha was calculated. Of the high internal reliability of the constructs of switching cost, emotional was found due to the value of Cronbach's coefficient alpha being 0.707. Coefficients of correlations of above 0.3 indicate that of all the constructs for service quality, efficiency have positive association. It is therefore not necessary to remove any of the constructs. The results indicated that all statements could be accepted as part of the analysis. This is displayed in the table 13.

Table 13 Internal consistency reliability of Switching Cost – emotional

Reliability Statistics				
Cronbach's Alpha	N of Items			
.707	5			
Item Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Switching to a new service provider is expensive	12.7755	9.867	.507	.641
2. If I switched to a new service provider, the service offered by the new service provider might not work as well as I expected	11.9286	9.510	.613	.600
3. I am not sure that the billing of a new service provider would be better for me	11.7143	11.072	.404	.682
5. Even if I have enough information, comparing service providers with one another takes a lot of energy, time and effort	12.0714	9.923	.420	.678
6. If I switched to a service provider; I couldn't use some services (MMS, GPRS, WAP, etc.)	12.3673	9.431	.411	.688

To determine the consistency of the data and internal reliability of the group a statements Cronbach's coefficient alpha was calculated. The value of Cronbach's coefficient alpha is too low (lower than 0.7). The removal of Question 4 would result in an alpha of 0.690. Cronbach's coefficient alpha 0.690 is not ideal, but it is sufficient in the context of a two

variable construct. Hence Question 4 was removed. In the factor analysis, Question 4 showed the lowest level of cohesion with the other two, and it is unsurprising that it jeopardises the reliability of this construct. This is displayed in the table 14.

Table 14 Internal consistency reliability of Switching cost – physical

Reliability Statistics				
Cronbach's Alpha	N of Items			
.639	3			
Item Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
4. To switch to a new service provider; I should compare all service provider, (on account of services, coverage area, billing, etc.)	7.9474	3.838	.336	.690
7. Calling a different service provider is expensive	7.7684	3.542	.500	.478
8. I would be concerned about the people who would dial my previous number and couldn't reach me	7.8842	2.955	.527	.424

4.5.3 Open-ended question

About 10% of the respondents did not provide additional factors or comments. For those who gave additional comments, the factors weighed heavily on:

- Pricing e.g. cheap night rates
- Retaining mobile phone number
- Learning new features such as menu setup
- Liking service providers' promotions

These constructs are somehow already captured in the original constructs

4.5.4 Regression Analysis

The two Significance values are greater than 0.001, and the proposition that Switching Costs has a positive effect on Customer Loyalty can therefore not be supported. R-squared is low, for model with two predictor variables, only 4.0% of the variability is explained.

Table 15 Switching cost regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.200 ^a	.040	.021	3.28066	.040	2.127	2	102	.124

Table 16 Switching costs coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	13.593	1.449		9.382	.000	10.719	16.467
	SwitchingCosts1	.243	.128	.187	1.894	.061	-.011	.498
	SwitchingCosts2	-.199	.172	-.114	-1.159	.249	-.541	.142

4.6 Proposition 4: Corporate Image has a positive effect on Customer Loyalty

4.6.1 Analysis of corporate image

Only one eigenvalue is greater than unity indicating a single factor solution as being appropriate and therefore unidimensionality of the constructs is confirmed. Only one factor was evident, this time accommodating about 56% of the variance in the variable space, a significant amount considering there are 4 variables present.

Table 17 Principal component analysis for service quality

	Eigenvalues		
	Total	% of Variance	Cumulative %
20. My service provider is well established	2.232	55.797	55.797
21. My service provider contributes to social welfare	.693	17.332	73.129
22. My service provider is innovative	.616	15.390	88.519
23. My service provider has positive image	.459	11.481	100.000

Extraction Method: Principal Component Analysis.

Again, all questions associated with this prior measure loaded heavily together, showing a good cohesive nature and strong validity in the entire space.

4.6.2 Internal reliability

To determine the consistency of the data and internal reliability of the group a constructs Cronbach's coefficient alpha was calculated. Cronbach's coefficient alpha of 0.732 shows a high level of reliability in this construct. Coefficients of correlations of above 0.3 indicate that all the constructs for corporate image have positive association. It is therefore not necessary to remove any of the constructs. The results indicated that all constructs could be accepted as part of the analysis. This is displayed in Table 18.

Table 18 Internal consistency reliability of corporate image

Reliability Statistics				
Cronbach's Alpha		N of Items		
.732		4		
Item Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
20. My service provider is well established	11.3100	2.863	.455	.714
21. My service provider contributes to social welfare	11.4000	2.828	.541	.662
22. My service provider is innovative	11.3500	2.816	.528	.669
23. My service provider has positive image	11.1800	2.816	.575	.643

4.6.3 Open-ended questions

Many of the respondents liked the image of their service provider, especially:

- Corporate social investment
- Advertisements that are interesting and entertaining

4.6.4 Regression analysis

As with customer satisfaction, there is a high level of significance in the predictor variable's relationship with the response, Customer Loyalty. The Sig value is greater than 0.001 and therefore evidence of a positive influence on Customer Loyalty as a result of Corporate Image, should be drawn with caution. R-squared so low and only explains 7.8% of variability.

Table 19 Corporate Image regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.279a	.078	.069	3.19937	.078	8.721	1	103	.004

Table 20 Corporate Image coefficients

Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	8.700	2.000	4.351	.000	4.734	12.666
	Corporate Image	.598	.203	2.953	.004	.196	1.000

4.7 Proposition 5: Trust in the service provider has a positive effect on Customer Loyalty

4.7.1 Analysis of trust

Only one eigenvalue is greater than unity indicating a single factor solution as being appropriate and therefore unidimensionality of the constructs is confirmed. One factor was evident underlying the five variables associated with Trust, accounting for as much as 60.7 % of the variance (a high proportion in a five dimensional space) and this shows good cohesion between the variables.

Table 21 Principal component analysis for service quality

	Eigenvalues		
	Total	% of Variance	Cumulative %
25. I trust this service provider	3.035	60.693	60.693
26. I feel that I can rely on this service provider to serve well	.713	14.262	74.955
27. I trust the billing system	.558	11.169	86.124
28. I believe that I can trust this service provider not to try to cheat me	.396	7.912	94.035
29. This service provider is reliable because it is mainly concerned with the customer's interests	.298	5.965	100.000

Extraction Method: Principal Component Analysis.

4.7.2 Internal reliability

To determine the consistency of the data and internal reliability of the group a constructs Cronbach's coefficient alpha was calculated. High internal reliability of the constructs of trust was found due to the value of Cronbach's coefficient alpha being 0.833. High coefficients of correlations indicate that all the constructs for trust have positive association. It is therefore not necessary to remove any of the constructs. The results indicated that all constructs could be accepted as part of the analysis. This is displayed in the table 22.

Table 22 Internal consistency reliability of Trust

Reliability Statistics				
Cronbach's Alpha	N of Items			
.833	5			
Item Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
25. I trust this service provider	15.4184	6.906	.632	.800
26. I feel that I can rely on this service provider to serve well	15.4694	6.685	.737	.772
27. I trust the billing system	15.5612	7.053	.533	.829
28. I believe that I can trust this service provider not to try to cheat me	15.7755	6.671	.610	.808
29. This service provider is reliable because it is mainly concerned with the customer's interests	15.5714	6.784	.670	.790

Almost all of the variables associated with trust (a priori) loaded heavily together. Survey question 27 ("I trust the billing system") is the only variable which did not load strongly with the others; however two of five still indicated a strong level of validity of this measure.

4.7.3 Open-ended questions

Summary from the open-ended questions indicate that respondents like:

- Transparency of the service provider
- Protection of personal data by their service provider.

4.7.4 Regression Analysis

Significance value is less than 0.001 and therefore the claim that Trust in the service provider has a positive effect on Customer Loyalty could be supported. R-squared of 20.4% is adequate for this sort of model, though not encouragingly high. High levels of significance in the coefficient of the predictor variable with positive sign indicate a fairly strong positive relationship.

Table 23 Trust regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.452 ^a	.204	.196	2.97280	.204	26.400	1	103	.000

Table 24 Trust coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.103	1.666		3.663	.000	2.799	9.407
	Trust	.670	.130	.452	5.138	.000	.411	.928

4.8 Determination of factors

Overall the factor analysis revealed that, with few exceptions, the prior proposed constructs show sufficient levels of validity for analysis. There are different views within the statistical community regarding the number of factors to retain (Albright, Winston and Zappe, 2006). Kaiser's criterion, which suggests retaining all factors with eigenvalues above 1 is commonly used, but tends to err on the side of too many in high dimensional spaces. The scree plots, which plot the eigenvalues against factor number, give a graphical indication of how many factors to retain, where factors "in the tail", that is, where they become approximately unrelated to the factor number (i.e. the slope becomes close to zero), are considered non representative. For this study Kaiser's criterion was used except in cases where the Scree plot gave a strong indication this could be erroneous.

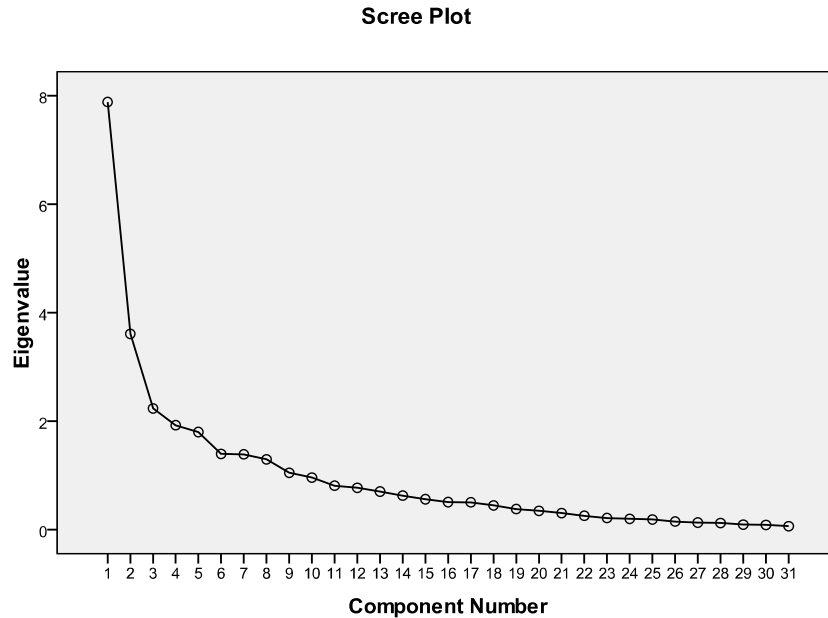


Figure 8: Scree plot of eigenvalues

Scree Plot shows a significant drop after 7 factors, where after the tail of the factor plot tapers off slowly.

4.9 Additional Factors from open-ended questions

4.9.1 *What do you like most about the service provider?*

The responses could be summarised into the following points:

- Free calls
- Network reliability
- Treated like the only customer
- Fulfilment of promises
- Alignment of needs with offering

- Competitive pricing
- Convenience
- Large range of optional offerings
- Efficient and friendly customer care

4.9.2 *What do you dislike most about the service provider?*

There following were respondents' dislikes:

- Lack of coverage in certain areas
- Cost to call other networks

These questions uncovered a broad range of issues prevailing in the market including the ranking of services in order of importance, usage patterns of various services, sensitivity to pricing, the importance of usability, the value of features and the importance of customer care. The overarching meaning of the open-ended questions can easily be incorporated into the construct identified in the literature review.

4.10 Summary of the results

In this chapter descriptive statistical analysis, factor analysis, principal component analysis and regression analysis were applied in order to analyse and interpret the data provided by the survey.

The researcher's *a priori* assumption was that each factor was associated with a specified subset of indicator constructs as revealed by the literature survey. The researcher sought to determine whether constructs created to represent a latent construct really belonged together. Factor analysis revealed 9 factors present (by Kaiser's Criterion). As noted, Kaiser's criterion has a tendency to err on the side of too many in high dimensional spaces. Further, the observation of the Scree Plot indicated a significant drop after 8 factors, where after the tail of the factor plot tapers off slowly. Finally, based on the previous analyses, assuming each measure is independently

loading onto one of the factors, one would also expect a maximum of 7 factors. Thus 7 factors are retained, deferring to prior observation and Scree Plot over Kaiser's criterion.

Overall the factor analysis revealed that, with few exceptions, the prior proposed constructs displayed sufficient levels of validity for analysis. In the cases where they did not, some latent factors instead presented themselves and Cronbach's Alpha was used to help compare their reliability with the prior constructs. Overall the analyses of Cronbach's alpha supported results of the factor analysis.

The study concludes that customer satisfaction and trust have a positive effect on Customer Loyalty. Corporate image and service quality have a weak influence on Customer Loyalty and switching cost demonstrated no positive effect on Customer Loyalty.

Additional factors collected from open ended question supported the factors that were revealed though factor analysis. The results also confirmed that customers that have been with the provider for long time are less willing to undertake the aggravation of changing service providers, i.e. going to a shop, changing number, learning new menu set up, etc.

CHAPTER 5 DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter provides an interpretation of the data that was presented and analysed using the various statistical techniques as described in Chapter 4. The findings of the research have been analysed in order to establish a degree of congruity with the literature review presented in Chapter 2 and interpreted with the aim to validate research propositions.

5.2 Demographic profile

A Normal P-P (probability – probability) plot of Customer Loyalty scores indicates the data are sufficiently close to normally distributed to use the parametric analysis of variance in favour of non-parametric tests. One way analyses of variance were performed on the data in order to observe differences in Customer Loyalty between different groups of people according to some predefined categorisations.

5.2.1 Age

Respondents were divided as explained in the introduction. For numerical data it may be assumed that linear regression analysis will be a better means of observing a relationship, however because the age data is nowhere near continuous, nor is there any expectation of a linear relationship one deferred to analysis of variance (ANOVA).

The F value of 1.51 is low which suggests that there is slight difference between the groups. The p value of 0.192 suggests that the group means are not different. This low F-statistic and p value of greater than 0.001 indicates no evidence to support a difference in Customer Loyalty levels in different age groups.

Table 25 Anova for age

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
<20	16	217.999	13.6249375	6.077843929
20-25	48	700.78	14.59958333	11.04822646
25-30	14	227.475	16.24821429	7.948009104
30-35	17	232.844	13.69670588	10.99756022
35-40	7	97.257	13.89385714	26.51679048
>40	3	49.579	16.52633333	6.745297333

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	81.26272383	5	16.25254477	1.514624581	0.19210845	2.306259079
Within Groups	1062.310722	99	10.73041133			
Total	1143.573446	104				

5.2.2 Gender

The F value of 0.07 is low which suggests that there is slight difference between the groups. The p value of 0.0.785 indicates that the group means are not different. Therefore there is no evidence of a significant difference in the levels of Customer Loyalty between the two genders.

Table 26 Anova for gender

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Female	50	731.289	14.62578	10.33890691
Male	55	794.645	14.44809091	11.78037194

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.826922722	1	0.826922722	0.074533625	0.785393331	3.933336451
Within Groups	1142.746523	103	11.09462644			
Total	1143.573446	104				

5.2.3 Number of SIM cards owned

The F value of 5.56 suggests that there could be some differences between the groups. The low p value of 0.005 indicates that the group means are different. This analysis of variance indeed shows evidence that there was a difference, with people having three SIM cards having significantly lower levels of Customer Loyalty than those with one or two SIM cards. Interestingly, there does not appear to be a difference between those with one and those with two SIM cards.

Table 27 Anova for number of SIM card owned

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
1 sim	53	775.666	14.63520755	7.918856129
2 sims	36	549.574	15.26594444	11.30681131
3 sims	8	88.608	11.076	23.84595857

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	115.3226275	2	57.66131373	5.562333254	0.005210645	3.093265919
Within Groups	974.4406246	94	10.36638962			
Total	1089.763252	96				

5.2.4 Network

The F value of 1.33 is low which suggests that there is slight difference between the groups. The p value of 0.27 suggests that the group means are not different. This low F-statistic and p value of greater than 0.001 indicate that the analysis did not reveal evidence that there is a difference in Customer Loyalty between the different Service Providers.

Table 28 Anova for network

Anova: Single Factor

SUMMARY						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Mobile-C	17	228.427	13.43688235	18.21982286		
MTN	44	659.078	14.97904545	7.061471998		
Vodacom	42	608.213	14.4812619	12.37803927		

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	29.27802984	2	14.63901492	1.327609051	0.269741953	3.087295893
Within Groups	1102.660072	100	11.02660072			
Total	1131.938102	102				

5.2.5 Contract vs. Prepaid

Intuitively one might expect that those with contracts might have differing levels of Customer Loyalty when compared to those using prepaid services. The F value of 0.026 is very low which suggests that there is slight difference between the groups. The p value of 0.872 suggests that the group means are not different. This low F-statistic and p value of greater than 0.001 suggest that the analysis did not find evidence to support any differences between contract and pre-paid users.

Table 29 Anova for contracts vs. prepaid

Anova: Single Factor

SUMMARY						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Contract	25	363.423	14.53692	11.76539891		
Prepaid	67	982.592	14.66555224	11.45940719		

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.301249712	1	0.301249712	0.026102555	0.872012256	3.946875558
Within Groups	1038.690448	90	11.54100498			
Total	1038.991698	91				

5.2.6 Amount spent monthly

The F value of 0.679 is low which suggests that there is slight difference between the groups. The p value of 0.608 suggests that the group means are not different. This low F-statistic and p value of greater than 0.001 suggest that there is no evidence of differing levels of Customer Loyalty is present depending on monthly spend on mobile phone services.

Table 30 Anova for amount spent monthly

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
<10	2	31.853	15.9265	1.3398845
10 to 50	14	203.75	14.55357143	15.93806149
50 to 200	62	890.869	14.36885484	9.884684651
200 to 500	18	271.884	15.10466667	7.621782706
Over 500	6	76.329	12.7215	29.9197495

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	30.55334846	4	7.638337114	0.679324671	0.60792765	2.465480485
Within Groups	1090.669501	97	11.24401548			
Total	1121.22285	101				

5.3 Proposition 1: Customer Satisfaction has a positive effect on Customer Loyalty

All constructs associated with Customer Satisfaction loaded heavily on the same factor, indicating a high level of validity within the entire factor space. Only one factor is evident in the three variables associated with Customer Satisfaction (as is hoped to be observed). This factor accommodates 64% of the variance in the space of these three variables and indicates a good cohesion between them.

This study resulted in a Cronbach coefficient alpha of 0.699 which is high enough to demonstrate internal reliability of customer satisfaction constructs. Kim, M.K., Park, M.C. and Jeong, D.H. (2004) suggested that when a respondent is able to create an overall judgment, the overall evaluation is likely to be more reliable. The number of other studies (Anderson and Narus,1990), (Fornell, 1992) have evaluated customer satisfaction in a way that evaluates internal consistency reliability of constructs. This study applied the direct performance measurement in accordance with the Likert five-point scale to obtain customers' overall evaluation of his/her satisfaction similar to studies mentioned above. Since the construct is single-item, it was necessary to set the reliability value of these constructs to estimate the error term during the full model analysis. Anderson and Narus (1990) suggested that setting the reliability as one implies that there is no error in the indicator measurement. However, it is not possible to avoid error that in the process of measurement. Fornell's (1992) suggestion method and the reliability of the construct of overall customer satisfaction was set at 0.7, based on empirical suggestion previous studies. This study drew strong parallels to this recommendation.

R-squared of this level is not overwhelmingly high, but for the nature of the model (only one predictor variable) it is sufficient. It explained 23.2% of the variability. The Significance value of less than 0.001 supported that Customer Satisfaction has a positive effect on Customer Loyalty at all reasonable significance levels.

Table 31 Regression analysis for customer satisfaction and customer loyalty

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.482 ^a	.232	.225	2.91923	.232	31.193	1	103	.000

A German study using LISREL analysis supported a two-staged model in which overall customer satisfaction had a significant impact on customer loyalty which in turn influences a customer's intention to terminate or extend the contractual relationship with his mobile cellular network operator (Gerpott, Rams & Schindler, 2001). The study analyses supported the hypothesised two-stage causal link in which Customer Satisfaction had only an indirect effect on customer retention via customer loyalty:

customer satisfaction had a strong indirect effect of 0.375 (0.75×0.50) on customer retention, but its effect on customer retention was completely mediated by the customer loyalty variable. This study demonstrated that South African customers associate Customer Satisfaction and Customer Loyalty. The Canadian study by Turel & Serenko (2004) about users' satisfaction with mobile services did not yield a conclusive relationship between Customer Loyalty and Customer Satisfaction. However the study revealed that a negative link between satisfaction and customer complaints shows that the more satisfied a customer is, the less he or she is prone to complain.

5.4 Proposition 2: Service Quality has a positive effect on Customer Loyalty

Kaiser's Criterion revealed that only one factor is evident, however, a second factor has an eigenvalue of 0.996, which is very close to 1, which is evidence of a second factor of considerable influence. Hence two distinct factors (Service Quality – effectiveness and service quality – efficiency) accounting for 65.4% of the total variance were identified within the variables associated with service quality.

Cronbach's coefficient alpha of 0.786 indicates high internal reliability of the constructs of service quality – efficiency and Cronbach's coefficient alpha of 0.755 again indicates high internal reliability of the constructs of service quality – effectiveness. High coefficients of correlations indicate that all the constructs for service quality have positive association. Similar to the reliability evaluation in this study, the items were submitted to reliability analysis via Cronbach's alpha as on the Turkish study by Aydin and Özer (2005), reliability analysis of five factors was found to be 0.827 which confirmed reliability of the constructs.

The two Significance values are greater than 0.001 and therefore there is no strong support of the claim that Service Quality has a positive effect on Customer Loyalty, though there is some evidence that this is the case. R-squared is low for a model with two predictor variables as it only explains 13.8% of the variability. This finding is contrary to a Turkish study by Aydin and Özer (2005), in a mobile phone market that demonstrated that service quality is positively and significantly related to customer loyalty.

Table 32 Regression analysis for service quality and customer loyalty

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.393 ^a	.155	.138	3.07845	.155	9.335	2	102	.000

Bloemer, Ruyter and Wetzels (1998) and Jones, Beatty & Mothersbaugh (2002), among others, have pointed out that there is a positive relationship between service quality and repurchase intention, recommendation, and resistance to better alternatives. All these, repurchase intention, recommendation and resistance to better alternatives are behavioural intentions and constitute customer loyalty. Poor network quality came up strongly in the open ended question and was listed most often as one of the causes of unhappiness by the respondents. Poor network is the main cause of respondents having multiple SIMs, where the respondents use another network as an alternative. Customer care is the most important service to the respondents. This is not surprising because, as more features/functions are added to a device, so the complexity of the setup and use increases. This results in additional enquiries to the customer care service.

5.5 Proposition 3: Switching Costs have a positive effect on customer loyalty

A principal component analysis was conducted to determine whether the constructs relating to switching cost were unidimensional. Two eigenvalues that are greater than 1 were found and they are both included for practical purposes. This therefore identifies that there are two fairly distinct factors within the variables associated with Switching Costs. These two factors account for 53.1% of the total variance.

Cronbach's coefficient alpha of 0.707 shows high internal reliability of the constructs of switching cost – emotional and the value of Cronbach's coefficient alpha of 0.69 is too low (lower than 0.7) and therefore it jeopardises the reliability of this construct. Even though not ideal, it is sufficient in the context of a now two variable construct.

The two Significance values are greater than 0.001, therefore the proposition that Switching Costs have a positive effect on Customer Loyalty can therefore not be supported. R-squared is low for models with two predictor variables, and only 4.0% of the variability is explained.

Table 33: Regression analysis for switching cost and customer loyalty

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.200 ^a	.040	.021	3.28066	.040	2.127	2	102	.124

A number of studies found that there is a positive effect of switching cost to customer loyalty. Contrary to Caruana (2003) who states that higher switching costs are positively related to customer loyalty; Burnham, Frels and Mahajan (2003) found switching costs as a factor that directly influences customers' sensitivity to price level, and so influences customer loyalty. Aydin, S., Özer, G. and Arasil, Ö. (2005), also found that switching cost positively and significantly affected customer loyalty in the Turkish mobile phone market.

The low price of the SIM card influences the customer to switch easily and to try all the different brands. As a result, erecting high switching cost to retain the customer is an ineffective tool in the mobile phone operating business in South Africa. That is why the variability in customer loyalty did not explained much by the variability in switching cost.

South African mobile network subscribers hold more than one SIM in order to avoid incurring interconnection fees when calling a different network (Business Monitor International Ltd, 2009). These fees have been reduced in South Africa by some 30%. This study was conducted during the period when interconnection fees were being lowered. The lowering of the interconnect rate might have had a bias in influencing neutral response from respondents. The survey's open ended question revealed that call pricing is still an issue across all networks and therefore there is no real reason to switch as all network cost structures are similar.

A study by Shin (2006) investigated the effect of mobile number portability (MNP) by focusing on subscribers' perceptions and behaviours on MNP in USA. Statistical analyses in this study revealed that subscribers perceive the switching barrier to still be high, discouraging subscribers from switching mobile phone operators. South African subscribers seem to feel the same and have highlighted the following as deterrents for switching: retaining number, learning new features such as menu setup and network promotions.

5.6 Proposition 4: Corporate Image has a positive effect on Customer Loyalty

One eigenvalue was found to be greater than unity indicating a single factor solution as being appropriate and therefore the unidimensionality of the constructs is confirmed. This factor accommodated about 56% of the variance in the variable space.

Cronbach's coefficient alpha of 0.732 shows a high level of reliability in this construct. Coefficients of correlations of above 0.3 indicate that all the constructs for corporate image have positive association. It is therefore not necessary to remove any of the constructs.

The Significance value is greater than 0.001 and therefore evidence of a positive influence on Customer Loyalty as a result of Corporate Image, should be drawn with caution. R-squared of 7.8% is low and only explains 7.8% of variability.

Table 34 Regression analysis for corporate image and customer loyalty

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.279 ^a	.078	.069	3.19937	.078	8.721	1	103	.004

Although it is not significant, the analysis results indicate that corporate image positively affects customer loyalty. The general experience of marketing professionals also verifies that such an effect is valid. The situation can be explained by the general characteristics of the Turkish mobile phone market (Aydin and Özer, 2005), since the purchasing power of subscribers is less than in developed countries, and the indirect tax rate in the GSM sector is relatively higher in Turkey. The Turkish conditions are deemed similar to South Africa and hence parallels could be drawn.

The finding of corporate image having a weak effect on customer loyalty differs from that of Nguyen and Leblanc (2001) study that demonstrated that corporate image relates positively with customer loyalty in three sectors, namely telecommunication, retailing and education. The reality which is supported by study by Nguyen and Leblanc (2001) is that Corporate Image has some influence in good standing of companies including mobile phone operator customers. However Corporate Image is the factor that is least concerned among the consumers, as a huge number of customers of mobile phone operators in South Africa is less educated and unaware of the companies' perceived image. Therefore whether the company has a stable condition or whether they have a social contribution are given least priority when choosing a particular service provider. Rather, the customers prefer other objective criteria such as price, service, network coverage etc. in choosing network service provider.

5.7 Proposition 5: Trust in the service provider has a positive effect on Customer Loyalty

One factor was evident underlying the five variables associated with Trust, accounting for as much as 60.7 % of the variance and this shows good cohesion between the variables.

High internal reliability of the constructs of trust was found due to the value of Cronbach's coefficient alpha being 0.833. High coefficients of correlations indicate that all the constructs for trust have positive association. It is therefore not necessary to remove any of the constructs. The results indicated that all constructs could be accepted as part of the analysis. This is displayed in table 25.

The Significance value is less than 0.001 and therefore the claim that Trust in the service provider has a positive effect on Customer Loyalty could be supported. R-squared of 20.4% is adequate for this sort of model, though not encouragingly high. High levels of significance in the coefficient of the predictor variable with positive sign indicate a fairly strong positive relationship.

Table 35 Regression analysis for trust and customer loyalty

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.452 ^a	.204	.196	2.97280	.204	26.400	1	103	.000

Trust reduces uncertainty in an environment in which consumers feel vulnerable, since they know that they can rely on the trusted brand (Chaudhuri and Holbrook, 2001). The fact that the customer trusts the operator in the mobile phone market reduces uncertainty associated with services which were delivered previously or are yet to be delivered.

Morgan and Hunt, (1994) explained that trust works at preserving relationship investments by cooperating with partners, and it cultivates resistance towards attractive short-term alternatives in favour of the expected long-term benefits of staying with existing partners, and views potentially high-risk actions as being prudent because of the belief that current partners will not act opportunistically. The positive explanation behind these findings is that trust in the company plays a vital role in building loyalty among the mobile phone operator customers in South Africa. As there are several mobile phone operators currently operating in South Africa with very competitive prices and services, South African customers have a natural tendency of choosing the operator that provides trustworthy services without any cheating or unfair practices. It means they have to trust the company first to become loyal. Unfair practices, cheating, unethical behaviour, etc. all are very common and vivid pictures in South Africa, a developing country. As a result South African consumers are very serious when choosing brands. Because the consumers perceive that the companies might cheat on them, they always look for recommendations from others regarding the trustworthiness of the company. That is why

open-ended questions revealed that trust plays the most important role among the consumers of mobile phone operators to build loyalty.

Anderson and Narus (1990) emphasise that trust occurs when one party believes that the other party's actions would result in positive outcomes for itself. South African customers feel comfortable and at ease doing business with their current service providers. They feel that their service provider is less likely going to bill them incorrectly and that there are enough processes in place for recourse in the case of incorrect billing. The relationship built in the past seems to strengthen the trust the customer has on their service provider. Having other customer support initiatives such as privacy policy, refund details and customer service contact information also help break down barriers concerning a lack of trust.

5.8 Conclusion

The interpretation of results has highlighted the factors that influence Customer Loyalty in the South African mobile phone market. Each research proposition has been analysed and answered in the context of the literature review as well as the survey results. Literature has been used to either support or refute findings in the analysis and to aid in the interpretation of the results.

Factor analysis revealed 7 factors that affect customer loyalty in the South African mobile phone market. The resulting model using the F statistic was highly significant and suggests an overall relationship in the data, i.e. together these factors have a strong predictive value in Customer Loyalty.

It is found in the study that factors that affect customer loyalty in the mobile phone market are similar to that of other countries, namely Turkey, Korea, France, Germany, Canada and USA. However, how these factors influence customer loyalty differs. These dissimilarities could be attributed to differences in telecommunication legislations in these countries. South Africa has recently legalised mobile number portability, has enforced the Regulation of Interception of Communication Act (RICA) and has lowered of Interconnection fee.

The study concludes that customer satisfaction and trust have a positive effect on Customer Loyalty. Corporate Image and Service Quality have a weak influence on Customer Loyalty and Switching Cost demonstrated no positive effect on Customer Loyalty. This supports and refutes findings of literature review that compares similar propositions in other countries such as Turkey, Korea, USA, Canada, France and Germany to South Africa.

The study further showed that there is not enough service and product differentiation in the mobile phone market in South Africa. Better handset deals at the time of acquiring the mobile phone seems to be what makes customer choose the service provider. Customer would rather maintain their current service provider as there are no benefits in churning.

CHAPTER 6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter highlights the main findings in the research, and seeks to develop the recommendations for the various mobile network operators in the South African market. The findings of this study highlight major factors that customers focus on to be loyal to the mobile phone network provider. The study provides guidance to the mobile network operators' marketing strategies for improving Customer Loyalty. The study also provides comparable results to other Customer Loyalty in the mobile phone market studies conducted in other markets that have mobile phone legislations similar to South Africa, such as Turkey, Korea, USA, Canada, France and Germany. The results could therefore be used to feed into global marketing strategy of these companies. Suggestions of further research are also developed from the findings of this study.

6.2 Conclusions of the study

The purpose of this research was to determine factors that influence customer loyalty in the South African mobile phone market. South African mobile phone customers are influenced by number of factors and the study revealed that there are seven (7) factors that customers would consider in Customer Loyalty namely, Customer Satisfaction, Corporate Image, Trust, Switching Costs - physical, Switching Costs – emotional, Service quality – effectiveness and Service quality – efficiency.

Pynnonen (2008) sighted that mobile phone operators' focus on customer lock-in strategies such as bundling of services and devices, fixed term contracts, and offering of handsets locked to a particular network rather than focus on customer loyalty. Building loyalty among customers is not a random occurrence. Like any other business function, this process can be managed to make it more effective. In order to manage Customer Loyalty though, mobile phone service providers must understand what it is that affects their customers' behaviour and attitudes i.e. the influencing factors. Certain aspects of how a business operates exert a significant influence on the loyalty of its customers, while other efforts have a lesser effect. By measuring and determining the specific

factors driving customer loyalty in South African mobile phone market, service providers will be empowered to take charge of these factors.

Operators often issue SIM cards with special offers, such as free calls to the same network or a bundle of free SMSs. These offers can be sufficiently attractive for customers to switch SIM cards, even without changing networks. The low price of the SIM card influences the customer to switch easily and try all the different service providers. As a result, erecting high switching cost to retain the customer is currently seen as an ineffective tool in the mobile phone operating business in South Africa. That is why the variability in Customer Loyalty did not explain much by the variability in switching cost. The lowering of interconnection fees perhaps also impact on this. This conclusion supports the findings of France & Korean studies that explained that high switching costs lock customers in and do not lead to Customer Loyalty. South African mobile network operators have high lock in strategies and this shows that locking in helps with retaining customer but does not enhance loyalty.

Service Quality has a weak effect on Customer Loyalty. In areas where the quality of the networks reception is not good, either where the coverage of individual service provider is poor or where congestion is considered likely, customers will carry more than one SIM card so that they can switch to a network on which they can make a call. Given substantially lower charges for calls to numbers on the same network, customers can have considerable incentives to switch to a particular network in order to make a particular call. They may switch back and forth between networks for different calls. Service providers can eliminate this customer behaviour by ensuring that the signal strength and reliability in all areas is good and the pricing is competitive.

This study also revealed that there is not enough service and product differentiation in the mobile phone market in South Africa to fuel competition. Better handset deals at the time of acquiring the mobile phone seems to be what makes customers choose the service provider. In some instances offers on handsets are sufficiently enticing for customers to abandon an older device and sign-up for new device with new service provider.

The study also supports the claim that Customer Satisfaction has a positive effect on Customer Loyalty at all reasonable significance levels. A negative link between

satisfaction and customer complaints shows that the more satisfied a customer is, the less he or she is prone to complain. As such, highly satisfied customers tend to demonstrate a high likelihood of repurchase and higher tolerance to price increases by providers or price decreases by competitors.

There is no evidence of a positive influence on Customer Loyalty as a result of Corporate Image. This finding is similar to what was found in the Turkish market. Customers seem to think that their service providers are well established and do enough for the community. Advertisement on televisions, radio, magazine, newspapers and billboards reinforce the corporate image of the service providers however does not seem play important role in the customer decisions.

This study supports the claim that Trust in the service provider has a positive effect on Customer Loyalty. South African customers have a natural tendency of choosing operators that provide trustworthy services without any cheating or unfair practices. It means they have to trust the company first to become loyal. Unfair practices, cheating, unethical behaviour, etc. all are very common and vivid pictures in South Africa, a developing country. As a result South African consumers are very serious when choosing service provider. Because the consumers perceive that the companies might cheat them out of the best prices, they always look for recommendations from others regarding the trustworthiness of the company. Customers must feel comfortable and at ease doing business with their current service providers. They feel that their service provider is less likely in billing them incorrectly and that there are enough processes in place for recourse in the case of incorrect billing.

Service differentiation will increase perceived Switching Cost. In addition, differentiating services and the superior quality standards of these services will not only increase trust in the operator, but also enable the formation of a positive corporate image in subscribers' minds.

South Africans appear to be more committed to their chosen network provider and their chosen brand of handset. Currently, loyalty levels in the Network Provider sector are high, but there is no certainty of how long this would last. Customers would rather maintain their current service provider, not as an indicator of loyalty, but because they

have no better option as not there are no distinct differences on the offers by service providers.

6.3 Recommendations

The findings of this research paper have implications for the managers of mobile phone service providers. The managers can use these results to formulate better marketing strategies in order to attract more customers to the buy services. The managers should consider factors that influence repeat purchases that eventually lead to customer loyalty.

It is important to build Trust among the consumers regarding the service provider. Consumer loyalty in South Africa depends strongly on Trust; it means that if consumers trust the service provider, they become loyal to the brand and to the company. It is plain to see that it is important to build Trust among consumers. Managers should devise ways to build Trust and should include these tactics in their marketing programs.

Likewise, Trust and Corporate Image should also be placed under consideration in an attempt to make marketing strategies more competitive. It is seen that consumers prefer certain service providers for their perceived reputable image. So the managers should try to enhance the image of the company in order to create a favourable attitude of the customers towards the service provider, which will guide to customer loyalty. To enhance image, companies should apply different promotional programs along with corporate social responsibility. As a consequence, the customers will perceive the service provider as a good company within society.

Other studies showed that Switching Cost is another factor that can lead to customer loyalty. Although in the context of the South African study, variability in Switching Cost does not explain that much variability in customer loyalty of the mobile phone operator business, still the managers of these service providers should carefully consider the Switching Cost factor. The managers should increase the level of Switching Cost so that the consumer cannot switch easily to other service providers and eventually become loyal to those service providers. However in the long term, the network service providers, particularly those who have developed marketing strategies based largely on price, should look beyond low rates when it comes to keeping good customers and

encouraging loyalty. They should focus on the factors that influence customer loyalty as themes of Customer Relationship Management (CRM). Striving to improve CRM performance will help to attain higher level of customer loyalty.

6.4 Suggestions for further research

One major area of future research is the role of government policy in the creation and removal of switching barriers, especially in South African developing economy where government participation is crucial. Effects of switching barriers on customer loyalty should be researched now that the government has legislated the lowering of interconnection fees and opening the market for more competitors such as 8-ta and Virgin Mobile.

The low price of the SIM card influences the customer to switch easily and to try all the different service providers' networks. As a result, erecting high Switching Cost to retain the customer is an ineffective tool in mobile phone operating business in South Africa. Investigation of what major service and product differentiation would have on customer loyalty might be of interest.

Mobile phone functionality has progressively grown beyond the traditional voice and SMS, with the growing trend towards mobile phone banking, mobile media, mobile marketing and mobile internet access. An In-depth understanding of consumer perceptions and trends is critical in addressing the needs of the consumer and impact on customer loyalty.

The results of this study provide several implications for mobile service providers marketing managers with regard to how to plan and market services that will be considered valuable by customers and used in the future. A recommendation was made to focus on formulating and implementing CRM performance in assessing service providers to assign a proportionate amount of resources to achieve sustainable customer loyalty. A study to research the service provider strategy and customer's perspective, which will enable service providers to compare their customer perception of their offering strategy in relation to other providers and their customers to adjust their offering strategy might be necessary in ensuring customer loyalty.

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APPENDIX A: RESEARCH INSTRUMENT

Survey questionnaire

SECTION 1

Please make a cross (X) / write an appropriate number in the box that best matches your cellphone usage

1	Please Indicate your age		Years	
2	Please indicate your gender	Male		Female
3	How many cellphones/SIM cards do you have?	Number		
4	Which is your primary cellphone network / service provider?	Cell C		MTN
5	How long have you used this service provider?		Years	Months
6	Which service do you subscribe on?	Contract		Pre-Paid
7	How much do you spend on cellphone monthly?	R0 - R10		R11 - R50
8	Rank services you use (1 - most & 4 -least)	Calls		R51- R200
		SMS		R201-R500
		MMS		R501 - over
		Web		

SECTION 2

Please make a cross (X) in the box that best matches your cellphone usage

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Switching Costs	1	Switching to a new service provider is expensive				
	2	If I switched to a new service provider, the service offered by the new service provider might not work as well as I expected				
	3	I am not sure that the billing of a new service provider would be better for me				
	4	To switch to a new service provider; I should compare all service provider, (on account of services, coverage area, billing, etc.)				
	5	Even if I have enough information, comparing service providers with one another takes a lot of energy, time and effort				
	6	If I switched to a service provider; I couldn't use some services (MMS, GPRS, WAP, etc.)				
	7	Calling a different service provider is expensive				
	8	I would be concerned about the people who would dial my previous number and couldn't reach me				
	9	What would prevent you want from switching service providers?				

			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Customer Loyalty	10	I will continue to use this service provider					
	11	If I were to buy a new SIM card/cellphone, I would prefer this service provider					
	12	I recommend this service provider to people					
	13	I encourage friends who plan buying new SIM card/cellphone to join this service provider					
	14	Even if the other service provider's billing is cheaper, I would continue using this service provider					
	15	What are the factors that would keep you loyal to a specific service provider?					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Customer Satisfaction	16	This service provider completely meets expectations that could be offered by any service provider					
	17	I am satisfied with this service provider					
	18	This service provider meets my pre-purchase expectations					
	19	What factors provided by a service provider make you satisfied by that specific service provider?					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Corporate Image	20	My service provider is well established					
	21	My service provider contributes to social welfare					
	22	My service provider is innovative					
	23	My service provider has positive image					
	24	How does Corporate Image affect your association with a particular service provider?					

			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Trust	25	I trust this service provider					
	26	I feel that I can rely on this service provider to serve well					
	27	I trust the billing system					
	28	I believe that I can trust this service provider not to try to cheat me					
	29	This service provider is reliable because it is mainly concerned with the customer's interests					
	30	What would make you trust a specific service provider?					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Service Quality	31	Coverage area of my service provider is acceptable					
	32	Quality of signal of my service provider is acceptable					
	33	Customer service of my service provider is efficient					
	34	Additional services such as internet speed etc, of my service provider meet acceptable standards					
	35	Services of my service provider are as per their advertisement					
	36	Signal of my service provider is reliable					
	37	What factors would you consider as service quality of a specific service provider?					

38	What do you like the most about your service provider?
39	What do you dislike the most about your service provider?

APPENDIX B: SUMMARY DATA

1.1.

Gender				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Male	55	51.40	55	51.40
Female	52	48.60	107	100.00

1.2

Age				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
<20	17	15.89	17	15.89
20-25	49	45.79	66	61.68
25-30	14	13.08	80	74.77
30-35	17	15.89	97	90.65
35-40	7	6.54	104	97.20
>40	3	2.80	107	100.00

1.3

Service Provider				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Mobile-C	18	17.14	18	17.14
MTN	45	42.86	63	60.00
Vodacom	42	40.00	105	100.00

**One value missing. One incorrect index

1.4

Service Provider				
	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Contract	25	26.60	25	26.60
Prepaid	69	73.40	94	100.00

**13 values missing

APPENDIX C: FACTOR ANALYSIS

2.1: Switching Costs

Eigenvalues:

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.565	32.059	32.059
2	1.687	21.089	53.148
3	.920	11.504	64.652
4	.858	10.721	75.373
5	.706	8.827	84.200
6	.581	7.263	91.463
7	.414	5.171	96.634
8	.269	3.366	100.000

Factor Analysis:

Rotated Component Matrix^a

	Component	
	1	2
Question 1	.724	.075
Question 2	.821	.111
Question 3	.603	.445
Question 4	.085	.562
Question 5	.671	-.134
Question 6	.640	-.030
Question 7	.045	.804
Question 8	-.112	.781

2.2: Customer Loyalty

Eigenvalues:

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3.690	73.805	73.805
2	.538	10.758	84.563
3	.372	7.438	92.001
4	.223	4.456	96.457
5	.177	3.543	100.000

Extraction Method: Principal Component Analysis.

2.3: Customer Satisfaction

Eigenvalues:

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	1.916	63.859	63.859
2	.753	25.111	88.970
3	.331	11.030	100.000

Extraction Method: Principal Component Analysis.

2.4: Corporate Image

Eigenvalues:

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.232	55.797	55.797
2	.693	17.332	73.129
3	.616	15.390	88.519
4	.459	11.481	100.000

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.232	55.797	55.797
2	.693	17.332	73.129
3	.616	15.390	88.519
4	.459	11.481	100.000

Extraction Method: Principal Component Analysis.

2.5: Trust**Eigenvalues:****Total Variance Explained**

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3.035	60.693	60.693
2	.713	14.262	74.955
3	.558	11.169	86.124
4	.396	7.912	94.035
5	.298	5.965	100.000

Extraction Method: Principal Component Analysis.

2.6: Service Quality

Eigenvalues:

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.927	48.786	48.786
2	.996	16.601	65.387
3	.683	11.389	76.775
4	.554	9.239	86.014
5	.507	8.454	94.468
6	.332	5.532	100.000

Extraction Method: Principal Component Analysis.

Factor Analysis:

Rotated Component Matrix^a

	Component	
	1	2
Question 31	0.865	0.17
Question 32	0.83	0.148
Question 33	0.621	0.305
Question 34	0.081	0.836
Question 35	0.225	0.763
Question 36	0.385	0.687

Total:

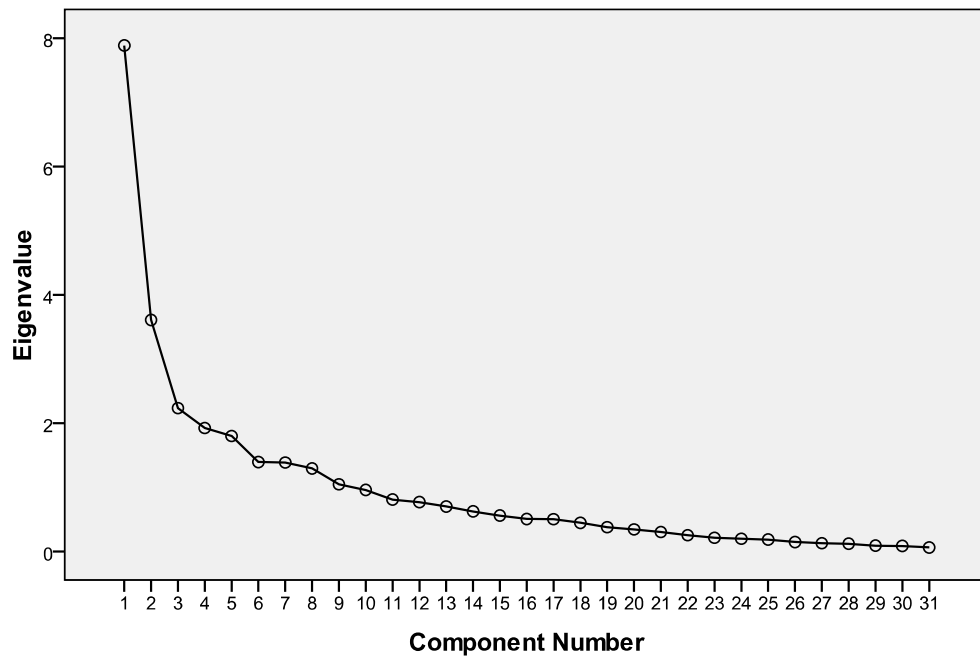
Eigenvalues:

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.885	25.436	25.436	7.885	25.436	25.436	3.786	12.21	12.214
2	3.609	11.641	37.077	3.609	11.641	37.077	3.37	10.87	23.084
3	2.235	7.211	44.287	2.235	7.211	44.287	2.8	9.032	32.116
4	1.924	6.208	50.495	1.924	6.208	50.495	2.374	7.659	39.776
5	1.8	5.806	56.301	1.8	5.806	56.301	2.272	7.33	47.105
6	1.396	4.502	60.803	1.396	4.502	60.803	2.112	6.813	53.919
7	1.387	4.475	65.278	1.387	4.475	65.278	2.103	6.783	60.702
8	1.295	4.179	69.457	1.295	4.179	69.457	1.966	6.343	67.045
9	1.048	3.38	72.837	1.048	3.38	72.837	1.796	5.793	72.837
10	0.96	3.097	75.935						
11	0.81	2.615	78.549						
12	0.771	2.485	81.035						
13	0.703	2.267	83.301						
14	0.626	2.02	85.322						
15	0.561	1.81	87.132						
16	0.508	1.637	88.769						
17	0.504	1.627	90.396						
18	0.447	1.443	91.84						
19	0.38	1.226	93.066						
20	0.346	1.115	94.18						
21	0.305	0.983	95.163						
22	0.255	0.822	95.985						
23	0.215	0.693	96.678						
24	0.2	0.644	97.322						
25	0.186	0.601	97.923						
26	0.149	0.479	98.402						
27	0.13	0.419	98.821						
28	0.122	0.395	99.216						
29	0.092	0.297	99.513						
30	0.087	0.281	99.794						
31	0.064	0.206	100						

Extraction Method: Principal Component Analysis.

Scree Plot



Rotated Component Matrix^a

	Component							
	1	2	3	4	5	6	7	8
VAR00001	0.276	0.014	0.06	-0.014	0.759	0.159	0.107	-0.033
VAR00002	0.248	0.199	-0.109	-0.176	0.493	0.621	-0.012	0.047
VAR00003	0.25	0.047	-0.078	0.092	0.283	0.79	0.154	-0.07
VAR00004	0.201	0.06	0.19	-0.118	0.067	0.254	0.387	-0.515
VAR00005	0.024	-0.018	0.01	0.008	0.851	-0.045	-0.087	-0.025
VAR00006	0.074	-0.043	-0.352	-0.092	0.7	0.224	-0.012	0.037
VAR00007	-0.062	0.056	-0.023	0.038	-0.088	0.289	0.792	-0.048
VAR00008	-0.022	0.005	0.08	-0.058	0.058	-0.175	0.859	0.023
VAR00009	0.783	0.207	-0.055	0.113	0.11	0.09	0.042	0.033
VAR00010	0.854	0.076	0.143	0.147	0.078	0.04	-0.053	0.013
VAR00011	0.788	0.175	0.239	0.182	0.197	0.067	0.071	0.065
VAR00012	0.582	0.207	0.384	0.17	0.093	0.162	-0.241	-0.296
VAR00013	0.77	0.079	-0.028	-0.133	0.058	0.132	-0.02	0.128
VAR00014	0.092	0.296	0.23	0.113	0.01	0.424	0.018	0.558
VAR00015	0.4	0.267	0.235	-0.06	-0.106	-0.029	-0.124	0.596
VAR00016	0.443	-0.018	0.306	0.197	0.04	0.116	0.127	0.55
VAR00017	0.297	-0.024	0.72	0.16	-0.021	0.218	-0.237	0.269
VAR00018	-0.05	0.246	0.743	-0.257	-0.046	-0.099	0.152	-0.08
VAR00019	0.194	0.008	0.583	0.278	-0.164	0.043	0.211	0.008
VAR00020	-0.045	0.343	0.582	0.216	-0.198	-0.049	0.087	0.153
VAR00021	0.252	0.757	-0.009	0.087	-0.09	0.197	-0.117	-0.005
VAR00022	0.233	0.793	0.284	0.014	-0.025	0.022	0.139	-0.068
VAR00023	0.261	0.33	0.055	0.559	0.116	-0.304	0.224	0.252
VAR00024	0.229	0.597	0.235	0.312	0.061	0.107	0.124	0.227
VAR00025	0.021	0.808	0.12	0.178	0.124	-0.055	0.029	0.155
VAR00026	0.414	0.154	0.497	0.385	0.098	0.028	-0.176	-0.106
VAR00027	0.242	-0.047	0.233	0.483	-0.105	0.14	-0.153	-0.519
VAR00028	0.124	0.289	0.537	0.347	0.084	-0.164	-0.042	0.099
VAR00029	0.048	0.562	0.124	0.326	-0.117	0.477	-0.069	0.033
VAR00030	0.039	0.181	0.301	0.586	-0.013	0.343	-0.024	0.156
VAR00137	0.067	0.259	0.073	0.765	-0.132	-0.007	-0.059	-0.05

APPENDIX D: PROPOSED CONSTRUCTS

Questions 1-8

Reliability Statistics

Cronbach's Alpha	N of Items
.655	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	24.6556	17.756	.463	.594
VAR00002	23.8556	17.720	.513	.583
VAR00003	23.6556	18.318	.518	.588
VAR00004	23.2667	19.906	.220	.656
VAR00005	23.9667	18.437	.330	.629
VAR00006	24.2111	17.876	.330	.631
VAR00007	23.1000	19.642	.299	.636
VAR00008	23.2222	19.995	.181	.668

Questions 9-13

Reliability Statistics

Cronbach's Alpha	N of Items
.904	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00009	15.6196	12.260	.798	.876
VAR00010	15.8152	11.449	.848	.864
VAR00011	15.7065	12.341	.840	.869
VAR00012	15.8696	12.488	.734	.889
VAR00013	16.0326	12.120	.626	.918

Questions 14-16**Reliability Statistics**

Cronbach's Alpha	N of Items
.699	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00014	7.8667	2.059	.369	.801
VAR00015	7.4857	1.810	.610	.487
VAR00016	7.6000	1.915	.595	.514

Questions 17-20**Reliability Statistics**

Cronbach's Alpha	N of Items
.732	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00017	11.3100	2.863	.455	.714
VAR00018	11.4000	2.828	.541	.662
VAR00019	11.3500	2.816	.528	.669
VAR00020	11.1800	2.816	.575	.643

Questions 21-25

Reliability Statistics

Cronbach's Alpha	N of Items
.833	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00021	15.4184	6.906	.632	.800
VAR00022	15.4694	6.685	.737	.772
VAR00023	15.5612	7.053	.533	.829
VAR00024	15.7755	6.671	.610	.808
VAR00025	15.5714	6.784	.670	.790

Questions 26-31

Reliability Statistics

Cronbach's Alpha	N of Items
.786	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00026	19.2209	7.539	.592	.739
VAR00027	19.0698	8.419	.550	.750
VAR00028	19.1279	8.136	.505	.761
VAR00029	19.1512	8.342	.462	.772
VAR00030	19.1395	8.757	.529	.757
VAR00137	19.0581	8.079	.595	.739

APPENDIX E: CONSTRUCTS FOUND IN FACTOR ANALYSIS

Questions 1, 2, 3, 5, 6

Reliability Statistics

Cronbach's Alpha	N of Items
.707	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	12.7755	9.867	.507	.641
VAR00002	11.9286	9.510	.613	.600
VAR00003	11.7143	11.072	.404	.682
VAR00005	12.0714	9.923	.420	.678
VAR00006	12.3673	9.431	.411	.688

Question 4, 7, 8

Reliability Statistics

Cronbach's Alpha	N of Items
.639	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00004	7.9474	3.838	.336	.690
VAR00007	7.7684	3.542	.500	.478
VAR00008	7.8842	2.955	.527	.424

Questions 31 – 34:

Reliability Statistics

Cronbach's Alpha	N of Items
.755	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00026	7.6058	2.183	.683	.551
VAR00027	7.4423	2.735	.618	.637
VAR00028	7.4135	3.138	.473	.789

Questions 35 – 37:

Reliability Statistics

Cronbach's Alpha	N of Items
.713	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
VAR00029	7.7273	1.557	.529	.634
VAR00030	7.7045	1.912	.531	.632
VAR00137	7.6364	1.682	.547	.604

APPENDIX F: REGRESSION

Overall Model:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.553 ^a	.306	.256	2.86046

a. Predictors: (Constant), ServiceQuality2, SwitchingCosts2, SwitchingCosts1, Corporate Image, Trust, ServiceQuality1, Customer Satisfaction

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	349.896	7	49.985	6.109	.000 ^a
Residual	793.677	97	8.182		
Total	1143.573	104			

a. Predictors: (Constant), ServiceQuality2, SwitchingCosts2, SwitchingCosts1, Corporate Image, Trust, ServiceQuality1, Customer Satisfaction

b. Dependent Variable: Customer Loyalty

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.259	2.371		.953	.343
SwitchingCosts1	.126	.115	.097	1.096	.276
SwitchingCosts2	-.050	.159	-.029	-.315	.753
Customer Satisfaction	.796	.318	.283	2.506	.014
Corporate Image	-.004	.226	-.002	-.019	.985
Trust	.310	.162	.209	1.919	.058
ServiceQuality1	.459	.336	.142	1.363	.176
ServiceQuality2	.048	.192	.025	.252	.802

a. Dependent Variable: Customer Loyalty

Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index
1	1	7.722	1.000
	2	.103	8.647
	3	.064	10.953
	4	.047	12.776
	5	.024	17.862
	6	.015	22.542
	7	.013	24.708
	8	.011	26.852

Rotated Component Matrix^a

	Component	
	1	2
SwitchingCosts1	.158	.715
SwitchingCosts2	-.127	.805
Customer Loyalty	.676	.057
Customer Satisfaction	.798	.032
Corporate Image	.641	.184
Trust	.779	.025
ServiceQuality1	.705	-.178
ServiceQuality2	.618	-.013

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser

Normalization.

a. Rotation converged in 3 iterations.

Model 1: Switching Costs

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.200 ^a	.040	.021	3.28066	.040	2.127	2	102	.124

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.777	2	22.889	2.127	.124 ^a
	Residual	1097.796	102	10.763		
	Total	1143.573	104			

a. Predictors: (Constant), SwitchingCosts2, SwitchingCosts1

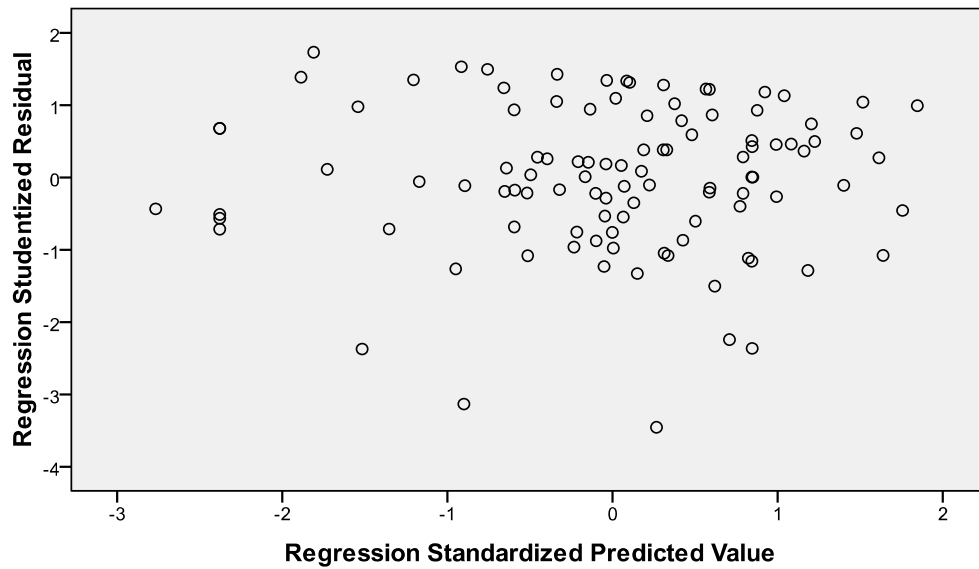
b. Dependent Variable: CustomerLoyalty

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	13.593	1.449	9.382	.000	10.719	16.467
	SwitchingCosts1	.243	.128	1.894	.061	-.011	.498
	SwitchingCosts2	-.199	.172	-.114	.249	-.541	.142

Scatterplot

Dependent Variable: CustomerLoyalty



Model 2: Customer Satisfaction

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.482 ^a	.232	.225	2.91923	.232	31.193	1	103	.000

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	265.820	1	265.820	31.193	.000 ^a
Residual	877.754	103	8.522		
Total	1143.573	104			

a. Predictors: (Constant), Customer Satisfaction

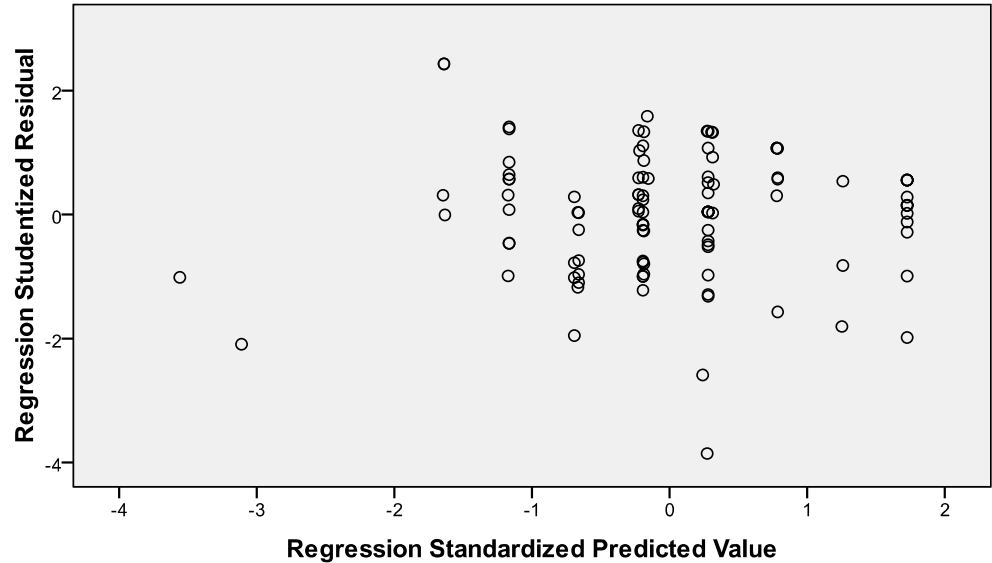
b. Dependent Variable: Customer Loyalty

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	5.734	1.601		3.581	.001	2.559	8.909
Customer Satisfaction	1.356	.243	.482	5.585	.000	.875	1.838

Scatterplot

Dependent Variable: CustomerLoyalty



Model 3: Corporate Image

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.279 ^a	.078	.069	3.19937	.078	8.721	1	103	.004

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.268	1	89.268	8.721	.004 ^a
	Residual	1054.305	103	10.236		
	Total	1143.573	104			

a. Predictors: (Constant), Corporate Image

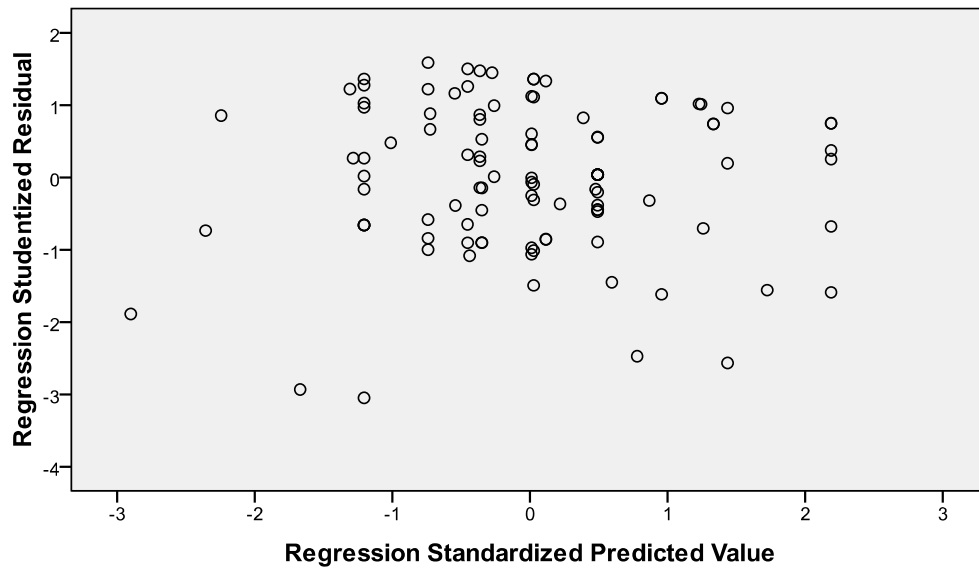
b. Dependent Variable: Customer Loyalty

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	8.700	2.000		4.351	.000	4.734	12.666
	Corporate Image	.598	.203	.279	2.953	.004	.196	1.000

Scatterplot

Dependent Variable: CustomerLoyalty



Model 4: Trust

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.452 ^a	.204	.196	2.97280	.204	26.400	1	103	.000

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	233.308	1	233.308	26.400	.000 ^a
Residual	910.266	103	8.838		
Total	1143.573	104			

a. Predictors: (Constant), Trust

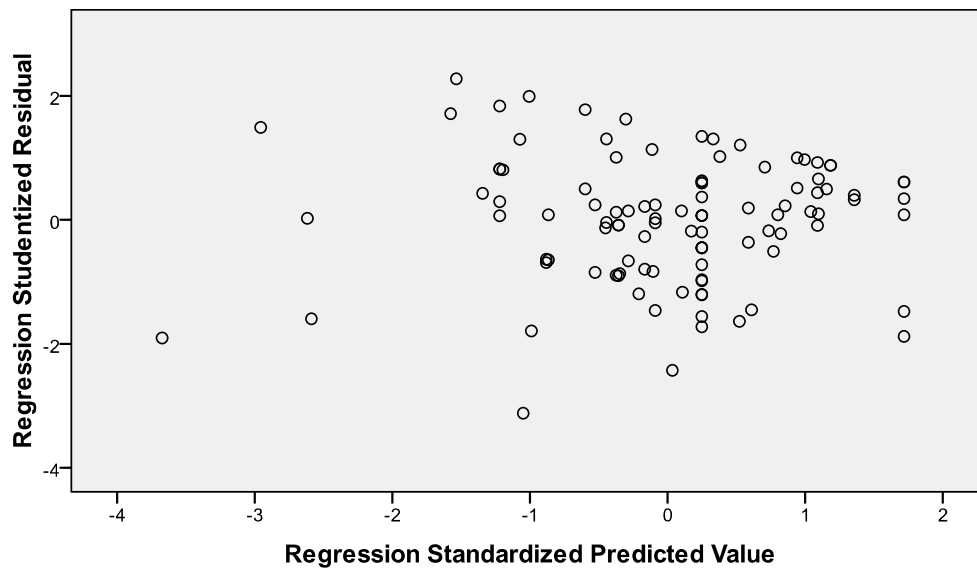
b. Dependent Variable: Customer Loyalty

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	6.103	1.666		3.663	.000	2.799	9.407
Trust	.670	.130	.452	5.138	.000	.411	.928

Scatterplot

Dependent Variable: CustomerLoyalty



Model 5: Service Quality

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.393 ^a	.155	.138	3.07845	.155	9.335	2	102	.000

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	176.932	2	88.466	9.335	.000 ^a
	Residual	966.641	102	9.477		
	Total	1143.573	104			

a. Predictors: (Constant), ServiceQuality2, ServiceQuality1

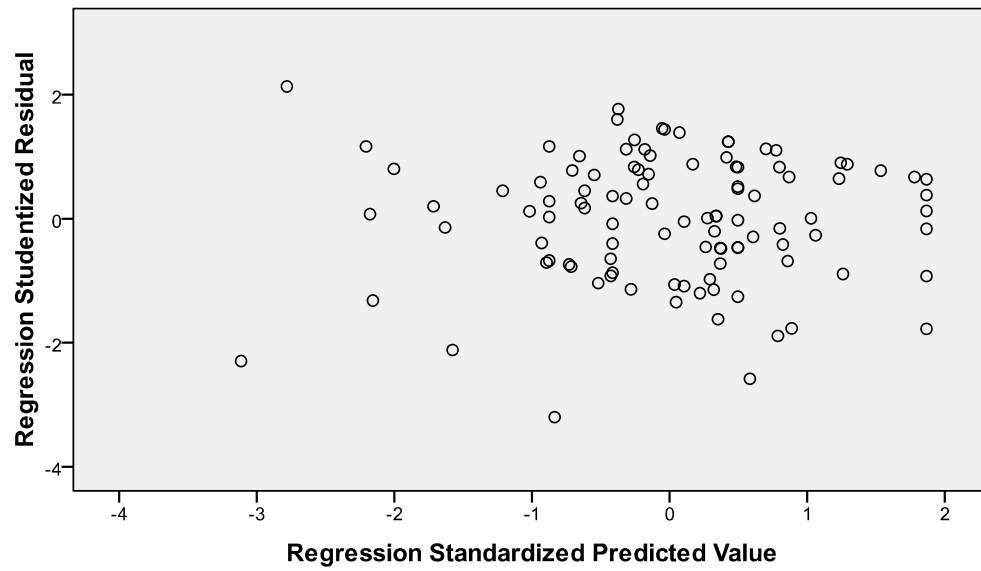
b. Dependent Variable: Customer Loyalty

Coefficients^a

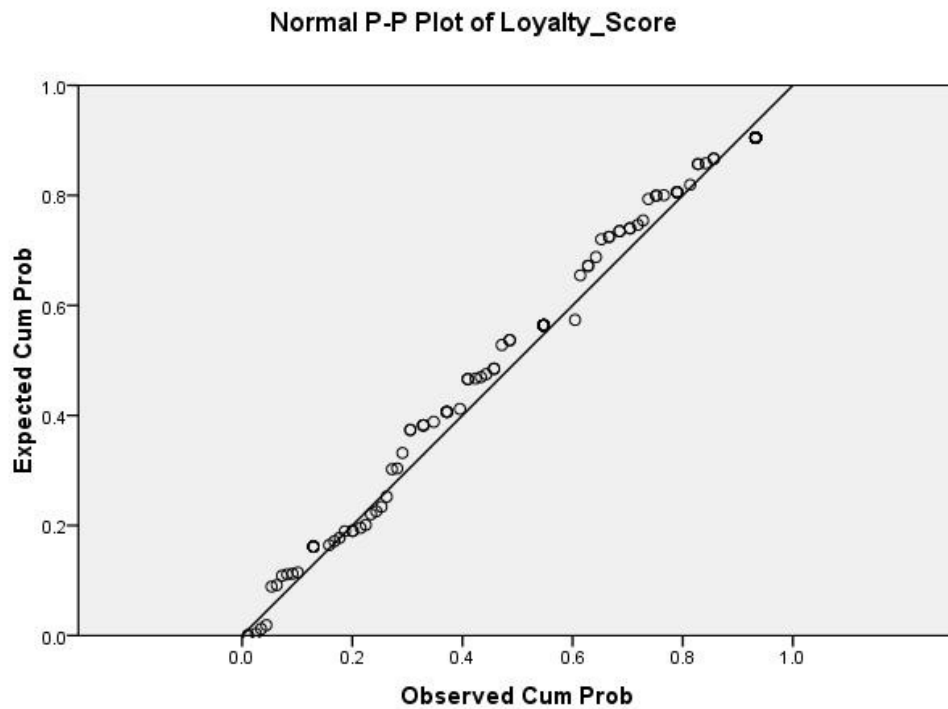
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	8.027	1.536		5.226	.000	4.981	11.074
	ServiceQuality1	.950	.314	.294	3.022	.003	.327	1.574
	ServiceQuality2	.350	.191	.178	1.835	.069	-.028	.729

Scatterplot

Dependent Variable: CustomerLoyalty



Probability plot: Customer Loyalty



Anova for difference between different switching costs:

Age:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	61	879.567	14.41913	10.5087
Column 2	44	646.367	14.69016	11.88776

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1.877679	1	1.877679	0.169398	0.681503	3.933336
Within Groups	1141.696	103	11.08442			
Total	1143.573	104				

Anova for difference in Customer Loyalty between predefined groups

Age:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
<20	16	217.999	13.6249375	6.077843929
20-25	48	700.78	14.59958333	11.04822646
25-30	14	227.475	16.24821429	7.948009104
30-35	17	232.844	13.69670588	10.99756022
35-40	7	97.257	13.89385714	26.51679048
>40	3	49.579	16.52633333	6.745297333

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	81.26272383	5	16.25254477	1.514624581	0.19210845	2.306259079
Within Groups	1062.310722	99	10.73041133			
Total	1143.573446	104				

Gender:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Female	50	731.289	14.62578	10.33890691
Male	55	794.645	14.44809091	11.78037194

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.826922722	1	0.826922722	0.074533625	0.785393331	3.933336451
Within Groups	1142.746523	103	11.09462644			
Total	1143.573446	104				

No. Sim Cards:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
1 sim	53	775.666	14.63520755	7.918856129
2 sims	36	549.574	15.26594444	11.30681131
3 sims	8	88.608	11.076	23.84595857

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	115.3226275	2	57.66131373	5.562333254	0.005210645	3.093265919
Within Groups	974.4406246	94	10.36638962			
Total	1089.763252	96				

Network:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Mobile-C	17	228.427	13.43688235	18.21982286
MTN	44	659.078	14.97904545	7.061471998
Vodacom	42	608.213	14.4812619	12.37803927

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	29.27802984	2	14.63901492	1.327609051	0.269741953	3.087295893
Within Groups	1102.660072	100	11.02660072			
Total	1131.938102	102				

Contract vs. Prepaid:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Contract	25	363.423	14.53692	11.76539891
Prepaid	67	982.592	14.66555224	11.45940719

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0.301249712	1	0.301249712	0.026102555	0.872012256	3.946875558
Within Groups	1038.690448	90	11.54100498			
Total	1038.991698	91				

Amount Spent Monthly:

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
<10	2	31.853	15.9265	1.3398845
10 to 50	14	203.75	14.55357143	15.93806149
50 to 200	62	890.869	14.36885484	9.884684651
200 to 500	18	271.884	15.10466667	7.621782706
Over 500	6	76.329	12.7215	29.9197495

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	30.55334846	4	7.638337114	0.679324671	0.60792765	2.465480485
Within Groups	1090.669501	97	11.24401548			
Total	1121.22285	101				