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Enterprise Risk Management (ERM)***

MASTER THESIS



MODELLING SWITCHING BEHAVIOUR OF MOBILE PHONE CUSTOMERS

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Open University Cyprus

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Abstract

The study aims to provide evidence on the drivers of customer switching in the mobile phone industry of the Cypriot market. The study's purpose is to provide empirical evidence on the drivers of customer switching in the Cypriot market based on factors demographics (age, gender, level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction, service quality, and perceived service value.

Data were collected through a questionnaire survey from mobile phone users in Cypriot market. The first analysis tests Cronbach's Alpha value. A description of the sample examines the demographic characteristics of the respondents. A Chi-square test and a Cross Tabulation Analysis is used. Correlation coefficient was employed to examine the relationship between the dependent and the independent variables. A qualitative analysis and a Principal Component Analysis was employed as well. A logistic regression analysis is used to identify the important factors that affect significantly the switching behaviour of customers, and to develop the final model.

The findings showed that the combination of technological aspects and price, and service quality (assurance) are important factors. Frequent network problems with the current mobile service providers, and a higher price will make them switch to a competitor. The knowledge and courtesy of employees, and their ability to convey trust and confidence affect significantly the switching behaviour of customers. The hypothesis "Is it possible to develop a model that describes switching behaviour and the effect of main influence factors" is supported, and the final model is developed. The study helps service providers in strategic marketing, and executives of service firms, and recommends future research in the switching behaviour of mobile phone customers. Finally, the thesis provides relevant and appropriate recommendations for further research.

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Maria Georgiou

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Chapter 1

Introduction

The mobile phone service demand shows an increasing trend around the world due to technological improvement in the telecommunication industry (Lim, Yeo, & Mei Ling, 2018). The mobile phones have changed how we communicate, we share information, consume media, and navigate the world since has become a multi-tasking device (Malhotra & Malhotra, 2013). The mobile phone industry is characterized by high mobility of customers in switching among various plans (e.g. contract vs no-contract service) or even among providers. Studying customer switching behaviour is important because a switching behaviour will conclude to the decrease of future revenues (Liang, Ma, & Qi, 2013). There is a lack of research study focusing on switching behaviour in the Cyprus telecommunication industry. Therefore, the main objective of the study is to investigate the factors that affect switching behaviour of customers in Cyprus telecommunication industry.

Switching in consumer behaviour is referred to the times when customers choose another provider over the current one on their next purchase occasion (Prasad & Prasanna, 2016). Switching behaviour reflects the decision that a customer makes to stop purchasing a particular service or supporting the firm (Prasad & Prasanna, 2016). The factors that cause customer switching behaviour from service providers remain relatively understudied for the Cypriot market. The study aims to provide evidence on the drivers of customer switching in the mobile phone industry of the Cypriot market. The study involves a literature study to identify potential drivers for customer switching, evaluation of their power and finally the creation of a model to assess the probability of switching based on factors that include demographics (age, gender, level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction,

service quality, and perceived service value. The results of empirical research are compared with previous research studies.

The study's purpose is to provide empirical evidence on the drivers of customer switching in the Cypriot market based on factors demographics (age, gender, level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction, service quality, and perceived service value. The research examines whether customer switching behaviour is affected by the above variables providing empirical evidence for their relationship. The paper will analyze, identify and synthesize findings, examine the results and compare with the literature review. Finally, the paper will provide conclusions about which factors influence customer switching behaviour in the Cypriot market. The research develops and tests a model to provide an understanding of the determinants of switching behaviour in the mobile service industry of Cyprus.

This work is expected to contribute to consumer behaviour literature in the Cypriot market. Empirical results will give recommendations to mobile phone operators in Cyprus and propose a synthesized model of consumer switching behaviour. The results can help telecommunication service providers in Cyprus to understand the factors that affect the consumer's behaviour. The answers to the questions will be important for executives of service firms and service marketing scholars. Moreover, the research results will contribute to the improvement of the telecommunication industry by minimizing the weaknesses and threats and providing better products and services to consumers.

The study is expected to help service providers in strategic marketing, and to recommend future research in the switching behaviour of mobile phone customers. The results will help to understand the switching behaviour of mobile phone customers in the telecommunication service industry in Cyprus. The findings are compared with those of previous studies. Finally, based on the research methodology, the data analysis, the findings, and the conclusions the thesis provides relevant and appropriate recommendations for further research.

Chapter 2

Background

2.1 Introduction

The mobile phone has become an important equipment for the present generation of life (Venkatesh, 2019). The advancements in hardware and software as well have resulted in a growth of the industry of mobile services (Malhotra & Malhotra, 2013). The switching behaviour of mobile users has become a critical issue that mobile service providers should try to face (Ranganathan, Seo, & Babad, 2006). Companies should focus on customer retention and their relationship with them to retain their competitiveness and profits (Xhema, Metin, & Groumpos, 2018). In a competitive market, mobile service providers need to understand the importance and effect of factors of customers' loyalty (Yuktanandana & Prasertsakul, 2015). Customer satisfaction has a significant impact on customer is loyalty, which influences the customer's switching behaviour (Babu & Sundar, 2018). Many studies encourage mobile phone service operators to take measures to create a loyal customer base and to avoid or minimize switching behaviours in the future.

Keaveney (1995) introduced the first model of customer switching behaviour in service industries and identified factors that cause a switch, proposing their interaction effects. Keaveney (1995) using questionnaires tested the switching behaviour of 526 service customers using eight factors. The researcher used critical incident technique (CIT), which is appropriate for managerial usefulness and theory development. Keaveney (1995) identified more than 800 critical behaviours that made customers switch services. The most significant reason for service switching was service failures and the second largest was service encounter failures. The price was in the third subcategory and the

inconvenience was in the fourth category, followed by the response of failed service, competition, ethical problems, and finally the factor involuntary switching.

The increasing development in technology has made mobile phone service markets more competitive (John, 2011). Competitors need to acquire new customers and retain existing ones since in a competitive environment customer satisfaction is an important determinant for mobile service companies to maintain or improve the market share and profitability (Zhao, Lu, Zhang, & Chau, 2012). Mobile service providers try to find out the relationship between consumers' satisfaction, their switching intention and their switching barriers (Calvo-Porrall & Lévy-Mangin, 2015). There is a big competition in mobile communication services for gaining new customers and maintaining the existing ones. As a result, customer satisfaction is an important factor for mobile service providers for their market share and profitability as well (Zhao, Lu, Zhang, & Chau, 2012). Service providers need to take into account the factors that affect switching behaviour to retain their customers and to keep their loyalty (Kouser, Qureshi, Shahzad, & Hasan, 2012). Having customers and not acquiring customers, is important for service firms (Keaveney, 1995)

2.2 The mobile phone service market

Liberalization and privatization pushed the telecommunications industry into a dynamic and growing service industry with a highly competitive environment (Akbar, 2013). The number of mobile phones has increased globally (Mokhtar, Maiyaki, & Noor, 2011). The increasing number of mobile users introduced new mobile service providers in the industry of telecommunications (Venkatesh, 2019). Telecommunications companies have been experiencing high competition for several years (Roos, Edvardsson, & Gustafsson, 2004). The mobile service providers promote price packages to retain their customers and attract customers from their competitors. Customer loyalty is an important indicator of the survival of an organization especially in highly competitive markets (Agyei & Kilika, 2014). The competitive environment forces mobile service operators to provide attractive packages to gain more customers (Lim, Yeo, & Mei Ling, 2018). The new entrants from the private sector in the telecommunication industry have increased the

competition (Venkatesh, 2019). According to Martins, Hor-Meyll, and Ferreira (2013), there are many factors affecting customers switching in a wireless competitive market.

Gustafsson, Johnson, and Roos (2005) examined the effects of factors on customer retention and concluded that customer satisfaction, calculative commitment, and prior churn affect directly customer retention. Mobile service providers try to attract new customers, but retaining their customers is more important since it makes more profits than gaining new customers (Yuktanandana & Prasertsakul, 2015). To retain customers, firms initiate programs and activities for the satisfaction of their customers (Lee, Lee, & Feick, 2001). Service quality, relationship quality, and service satisfaction are important tools to keep loyal customers (Liang, Ma, & Qi, 2013). Mobile service providers argue that value-added services can increase customer loyalty (John, 2011). Mobile service providers should offer good quality service to customers to create customer commitment (John, 2011). Service providers compete with each other to gain new customers and not to lose the existing ones (Yuktanandana & Prasertsakul, 2015). When a customer understands the benefits from the service provider, it creates satisfaction and in the end loyalty (Yuktanandana & Prasertsakul, 2015).

When consumers are passive, then suppliers will not have competition (Xavier & Ypsilanti, 2008). Consumers can switch and benefit from competition since they can exert pressure on suppliers (Xavier & Ypsilanti, 2008). The phone service providers try to offer reduced tariff plans, to improve their services and to gain customers (Venkatesh, 2019). Competition affects suppliers to offer attractive prices to attract consumers (Majumdar, 2010). Also, competition helps suppliers meeting customers' needs and offering lower prices (Majumdar, 2010). In competitive markets, firms attempt to retain current customers to maintain their market share (Lee, Lee, & Feick, 2001). Competition can press costs and force companies to offer lower prices to gain customers (Lim, Yeo, & Mei Ling, 2018).

In a telecommunication service industry, there is high demand elasticity since there are increasing choices for customers who can switch to other suppliers easily (Majumdar,

2010). Efficient companies can gain a greater market share through decreased prices and competitors with higher costs have lower profits (Majumdar, 2010). The corporate image is the reputation and the impression that a firm has on the mind of customers (Xhema, Metin, & Groumpos, 2018). According to Baksi and Parida (2011), service quality is an important determinant for the growth and survival of a service firm, which differentiates it from competitors. Consumers have many choices, like decreased prices, offers, and attractive facilities, to switch service providers because of the high competition of the telecommunication service industry (Uddin, Hossain, & Rahman, 2014).

Babu and Sundar (2018) examined the pull-push mooring model of customer switching behaviour. The negative factors that push customers to leave from the origin are named the push effects -the indicators/ determinants/ criteria/ factors that make consumers switch from a product or service (Babu & Sundar, 2018). The positive factors that pull prospective customers are named the pull effects, which are the positive factors of competitors that attract other customers (Babu & Sundar, 2018). The personal and social factors that help or incommode the switching is named mooring effects, which affects push-pull variables (Babu & Sundar, 2018).

2.3 The Cypriot telecommunication market

The Cyprus telecommunication industry was developed fifty years ago. The first telecommunication company in Cyprus was a semi-government organization named Cyprus Telecommunications Authority (CYTA), (CYTA, 2019). CYTA is the leading provider in the telecommunication industry of Cyprus (CYTA, 2019). The island's geographical location helped Cyprus to develop an extensive submarine cable network, which linked Cyprus with other countries and became a regional telecommunications hub with a satellite earth station infrastructure (CYTA, 2019).

In 1871 the first submarine telegraph cable connected Cyprus and Syria, and in 1911 the first telephones appeared on the island (CYTA, 2019). In 1955 the Cyprus Inland Telecommunications Authority (C.I.T.A.) was established. In 1961 C.I.T.A. is renamed into the Cyprus Telecommunications Authority (CYTA) which becomes a member of the

International Telecommunications Union and Commonwealth Telecommunications Organisation. In 1974 after the Turkish occupation CYTA lost 33% of its assets, 25% of its subscribers, and 50% of its income (CYTA, 2019).

After the liberalization of the industry of telecommunications, CYTA has been an integrated provider of communications, who provides, maintains and develops telecommunication services nationally and internationally (CYTA, 2019). There has been a rapid development in Cyprus telecommunications in recent years (CYTA, 2019). The increase in market competition led to a decrease in prices and improvement of service quality (CYTA, 2019). All providers have many challenges like information technology, multimedia, changes to the social, legal and political environment, since when Cyprus became a member of the European Union (CYTA, 2019).

According to Europe's Digital Progress Report (EDPR) of 2017 Cyprus is 21st in connectivity and in 2016 showed significant growth in mobile broadband with 89% subscriptions which are above the EU averages (84%), (European Commission, 2017). Moreover, CYTA still dominates the market despite the decrease in its market share. Packages including mobile broadband on handsets are 15% more expensive than in Europe (European Commission, 2017). The satisfaction of Cypriot consumers with electronic communications services showed a decline between the years 2013 and 2015, with mobile telephony services being decreased by 3.5% (European Commission, 2017).

In the 2019 Cypriot market showed a structural change and all telecommunication providers focused on competitive advantages to offer services of fixed telephony, mobile telecommunications, internet, and pay-TV as well (European Commission, 2019). Communication service providers invest in network coverage to strengthen their competitiveness and offer attractive contracts (European Commission, 2019). In Cyprus, about 20% of contracts are mobile telephony contracts (doubled in the past 3 years), and about 45% of all mobile subscriptions have a contract that contains mobile broadband data (European Commission, 2019).

In Cyprus the competition in the mobile market is high (European Commission, 2019). The market share of CYTA in mobile telecommunication was decreased by 1.65 %, which was gained by Primetel (European Commission, 2019). Epic (ex MTN), the second-largest mobile operator, has a new strategy that is focusing on the fixed market and invests in ultra-high-speed broadband infrastructure (European Commission, 2019). Although Cablenet added the mobile services section, its share in this market remains marginal. Primetel gained market share and is offering competitive reduced retail prices (European Commission, 2019).

In Cyprus 'mobile telephone services' ranks in the 4th position, 'fixed telephone services' ranks in the 7th position, and 'internet provision' ranks in the 12th (European Commission, 2019). In 2018 the Commission received 420 complaints, of which 383 concerned subscription to multimedia services, and 24 concerned contract termination charges (European Commission, 2019). The complaints concern the switching cost, services in multimedia, delays in new connections, service quality, and speed of the internet (European Commission, 2019).

Mobile number portability (MNP) provides the opportunity for customers to change their existing provider to a new provider without changing their mobile number (Venkatesh, 2019). The regulation of the European Union for mobile number portability (MNP) allows consumers, who want to terminate contracts with their current provider when switching to another provider, to retain their phone number and not to have switching cost (Calvo-Porrá & Lévy-Mangin, 2015). Since the introduction of mobile service portability, Cyprus should follow the regulation of the European Union. Mobile number portability (MNP) provided the benefit to mobile phone users to switch mobile phone providers without changing their telephone numbers (Ooko, Nzomoi, & Mumo, 2014).

The study aims to provide empirical evidence on the factors that affect mobile switching behaviour in the Cypriot market. The study involves a literature study, to examine potential drivers for customer switching based on factors that include demographics (age, gender, level of education, type of job, and level of monthly income), costs, price,

technological aspects, customer satisfaction, service quality, and perceived service value. The results of empirical research are compared with previous research studies.

2.4 Literature Review

The study involves an extended literature study to identify potential drivers for customer switching, evaluate their power and finally create a model to assess the probability of switching. The research discusses the Literature Review of the switching behaviour of mobile phone customers in several markets. Many researchers conducted empirical studies about telecommunication industries and the determinants that affect customers to switch from one mobile phone service provider to another.

Organizations are customer-oriented since they want to have a long term relationship with their customers (Nimako, 2012). It is suggested to focus on loyal customers instead of acquiring new ones since existing customers are more profitable and less expensive to keep (Siddiqui, 2011). The focus on loyal customers is more profitable in the long term and customer relationship strategies are very important for managers (Bobâlcă, 2014). Customer loyalty and customer switching have been considered by traditional marketing literature as two opposite sides of a single coin (Siddiqui, 2011). Customer loyalty is a powerful competitive advantage (Bobâlcă, 2014). The definition of customer loyalty cited by Oliver (1999) is: “a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future [...] despite situational influences and marketing efforts having the potential to cause switching behaviour”. Customer loyalty is recognized by repeat purchases over time, by the preference of the brand and recommendation to others as well (Bobâlcă, 2014).

The customers' satisfaction, loyalty and the influence of switching costs in the mobile service industry were examined by Calvo-Porràl and Lévy-Mangin (2015). They analyzed network mobile services (traditional operators) and virtual mobile services focusing on their differences. Based on data of 524 mobile service consumers in Spain they concluded that mobile service value strongly influences customer satisfaction for virtual and traditional mobile services as well. They suggested that mobile service providers should

improve the consumers' understanding of the offered services, taking into account the prices and offer functional benefits. Finally, Calvo-Porrall and Lévy-Mangin (2015) indicated that mobile service operators should provide high value personalized services to make consumers more satisfied.

John (2011) examined the factors that influence consumer's loyalty of Bharath Sanchar Nigam Limited in India from 100 customers, concluding that network quality, customer service, and value-added service enhance their loyalty. Using principal component analysis, the results indicated that to retain their customers' loyal and satisfaction telecommunication service providers shouldn't take into account only offered prices. The researcher recommended that the mobile service enterprises should focus on the problems of servers to strengthen the customer satisfaction and loyalty. Also, John (2011) suggested to improve customers' reliability, assurance, empathy and satisfaction.

Zhao, Lu, Zhang, & Chau (2012) studied the effects of customer satisfaction in mobile communication services. The factors service quality (interaction quality, environment quality, and outcome quality), justice (procedural justice, distributive justice, and interactional justice), and customer satisfaction (cumulative and transaction-specific satisfaction) were empirically examined from 1,000 mobile service customers in China. They concluded that interaction quality, environment quality, and outcome quality have significant and positive effect on customer's cumulative satisfaction. Nevertheless, only interaction quality affects significantly and positively transaction-specific satisfaction. The determinants distributive justice and interactional justice have a significant influence on transaction-specific satisfaction and cumulative satisfaction as well. Furthermore, cumulative satisfaction and transaction-specific satisfaction affect significantly and positively customer retention.

The effects of quality of services and satisfaction of consumers on their loyalty were examined by Yuktanandana and Prasertsakul (2015). The researchers used questionnaires and employed reliability tests, and statistical analysis to confirm validity and reliability of data. The study tested 401 customers from Bangkok's major mobile

service providers and they concluded that the only positively significant factor for customers' satisfaction is that of customer service. The other factors (network, value-added service, mobile devices, customer service, pricing structure, billing system, and price) are not significant for the satisfaction of their customers.

Sathish, Santhosh Kumar, Naveen and Jeevanantham (2011) studied the determinants that affect the consumers to switch from one service provider to another in India. The tested variables were demographics, satisfaction, factors influencing and factors affecting the switching behaviour (grouped in four categories of customer service, service problems, usage cost, and others). With structured questionnaires, they concluded that the factors from highest to lowest importance were calling rates, network coverage, value-added service, customer care, and advertisement.

Liang, Ma, and Qi (2013) studied 400 customers to investigate the importance of aspects of service quality and customer switching behaviour in the Chinese market. The researchers employed a questionnaire survey to collect data and used factor analysis to test customer switching behaviour in mobile phone service market. They identified that seven factors influence customers' switching mobile phone behaviour (core service failure, high price, ethical problems, competition, inconvenience, service encounter failure, and influence from family/ friends/group).

Uddin, Hossain, and Rahman (2014) investigated the switching behaviour of mobile phone customers and its influencing factors for 450 students of Comilla University in Bangladesh. They found with a questionnaire survey and a multiple regression analysis that better service quality, lower price, and promotional offers are important factors for customers to switch from one to another service provider. Finally, they recommended operators to focus on the expectations of consumers to retain their existing customers and attract future ones.

Three competing models were used from Akbar (2013) to study which model explains mostly loyalty of mobile subscribers. Using a sample of 195 mobile subscribers in Bangladesh the research employed Confirmatory Factor Analysis, Structural Equation Modeling, and Path Analysis. Akbar (2013) concluded that all models were satisfactorily goodness-of-fit. Customer satisfaction and corporate image have the strongest significant relationship in all three models. The impact of customer satisfaction on customer loyalty was strong and significant in all three models. The corporate image has a strong and significant impact on customer loyalty. The service quality has a significant impact on trust as well.

Agyei and Kilika (2014) analyzed the relationship between corporate image (service quality, chief executive officer reputation, brand image, and physical evidence) and customer loyalty in the mobile telecommunication industry of Kenya. Using descriptive statistics the study examined the responses of 320 students across campuses of Kenyatta University. A correlation coefficient and a regression analysis were used to examine the relationship between the dependent and the independent variables. The results indicated that all four factors correlate with customer loyalty, but only service quality and brand image are the most significant predictors for customer loyalty. Moreover, the results showed that corporate image, brand image, and service quality predict customer loyalty.

Pumim, Srinuan, and Panjakajo (2017) examined the drivers of customer satisfaction, perceived service quality, customer trust, corporate image, perceived value, and perceived switching costs for mobile customer loyalty in Thailand. Based on data of 515 mobile customers the results of the study indicated that perceived service quality and perceived value are positively influencing the satisfaction of mobile customers. Also, perceived service quality directly affects the perceived value and customer satisfaction. The results of the research explored that switching costs are an important determinant for customers since is influencing their loyalty.

Lim, Yeo and Mei Ling (2018) investigated the factors affecting consumers' switching behaviour in Malaysia. They examined if the independent variables of price, competition,

customer service, word-of-mouth, and core service failure affect the dependent variable of consumer switching behaviour in the telecommunication industry. Using a questionnaire of 200 respondents they covered demographic information and measurement items of the tested variables. With reliability analysis and multiple regression analysis, they concluded that consumer switching behaviour can be explained by all the independent variables. Moreover, price, competition and customer service are not significant variables for customer switching behaviour. Nevertheless, world-of-mouth and core service failure are significant for customer switching behaviour.

Kumar, Rajyalakshmi, and Asadi (2017) examined the switching behaviour of 600 telecom subscribers between mobile networks in India. They used a questionnaire to examine the factors of service quality, value-added services, service provided through helpdesk, call drops, and network coverage of the operator in general and in their area in particular. With Chi-square analysis they rejected the hypothesis that customers prefer to use a different mode of mobile connection and the hypothesis that the customers have problems during mobile number portability. From correlation analysis, they found that all variables (number of sims with the consumer, cost of porting, age, airtime amount on average, and duration of usage) except for the speed of porting are negatively correlated with switching probability. The chances of switching among operators are reduced by the availability of dual sim phones. Groups with lower income had higher intention to switch mobile service providers, and young urban youth are more prone to switch than rural folks.

Venkatesh (2019) studied the switching behaviour in the telecommunication industry of India and has found that important factors to choose a mobile service provider are call rate and network service quality. Venkatesh (2019) analyzed the determinants affecting customer switching behaviour and examined the customers' attitude. The major factors for consumers in the mobile service industry are call rate and network service quality (Venkatesh, 2019). Finally, the research suggests that mobile service providers should offer extra options to their customers.

Lee and Murphy (2005) examined the factors that make mobile phone customers from being loyal to switch. They found that customers who are loyal and decide to switch, it's because of changes in the underlying determinants and new determinants. The ten determinants that make consumers switch are price, technical service quality, functional service quality, switching costs, loyalty programs, reference group influence, brand trust, behavioural factors, handset upgrade and technology (Lee & Murphy, 2005).

Uddin and Akhter (2012) using factor analysis studied customer satisfaction and the factors that influence the mobile phone industry in Bangladesh. Data were selected through a questionnaire and the results showed that service quality and fair price influence customer satisfaction. The researchers found that service quality and fair price affect indirectly customer satisfaction. The perceived value indicated quality, charge fairness, and satisfaction. Also, they concluded that fair price has a positive direct impact on the satisfaction of consumers but service quality does not.

Islam (2010) examined the relationship between the independent variables (switching cost, corporate image, trust) and dependent variable of customer loyalty in Bangladesh, using regression analysis, reliability analysis, and correlation analysis. With 150 respondents he found that switching cost, corporate image, and trust have a direct and strong relationship with customer loyalty. Also, the researcher found that trust has the strongest relationship with customer loyalty.

Arokiasamy and Abdullah (2013) used a regression analysis to examine the SERVQUAL model to test the impact of service quality on customer satisfaction in the cellular telecommunication service in Malaysia. They concluded that all service quality factors (assurance, empathy, responsiveness, reliability, and tangibles) influence positively customer satisfaction. The factor responsiveness is influencing customer satisfaction and mobile phone service providers should have long term relationships with their customers. Moreover, the paper explored that there are important differences between perceived satisfaction and expectation for all service quality factors.

Lee, Lee, and Feick (2001) examined the effect of switching costs in the customer satisfaction-loyalty link of the mobile phone service industry in France and the empirical results supported the moderating role of switching costs. Using 256 questionnaires they categorized the measure of customer loyalty into three areas (repurchase intent, resistance to switching, and willingness to recommend) and the measure of customer satisfaction into other three areas (pricing plan, core services, and value-added services). The findings showed that switching costs play an important role in the relationship between customer satisfaction and loyalty.

Mokhtar, Maiyaki, and Noor (2011) analyzed the relationship between service quality and customer satisfaction on customer loyalty in the mobile phone service industry. Using a sample of 341 students among the universities in Northern Malaysia, the results of the study indicated that both service quality and customer satisfaction significantly affect the level of customer loyalty of mobile phone users in Malaysia. The paper suggested that mobile service providers should take into account service quality and the factors that drive customer satisfaction.

Also, Bobâlcă (2014) studied the drivers of customer loyalty and the relations between the factors of loyalty and loyalty construct. The research of Bobâlcă (2014) explored that the main factors that are positively correlated with customer loyalty are satisfaction, trust, commitment, involvement, perceived risk, switching costs, and habit. Analysing and identifying factors that affect loyalty is important for sellers and their customer management strategies, since knowing the factors that affect customer loyalty they can modify their programs.

Martins, Hor-Meyll, and Ferreira (2013) compared the influence of factors (switching barriers, service performance, perceived value in carriers' offers, satisfaction, and other constructs) comparing the cultures of Brazilian and German mobile consumers. The study examined a sample of 202 users in Brazil and a sample of 200 users in Germany. The results of the research indicated that in both countries, customer satisfaction, service performance, and perceived value affect significantly customer switching. On the other hand, switching barriers do not affect significantly switching behaviour.

Mobile phone users can choose their mobile service provider based on customer care, quality of service, value-added services and the cost retaining their current number (Ooko, Nzomoi, & Mumo, 2014). Ooko et al. (2014) explored the factors that influence consumer switching behaviour in Kenya and the results from regression analysis provided evidence that there is a strong relationship between the consumer intention to switch, the duration, and the cost of porting. The factors period of usage, age, and the average amount spent on airtime do not influence so much the intention to switch.

Malhotra and Malhotra (2013) attempt to analyze the factors service quality, innovation and lock-in strategies as determinants of the switching behaviour of mobile service customers in the USA using factor analysis. The survey was implemented through students in the Southeast USA. The study found that mobile service quality is a significant driver of switching behaviour. Furthermore, service quality and innovation positively impact consumers to buy more services. They finally concluded that high service quality and innovation are important determinants for service providers to reduce consumer switching.

Awwad and Neimat (2010) investigated the determinants that affect customer switching behaviour in the Jordan telecommunication industry. They used a sample of 580 questionnaires and measured 33 items on a five-point Likert scale. The examined independent variables were pricing, inconvenience, core service failures, service encounter failures, employee responsiveness to service failures, attraction by competitors, changes in technology, and switching cost. They found with a regression analysis that all the independent variables (except change in technology, and employee responsiveness to service failure) had a significant effect on the switching behaviour of mobile service users.

Prasad and Prasanna (2016) using 93 consumers from Vijawada examined seven factors to investigate which of them influence consumers to switch from their mobile service providers. To test the relationship between gender and age with switching behaviour they used a Chi-square test. To test the relation between dependent and independent variables they used correlation analysis. They concluded that from the most to the least significant factors are price, service quality, change in technology, social influence, switching costs, advertising, and involuntary switching.

Ranganathan, Seo and Babad (2006) using binary logistic regression investigated if relational investments and demographics influence the switching behaviour among 30,590 mobile phone users. According to the researchers, there are significant associations between mobile users' service usage, service bundling, and switching behaviour. Moreover, age and gender influence the switching behaviour of mobile phone users.

There are two types of customers during the switching process, the active and the passive customers (Kouser, Qureshi, Shahzad, & Hasan, 2012). The customer that is actively searching for other options is characterized as an active customer, who has made a choice to switch and is comparing options, contracts of other providers, and has a higher knowledge of the product (Kouser, Qureshi, Shahzad, & Hasan, 2012). On the other hand, the customer who is influenced by others and may not know that there is a switching option is characterized as a passive customer, who has the intention to switch and is waiting for the right moment (Kouser, Qureshi, Shahzad, & Hasan, 2012). In an increasingly globalized world economy, customer switching behaviour need to be examined by academic researchers and service industries (Liang, Ma, & Qi, 2013). According to Keaveney (1995), executives need the knowledge to avoid reductions in revenues and increment of costs from customer switching.

According to Ooko, Nzomoi, and Mumo (2014), switching intentions seem to be affected by the demographic composition of the population, since younger low-income groups show higher intention. Their results indicated that the younger urban population show a higher intention of a switch rather than the rural population, due to the higher level of exposure to offers by the mobile companies. The demographic characteristics of mobile users found to affect users' attitudes towards mobile services (Okazaki, 2006). Research on mobile users of Singapore found that demographic characteristics of users (age, gender, and academic qualifications) influence their behaviour (Gilbert, Lee-Kelley, & Barton, 2003). Waddams Price and Zhu (2016) found that demographic factors are significant since increasing age and income have negative associations with search and switching.

According to Lunn and Lyons (2018), the lowest income group and the lowest age group are two times more likely to switch than other groups. It is found that young mobile users from 16 to 22 years old are using mobile services to satisfy social and leisure needs to add value to their lifestyle (Carroll, Howard, Peck, & Murphy, 2002). It is supported that the demographic variable “gender” has a stronger association with switching behaviour than the “age” (Ranganathan, Seo, & Babad, 2006). They concluded that a male user is 1.16 times more probable to switch mobile providers than female users since they are more prone. They also found that age is negatively linked to switching behaviour, but is noted that the possibilities of switching decreased by 2% when there is an increase in one year of age. Prasad and Prasanna (2016) found that customers between 18 and 24 years old are likely to switch from their current mobile service provider to another. Awan and Abbas (2015) examined the impact of demographic factors on impulse buying behaviour of consumers in Multan-Pakistan and concluded that the demographic factors gender, age, income, and education have a significant effect on impulse buying behaviour.

Chakraborty and Sengupta (2008) using logistic regression examined the relationship between demographic factors (gender, age, monthly income, and occupation) and brand switching of customers of mobile phone providers in Kolkata and they concluded that demographic factors do influence brand choice. Kumar, Rajyalakshmi, & Asadi (2017) found that groups with lower income had higher intention to switch mobile service providers and that young urban youth are more prone to switch than rural folks.

Some loyal customers may be dissatisfied but do not switch because of high switching costs (Lee, Lee, & Feick, 2001). Mobile number portability lowered switching costs, nonetheless, a significant switching cost remains (Shin & Kim, 2007). Service providers ensure that switching is characterized as fast, cheap, predictable and reliable (Xavier & Ypsilanti, 2008). Consumers of telecommunications decide to switch with minimum difficulty and delay (Xavier & Ypsilanti, 2008). The cost factor includes “prices, rates, fees, charges, surcharges, service charges, penalties, price deals, coupons or price promotions” (Kouser, Qureshi, Shahzad, & Hasan, 2012). Awwad and Neimat (2010) found that switching cost had a significant effect on the switching behaviour of mobile service users

in Jordan. Switching costs incurs when consumers change one service provider to another (Islam, 2010).

According to Xavier and Ypsilanti (2008), the switching costs are divided into four categories: compatibility, change of telephone number, constructal costs and locked handsets. Compatibility costs are the choice of a handset that restricts their choice of mobile network and vice versa. Change of telephone number costs exists even if the introduction of mobile number portability reduces these costs. Consumers do not avoid completely the transaction costs of changing network (due to delay between the request and the actual implementation). Contractual costs exist when mobile phones are sold with a minimum contract of 12 months long. If the consumer wants to terminate the contract, will have to pay an early exit penalty. In the case of locked handsets, the consumer has to pay a fee to unlock the handset before the SIM card of another operator can be inserted.

Most of the mobile phone customers are price sensitive since an increase or decrease in price can change customer behaviour (Uddin, Hossain, & Rahman, 2014). Keaveney (1995) examined the "pricing" category (prices, rates, fees, charges, surcharges, service charges, penalties, price deals, coupons, and price promotions) and found that price was the third-largest switching factor. When companies keep a high price, there is no competitive market (Lim, Yeo, & Mei Ling, 2018). Companies to attract more customers offer lower prices at low costs (Lim, Yeo, & Mei Ling, 2018). Service providers try to attract target customers by gaining a competitive advantage with a cost leadership strategy (lower cost than other competitors) service providers (Lim, Yeo, & Mei Ling, 2018). The price affects the designing marketing strategy of service providers and the customers in purchasing or re-purchasing the service (Uddin, Hossain, & Rahman, 2014). Liang, Ma, and Qi (2013) found that high price is the most common reason for switching Chinese consumers in the mobile phone market. Prasad and Prasanna (2016) found that price was the most influential factor that affects young adults to switch their current mobile service provider.

According to Roos, et al. (2004) the price-switching factor dominates the reasons for switching in the telecommunication industry and the mobile phone service providers who have low price strategies cause frequent switching of customers. The offer of lower charges may attract more customers (Lim, Yeo, & Mei Ling, 2018). According to Roos, et al. (2004) customers are more interested in the price instead of switching, but dissatisfied customers react and get the opportunity to make a total switch.

Awwad and Neimat (2010) found that the variable "changes in technology" was an insignificant independent variable for the customer switching behaviour of mobile service users in Jordan. Kumar, Rajyalakshmi, and Asadi (2017) found that mobile phone customers switch providers due to call drops and network coverage in general and in their area in particular. Prasad and Prasanna (2016) found that change in technology is an important factor in Vijayawada that influences the switching behaviour of consumers.

Dong and Won, 2007 concluded that "call quality is the vital factor for unswitching group to future switch, but call quality is found to be not a significant factor". The technology is found to be an important factor that affects the loyalty of consumers (Lee & Murphy, 2005). The personalization offered by the technology is found to be important to measure the service quality (Babu & Sundar, 2018). Technology can influence a customer's understanding of service quality (Babu & Sundar, 2018). Poor network coverage and frequent network problems are found to be important factors that affect the switching behaviour in Chennai (Sathish, Santhosh Kumar, Naveen, & Jeevanantham, 2011). Rahman (2012) stated that mobile phone operators in Bangladesh compete for networking quality by a large amount of investment in network quality, network extension, and upgrading. Network quality is one of the important factors of overall service quality (Rahman, 2012).

Repeated service failures cause switching behaviour (Babu & Sundar, 2018). Customer satisfaction requires perceived quality, perceived value and customer expectations (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). Customer satisfaction influences positively customer retention and negatively customer switching intention (Babu & Sundar, 2018). Customer satisfaction is how much the seller meets or exceeds the

expectations of the consumer (Kursunluoglu, 2011). According to many studies, 98% of customers who are not satisfied do not make official complaints and they switch (Bobâlcă, 2014). It is found that there is a strong correlation between dissatisfaction and lack of loyalty (Bobâlcă, 2014). The satisfaction of mobile phone customers has been related to internet services and applications, with connectivity and messaging, e-commerce and value-added services (Babu & Sundar, 2018). Satisfaction has a direct and indirect effect on purchasing intentions, is a factor of a long-term relationship between a seller and consumer and is an important factor that affects customer loyalty (Bobâlcă, 2014)

When a customer is dissatisfied with a provided service (because of low service quality or poor service experience), will switch service provider (Babu & Sundar, 2018). Customer satisfaction depends on if the service exceeds or falls of what was expected (Calvo-Porrâ & Lévy-Mangin, 2015). When organizations satisfy the consumer's needs and wishes, then they accomplish their satisfaction (Uddin, Hossain, & Rahman, 2014). The overall customer satisfaction affects significantly the customer loyalty and the customer's switching behaviour as well (Babu & Sundar, 2018).

Service quality is an important determinant in customer retention and building relationship (Uddin, Hossain, & Rahman, 2014), and is considered as an important tool to keep loyal customers (Liang, Ma, & Qi, 2013). According to Baksi and Parida (2011), service quality is an important determinant for the growth and survival of a service firm. Rahman (2012) stated that mobile phone service providers in Bangladesh should take into account their service quality to influence the current and potential customers.

Keaveney (1995) found that the most significant reason for service switching was service failures and the second largest was service encounter failures. Liang, Ma, and Qi (2013) investigated the importance of aspects of service quality. Uddin, Hossain, and Rahman (2014) found that better service quality is an important factor for customers to switch from one to another service provider. The service quality has a significant impact on trust as well (Akbar, 2013). Agyei and Kilika (2014) concluded that only service quality is a significant predictor for customer loyalty. Uddin and Akhter (2012) concluded that

service quality influence customer satisfaction. Murphy (2005) found that the factor of technical service quality makes mobile phone customers switch. Service quality significantly affects the level of customer loyalty of a mobile phone user (Mokhtar, Maiyaki, & Noor, 2011). Malhotra and Malhotra (2013) concluded that mobile service quality is a significant driver of switching behaviour.

Calvo-Porrall and Lévy-Mangin (2015) concluded that mobile service value strongly influences customer satisfaction for virtual and traditional mobile services as well. Pumim, Srinuan, and Panjakajo (2017) concluded that perceived value is positively influencing the satisfaction of mobile customers in Thailand. Uddin and Akhter (2012) showed that perceived value indicated quality, charge fairness and satisfaction. Martins, Hor-Meyll, and Ferreira (2013) found that perceived value affects significantly customer switching.

Consumers sacrifice prices and non-monetary prices to get a service (Calvo-Porrall & Lévy-Mangin, 2015). Value is created when less money is paid for the service (Calvo-Porrall & Lévy-Mangin, 2015). According to Lunn and Lyons (2018) expected saving from switching are positively associated with switching intentions (especially when savings are expected to be more than 20%), and especially when there is the intention to switch. Waddams Price and Zhu (2016) found that expected gains from switching are significant and the estimated gain from switching is very important for most of the consumers. Switching intentions are driven by perceptions of economic gains (Waddams Price & Zhu, 2016).

Consumers are expecting benefits in terms of values and intent to adopt or reject mobile service by perceived benefits (Kouser, Qureshi, Shahzad, & Hasan, 2012). Consumers integrate their perceptions of what they gain and what they give up for mobile services (Calvo-Porrall & Lévy-Mangin, 2015). According to Al-Debei, Al-Lozi, and Papazafeiropoulou (2013), the service perceived value is a trade-off between benefits and sacrifices (monetary or non-monetary sacrifices). Service perceived value for a mobile service customer is the evaluation of the benefits based on their sacrifices and ex-post perceived performance when they use the service (Calvo-Porrall & Lévy-Mangin, 2015).

Uddin and Akhter (2012) stated that perceived value is the utility of a product or service compared with expectations. According to Uddin and Akhter (2012) consumers consider perceived benefits relative to sacrifice (monetary and non-monetary costs).

2.5 Customer switching behaviour

Consumer behaviour is a study of how consumers make decisions like when, how, why to buy and use a product or service to satisfy their needs (Prasad & Prasanna, 2016). Consumer behaviour is “the psychology of how consumers think, feel, reason and select between different alternatives like brands, products” (Prasad & Prasanna, 2016).

Due to the dramatic growth, the mobile phone industries face a fall in the costs, very high growth rates in subscriptions, and increasing competition (Prasad & Prasanna, 2016). For developing countries, mobile phone services are becoming a very significant proportion of the telecommunication market (Prasad & Prasanna, 2016). The increasing competition in the mobile phone service industry aims to attract consumers (Prasad & Prasanna, 2016). Gaining new customers is an expensive task (Agyei & Kilika, 2014). Marketing is a strategy to maintain existing customers to gain profitability and customers, and then customer commitment will lead to sustained investment in their relationship with a company (Agyei & Kilika, 2014).

It is important to understand why customers switch from one provider to another. There are three types of switching: "situational"- changes in the environment such as living situation and demographic changes, "influential"- competitive forces are influential ones, and "trigger"-have less or indirect connection with factors between suppliers and customers (Kouser, Qureshi, Shahzad, & Hasan, 2012). According to Uddin, Hossain, and Rahman (2014), switching behaviour is to be loyal to one service provider and terminating your relationship with a current one, and the tendency of the customer to stop the service from the existing provider is referred as customer switching. According to Lim, Yeo, and Mei Ling (2018), consumer switching behaviour is defined as when a consumer prefers another service provider rather than the original one. They stated that switching behaviour plays an important role in the demand of the market, in which consumers will always have a better choice. However, they argued that consumer

switching behaviour affects the demand, raises the supply and prevents new entrants to enter a competitive market.

Customer loyalty is influenced by customer satisfaction and a powerful impact which can be considered as a competitive advantage (Prasad & Prasanna, 2016). Mobile phone service providers have to satisfy their customers since they may lose their loyalty and switch to another provider (Prasad & Prasanna, 2016). Customer loyalty is “a composite of a number of qualities driven by the goal of attaining customer satisfaction so that the customers can show commitment to a company’s range of products” (Agyei & Kilika, 2014). According to Agyei and Kilika (2014) customer loyalty is characterized through a combination of attitudes (intention to rebuy/ buy additional products or services, willingness to recommend to others, and commitment to the company/ resistance to switch), and behaviours (repeat purchasing, purchasing more and different products or services, and recommending the company to others).

Nimako and Kumasi (2012) implemented a theoretical review and research agenda on consumer switching behaviour. Using a sample of over 500 answers from 45 different kinds of services in North America the study found that eight factors affect switching behaviour (price, inconvenience, core service failure, service encounter failure, involuntary, switching ethical problems, attraction by competition, and employee response to service failure). They proposed a model of consumer switching behaviour in the mobile telecommunication industry, extending Push-Pull-Mooring Theory and showing the influence of government policy, the consequences of switching and switching factors. The authors found that destination, special deals like discounts and family play an important role in consumer switching.

Kouser, Qureshi, Shahzad, and Hasan (2012) investigated the factors affecting the switching behaviour of cellular services in Pakistan. They examined a sample of 480 questionnaires. They found that customer retention is highly dependent on Call and SMS rate, on network service, network coverage and customer service and they concluded that the factors are significantly related to the switching behaviour.

Lunn and Lyons (2018) examined how consumer and service characteristics relate to switching intentions. Using a sample of fixed-line broadband, mobile telephony and landline telephony customers from Ireland they investigated the personal and service characteristics controlling bill shock and expected gains from switching as well. They found that customers who have never switched are exceptionally resistant to switching, and bill shock is strongly related to the intention to switch. Bill shock and having children are significant positive factors for customers to switch. Long-standing customers and social welfare are associated with weaker switching intentions.

Siddiqui (2011) used a sample of 588 university students in Pakistan to examine the personality factors that switch mobile phone service customers. With multiple regression analyzes, Siddiqui (2011) found that "Openness to Experience" is a single predictor for customer switching behaviour. "Personality Facets Artistic Interests" and "Achievement Striving" were power predictors for customer switching behaviour.

Many researchers conducted empirical studies about telecommunication industries and the determinants that affect customers to switch from one mobile phone service provider to another. Literature supports the association between customer switching behaviour and different factors. The study identifies potential drivers for customer switching, evaluates their power and finally creates a model to assess the probability of switching.

2.6 Summary

The mobile phone has become an important equipment in modern society which made communication easier (Uddin, Hossain, & Rahman, 2014). The telecommunication sector has been grown in developed markets and is becoming to grow in the developing markets (Lim, Yeo, & Mei Ling, 2018). People are using the mobile phone and its information services to be connected with others (Uddin, Hossain, & Rahman, 2014). A mobile phone is essential because of its mobility, flexibility and convenient connectivity (Uddin, Hossain, & Rahman, 2014).

Competition in the mobile service sector has grown in the past several years (Awwad & Neimat, 2010). The increasing growth is due to the increase of subscribers, and the increase of offered services (Awwad & Neimat, 2010). The competitive mobile service

market forces operators to provide attractive packages (Lim, Yeo, & Mei Ling, 2018). The costs of acquiring new customers can be five times more than the costs of retaining current customers (Liang, Ma, & Qi, 2013). A satisfied customer can provide a company with high market share, high customer loyalty, lower customer switching, high customer tolerance, and lower marketing cost as well (Kouser, Qureshi, Shahzad, & Hasan, 2012). The companies are trying to have strategies to retain customers and attract new ones (Kouser, Qureshi, Shahzad, & Hasan, 2012). It is more difficult for companies to attract new customers than retain the existing ones because it requires more incentives to make them switch (Awwad & Neimat, 2010).

In recent years, there has been a rapid development in Cyprus telecommunications, because of the increase in competition, the decrease in prices and the improvement of service quality (CYTA, 2019). In Cyprus competition in the mobile market is high and in 2019 the Cypriot market showed a structural change and all telecommunication companies focused on competitive advantages (European Commission, 2019). Mobile phone service providers should focus on the factors that affect customer switching behaviour in the Cypriot market. Companies should learn from customer's switching behaviour and complaints to improve their services (Kouser, Qureshi, Shahzad, & Hasan, 2012). Service providers can use the information about their existing customers for analysis to get conclusions and understand their preferences and behaviour as well (Awwad & Neimat, 2010).

Many prior studies reported and analyzed the switching behaviour of mobile phone customers. Mobile service operators should provide high value personalized services to make consumers more satisfied (Calvo-Porrall & Lévy-Mangin, 2015). Yuktanandana and Prasertsakul (2015) concluded that the only positively significant factor for customers' satisfaction is that of customer service. Network quality, customer service, and value-added service enhance their loyalty (John, 2011). Akbar (2013) found that customer satisfaction and corporate image have the strongest significant relationship concerning the loyalty of mobile subscribers. Agyei and Kilika (2014) using a regression analysis concluded that only service quality and brand image are the most significant predictors for customer loyalty.

Pumim, Srinuan, and Panjakajo (2017) concluded that perceived service quality and perceived value are positively influencing the satisfaction of mobile customers and that switching cost is an important determinant for customers since it is influencing their loyalty. Venkatesh (2019) suggested that mobile service providers should offer extra options to their customers. Uddin and Akhter (2012) concluded that service quality and fair price influence customer satisfaction. Islam (2010) using regression analysis, reliability analysis, and correlation analysis found that trust has the strongest relationship with customer loyalty. Mobile phone service providers should have long term relationships with their customers (Arokiasamy & Abdullah, 2013). Bobâlcă (2014) explored that the main factors that are positively correlated with customer loyalty are satisfaction, trust, commitment, involvement, perceived risk, switching costs, and habit.

Core service failure, high price, ethical problems, competition, inconvenience, service encounter failure, and influence from family/ friends/group are the factors that influence customers' switching mobile phone behaviour (Liang, Ma, & Qi, 2013). Uddin, Hossain, and Rahman (2014) using multiple regression analysis found that better service quality, lower price, and promotional offers are important factors for customers to switch from one to another service provider. Lim, Yeo and Mei Ling (2018) using regression analysis concluded that consumer switching behaviour can be explained by price, competition, customer service, word-of-mouth, and core service failure in the telecommunication industry. Lee and Murphy (2005) found that price, technical service quality, functional service quality, switching costs, loyalty programs, reference group influence, brand trust, behavioural factors, handset upgrade, and technology are factors that make mobile phone customers switch from one service provider to another. Switching costs play an important role in the relationship between customer satisfaction and loyalty (Lee, Lee, & Feick, 2001). Service quality and customer satisfaction significantly affect the level of customer loyalty of a mobile phone user (Mokhtar, Maiyaki, & Noor, 2011).

Martins, Hor-Meyll, and Ferreira (2013) found that customer satisfaction, service performance, and perceived value affect significantly customer switching. Ooko et al. (2014) using a regression analysis resulted that there is a strong relationship between the consumer intention to switch the duration of porting, and the cost of porting. Malhotra and Malhotra (2013) concluded that mobile service quality is a significant driver of

switching behaviour. Awwad and Neimat (2010) found that pricing, inconvenience, core service failures, service encounter failures, attraction by competitors and switching cost had a significant effect on the switching behaviour of mobile service users. Ranganathan, Seo and Babad (2006) found that age and gender influence the switching behaviour of mobile phone users.

As can be seen from the above literature most of the studies are conducted in foreign developed and developing countries as well. In Cyprus there is no any study on modelling switching behaviour of mobile phone customers. There is an emerging, yet growing body of research on consumers' behaviour in mobile phone industry of Cyprus. Several scholars have examined the behaviour of mobile phone users. Although these studies shed light on specific factors that influence the loyalty, and their buying behaviour, there is limited understanding on post-adoption attitudes such as switching behaviour. The study addresses this important gap for the Cypriot market, since there is lack of research in switching behaviour of mobile phone customers.

According to the literature above, retaining customers is more important than gaining new customers. Mobile phone service providers in Cypriot market should take into account the retention of their customers by examining the factors that affect their switching behaviour. Even if all telecommunication providers in Cyprus focused on competitive advantages the Cypriot market lacks from study on what are the factors that affect the switching behaviour of mobile phone users. The study will help the managers and decision makers to understand the switching behaviour from the customer perspective, to keep loyal customers, and focus on the factors that affect users' switching behaviour.

The switching behaviour of a customer may be for several reasons or different factors associated with the mobile service provider. There are many factors affecting customers' switching behaviour in a competitive mobile service market. As a result, it is important to understand why a consumer prefers another service provider rather than the original one in the Cypriot market. The study provides knowledge of the main factors that affect

customers and develops a model to provide an understanding of the determinants of switching behaviour in the mobile service industry of Cyprus.

The study focuses on switching behaviour in the Cyprus telecommunication industry. The main objective of the study is to investigate the factors that switch the behaviour of customers in the Cypriot market. After an extended literature study, the thesis tries to identify potential drivers for customer switching, evaluate their power and finally create a model to assess the probability of switching. Therefore, to have an understanding of the switching behaviour of the customers in Cypriot market, the research examines customer switching behaviour, by providing empirical evidence of the relationship among the variables such as demographics (age, gender, level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction, service quality, and perceived service value.

The section of the Literature Review discussed the mobile phone service market, the Cypriot telecommunication market, and a literature study of many prior studies that reported and analyzed the switching behaviour of mobile phone customers. The study relied on the above discussion to create a model for hypotheses that would lead to answering the study objectives. The following section of Research Methodology presents the data selection and a description of tested variables based on the factors that are examined by previous researchers for studies about the switching behaviour of mobile phone customers.

Chapter 3

Research Methodology

3.1 Research Aims and Objectives

The study aims in deriving insight regarding the factors that affect the switching behaviour of Cypriot customers among mobile phone service providers. The main tool in achieving this is a survey questionnaire designed after extensive literature review and a subsequent analysis of the empirical data collected through a survey among mobile phone users in Cyprus.

The study investigates the switching behaviour of mobile phone customers in Cyprus and the factors that affect their behaviour. Factors, such as demographics (age, gender, and level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction, service quality, and perceived service value are analyzed regarding their effect on mobile phone customer switching behaviour. More specifically, the research study analyzes the relationship between influencing factors and switching intentions of mobile phone consumers in Cyprus. The drivers that are used for the study are based on the factors that were examined by previous researchers in similar studies concerning the switching behaviour of mobile phone customers. The findings are compared with those of previous studies. Empirical results could provide further insight to phone operators and perhaps can be extended in a formal model to carry a similar larger scale study. The study finally creates a model to assess the probability of switching based on factors that include demographics (age, gender, level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction, service quality, and perceived service value.

3.2 Research Hypotheses of the Study

From the theoretical framework discussed above, the following hypotheses were developed for this research:

H₁= There is a significant relationship between age and switching behaviour

H₂= There is a significant relationship between gender and switching behaviour

H₃= There is a significant relationship between the level of education and switching behaviour

H₄= There is a significant relationship between the type of job and switching behaviour

H₅= There is a significant relationship between the level of monthly income and switching behaviour

H₆= There is a significant relationship between switching costs and switching behaviour

H₇= There is a significant relationship between price and switching behaviour

H₈= There is a significant relationship between technological aspects and switching behaviour

H₉= There is a significant relationship between customer satisfaction and switching behaviour

H₁₀= There is a significant relationship between service quality and switching behaviour

H₁₁= There is a significant relationship between perceived service value and switching behaviour

H₁₂ = Is it possible to develop a model that describes switching behaviour and the effect of main influence factors

3.3 Data Description

After an extended literature study, the thesis tries to identify potential drivers for customer switching, evaluate their power and finally create a model to assess the probability of switching. The following provides an explanatory report of the characteristics of the selected dependent variable of customer switching behaviour and independent variables - demographics (age, gender, level of education, type of job, and level of monthly income), costs, price, technological aspects, customer satisfaction, service quality, and perceived service value.

3.3.1 Customer switching

Many researchers in relationship marketing examined switching behaviour (Ranganathan, Seo, & Babad, 2006). Consumer switching behaviour is the behaviour of consumers in shifting their attitude from one product to another brand product (Prasad & Prasanna, 2016). The literature review hypothesizes that many factors influence consumers' decision to switch from one mobile service provider to another. Customer switching behaviour is the behaviour of switching from one provider to another who is not satisfied with the current service (Calvo-Porrall & Lévy-Mangin, 2015). Relationship marketing tries to create a relationship with customers to reduce customer switching, increase loyalty and firm performance as well (Ranganathan, Seo, & Babad, 2006). The study investigates the switching behaviour of mobile phone customers in Cyprus and the factors that affect their behaviour. Based on prior researches the study examines the relationship between influencing factors and switching intentions of mobile phone consumers in Cyprus.

3.3.2 Demographic characteristics

The literature review suggests that demographics play an important role in influencing mobile user behaviour. Customer's choice behaviour, buying behaviour and levels of satisfaction are influenced by their background, characteristics and external stimuli (Hasan, Yeasmin, & Dey, 2013). The research, based on previous literature review examines the variable of demographic characteristics (age, gender, level of education, type of job, and level of monthly income) for the model of switching behaviour of mobile phone customers in the Cypriot market.

3.3.3 Costs

There is a literature review that examines the costs as an important determinant for mobile switching behaviour. Switching costs are barriers (e.g. termination penalties and change in the phone number) that prevent or disincline customers to switch (Lee & Murphy, 2005). Switching costs are the costs of switching from one to another supplier (Calvo-Porrá & Lévy-Mangin, 2015). Switching costs are the monetary costs, the psychological costs, the time and the effort of cooperating with a new company (Calvo-Porrá & Lévy-Mangin, 2015). Switching costs are described as "barriers that hold customers in service relationships" (Matthews & MacRae, 2006). Also, switching cost is the investment of time, money and effort, the personal loss or sacrifice in time, effort and money of switching from one service provider to another (Islam, 2010). Switching cost is defined as the sum of economic, psychological and physical costs, and can be considered as sunk cost (Islam, 2010). The present research analyzes the relationship between the factor of costs and switching intentions of mobile phone consumers in Cyprus.

3.3.4 Price

According to the literature review, the factor price plays an important role in mobile switching behaviour. Price is the amount of money that is paid, which includes monetary cost, time cost, energy cost and psychic cost (Uddin, Hossain, & Rahman, 2014). According to Lee and Murphy (2005) price is an attractive factor that companies offer in monetary value (e.g. handset subsidy, avoidance of fees, and monthly subscription fees). Pricing is a key central component of a marketing strategy (Lim, Yeo, & Mei Ling, 2018). The study will examine the determinant price to identify whether is important for the model of switching behaviour of mobile phone customers in Cyprus.

3.3.5 Technological aspects

The research literature examined determinant technology in mobile users' behaviour. Technology factor relates to consumers looking for new or upgraded technology from a competitor (Lee & Murphy, 2005). The technology must be accurate, consistent, error-free, user-friendly and reliable (Babu & Sundar, 2018). Mobile service providers have made investments for mobile connectivity to improve the clarity of the voice calls and integrity of data (Malhotra & Malhotra, 2013). This "technical quality" is important for

consumers as it serves the customers' service perceptions. Mobile service providers have been partnered with hardware and software providers to provide fast and reliable devices with attractive data capabilities (Malhotra & Malhotra, 2013). The research will analyze the relationship between the factor of technological aspects and the switching intentions of mobile phone consumers in Cyprus.

3.3.6 Customer satisfaction

According to the literature review, customer satisfaction is examined for customer switching behaviour in mobile service markets. Customer satisfaction is an assessment based on the experience and the expectations about the characteristics of the functions of services (Calvo-Porràl & Lévy-Mangin, 2015). Creating customer satisfaction and loyalty creates competitive advantage and differentiation among competitors (Kursunluoglu, 2014). The degree of meeting the needs at the end of a purchase is defined as satisfaction (Kursunluoglu, 2014). Satisfaction is an emotional or cognitive response regarding the fulfillment level (Bobâlcă, 2014). It can be also be characterized by a function of expectations before the sale and the perceived performance after the purchase (Kursunluoglu, 2014). The study will analyze the variable of customer satisfaction to examine the model of switching behaviour of mobile phone customers in the Cyprus telecommunication industry.

3.3.7 Service quality

According to the literature review, many studies examined the determinant service quality for the switching behaviour of mobile service customers. "Service quality is the gap between customers' expectations and actual performance of service" (Uddin & Akhter, 2012). The SERVQUAL is mentioning the five dimensions of tangibility, responsiveness, reliability, assurance, and empathy (Parasuraman, Zeithaml, & Berry, 1988). Arokiasamy and Abdullah (2013) examined the SERVQUAL model and they concluded that all service quality factors (assurance, empathy, responsiveness, reliability, and tangibles) influence positively customer satisfaction. The service providers provide services that match up with customers' expectations and eventually satisfy them (Lim, Yeo, & Mei Ling, 2018). "The overall judgment of service regarding superiority and excellence is known as service quality" (Uddin, Hossain, & Rahman, 2014). The study will

analyze the variable of service quality to examine the model of switching behaviour of mobile phone customers in the Cyprus telecommunication industry.

3.3.8 Perceived service value

According to the literature review, many studies examined the determinant perceived service value to examine the switching behaviour of mobile service customers. Service value is the quality and benefits that consumers get for a unit of money (price) – the trade-off between what they receive and what they give (Calvo-Porrall & Lévy-Mangin, 2015). Calvo-Porrall & Lévy-Mangin (2015) concluded that mobile service value strongly influences customer satisfaction. Perceived value is the evaluation of perceived benefits with expectation and sacrifice (Uddin & Akhter, 2012). According to Kouser, Qureshi, Shahzad, & Hasan (2012) price tolerance is the degree to which consumers can bear the price of mobile services according to their satisfaction. Consumers are willing to pay a certain amount of money for using mobile services (Kouser, Qureshi, Shahzad, & Hasan, 2012). Users are willing to pay substantial charges as they are satisfied with their current service but tend to switch when the price is high and when an increase in price seems to be unfair (Kouser, Qureshi, Shahzad, & Hasan, 2012).

Perceived value is related to the price dimensions of mobile services (Kouser, Qureshi, Shahzad, & Hasan, 2012). “Perceived value is the consumers’ overall assessment of the benefits of a product or service, based in perceptions of what is received and what is given” (Calvo-Porrall & Lévy-Mangin, 2015). According to Uddin and Akhter (2012), perceived value is defined as the expected benefits with the actual performance of a product or service. The study will analyze the variable of perceived service value to examine the model of switching behaviour of mobile phone customers in the Cyprus telecommunication industry.

3.4 Survey Questionnaire and Data Collection

The present study is based on descriptive research design since it aims to identify the reasons why consumers are switching in the telecommunication industry. The study is based on primary data using collection of information with questionnaires. Survey research method is adopted to select data on the tested variables. The target population

was consumers of the Cypriot market. A convenience sampling method was adopted because of its easiness to collect answers from a group of people easy to contact or to reach. Convenience sample is collecting information from the population who are conveniently available to provide this information (Islam, 2010). The questionnaires were delivered by mobile phone applications to collect data from mobile phone customers, during the period 11/03/2020- 19/03/2020. About 160 persons were asked to fill the questionnaire, and 160 valid questionnaires were collected. The detailed questionnaire is presented in Appendix A.

The survey tool was a structured Likert scale questionnaire. The set of questionnaires is divided into several parts. The first part of questionnaire consists of demographic characteristics (age, gender, level of education, job status and level of monthly gross income). The second part measured the likeliness of respondents to switch from their current mobile service provider to another. The third part examined their likeliness to switch if switching costs are low, using several circumstances to make decision for a switch. The fourth part examined if they would switch to another mobile service provider for a lower price, testing their likeliness to switch in several cases. The fifth section was asking if the technological aspects (network coverage, call quality, fast internet) affect them to switch from their current provider to another. The sixth part tested if they are satisfied with their current provider and if they would switch to another for more satisfaction. The seventh part of the questionnaire measured their intention to switch for a better service quality (more reliability, better customer service, better facilities, more empathy, and more responsiveness). The last part of the questionnaire examined their perceived service value and if they have intention to switch for more value for money. The participants were informed about the aim and the objectives of the survey, and that all of their responses will be anonymous and confidential.

The logistic regression model below will be used:

$$P(Y) = \frac{1}{1 + e^{-(b_0 + b_1x_{1i} + b_2x_{2i} + \dots + b_nx_{ni})}}$$

Where:

$P(Y)$ = Probability of Y occurring (intention to switch to another mobile service provider)

b_0 = Constant

$b_1, b_2, b_3, b_4, b_5, b_6$ = Coefficients of predictor variables stated below

x_1 = Costs - predictor variable

x_2 = Price - predictor variable

x_3 = Technological aspects - predictor variable

x_4 = Customer satisfaction - predictor variable

x_5 = Service quality - predictor variable

x_6 = Perceived service value - predictor variable

e = Error term

3.5 Methodology

The study relied on the above discussion to create a model for testing the hypotheses that would lead to answer the study objectives. Analysis tools used in this study are based extensively on statistical methods. The IBM SPSS Statistics 26 is used to perform the statistical analysis. Descriptive statistics and inferential analysis was employed to the collected data. The dependent variable is the overall and conditional intent to switch while explanatory variables include all factors that may influence consumer's decision to switch as well as demographic characteristics. The paper follows the research methodology of researchers Liang, Ma, and Qi (2013), where principal component analysis was employed to test the hypotheses.

The first analysis tests the reliability of the scale that measures the independent variables using Cronbach's Alpha value. A description of the sample is given to examine the demographic characteristics of the respondents. The reliability of the scale measures the dependent variable (Switching Rate - intention to switch to another mobile service

provider). The Chi-square test is used to investigate the association between demographic characteristics of respondents and the likeliness to switch. The Cross Tabulation Analysis was used to assume that dependent variable measures the overall propensity to switch to get an idea of the factors that affect the general intention to switch. Correlation coefficient was used to examine the relationship between the dependent and the independent variables. A qualitative analysis will help to understand if the opinions support the hypothesis. Analysis of variance was employed as well in order to test if the independent variables have significant impact on Switching Rate of consumers. The logistic regression analysis is used to transform the data using the logarithmic transformation, expressing a non-linear relationship in a linear way. With the help of these statistical methods we will get a result about the impact of independent variables (age, gender, level of education, type of job, and level of monthly income, costs, price, technological aspects, customer satisfaction, service quality, and perceived service value) on the dependent variable (switching rate). The data are analyzed by using the statistical tools of IBM SPSS Statistics 26. The findings that are listed in detail in the next chapter are compared with those of previous studies in the conclusions.

Chapter 4

Data Analysis & Findings

4.1 Internal Reliability Analysis

The first analysis has been undertaken to test the reliability of the scale that measures the independent variables. The reliability is the degree to which measures are free from error and yield to consistent results (Arokiasamy & Abdullah, 2013). The reliability shows the stability and consistency and helps to assess the goodness of measure (Arokiasamy & Abdullah, 2013). The consistency reliability was tested using Cronbach's alpha reliability analysis.

The internal reliability of the sample is tested for each subsection of the questionnaire after reversing the scale of variables and converting to -2 to +2 scale so to make the direction of the perception of the customers clearer (negative, neutral, positive). Reliability measurement in terms of Cronbach's test is given in Table 4.1.1.

The closer the reliability coefficient gets to 1.0, the better it is. The values over 0.80 are considered as good (price, technological aspects, customer satisfaction, service quality, and perceived service value) and the values of 0.70 are considered as acceptable (switching costs, and technological aspects). The reliability analysis indicates that the variables are reliable since all Cronbach's alpha values are over 0.7. In conclusion, the results showed that the measurement scales were stable and consistent.

| Intendent Variables | Cronbach's Alpha |
|--|------------------|
| Switching costs (X6.1, X6.2, X6.3) | 0.710 |
| Price (X7.1, X7.2) | 0.841 |
| Technological aspects (X8.2, X8.4, X8.6) | 0.768 |
| Technological aspects (X8.3, X8.5, X8.7) | 0.838 |
| Customer satisfaction (X9.1, X9.2, X9.3, X9.4, X9.5) | 0.944 |
| Service quality (X10.1, X10.2, X10.3, X10.4, X10.5, X10.6) | 0.898 |
| Service quality (X10.8, X10.9, X10.10, X10.12, X10.13, X10.14, X10.15, X10.17, X10.18, X10.19, X10.21, X10.22, X10.23, X10.24, X10.25, X10.26, X10.27, X10.28) | 0.952 |
| Perceived service value (X11.1, X11.2, X11.3, X11.4) | 0.830 |

Table 4.1.1. Summary of Cronbach's Alpha Value. Reliability Analysis of independent variables.

4.2 Description of the sample

The demographic characteristics of the sample consist of age, gender, level of education, type of job, and level of monthly income. The questionnaire was answered by 160 participants. From the sample of 160 participants, there are 38% male and 62% female (Chart 4.2.1.).

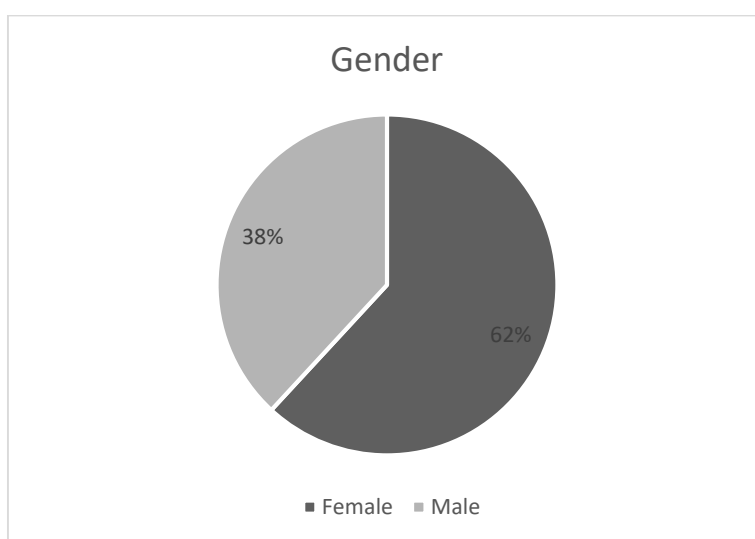


Chart 4.2.1. Demographic characteristics of sample about gender.

From 18 to 24 years old the respondents are 11% of the sample. The majority of the respondents (44%) is from 25 to 34 years old. Out of 160 participants, 25% are 35-44 years old, and 9% are 45-54 years old. Only 4% are 55-64 years old, and 7% are 65 years or older (Chart 4.2.2.).

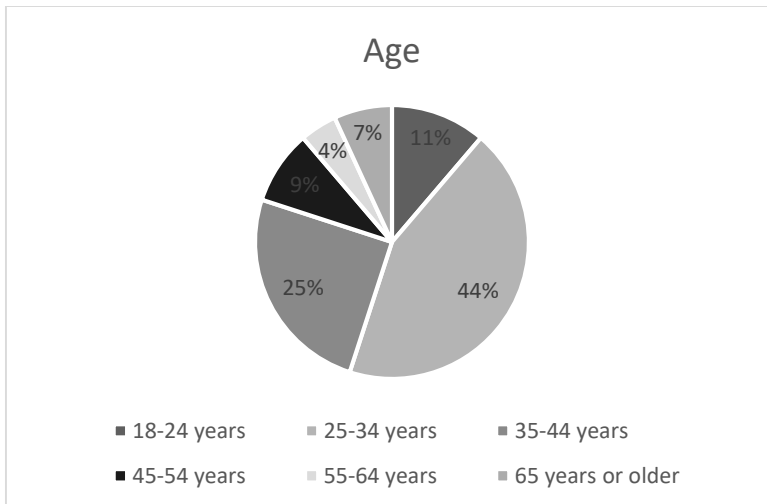


Chart 4.2.2. Demographic characteristics of sample about age.

The level of education of participants is ranged at 15% for High School or less, 13% for Diploma, 9% for Professional Qualification, 26% for Bachelor’s Degree, 31% for Master’s Degree, and 6% for Doctorate Degree (Chart 4.2.3.).

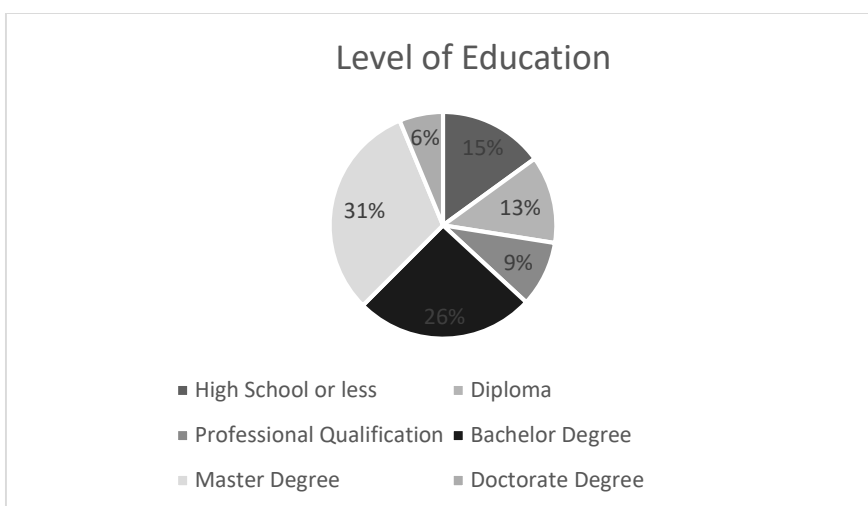


Chart 4.2.3. Demographic characteristics of sample about level of education.

Out of 160 participants, 11% are students, 2% are unemployed, 2% are employed part-time, 66% are employed full-time, 11% are self-employed, and 8% have retired (Chart 4.2.4.).

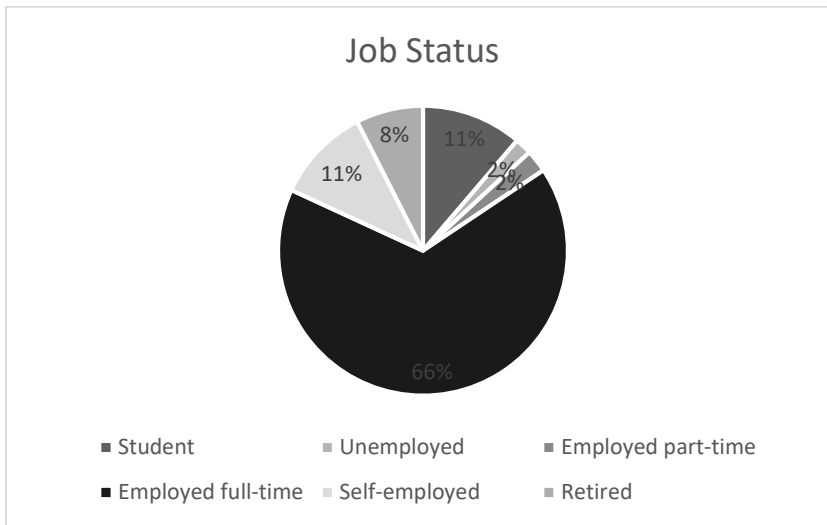


Chart 4.2.4. Demographic characteristics of sample about job status.

Out of 160 participants, 8% have no income, 5% gain up to €500 gross per month, 15% gain €501 - €1,000 gross per month, 34% gain €1,001 - €1,500 gross per month, 14% gain €1,501 - €2,000 gross per month, 14% gain €2,001 - €3,000 gross per month, and 10% gain €3,001 or more gross per month (Chart 4.2.5.).

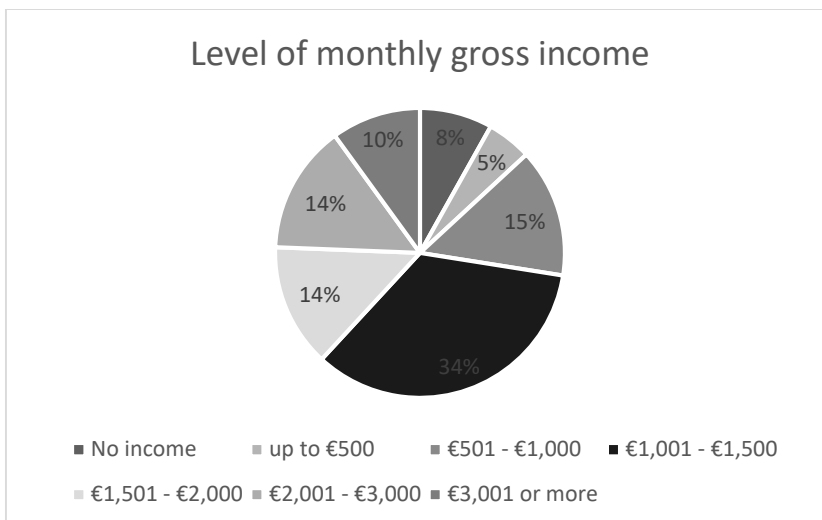


Chart 4.2.5. Demographic characteristics of sample about level of monthly gross income.

The above sample statistics can't be compared with those of national statistics since the last available data from the Statistical Service of Cyprus (CYSTAT) concerned the year 2011, which are too old for comparison (CYSTAT, 2020). The next survey from the Statistical Service of Cyprus (CYSTAT) will take place for the year 2021.

Figures 4.2.1. – 4.2.5. present the profile of the sample in terms of all demographic variables (age, gender, level of education, type of job, and level of monthly income) and the variable of interest (intention to switch to another mobile service provider). From Figure 4.2.1. it is obvious that most of the respondents (from all ages) are not likely to switch from their current mobile service provider. About 33% of consumers 18-24 years old answered that they are likely to switch from their current mobile service provider, while 22% are neutral. About 21% of respondents 25-34 years old answered perhaps and 23% are likely to switch. Also 33% of consumers 35-44 years old are neutral in likeliness to switch, while 28% are likely to switch. About 29% of respondents 45-54 years old are neutral to switch, while only 7% are likely to switch. About 14% of consumers 55-64 years old are neutral and 14% are likely to switch. Only 18% of customers 65 years or older answered that they are likely to switch from their current mobile service provider and no one answered perhaps.

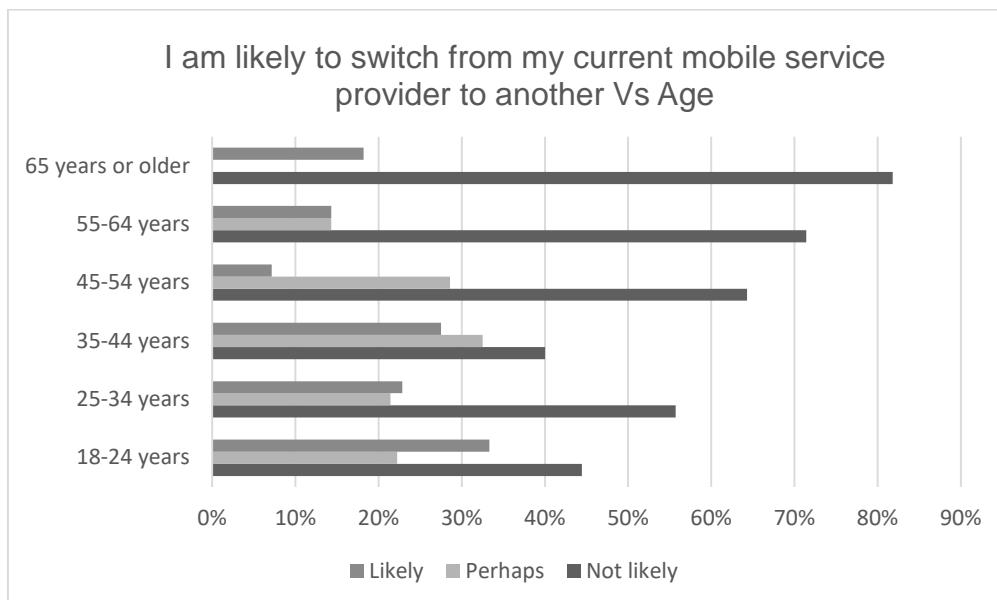


Figure 4.2.1. The profile of the sample in terms of age and the intention to switch to another mobile service provider.

Figure 4.2.2. shows the percentages of answers about the likeliness to switch for both genders. Women and men that are not likely to switch from their current mobile service provider are 58% and 48% respectively. Women and men that have a neutral stance to switch are 20% and 28% respectively. Women and men that are likely to switch are 22% and 25% respectively.

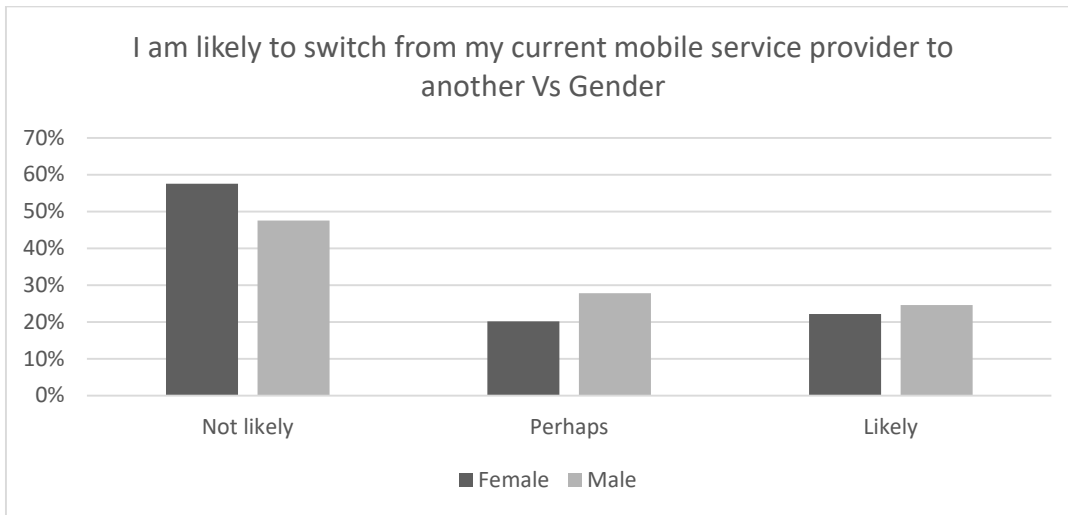


Figure 4.2.2. The profile of the sample in terms of gender and the intention to switch to another mobile service provider.

From Figure 4.2.3. it is obvious that most of the respondents from all levels of education are not likely to switch. From the respondents, 63% with High School education or less are not likely to switch, while only 17% are likely. Also, 60% of respondents with a Diploma are not likely to switch, while only 15% answered perhaps, and the rest 25% are likely. About 47% with Professional Qualification are not likely to switch, while only 20% are likely. About 54% with Bachelor's Degree are not likely to switch, while 20% are neutral, and the rest 26% are likely. Also, 52% with Master's Degree are not likely to switch, while 24% answered perhaps and 24% answered likely. About 40% with Doctorate Degree answered that are not likely to switch, 40% answered perhaps, and 20% answered are likely.

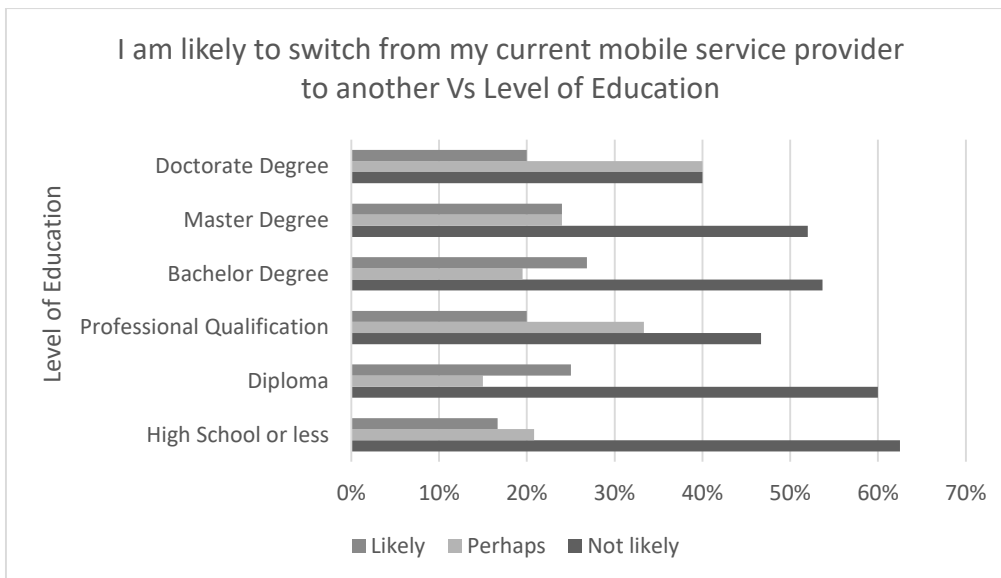


Figure 4.2.3. The profile of the sample in terms of level of education and the intention to switch to another mobile service provider.

Figure 4.2.4. shows the likeliness to switch according to their job status. Most of the respondents from all types of jobs answered that are not likely to switch. From the sample, 39% of students answered that are not likely to switch and 39% are likely to switch, while 22% are neutral. From unemployed respondents, 67% are not likely, and the rest 33% are likely. Respondents that are employed part-time and respondents that are employed full-time gave the same frequency of answers (50% and 52% are not likely, and 25% and 24% are likely respectively). The majority of self-employed respondents (65%) answered that they are not likely to switch, while 29% are neutral and 6% are likely to switch. The majority of pensioners (75%) are not likely to switch, 17% are likely and only 8% are neutral for a switch.

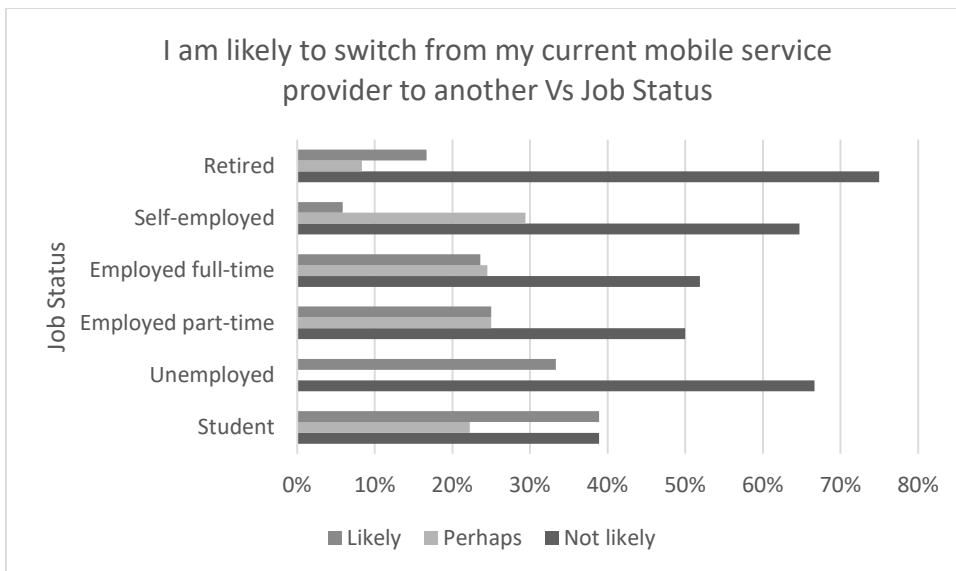


Figure 4.2.4. The profile of the sample in terms of job status and the intention to switch to another mobile service provider.

From Figure 4.2.5. it is found that the majority of the respondents in all levels of monthly gross income are not likely to switch. The majority of respondents (46%) that have no income are not likely to switch, while only 23% are likely to switch. From respondents that gain up to €500 monthly gross income, 50% are not likely to switch, while only 13% are neutral. Moreover, 61% of the respondents that gain €501- €1,000 are not likely to switch, while only 17% are likely to switch. From the respondents that gain €1,001- €1,500 monthly gross income, 56% are not likely to switch, while 18% answered perhaps. About 41% of those with €1,501- €2,000 monthly gross income are not likely to switch, and 23% are likely. Around 57% who gain €2,001 - €3,000 are not likely to switch, and only 17% are neutral. About 56% of those who gain €3,001 or more are not likely to switch, but 13% are likely.

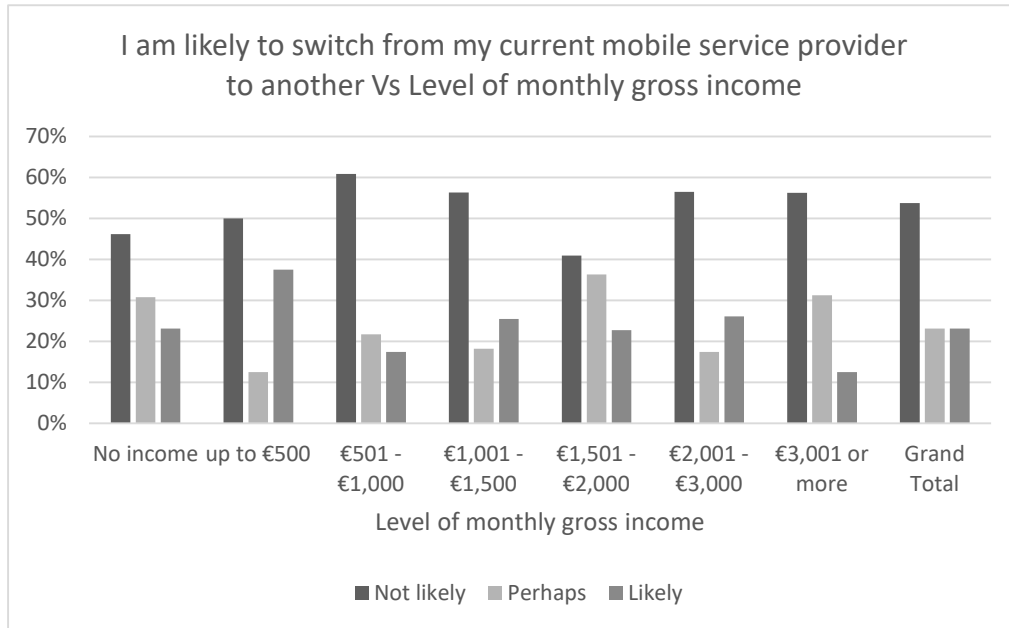


Figure 4.2.5. The profile of the sample in terms of level of monthly gross income and the intention to switch to another mobile service provider.

4.3 Differences among demographic groups

The Chi-square test was used to investigate the association between demographic characteristics of respondents (age, gender, level of education, type of job, and level of monthly income) and the likeliness to switch. Table 4.3.1. shows the p-values which are higher than the significance level ($p > 0.05$) and the Pearson Chi-Square Values that are lower than the critical X^2 value at 0.05 confidence level. We result that for all demographic characteristics the null hypothesis is not rejected. There is no significant relationship between demographic characteristics (age, gender, level of education, type of job, and level of monthly income) and switching intention. The variables age, gender, level of education, type of job, and level of monthly income do not affect the intention to switch. The demographic characteristics have no significant association with switching intention of mobile phone users and are independent.

| Demographic characteristic | p-value | Significance level | Pearson Chi-Square Value | $X_{0.05}^2$ | df |
|-------------------------------|---------|--------------------|--------------------------|--------------|----|
| Age | 0.07 | > 0.05 | 5.37 < | 5.99 | 2 |
| Gender | 0.42 | > 0.05 | 1.758 < | 5.99 | 2 |
| Level of education | 0.79 | > 0.05 | 1.684 < | 9.49 | 4 |
| Job Status | 0.25 | > 0.05 | 2.773 < | 5.99 | 2 |
| Level of monthly gross income | 0.99 | > 0.05 | 0.306 < | 9.49 | 4 |

Table 4.3.1. The Chi-Square Analysis for the association between demographic characteristics of respondents.

4.4 Significance of Conditional factors

Cross Tabulation Analysis (Appendix B) was employed to measure relationships between the overall propensity to switch against variables that measure conditional switching, in other words under what conditions customers are willing to switch providers. As explained below, the analysis provides an initial insight of the factors that affect the general intention to switch. The follow metrics are used to assess the relevant importance of conditional switching intention to overall as well.

4.4.1 Cost of Switching

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider if switching costs are low” shows that there are 82 persons that intent to switch if switching costs are low (Table 4.4.1.). From those only 26 (31.7%) had expressed the intention to switch. So consumers will most likely switch if switching costs are low, even if their original intention was not to. Additionally, the “Non-switch” to “Switch if switching cost is low” ratio is 35/86 or 40.7%.

| Intention to Switch | Intention to switch if switching costs are low | | | |
|---------------------|--|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 13 | 3 | 21 | 37 |
| No-Switch | 16 | 35 | 35 | 86 |
| Switch | 7 | 4 | 26 | 37 |
| Grand Total | 36 | 42 | 82 | 160 |

Table 4.4.1. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider if switching costs are low”.

4.4.2 Price

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for a lower price” shows that there are 82 persons that intent to switch for a lower price (Table 4.4.2.). From those only 26 (31.70%) had expressed the intention to switch. So consumers will most likely switch for a lower price, even if their original intention was not to. Additionally, the “Non-switch” to “Switch if another mobile service provider offers a lower price” ratio is 36/86 or 41.9%.

| Intention to Switch | Intention to switch if another mobile service provider offers a lower price | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 15 | 2 | 20 | 37 |
| No-Switch | 20 | 30 | 36 | 86 |
| Switch | 7 | 4 | 26 | 37 |
| Grand Total | 42 | 36 | 82 | 160 |

Table 4.4.2. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for a lower price”.

4.4.3 Technological aspects

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for better network coverage” shows that there are 83 persons that intent to switch for better

network coverage (Table 4.4.3.). From those only 26 (31.32%) had expressed the intention to switch. So consumers will most likely switch for better network coverage, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for better network coverage” ratio is 40/86 or 46.5%.

| Intention to Switch | Intention to switch for better network coverage | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 15 | 5 | 17 | 37 |
| No-Switch | 17 | 29 | 40 | 86 |
| Switch | 6 | 5 | 26 | 37 |
| Grand Total | 38 | 39 | 83 | 160 |

Table 4.4.3. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for better network coverage”.

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for better call quality” shows that there are 90 persons that intent to switch for better call quality (Table 4.4.4.). From those only 23 (25.55%) had expressed the intention to switch. So consumers will most likely switch for better call quality, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for better call quality” ratio is 44/86 or 51.2%.

| Intention to Switch | Intention to switch for better call quality | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 7 | 7 | 23 | 37 |
| No-Switch | 15 | 27 | 44 | 86 |
| Switch | 9 | 5 | 23 | 37 |
| Grand Total | 31 | 39 | 90 | 160 |

Table 4.4.4. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for better call quality”.

The Cross Tabulation Analysis “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for faster internet” shows that there are 90 persons that intent to switch for faster internet (Table 4.4.5.). From those only 23 (25.55%) had expressed the intention to switch. So consumers will most likely switch for faster internet, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for faster internet” ratio is 42/86 or 48.8%.

| Intention to Switch | Intention to switch for faster internet | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 7 | 5 | 25 | 37 |
| No-Switch | 25 | 19 | 42 | 86 |
| Switch | 7 | 7 | 23 | 37 |
| Grand Total | 39 | 31 | 90 | 160 |

Table 4.4.5. The Cross Tabulation Analysis “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider for faster internet”.

4.4.4 Customer satisfaction

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I am not satisfied with my current mobile service provider and I would switch to another” shows that there are 114 persons that intent to switch for more satisfaction (Table 4.4.6.). From those only 15 (13.15%) had expressed the intention to switch. So consumers will most likely switch for more satisfaction, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for more satisfaction” ratio is 77/86 or 89.5%.

| Intention to Switch | Intention to switch for more satisfaction | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 10 | 5 | 22 | 37 |
| No-Switch | 9 | | 77 | 86 |
| Switch | 11 | 11 | 15 | 37 |
| Grand Total | 30 | 16 | 114 | 160 |

Table 4.4.6. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I am not satisfied with my current mobile service provider and I would switch to another”.

4.4.5 Service quality

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with more reliability” shows that there are 55 persons that intent to switch for more reliability (Table 4.4.7.). From those 20 (36.36%) had expressed the intention to switch. So consumers whom original intention was to switch will most likely switch for more reliability. Additionally, the “Non-switch” to “Switch for more reliability” ratio is 18/86 or 20.9%.

| Intention to Switch | Intention to switch for more reliability | | | |
|---------------------|--|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 13 | 7 | 17 | 37 |
| No-Switch | 21 | 47 | 18 | 86 |
| Switch | 11 | 6 | 20 | 37 |
| Grand Total | 45 | 60 | 55 | 160 |

Table 4.4.7. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with more reliability”.

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with better customer service” shows that there are 44 persons that intent to switch for better customer service (Table 4.4.8.). From those 14 (31.81%) had expressed the intention to switch, and 14 (31.81%) had stated that are not likely to switch. So consumers will most

likely switch for better customer service, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for more reliability” ratio is 14/73 or 19.18%.

| Intention to Switch | Intention to switch for better customer service | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 10 | 8 | 16 | 34 |
| No-Switch | 27 | 32 | 14 | 73 |
| Switch | 15 | 5 | 14 | 34 |
| Grand Total | 52 | 45 | 44 | 141 |

Table 4.4.8. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with better customer service”.

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with better facilities” shows that there are 38 persons that intent to switch for better facilities (Table 4.4.9.). From those only 12 (31.57%) had expressed the intention to switch, and 11 (28.94%) had stated that are not likely to switch. So consumers will most likely switch for better facilities, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for better facilities” ratio is 11/70 or 15.7%.

| Intention to Switch | Intention to switch for better facilities | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 10 | 10 | 15 | 35 |
| No-Switch | 27 | 32 | 11 | 70 |
| Switch | 11 | 7 | 12 | 30 |
| Grand Total | 48 | 49 | 38 | 135 |

Table 4.4.9. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with better facilities”.

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with more responsiveness” shows that there are 48 persons that intent to switch more

responsiveness (Table 4.4.10.). From those 16 (33.33%) had expressed the intention to switch, and 16 (33.33%) had stated that are not likely to switch. So consumers will most likely switch for more responsiveness, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for more responsiveness” ratio is 16/74 or 21.6%.

| Intention to Switch | Intention to switch for more responsiveness | | | |
|---------------------|---|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 9 | 10 | 16 | 35 |
| No-Switch | 25 | 33 | 16 | 74 |
| Switch | 13 | 6 | 16 | 35 |
| Grand Total | 47 | 49 | 48 | 144 |

Table 4.4.10. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with more responsiveness”.

4.4.6 Perceived service value

The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with more value for money” shows that there are 56 persons that intent to switch for more value for money (Table 4.4.11.). From those only 18 (32.14%) had expressed the intention to switch. So consumers will most likely switch for more value for money, even if their original intention was not to. Additionally, the “Non-switch” to “Switch for more value for money” ratio is 23/86 or 26.74%.

| Intention to Switch | Intention to switch for more value for money | | | |
|---------------------|--|-----------|--------|-------------|
| | Neutral | No-Switch | Switch | Grand Total |
| Neutral | 18 | 4 | 15 | 37 |
| No-Switch | 31 | 32 | 23 | 86 |
| Switch | 16 | 3 | 18 | 37 |
| Grand Total | 65 | 39 | 56 | 160 |

Table 4.4.11. The Cross Tabulation Analysis of “I am likely to switch from my current mobile service provider to another” against “I would switch to another mobile service provider with more value for money”.

4.4.7 Summary of significance of conditional factors

To sum up, the Cross Tabulation Analysis showed that the consumers who don't have the original intention to switch are more likely to switch under specific circumstances. They will most likely switch if switching costs are low (ratio 40.7%), and if another mobile service provider offers a lower price (ratio 41.9%). About technological aspects if another mobile service provider offers better network coverage, better call quality, or faster internet they will most likely switch to another provider (ratio 46.5%, 51.2%, and 48.8% respectively). Consumers will most likely switch for more satisfaction, even if their original intention was not to (ratio 89.5%). About service quality they would switch to another mobile service provider with more reliability, for a better customer service, for better facilities, and with more responsiveness (ratio 20.9%, 19.18%, 15.7%, and 21.6% respectively). Customers' perceived service value showed that they will most likely switch for more value for money, even if their original intention was not to (ratio 26.74%).

4.5 Evaluation of Influence factors

Examining the correlation coefficient among explanatory variables will help to specify the model of switching behaviour of mobile phone users in the telecommunication industry properly. The variables are examined and discussed testing their correlation. To test whether and how strongly the pair of dependent and independent variables are related, correlation analysis has been carried out. The independent variables that are examined testing their correlation with switching behaviour are costs, price, technological aspects, customer satisfaction, and perceived service value. The findings of the correlation analysis are shown in Appendix C. In correlation analysis if the value falls between 0.1 and 0.5 it means that there is a weak correlation between the variables. If the value falls between 0.5 to 1 then it indicates that there is a strong relationship between the variables.

4.5.1 Relationship between costs and switching behaviour

There is no significant correlation between their intention to switch with the time to get information to change, the effort to change their current provider and the cost to switch. The relationship between "I would switch to another mobile service provider if switching costs are low" and the likeliness to switch was significant at $p=0.01$ level with the correlation coefficient $r= 0.283$. The correlation analysis between "I would switch to

another mobile service provider if switching costs are low” and switching behaviour indicates that there is a weak positive correlation. According to the hypothesis, low switching costs have a significant influence on customers’ switching behaviour. The hypothesis is accepted for low switching costs. It means that if the switching costs are low, the intention of customers to switch will be increased.

4.5.2 Relationship between price and switching behaviour

The relationship between “I am happy with the price I pay for my mobile service” and the likeliness to switch was significant at $p=0.05$ level with the correlation coefficient $r= -0.132$. The correlation analysis between “I am happy with the price I pay for my mobile service” and the likeliness to switch indicates that there is a weak negative correlation. The relationship between “The price I pay for my mobile service is fair and reasonable” and the likeliness to switch was significant at $p=0.01$ level with the correlation coefficient $r= -0.210$. The correlation analysis between “The price I pay for my mobile service is fair and reasonable” and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “A higher price will make me switch to a competitor” and the likeliness to switch was significant at $p=0.01$ level with the correlation coefficient $r= 0.207$. The correlation analysis between “A higher price will make me switch to a competitor” and likeliness to switch indicates that there is a weak positive correlation.

The relationship between “I would switch to another mobile service provider for a lower price” and the likeliness to switch was significant at $p=0.01$ level with the correlation coefficient $r= 0.295$. The correlation analysis between “I would switch to another mobile service provider for a lower price” and likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, the price has a significant influence on customers’ switching behaviour. The hypothesis is accepted for “I am happy with the price I pay for my mobile

service,” “The price I pay for my mobile service is fair and reasonable”, “A higher price will make me switch to a competitor”, and “I would switch to another mobile service provider for a lower price”. It means that if they are happy with the price they pay, it will reduce the intention of customers to switch. Also, if the price they pay for their mobile service is fair and reasonable, it will reduce the intention of customers to switch. A higher price from their current mobile service provider will increase the intention of customers to switch. Finally, customers are more likely to switch if another mobile service provider offers a lower price.

4.5.3 Relationship between technological aspects and switching behaviour

The relationship between the sum of technological aspects and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.358$. The correlation analysis between the sum of technological aspects and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I would switch to another mobile service provider for better network coverage” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.191$. The correlation analysis between “I would switch to another mobile service provider for better network coverage” and the likeliness to switch indicates that there is a weak positive correlation.

The relationship between “I would switch to another mobile service provider for better call quality” and switching behaviour was significant at $p=0.05$ level with the correlation coefficient $r= 0.159$. The correlation analysis between “I would switch to another mobile service provider for better call quality” and the likeliness to switch indicates that there is a weak positive correlation.

The relationship between “I would switch to another mobile service provider for faster internet” and switching behaviour was significant at $p=0.05$ level with the correlation coefficient $r= 0.156$. The correlation analysis between “I would switch to another mobile

service provider for faster internet” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, the sum of technological aspects has a significant influence on customers’ switching behaviour. The hypothesis is accepted for the sum of technological aspects for “I would switch to another mobile service provider for better network coverage”, “I would switch to another mobile service provider for better call quality”, and “I would switch to another mobile service provider for faster internet”. It means that technological aspects (like good network coverage, and good call quality) would reduce the intention of customers to switch. On the other hand the intention to switch increases if another mobile service provider provides better network coverage, better call quality, and faster internet from their current provider.

4.5.4 Relationship between customer satisfaction and switching behaviour

The relationship between the sum of satisfaction and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.408$. The correlation analysis between the sum of satisfaction and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I am not satisfied with my current mobile service provider and I would switch to another” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.516$. The correlation analysis between “I am not satisfied with my current mobile service provider and I would switch to another” and the likeliness to switch indicates that there is a strong negative correlation.

According to the hypothesis, the sum of satisfaction has a significant influence on customers’ switching behaviour. The hypothesis is accepted for the sum of satisfaction and “I am not satisfied with my current mobile service provider and I would switch to another.” It means that the sum of satisfaction (the customers are satisfied with their current provider, they feel they made the right decision, they would recommend their

current provider, they speak well about their current provider and they would like to stay) will reduce their intention to switch. Nevertheless, they stated that when they are not satisfied with their current mobile service provider they are not likely to switch.

4.5.5 Relationship between service quality and switching behaviour

Reliability

The relationship between the sum of service quality/ reliability and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.324$. The correlation analysis between the sum of service quality/ reliability and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I would switch to another mobile service provider with more reliability” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.354$. The correlation analysis between “I would switch to another mobile service provider with more reliability” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, service quality/ reliability has a significant influence on customers' switching behaviour. The hypothesis is accepted for the sum of service quality/ reliability and “I would switch to another mobile service provider with more reliability”. It means that when their mobile service provider provides them reliable service quality (have excellent connection quality everywhere, the provider does not terminate unexpectedly their calls due to low or no signal, allows them clear voice calls, allows them calls without wait/ interruption, has good network coverage, and provides them the service promised) the intention of customers to switch will reduce. Nevertheless, the customers stated that another mobile service provider with more reliability would increase their intention to switch.

Assurance

The relationship between the sum of service quality/assurance and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.222$. The correlation analysis between the sum of service quality/ assurance and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I would switch to another mobile service provider with better customer service” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.278$. The correlation analysis between “I would switch to another mobile service provider with better customer service” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, service quality/ assurance has a significant influence on customers' switching behaviour. The hypothesis is accepted for the sum of service quality/ assurance and “I would switch to another mobile service provider with better customer service”. It means that when their mobile service provider provides them assured service quality (has customer service employees who are polity, convey trust, and convey confidence) are not likely to switch. Nevertheless, the customers stated that another mobile service provider with better customer service would increase their intention to switch.

Tangibles

The relationship between the sum of service quality/tangibles and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.198$. The correlation analysis between the sum of service quality/ tangibles and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I would switch to another mobile service provider with better facilities” and switching behaviour was significant at $p=0.01$ level with the correlation

coefficient $r= 0.260$. The correlation analysis between “I would switch to another mobile service provider with better facilities” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, service quality/ tangibles has significant influence on customers’ switching behaviour. The hypothesis is accepted for the sum of tangibility in service quality and “I would switch to another mobile service provider with better facilities”. It means that the tangibility in service quality (good appearance of physical facilities, modern looking hardware equipment, furniture, and fittings, good customer service employees and a good communication material/ face-to-face communication, broadcast media, mobile channels, electronic and written communication) will reduce the intention of customers to switch. Nevertheless, the customers stated that another mobile service provider with better facilities would increase their intention to switch.

Empathy

The relationship between the sum of service quality/empathy and switching behaviour was significant at $p=0.05$ level with the correlation coefficient $r= -0.141$. The correlation analysis between the sum of service quality/empathy and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I would switch to another mobile service provider with more empathy” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.193$. The correlation analysis between “I would switch to another mobile service provider with more empathy” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, service quality/empathy has a significant influence on customers’ switching behaviour. The hypothesis is accepted for the sum of service quality/ empathy and “I would switch to another mobile service provider with more empathy”. It means that empathy in service quality (customer service employees who

understand their needs, try to resolve their problems and issues, and provide them individualized attention) will reduce the intention of customers to switch. Nevertheless, the customers stated that another mobile service provider with more empathy would increase their intention to switch.

Responsiveness

The relationship between the sum of service quality/responsiveness and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= -0.216$. The correlation analysis between the sum of service quality/ responsiveness and the likeliness to switch indicates that there is a weak negative correlation.

The relationship between “I would switch to another mobile service provider with more responsiveness” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.240$. The correlation analysis between “I would switch to another mobile service provider with more responsiveness” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, service quality/responsiveness has a significant influence on customers’ switching behaviour. The hypothesis is accepted for sum of service quality/responsiveness and “I would switch to another mobile service provider with more responsiveness”. It means that responsiveness in service quality (has customer service employees who can help and advise them about service plans, can solve their technical issues, can solve their billing problems, can provide them prompt service, can resolve their problems and issues, are helpful through the call center, are knowledgeable, and are pleasant) will reduce the intention of customers to switch. Nevertheless, the customers stated that another mobile service provider with more responsiveness would increase their intention to switch.

4.5.6 Relationship between perceived service value and switching behaviour

The relationship between “The price of my mobile service provider is the best in the market” and switching behaviour was significant at $p=0.05$ level with the correlation coefficient $r= 0.131$. The correlation analysis between “The price of my mobile service provider is the best in the market” and the likeliness to switch indicates that there is a weak positive correlation.

The relationship between “I would switch to another mobile service provider with more value for money” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.269$. The correlation analysis between “I would switch to another mobile service provider with more value for money” and the likeliness to switch indicates that there is a weak positive correlation.

The relationship between “How much more are you willing to pay to ensure good network coverage?” and switching behaviour was significant at $p=0.05$ level with the correlation coefficient $r= 0.180$. The correlation analysis between “How much more are you willing to pay to ensure good network coverage?” and the likeliness to switch indicates that there is a weak positive correlation.

The relationship between “How much more are you willing to pay to ensure call quality?” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.212$. The correlation analysis between “How much more are you willing to pay to ensure call quality?” and the likeliness to switch indicates that there is a weak positive correlation.

The relationship between “How much more are you willing to pay to ensure fast internet?” and switching behaviour was significant at $p=0.01$ level with the correlation coefficient $r= 0.231$. The correlation analysis between “How much more are you willing to pay to ensure

fast internet?” and the likeliness to switch indicates that there is a weak positive correlation.

According to the hypothesis, perceived service value has a significant influence on customers’ switching behaviour. The hypothesis is accepted for “The price of my mobile service provider is the best in the market”, “I would switch to another mobile service provider with more value for money”, “How much more are you willing to pay to ensure good network coverage?”, “How much more are you willing to pay to ensure call quality?”, and “How much more are you willing to pay to ensure fast internet?”. Nevertheless, the customers who consider that the price of their current mobile service provider is the best in the market showed an increased intention to switch. Also, they stated that they would switch to another mobile service provider with more value for money, and the declaration increases their intention to switch. They are willing to pay more to ensure good network coverage, call quality and fast internet, increasing at the same time their intention to switch.

4.6 Influence of qualitative factors on switching behaviour (conditional intent to switch)

A qualitative analysis will help to interpret the data and to generate the key themes and insight from the research. The results can help in the development of the model of switching behaviour and to examine each independent variable according to the intention of respondents to switch from one mobile service provider to another. Exploring and generating the basis for a qualitative analysis will help to understand if these opinions support the hypothesis. Results of the analysis are shown in the tables that follow.

4.6.1 Barriers to switch

Table 4.6.1. shows the influence of switching costs on switching behaviour. Regarding the barriers to switch those who consider that getting info takes a lot of time they have more tendency to switch (53.57%) if switching costs are low compared to the rest for whom the corresponding percentage is 38.46%. Those who consider that it would take them a

lot of effort to change their current provider have less tendency to switch (50.94%) if switching costs are low compared to the rest for whom the corresponding percentage is 51.85%. The respondents who consider that it would cost them a lot to change their provider have more tendency to switch (70.27%) if switching costs are low compared to the rest for whom the corresponding percentage is 41.67%. Those who would switch to another mobile service provider if switching costs are low they consider as low switching cost the amount between €11-20 (37.80%). The respondents who wouldn't switch to another mobile service provider if switching costs are low (23.81%) consider as low switching costs the amount being more than €20. It seems that cost is the most influential factor as it shows the largest difference in intention among those who agree and those who disagree.

| I would switch to another mobile service provider if switching costs are low | % among those who | |
|---|-------------------|-----------------|
| | Agree | Disagree |
| It would take me a lot of time to get information in order to change my current provider | 53.57% | 38.46% |
| It would take me a lot of effort to change my current provider | 50.94% | 51.85% |
| It would cost me a lot to change my current provider | 70.27% | 41.67% |
| Consider as low switching cost to another mobile service provider 11-20€ | 37.80% | 16.67% |
| Consider as low switching cost to another mobile service provider >20€ | 6.10% | 23.81% |

Table 4.6.1. The influence of switching costs on intention to switch.

4.6.2 Price related factors

Table 4.6.2. shows the influence of price on switching behaviour. Regarding the price those who consider that are happy with the price they pay seem to have more tendency to switch (54.02%) if another mobile service provider offers a lower price compared to the rest for whom the corresponding percentage is 45%. The respondents who consider that the price they pay for their mobile service is fair and reasonable have less tendency to switch (48.19%) if another mobile service provider offers a lower price compared to the rest for whom the corresponding percentage is 50%. Those who consider that they

are not ready to pay a higher price on their network have more tendency to switch (56.91%) if another mobile service provider offers a lower price compared to the rest for whom the corresponding percentage is 50%. Those who consider that a higher price will make them switch to a competitor have more tendency to switch (65.63%) if another mobile service provider offers a lower price compared to the rest for whom the corresponding percentage is 45.83%. The respondents who would like to switch to another mobile service provider if price is lower (more than 10% from their current provider) have more tendency to switch (51.22%) compared to the rest for whom the corresponding percentage is 41.67%. It seems that a higher price from the current provider is the most influential factor as it shows the largest difference in intention among those who agree and those who disagree.

| I would switch to another mobile service provider for a lower price | % among those who | |
|--|-------------------|-----------------|
| | Agree | Disagree |
| I am happy with the price I pay for my mobile service | 54.02% | 45.00% |
| The price I pay for my mobile service is fair and reasonable | 48.19% | 50.00% |
| I am not ready to pay a higher price on my network | 56.91% | 50.00% |
| A higher price will make me switch to a competitor | 65.63% | 45.83% |
| How much lower would you like to pay for another mobile service provider if you switch? (More than 10%) | 51.22% | 41.67% |

Table 4.6.2. The influence of price on intention to switch.

4.6.3 Technological aspects

Table 4.6.3. shows the influence of technological aspects on switching behaviour. Regarding the technological aspects those who consider that there are frequent network problems with the current mobile service provider have more tendency to switch (78.38%) for better network coverage compared to the rest for whom the corresponding percentage is 40.45%. Those who consider that the network coverage of the current mobile service provider is good they have less tendency to switch (51.92%) for better network coverage compared to the rest for whom the corresponding percentage is 53.85%. The respondents who consider that the call quality of the current mobile service provider is good have less tendency to switch (53.85%) for better network coverage compared to the rest for whom the corresponding percentage is 90%. Those who consider

that the internet speed of the current mobile service provider is good have less tendency to switch (53.85%) for better network coverage compared to the rest for whom the corresponding percentage is 72.73%. It seems that the current frequent network problems is the most influential factor as it shows the largest difference in intention among those who agree and those who disagree.

| I would switch to another mobile service provider for better network coverage | % among those who | |
|--|-------------------|-----------------|
| | Agree | Disagree |
| There are frequent network problems with the current mobile service provider | 78.38% | 40.45% |
| The network coverage of the current mobile service provider is good | 51.92% | 53.85% |
| The call quality of the current mobile service provider is good | 53.85% | 90.00% |
| The internet speed of the current mobile service provider is good | 53.85% | 72.73% |

Table 4.6.3. Influence of technological aspects on intention to switch.

4.6.4 Satisfaction

Table 4.6.4. shows the influence of satisfaction on switching behaviour. Regarding the satisfaction, the respondents whose sum of satisfaction is low are not satisfied with their current mobile service provider and they have more tendency to switch (50%). The 5.43% of the respondents whose sum of satisfaction is high it is observed that their tendency to switch is low. The satisfaction is an important factor and when consumers are not satisfied their intention to switch to another increases. It seems that low satisfaction is the most influential factor as it shows the largest difference in intention among those who agree and those who disagree.

| I am not satisfied with my current mobile service provider and I would switch to another | % among those who | |
|---|-------------------|-----------------|
| | Agree | Disagree |
| Low sum of satisfaction | 50.00% | 21.43% |
| High sum of satisfaction | 5.43% | 83.72% |

Table 4.6.4. The influence of satisfaction on intention to switch.

4.6.5 Service quality

Table 4.6.5. shows the influence of service quality on switching behaviour. Regarding the service quality those who consider that the sum of reliability of their current mobile service provider is low have more tendency to switch (83.33%) to another mobile service provider with more reliability. The rest 31.30% consider that the sum of reliability is high and their tendency to switch is low. The respondents who consider that the sum of assurance of their current mobile service provider is low have more tendency to switch (44.44%) to another mobile service provider with better customer service compared to the rest whom the sum of assurance is high their tendency to switch is low (28.46%). Those who consider that the sum of tangibility in service quality of their current mobile service provider is low have more tendency to switch (30%) to another mobile service provider with better facilities compared to the rest whom the sum of assurance is high their tendency to switch is low (24.80%). Those who consider that the sum of empathy in service quality of their current mobile service provider is low have more tendency to switch (37.50%) to another mobile service provider with better facilities compared to the rest whom sum of empathy in service quality is high and their tendency to switch is low (25%). The respondents who consider that the sum of responsiveness in service quality of their current mobile service provider is low have more tendency to switch (66.67%) to another mobile service provider with better facilities compared to the rest whom sum of responsiveness in service quality is high their tendency to switch is low (26.52%). It seems that the reliability in service quality is the most influential factor as it shows the largest difference in intention among those who agree and those who disagree.

| Influence of service quality on intention to switch | Low | High |
|---|--------------------------|--------|
| I would switch to another mobile service provider with more reliability | % among those who | |
| Sum of service quality-reliability | 83.33% | 31.30% |
| I would switch to another mobile service provider with better customer service | % among those who | |
| Sum of service quality-assurance | 44.44% | 28.46% |
| I would switch to another mobile service provider with better facilities | % among those who | |
| Sum of service quality-tangibles | 30.00% | 24.80% |
| I would switch to another mobile service provider with more empathy | % among those who | |
| Sum of service quality-empathy | 37.50% | 25.00% |
| I would switch to another mobile service provider with more responsiveness | % among those who | |
| Sum of service quality-responsiveness | 66.67% | 26.52% |

Table 4.6.5. The influence of service quality on intention to switch.

4.6.6 Perceived Service Value

Table 4.6.6. shows the influence of perceived service value on switching behaviour. Regarding the perceived service value those who consider that the sum of perceived service value of their current mobile service provider is low have almost the same tendency to switch (40.54%) to another mobile service provider with better facilities compared to the rest 40.70% whom sum of perceived service value is high. About 41.07% would switch to another mobile service provider with more value for money and are willing to pay 1-10% more to ensure good network coverage. About 35.90% wouldn't switch to another mobile service provider with more value for money and are willing to pay 1-10% more to ensure good network coverage as well. About 41.07% would switch to another mobile service provider with more value for money and are willing to pay 1-10% more to ensure call quality. About 43.59% of the respondents wouldn't switch to another mobile service provider with more value for money and are not willing to pay more to ensure call quality. About 37.50% would switch to another mobile service provider with more value for money and are willing to pay 1-10% more to ensure fast internet. About 38.46% of respondents wouldn't switch to another mobile service

provider with more value for money and are not willing to pay more to ensure fast internet. Also, another percentage of 38.46% that wouldn't switch to another mobile service provider with more value for money are willing to pay 1-10% more to ensure fast internet. It seems that perceived service value is not influential factor as it shows the same intention among those who agree and those who disagree. Nevertheless, the good network coverage and the call quality play an important role for their perceived service value.

| I would switch to another mobile service provider with more value for money | % among those who | |
|--|--------------------------|-----------------|
| | Low | High |
| Sum of perceived service value | 40.54% | 40.70% |
| I would switch to another mobile service provider with more value for money | % among those who | |
| | Agree | Disagree |
| How much more are you willing to pay to ensure good network coverage? (1-10%) | 41.07% | 35.90% |
| How much more are you willing to pay to ensure call quality? (0%) | 30.36% | 43.59% |
| How much more are you willing to pay to ensure call quality? (1-10%) | 41.07% | 33.33% |
| How much more are you willing to pay to ensure fast internet? (0%) | 30.36% | 38.46% |
| How much more are you willing to pay to ensure fast internet? (1-10%) | 37.50% | 38.46% |

Table 4.6.6. The influence of Perceived Service Value on intention to switch.

4.7 Principal Component Analysis

Since the number of influence factors are too many and some of them highly related, a Principal Component Analysis (PCA) was conducted to define different aspects of the switching influences that may not be measured directly (latent variables) by the original variables, but could be expressed by clusters of variables. This would help to understand the structure of the set of variables and also to reduce the data set to a more manageable size while retaining as much of the original information as possible.

PCA examines which linear components exist within the data and how a particular variable might contribute to that component. It aims in defining the least number of components that explain the most part of the total variance in the data. By retaining factors with relatively large eigenvalues and ignoring those with relatively small eigenvalues, helps to calculate eigenvectors, the elements of which provide the loading of a particular variable on a particular factor (component).

Two alternative approaches were tried out. The first one is to apply PCA within each group of questions that refer to influences in a specific area of interest (e.g. price, technology, etc.). The other one was to apply PCA to the entire set of questions that represent the various influences considered in the questionnaire. Results are similar, however we selected to present the second approach since several components identified commonalities among variables belonging to different areas of interest.

The first principal component analysis (PCA) was conducted on the 44 items of variables that represent all areas of variables (switching costs, price, technological aspects, customer satisfaction, service quality, and perceived service value). Using Direct Oblimin, and following Kaiser's (1960) recommendation retaining all factors with eigenvalues greater than 1 the following results have been exported.

The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = 0.863$, which is considered great (Field, 2009). Bartlett's measure, tests the null hypothesis that the original correlation matrix is an identity matrix (Field, 2009). Bartlett's test of sphericity $\chi^2 (946) = 4092.155$, $p < .001$, indicated that correlations between items were sufficiently large for PCA, and therefore factor analysis is appropriate.

The anti-image correlation matrix needs to be studied in detail as it is the most informative. Examining the diagonal elements of the anti-image correlation matrix the values should be above the bare minimum of 0.5 for all variables (and preferably higher) (Field, 2009).

The KMO measures should all be greater than 0.5 at a bare minimum if the sample is adequate for a given pair of variables. If any pair of variables has a value less than this, should be dropped from the analysis.

The KMO value for items “I am not ready to pay a higher price on my network”, “A higher price will make me switch to a competitor” and “The price of my mobile service provider is the best in the market” which are 0.516, and 0.571 respectively, is well above the acceptable limit of 0.5. The rest KMO values range from 0.648 to 0.944. The KMO value for items “It would take me a lot of time to get information in order to change my current provider” and “It would take me a lot of effort to change my current provider” which are below 0.5 (0.388 and 0.406 respectively) should be excluded from the analysis and run the analysis without them. Removal of a variable affects the KMO statistics, so removing the variables the new anti-image correlation matrix should be re-examined.

The item “I would like to stay with my current provider” is removed as well since is almost identical with the independent variable (as seen by a logistic regression test). After the removal of 3 items “I would like to stay with my current provider”, “It would take me a lot of time to get information in order to change my current provider” and “It would take me a lot of effort to change my current provider” we run the analysis again and the follow KMO and Bartlett's Test was exported. A new (second) principal component analysis (PCA) was conducted on the 41 items of remaining variables

The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = 0.866. Bartlett’s test of sphericity $\chi^2 (820) = 3771.765$, $p < 0.001$, indicated that correlations between items were sufficiently large for PCA, and therefore factor analysis is appropriate.

Removal of a variable affects the KMO statistics, so removing the variables the new anti-image correlation matrix should be re-examined. The new analysis shows that the KMO

value which is below 0.5 is “I am not ready to pay a higher price on my network” and should be removed.

After the removal of “I am not ready to pay a higher price on my network” a new (third) principal component analysis (PCA) was conducted on the 40 items of remaining variables. Table 4.7.1. shows the KMO and Bartlett's Test. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = 0.871. Bartlett’s test of sphericity $\chi^2 (780) = 3710.446$, $p < 0.001$, indicated that correlations between items were sufficiently large for PCA, and therefore factor analysis is appropriate.

| | | |
|---|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.871 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3710.446 |
| | df | 780 |
| | Sig. | 0.000 |

Table 4.7.1. The KMO and Bartlett's Test

The new analysis shows that there are no KMO values below 0.5. The rest KMO values of Table 4.7.2. range from 0.619 to 0.956.

| Variable | MSA | Variable | MSA | Variable | MSA | Variable | MSA |
|-------------|-------------------|---------------|-------------------|--------------|-------------------|---------------|-------------------|
| X6.3 | .676 ^a | X10.10 | .850 ^a | X9.3 | .903 ^a | X10.23 | .831 ^a |
| X7.1 | .767 ^a | X10.12 | .852 ^a | X9.4 | .956 ^a | X10.24 | .913 ^a |
| X7.2 | .835 ^a | X10.13 | .850 ^a | X10.1 | .871 ^a | X10.25 | .893 ^a |
| X7.4 | .752 ^a | X10.14 | .852 ^a | X10.2 | .848 ^a | X10.26 | .925 ^a |
| X8.1 | .896 ^a | X10.15 | .887 ^a | X10.3 | .893 ^a | X10.27 | .905 ^a |
| X8.2 | .758 ^a | X10.17 | .889 ^a | X10.4 | .826 ^a | X10.28 | .917 ^a |
| X8.4 | .834 ^a | X10.18 | .865 ^a | X10.5 | .919 ^a | X11.1 | .720 ^a |
| X8.6 | .863 ^a | X10.19 | .905 ^a | X10.6 | .917 ^a | X11.2 | .848 ^a |
| X9.1 | .903 ^a | X10.21 | .948 ^a | X10.8 | .824 ^a | X11.3 | .619 ^a |
| X9.2 | .925 ^a | X10.22 | .839 ^a | X10.9 | .777 ^a | X11.4 | .870 ^a |

Table 4.7.2. The Anti-image Correlation Matrix where (a) denotes the Measures of Sampling Adequacy.

In Coefficient Display Format was requested that all loadings being absolute value below 0.4. To discover what common variance really exists between variables is needed to decide which factors are meaningful and discard any that are too trivial to consider. The closer the communalities are to 1, the better our factors are at explaining the original data. Table 4.7.3. shows that all communalities equal to 1.

| Variable | Initial | Extraction | Variable | Initial | Extraction |
|----------|---------|------------|----------|---------|------------|
| X6.3 | 1 | 0.671 | X10.10 | 1 | 0.795 |
| X7.1 | 1 | 0.615 | X10.12 | 1 | 0.828 |
| X7.2 | 1 | 0.741 | X10.13 | 1 | 0.771 |
| X7.4 | 1 | 0.769 | X10.14 | 1 | 0.79 |
| X8.1 | 1 | 0.682 | X10.15 | 1 | 0.721 |
| X8.2 | 1 | 0.856 | X10.17 | 1 | 0.683 |
| X8.4 | 1 | 0.784 | X10.18 | 1 | 0.702 |
| X8.6 | 1 | 0.714 | X10.19 | 1 | 0.675 |
| X9.1 | 1 | 0.748 | X10.21 | 1 | 0.678 |
| X9.2 | 1 | 0.748 | X10.22 | 1 | 0.71 |
| X9.3 | 1 | 0.773 | X10.23 | 1 | 0.707 |
| X9.4 | 1 | 0.806 | X10.24 | 1 | 0.775 |
| X10.1 | 1 | 0.727 | X10.25 | 1 | 0.811 |
| X10.2 | 1 | 0.6 | X10.26 | 1 | 0.705 |
| X10.3 | 1 | 0.785 | X10.27 | 1 | 0.701 |
| X10.4 | 1 | 0.756 | X10.28 | 1 | 0.728 |
| X10.5 | 1 | 0.758 | X11.1 | 1 | 0.745 |
| X10.6 | 1 | 0.835 | X11.2 | 1 | 0.773 |
| X10.8 | 1 | 0.763 | X11.3 | 1 | 0.577 |
| X10.9 | 1 | 0.82 | X11.4 | 1 | 0.705 |

Table 4.7.3. The Communalities with Extraction Method: Principal Component Analysis.

An initial analysis was run to obtain eigenvalues for each component in the data. Table 4.7.4. lists the eigenvalues associated with each linear component (factor) before extraction after extraction and after rotation (Field, 2009). By Kaiser's (1960) criterion eight components had initial eigenvalues equal to 1 and in combination explained 73.83% of the variance. The eighth and last component has eigenvalue 1.053 and the follow components have eigenvalue <1.

The anti-image correlation matrix identified 40 linear components within the data set. There should be as many eigenvectors as there are variables and so there will be as many factors as variables (Field, 2009). The eigenvalues associated with each factor represent the variance explained by that particular linear component (Field, 2009). The eigenvalues are displayed in terms of the percentage of variance explained. Factor 1 explains 39.685% of total variance, factor 2 explains 9.433% of total variance, factor 3 explains 7.840% of total variance etc. The first few factors (especially factor 1) explain relatively large amounts of variance whereas subsequent factors explain only small amounts of variance. There are 8 factors with eigenvalues greater than 1.

The eigenvalues associated with these factors are again displayed in the columns labelled Extraction Sums of Squared Loadings. The values for the discarded factors in this part of the table are ignored and the table is blank after the ninth factor. In the final part of the table (labelled Rotation Sums of Squared Loadings), the eigenvalues of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the 8 factors is equalized. Before rotation, factor 1 accounted for considerably more variance than the remaining seven (39.685% compared to 9.433%, 7.840%, 4.290% etc.). Appendix D shows the complete table.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings ^a |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|--|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 15.874 | 39.685 | 39.685 | 15.874 | 39.685 | 39.685 | 10.529 |
| 2 | 3.773 | 9.433 | 49.119 | 3.773 | 9.433 | 49.119 | 4.872 |
| 3 | 3.136 | 7.840 | 56.959 | 3.136 | 7.840 | 56.959 | 5.409 |
| 4 | 1.716 | 4.290 | 61.249 | 1.716 | 4.290 | 61.249 | 6.256 |
| 5 | 1.483 | 3.708 | 64.956 | 1.483 | 3.708 | 64.956 | 1.937 |
| 6 | 1.263 | 3.157 | 68.113 | 1.263 | 3.157 | 68.113 | 7.764 |
| 7 | 1.233 | 3.083 | 71.196 | 1.233 | 3.083 | 71.196 | 7.672 |

| | | | | | | | |
|-----|-------|-------|---------|-------|-------|--------|-------|
| 8 | 1.053 | 2.633 | 73.829 | 1.053 | 2.633 | 73.829 | 6.834 |
| 9 | 0.930 | 2.326 | 76.155 | | | | |
| 10 | 0.898 | 2.244 | 78.399 | | | | |
| ... | ... | ... | ... | ... | ... | ... | ... |
| 40 | 0.040 | 0.100 | 100.000 | | | | |

Table 4.7.4. The Total Variance Explained with Extraction Method: Principal Component Analysis. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

The above interpretation can be reconciled by the scree plot as well. By graphing the eigenvalues, the relative importance of each factor becomes apparent with a sharp descent in the curve followed by a tailing off (Field, 2009). The scree plot is shown in Figure 4.7.1. where the cut-off point for selecting factors should be at the point of inflexion of the curve. This curve begins to tail off after the eighth factor. The point of inflexion is where the slope of the line changes dramatically. The point of inflexion occurs at the ninth factor, thus we retain only the first eight factors to the left of the point of inflexion.

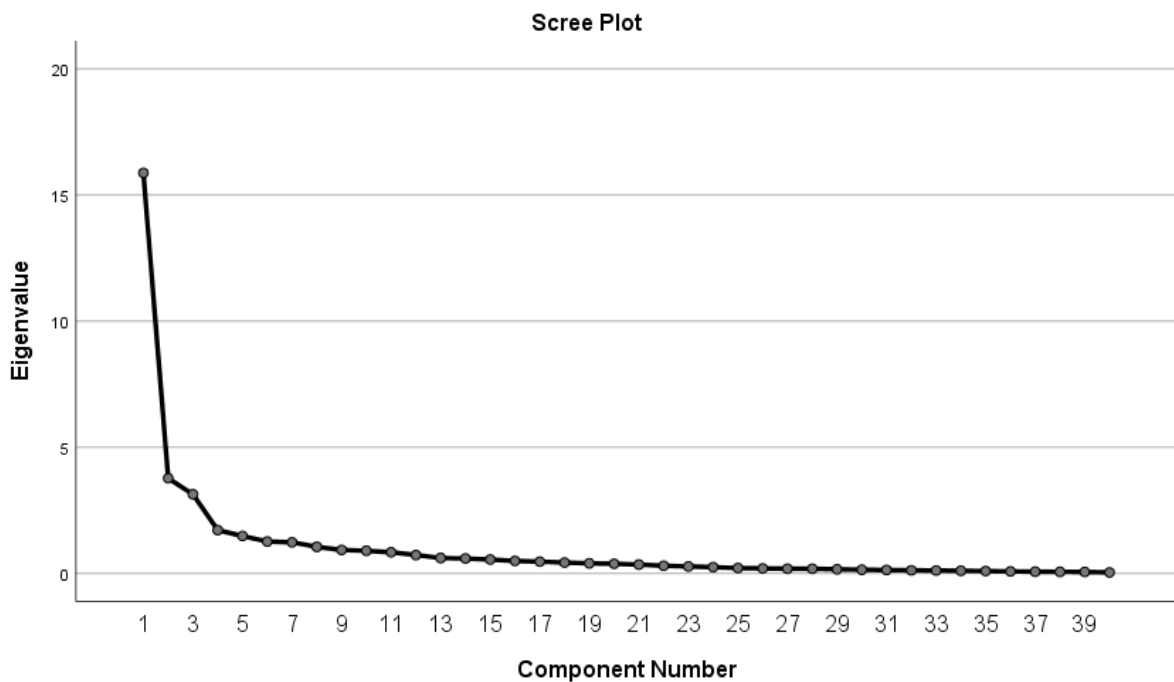


Figure 4.7.1. Scree Plot.

The structure matrix shows that several variables load highly onto more than one factor because of the relationship between the factors. Appendix E contains information about the unique contribution of a variable to a factor (Field, 2009). Eight components were retained in the final analysis. The table shows the factor loadings after rotation. The items that cluster on the same components suggest their representatives items. The follow interpretation of the components shows what those components represent giving some meaning. For each component is given a description of the high loaded variables, emphasizing on those elements that carry the most weight, and mentioning those with the less weight.

Interpretation of components

Component 1 in Table 4.7.9. represents the service quality (empathy, tangibles, and responsiveness). The elements that carry the most weight represent the ability of mobile service providers to resolve problems and issues, to solve technical issues, to provide prompt service, to provide help through the call center, to have pleasant employees, who solve billing problems, are knowledgeable and can help and advise customers about service plans (responsiveness). Also, the good customer service employees (tangibles), the solution of their problems and issues, the provision of an individualized attention and the understanding of their needs (empathy) show the highest weight. The combination of the willingness to help customers and to provide prompt service, the provision of care, the individualized attention to customers, and the good customer service employees show a high weight in component 1. The element of satisfaction (they speak well about their provider, they feel they made the right decision and are satisfied) and tangibles (good communication material, and modern looking of hardware equipment, furniture, and fittings) show less weight. The element assurance (convey confidence and trust, and are polite) and reliability (provision of service promised) carry the less weight in component 1.

| Variable | Type | Question | Component 1 |
|----------|----------------|---|--------------|
| X10.25 | responsiveness | Can resolve my problems and issues | 0.870 |
| X10.22 | responsiveness | Can solve my technical issues | 0.827 |
| X10.24 | responsiveness | Can provide me prompt service | 0.826 |
| X10.26 | responsiveness | Are helpful through the call center | 0.811 |
| X10.23 | responsiveness | Can solve my billing problems | 0.805 |
| X10.28 | responsiveness | Are pleasant | 0.791 |
| X10.27 | responsiveness | Are knowledgeable | 0.777 |
| X10.18 | empathy | Try to resolve my problems and issues | 0.770 |
| X10.21 | responsiveness | Can help and advise me about service plans | 0.754 |
| X10.19 | empathy | Provide me an individualized attention | 0.688 |
| X10.17 | empathy | Understand my needs | 0.653 |
| X10.14 | tangibles | Has good customer service employees | 0.629 |
| X10.15 | tangibles | Has a good communication material (face-to-face communication, broadcast media, mobile channels, electronic and written communication) with customers | 0.543 |
| X9.4 | satisfaction | I speak well about my current provider | 0.507 |
| X10.13 | tangibles | Has modern looking hardware equipment, furniture, and fittings | 0.481 |
| X9.2 | satisfaction | I feel I made the right decision when I chose my current provider | 0.473 |
| X9.1 | satisfaction | I am satisfied with my current provider | 0.468 |
| X10.10 | assurance | Convey confidence | 0.449 |
| X10.8 | assurance | Are polite | 0.426 |
| X10.6 | reliability | Provides me the service promised | 0.416 |
| X10.9 | assurance | Convey trust | 0.401 |

Table 4.7.9. The Structure Matrix of Component 1. The bold values are the highest and lowest ones.

Component 2 in Table 4.7.10. represents the combination of technological aspects (frequent network problems with the current mobile service providers) and price (a higher price will make them switch to a competitor). The combination of technological aspects with price affects significantly the switching behaviour of customers shows a high weight in component 2. Satisfaction (satisfied with their current provider and

recommend to others), and reliability (good network coverage) show less weight. The elements reliability (provision of service promised, and excellent connection quality everywhere) and satisfaction (well speaking about their current provider) show less weight. The technological aspects, of a good network, coverage, good call quality, and frequent network problems carry the less weight in component 2.

| Variable | Type | Question | Component 2 |
|--------------|--------------|--|---------------|
| X8.1 | technology | There are frequent network problems with the current mobile service provider | 0.651 |
| X9.1 | satisfaction | I am satisfied with my current provider | 0.575 |
| X10.5 | reliability | Has good network coverage | 0.533 |
| X9.3 | satisfaction | I would recommend my current provider to others | 0.525 |
| X10.6 | reliability | Provides me the service promised | 0.497 |
| X10.1 | reliability | Has excellent connection quality everywhere | 0.479 |
| X9.4 | satisfaction | I speak well about my current provider | 0.458 |
| X7.4 | price | A higher price will make me switch to a competitor | -0.797 |

Table 4.7.10. The Structure Matrix of Component 2. The bold values are the highest and lowest ones.

Component 3 in Table 4.7.11. represents a combination of perceived service value (the price is cheap and affordable, is reasonable, is good value for money, and is the best in the market) and price (fair and reasonable price, and the opinion that they are happy with the price they pay). The combination of a good price and a good value for money shows a high weight in component 3.

| Variable | Type | Question | Component 3 |
|-----------------|-------------------------|---|--------------------|
| X11.1 | perceived service value | The price of my mobile service provider is cheap and affordable | 0.837 |
| X7.2 | price | The price I pay for my mobile service is fair and reasonable | 0.813 |
| X11.2 | perceived service value | The price of my mobile service provider is reasonable | 0.782 |
| X11.4 | perceived service value | My mobile service provider offers good value for money | 0.738 |
| X7.1 | price | I am happy with the price I pay for my mobile service | 0.72 |
| X11.3 | perceived service value | The price of my mobile service provider is the best in the market | 0.674 |

Table 4.7.11. The Structure Matrix of Component 3. The bold values are the highest and lowest ones.

Component 4 in Table 4.7.12. represents service quality (assurance). The element that carries the most weight represents the employees who convey trust, are polite, and convey confidence. The variable with the highest loading in component 4 is the knowledge and courtesy of employees, and their ability to convey trust and confidence. The elements tangibles (good customer service employees, good communication material), empathy (individualized attention, and try to solve the problems), responsiveness (help and advise about service plans), and perceived service value (offer of good value for money) show less weight in component 4. The element of responsiveness (resolve of problems and issues, and help through the call center) shows the less weight in component 4.

| Variable | Type | Question | Component 4 |
|---------------|-------------------------|---|--------------|
| X10.9 | assurance | Convey trust | 0.886 |
| X10.8 | assurance | Are polite | 0.850 |
| X10.10 | assurance | Convey confidence | 0.847 |
| X10.14 | tangibles | Has good customer service employees | 0.568 |
| X10.19 | empathy | Provide me an individualized attention | 0.556 |
| X10.15 | tangibles | Has a good communication material (face-to-face communication, broadcast media, mobile channels, electronic and written communication) with customers | 0.511 |
| X10.21 | responsiveness | Can help and advise me about service plans | 0.470 |
| X10.18 | empathy | Try to resolve my problems and issues | 0.467 |
| X11.4 | perceived service value | My mobile service provider offers good value for money | 0.466 |
| X10.25 | responsiveness | Can resolve my problems and issues | 0.457 |
| X10.26 | responsiveness | Are helpful through the call center | 0.418 |

Table 4.7.12. The Structure Matrix of Component 4. The bold values are the highest and lowest ones.

Component 5 in Table 4.7.13. represents the costs (about the opinion that it would cost them a lot to change their current provider). The element of service quality/ empathy (understand of customer's needs) shows less weight in component 5. The element that carries the most weight represents the switching costs.

| Variable | Type | Question | Component 5 |
|---------------|---------|--|---------------|
| X6.3 | costs | It would cost me a lot to change my current provider | -0.685 |
| X10.17 | empathy | Understand my needs | 0.529 |

Table 4.7.13. The Structure Matrix of Component 5. The bold values are the highest and lowest ones.

Component 6 in Table 4.7.14. represents the combination of satisfaction, and service quality (reliability). The elements that carry the most weight is that of reliability (clear voice calls, calls without wait/ interruption, provision of the service promised, no

terminations unexpectedly the calls due to low or no signal, and good network coverage), and satisfaction (recommend my current provider to others, speak well about my current provider, the opinion that they made the right decision when they chose their current provider). The ability to perform the promised service dependably and accurately combined with satisfaction are highly weighted. The excellent connection quality everywhere and the opinion that they are satisfied with their current provider show less weight. The perceived service value (reasonable price) and the element of technological aspects (frequent network problems with the current mobile service provider, good network coverage, and good call quality) carry the less weight in component 6.

| Variable | Type | Question | Component 6 |
|-----------------|-------------------------|--|--------------------|
| X10.3 | reliability | Allows me clear voice calls | 0.855 |
| X10.4 | reliability | Allows me calls without wait/ interruption | 0.824 |
| X10.6 | reliability | Provides me the service promised | 0.785 |
| X10.2 | reliability | Does not terminate unexpectedly my calls due to low or no signal | 0.738 |
| X10.5 | reliability | Has good network coverage | 0.712 |
| X9.3 | satisfaction | I would recommend my current provider to others | 0.702 |
| X9.4 | satisfaction | I speak well about my current provider | 0.699 |
| X9.2 | satisfaction | I feel I made the right decision when I chose my current provider | 0.642 |
| X10.1 | reliability | Has excellent connection quality everywhere | 0.596 |
| X9.1 | satisfaction | I am satisfied with my current provider | 0.512 |
| X11.2 | perceived service value | The price of my mobile service provider is reasonable | 0.446 |
| X8.1 | technology | There are frequent network problems with the current mobile service provider | 0.437 |
| X8.2 | technology | The network coverage of the current mobile service provider is good | 0.436 |
| X8.4 | technology | The call quality of the current mobile service provider is good | 0.415 |

Table 4.7.14. The Structure Matrix of Component 6. The bold values are the highest and lowest ones.

Component 7 in Table 4.7.15. represents the service quality- tangibles. The good appearance of physical facilities, the modern looking hardware equipment, furniture, and fittings, the good communication material (face-to-face communication, broadcast media, mobile channels, electronic and written communication) with customers, and the good customer service employees are highly weighted in component 7. The appearance of physical facilities, equipment, personnel and communication material shows the most weight in component 7. The elements of responsiveness (pleasant and knowledgeable employees who can help and advise about service plans, provide prompt service, solve problems and technical issues), and reliability (good network coverage, excellent connection quality everywhere, and provision of service promised) show less weight. The understand of their needs (empathy), the clear voice calls (reliability), and the help through the call center (responsiveness) show the less weight in component 7.

| Variable | Type | Question | Component 7 |
|-----------------|----------------|---|--------------------|
| X10.12 | tangibles | Has a good appearance of physical facilities | -0.888 |
| X10.13 | tangibles | Has modern looking hardware equipment, furniture, and fittings | -0.853 |
| X10.15 | tangibles | Has a good communication material (face-to-face communication, broadcast media, mobile channels, electronic and written communication) with customers | -0.743 |
| X10.14 | tangibles | Has good customer service employees | -0.715 |
| X10.28 | responsiveness | Are pleasant | -0.598 |
| X10.27 | responsiveness | Are knowledgeable | -0.569 |
| X10.21 | responsiveness | Can help and advise me about service plans | -0.521 |
| X10.5 | reliability | Has good network coverage | -0.486 |
| X10.1 | reliability | Has excellent connection quality everywhere | -0.483 |
| X10.6 | reliability | Provides me the service promised | -0.478 |
| X10.24 | responsiveness | Can provide me prompt service | -0.477 |

| | | | |
|---------------|----------------|-------------------------------------|---------------|
| X10.25 | responsiveness | Can resolve my problems and issues | -0.475 |
| X10.22 | responsiveness | Can solve my technical issues | -0.428 |
| X10.17 | empathy | Understand my needs | -0.426 |
| X10.3 | reliability | Allows me clear voice calls | -0.414 |
| X10.26 | responsiveness | Are helpful through the call center | -0.404 |

Table 4.7.15. The Structure Matrix of Component 7. The bold values are the highest and lowest ones.

Component 8 in Table 4.7.16. represents a combination of technological aspects, satisfaction, and reliability. The technological aspects (the network coverage, the call quality, and the internet speed) with satisfaction (well speaking about their current mobile service provider, and the opinion that they made the right decision when they chose their current provider), and the reliability (excellent connection quality everywhere) show the highest weight in component 8. The element that carries the most weight represents the provided technology, the satisfaction of customers and the ability of mobile providers to perform the promised service dependably and accurately. The opinion that they are satisfied with their current provider, the good network coverage, the provision of service promised, the frequent network problems, and the recommendation to others show less weight in component 8. The provision of prompt service and the calls without wait/ interruption show the less weight in component 8.

| Variable | Type | Question | Component 8 |
|-----------------|--------------|---|--------------------|
| X8.2 | technology | The network coverage of the current mobile service provider is good | 0.916 |
| X8.4 | technology | The call quality of the current mobile service provider is good | 0.852 |
| X8.6 | technology | The internet speed of the current mobile service provider is good | 0.779 |
| X9.4 | satisfaction | I speak well about my current provider | 0.620 |
| X9.2 | satisfaction | I feel I made the right decision when I chose my current provider | 0.619 |
| X10.1 | reliability | Has excellent connection quality everywhere | 0.613 |

| | | | |
|---------------|----------------|--|--------------|
| X9.1 | satisfaction | I am satisfied with my current provider | 0.587 |
| X10.5 | reliability | Has good network coverage | 0.577 |
| X10.6 | reliability | Provides me the service promised | 0.576 |
| X8.1 | technology | There are frequent network problems with the current mobile service provider | 0.571 |
| X9.3 | satisfaction | I would recommend my current provider to others | 0.520 |
| X10.24 | responsiveness | Can provide me prompt service | 0.459 |
| X10.4 | reliability | Allows me calls without wait/interruption | 0.440 |

Table 4.7.16. The Structure Matrix of Component 8. The bold values are the highest and lowest ones.

Table 4.7.17. contains the correlation coefficients between factors. As predicted from the structure matrix, some factors have little or no relationship with other factors (correlation coefficients are low), and some other factors are interrelated to some degree. The existence of those correlations shows that the constructs measured can be interrelated (Field, 2009). If the constructs were independent, all factors should have 0 correlation coefficients. The component correlation matrix gives us a guide to whether there is independence between factors. From these data we cannot assume independence. We might expect a fairly relationship between the factors. In correlation analysis the values are below 0.5 and there is a weak correlation between the factors.

Factor 1 shows the highest positive correlation with factor 4 ($r=0.359$), and the highest negative correlation with factor 7 ($r=-0.436$). Factor 2 shows the highest positive correlation with factor 6 ($r=0.271$), and the highest negative correlation with factor 7 ($r=-0.025$). Factor 3 shows the highest positive correlation with factor 6 ($r=0.240$), and a negative correlation with factor 7 ($r=-0.212$). Factor 4 shows the highest negative correlation with factor 7 ($r=-0.324$). Factor 5 shows the highest positive correlation with factor 1 ($r=0.131$), and a negative correlation with factor 7 ($r=-0.149$). Factor 6 shows a negative correlation with factor 7 ($r=-0.254$). Factor 8 shows the highest positive correlation with factor 1 ($r=0.258$), and a negative correlation with factor 7 ($r=0.272$).

| Component | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------|--------|--------|--------|--------------|---------------|--------------|---------------|---------------|
| 1 | 1.000 | 0.256 | 0.167 | 0.359 | 0.131 | 0.254 | -0.436 | 0.258 |
| 2 | 0.256 | 1.000 | 0.195 | 0.185 | -0.025 | 0.271 | -0.242 | 0.246 |
| 3 | 0.167 | 0.195 | 1.000 | 0.203 | 0.078 | 0.240 | -0.212 | 0.074 |
| 4 | 0.359 | 0.185 | 0.203 | 1.000 | 0.062 | 0.202 | -0.324 | 0.136 |
| 5 | 0.131 | -0.025 | 0.078 | 0.062 | 1.000 | 0.049 | -0.149 | 0.067 |
| 6 | 0.254 | 0.271 | 0.240 | 0.202 | 0.049 | 1.000 | -0.254 | 0.413 |
| 7 | -0.436 | -0.242 | -0.212 | -0.324 | -0.149 | -0.254 | 1.000 | -0.272 |
| 8 | 0.258 | 0.246 | 0.074 | 0.136 | 0.067 | 0.413 | -0.272 | 1.000 |

Table 4.7.17. The Component Correlation Matrix with Extraction Method: Principal Component Analysis and Rotation Method: Oblimin with Kaiser Normalization. The bold values show the highest and lowest correlations.

4.8 Logistic Regression Model

Following the dimension reduction of the dataset and formulation of the 8 principal components, the final question to be addressed is whether the components can have a predictor power on the intention to switch, and if yes which are those components that significantly affect it. Logistic regression was conducted to assess the degree to which independent variables and how they predict customer switching behaviour. The logistic regression equation expresses the multiple linear regression equation in logarithmic terms overcoming the problem of violating the assumption of linearity (Field, 2009).

To make a prediction about a categorical outcome we needed to draw on past data (an extension of regression that allows to predict categorical outcomes based on predictor variables), (Field, 2009). Logistic regression is a version of multiple regression in which the outcome is a categorical variable and predictor variables are continuous or categorical (predicting which of two categories a person is likely to belong to given certain other information), (Field, 2009). If the categorical variable has exactly two categories the analysis is called binary logistic regression (Field, 2009). If the outcome has more than two categories, it is called multinomial (or polychotomous) logistic regression (Field, 2009).

In logistic regression, is predicted the value of a variable Y from predictor variables (Xs). Is predicted the probability of Y occurring given known values of Xs.

When there are several predictors the equation becomes:

$$P(Y) = \frac{1}{1 + e^{-(b_0 + b_1x_{1i} + b_2x_{2i} + \dots + b_nx_{ni})}}$$

in which P(Y) is the probability of Y occurring, e is the base of natural logarithms. In the bracketed portion of the equation there is a constant (b0), a predictor variable (X1) and a coefficient (or weight) attached to that predictor (b1). The logistic regression equation expresses the multiple linear regression equation in logarithmic terms (called the logit) and thus overcomes the problem of violating the assumption of linearity (Field, 2009).

Likelihood is the probability of obtaining a set of observations given the parameters of a model fitted to those observations (Field, 2009). Log-likelihood is the logarithm of the likelihood, and is a measure of error, or unexplained variation, in categorical models (Field, 2009). It sums the probabilities associated with the predicted and actual outcomes and is analogous to the residual sum of squares in multiple regression (Field, 2009). It is an indicator of how much unexplained information there is after the model has been fitted (Field, 2009). Large values of the log-likelihood statistic indicate poorly fitting statistical models (the larger the value of the log-likelihood, the more unexplained observations there are), (Field, 2009). Odds ratio (Exp(B)) is an indicator of the change in odds resulting from a unit change in the predictor (Field, 2009). Odds ratio is the ratio of the odds of an event occurring in one group compared to another, where an odds ratio of 1 would indicate that the odds of a particular outcome are equal in both groups (Field, 2009).

Wald statistic examines whether the b coefficient for that predictor is significantly different from zero (Field, 2009). If the coefficient is significantly different from zero then we can assume that the predictor is making a significant contribution to the prediction of the outcome (Field, 2009). The Forward Wald method is used to test whether any of these predictors can be removed from the model without having a substantial effect on how well the model fits the observed data.

As Dependent Variable was considered the answer to question “I am likely to switch from my current mobile service provider to another” encoded as 1 (Likely) and 0 (Not Likely), where 1 represents likely to switch from current mobile service provider to another and 0 represents not likely to switch from current mobile service provider to another (Appendix F). The neutral answers were ignored and were treated as missing values.

The results of the logistic regression analysis were used to test the hypotheses. The findings of Iteration History are shown in Table 4.8.1 which tells us that the log-likelihood of this baseline model is 96.038 which represents the fit of the most basic model to the data.

| Iteration | | -2 Log likelihood | Coefficients |
|-----------|---|-------------------|--------------|
| | | | Constant |
| Step 0 | 1 | 96.038 | -0.850 |
| | 2 | 95.984 | -0.907 |
| | 3 | 95.984 | -0.908 |

Table 4.8.1. The Iteration History, where constant is included in the model and Initial -2 Log Likelihood is 95.984. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

According to Classification Table in Appendix F there were 23 customers who are likely to switch, and only 57 who were not likely to switch. If is predicted that every customer is likely to switch, then this prediction will be correct 23 times out of 80 (i.e. 29% approx.). However, if is predicted that every customer is not likely to switch, then this prediction would be correct only 57 times out of 80 (71% approx.). Of the two available opinions it is better to predict that all customers are not likely to switch because this results in a greater number of correct predictions. The output shows a contingency table for the model in this basic state. Is predicted that all customers are not likely to switch, which results in 0% accuracy for the customers who are likely to switch, and 100% accuracy for those observed that are not likely to switch. Overall, the model correctly classifies 71.3% of customers.

According to the Table 4.8.2 the value of the constant (b0) is equal to -0.908.

| | | B | S.E. | Wald | df | Sig. | Exp(B) |
|---------------|----------|---------------|-------------|-------------|-----------|-------------|---------------|
| Step 0 | Constant | -0.908 | 0.247 | 13.498 | 1 | 0.000 | 0.404 |

Table 4.8.2. The variables in the Equation.

Table with variables which are not in the equation (Appendix F) shows that the residual chi-square statistic is 24.292 which is significant at $p < 0.05$ (Overall Statistics). Factor 1, factor 2, and factor 4 have significant score statistics at $p < 0.01$. Factor 3, factor 5, factor 6, and factor 7 are not good predictors because their score statistic is non-significant ($p > 0.05$). Factor 8 is non-significant ($p > 0.01$). Factor 2 will be selected for inclusion since is the one with the highest value for the score statistic (14.656) that has a significance below 0.05.

Table with Omnibus Tests of Model Coefficients in Appendix F checks that the new model (with explanatory variables) is an improvement over the baseline model. The chi-square in step 1 is highly significant (chi-square =15.805, $df =1$, $p < 0.001$) so the new model is significantly better. The first step shows that the chi-square values are the same for step, block and model.

The chi-square in step 2 has a lower Chi-squares value for step which has been decreased from the previous step (chi-square =5.140, $df =1$, $p > 0.001$), and is not significant. The chi-square in step 2 is highly significant for block and model (chi-square =20.945, $df =2$, $p < 0.001$) so the new model is significantly better. The Sig. values for block and model are $p < 0.001$, which indicates the accuracy of the model improves when we add our explanatory variables.

Table 4.8.3 shows summary statistics about the new model where the value of $-2LL$ should be less than the value when only the constant was included in the model. Lower values of $-2LL$ indicate that the model is predicting the outcome variable more accurately. When only the constant was included, $-2LL = 96.038$, but when factors included this value has been reduced to 80.179 (step 1). In the 2nd step the value has been reduced to 75.039.

The Nagelkerke's R^2 suggests that the model explains 25.7% of the variation in the outcome for 1st step, and the model explains 33% of the variation in the outcome for the 2nd step. The increase shows that the model is better in 2nd step.

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|-------------|---------------------------|---------------------------------|----------------------------|
| 1 | 80.179^a | 0.179 | 0.257 |
| 2 | 75.039^a | 0.230 | 0.330 |

Table 4.8.3. The Model Summary.

Table 4.8.4. shows that in step 1 the model correctly classifies 49 customers who were not likely to switch but misclassifies 8 others (it correctly classifies 86% of cases). The model also correctly classifies 8 customers who were likely to switch but misclassifies 15 others (it correctly classifies 34.8% of cases). The overall accuracy of classification is, therefore, the weighted average of these two values (71.3%). So, when only the constant was included, the model correctly classified 71.3% of customers (Appendix F), and now with the inclusion of factors as predictors, this has been 71.3% as well.

Table 4.8.4. shows that in step 2 the model correctly classifies 50 customers who were not likely to switch but misclassifies 7 others (it correctly classifies 87.7% of cases). The model also correctly classifies 8 customers who were likely to switch but misclassifies 15 others (it correctly classifies 34.8% of cases). The overall accuracy of classification is, therefore, the weighted average of these two values (72.5%). So, when only the constant was included, the model correctly classified 71.3% of customers (Appendix F), but now, with the inclusion of factors as predictors, this has risen to 72.5%.

| Observed | | | Predicted | | |
|---------------|--|------------|--|--------|--------------------|
| | | | I am likely to switch from my current mobile service provider to another | | Percentage Correct |
| | | | Not Likely | Likely | |
| Step 1 | I am likely to switch from my current mobile service provider to another | Not Likely | 49 | 8 | 86.0 |
| | | Likely | 15 | 8 | 34.8 |
| | Overall Percentage | | | | 71.3 |
| Step 2 | I am likely to switch from my current mobile service provider to another | Not Likely | 50 | 7 | 87.7 |
| | | Likely | 15 | 8 | 34.8 |
| | Overall Percentage | | | | 72.5 |

Table 4.8.4. The Classification Table. The cut value is .500.

Table 4.8.5. which is the Variables in the Equation table for step 2 shows the final answer of the question about the factors that affect the switching behaviour of customers. Factor 2, and factor 4 are included in the equation of step 2. The Wald statistic tests the statistical significance. The results of factor 2, show that there is a highly significant effect (Wald=10.602, df=1, $p=0.001 < 0.05$). The results of factor 4, show that there is a highly significant effect (Wald=4.823, df=1, $p=0.028 < 0.05$). The b coefficients for factor 2 and factor 4 are negative, indicating that an increase in factors is associated with decreased intentions of switching behaviour. The odds of an event occurring are defined as the probability of an event occurring divided by the probability of that event not occurring (Field, 2009). The Exp(B) for each variable category (the important Odds Ratio) interprets that the highest factor is factor 4 with 0.556 times more likely to switch behaviour than the lowest factors, and factor 2 shows $\text{Exp}(B)=0.336$ times. All the Exp(B) values are less than 1, which indicates that as the predictor increases, the odds of the outcome occurring decrease.

| | | B | S.E. | Wald | df | Sig. | Exp(B) | 95% C.I.for EXP(B) | |
|---------------------------|--|---------------|--------------|---------------|-----------|--------------|---------------|-------------------------------|-------|
| | | | | | | | | Lower | Upper |
| Step 1^a | REGR factor score 2 for analysis 1 | -1.079 | 0.309 | 12.211 | 1 | 0.000 | 0.340 | 0.186 | 0.623 |
| | Constant | -1.010 | 0.286 | 12.453 | 1 | 0.000 | 0.364 | | |
| Step 2^b | REGR factor score 2 for analysis 1 | -1.089 | 0.335 | 10.602 | 1 | 0.001 | 0.336 | 0.175 | 0.648 |
| | REGR factor score 4 for analysis 1 | -0.588 | 0.268 | 4.823 | 1 | 0.028 | 0.556 | 0.329 | 0.939 |
| | Constant | -1.079 | 0.306 | 12.444 | 1 | 0.000 | 0.340 | | |

Table 4.8.5. Variables which are in the Equation, where (a) denotes Variable(s) entered on step 1: REGR factor score 2 for analysis 1.

Table 4.8.6. shows that factor 1, Factor 3, factor 5, factor 6, factor 7, and factor 8 are not included in the equation of step 2 since did not significantly predict the outcome. The results of those factors show that there is no significant effect (df=1, $p > 0.05$).

| | | | Score | df | Sig. |
|---------------|-----------|------------------------------------|-------|----|-------|
| Step 2 | Variables | REGR factor score 1 for analysis 1 | 2.509 | 1 | 0.113 |
| | | REGR factor score 3 for analysis 1 | 0.001 | 1 | 0.978 |
| | | REGR factor score 5 for analysis 1 | 1.323 | 1 | 0.250 |
| | | REGR factor score 6 for analysis 1 | 0.453 | 1 | 0.501 |
| | | REGR factor score 7 for analysis 1 | 0.405 | 1 | 0.525 |
| | | REGR factor score 8 for analysis 1 | 2.349 | 1 | 0.125 |
| | | Overall Statistics | 7.665 | 6 | 0.264 |

Table 4.8.6. The variables which are not in the Equation.

The plot in Figure 4.8.1. is a histogram of the predicted probabilities of a customer who is likely to switch. The plot shows how accurate is the model in classifying individual cases. The model perfectly fits the data, since the histogram shows most of the cases for which they are likely to switch on the right-hand side, and most of the cases for not likely to switch on the left-hand side. There is a bunching of the observations towards the left and right ends of the graph. When the customer is likely to switch the predicted probability of the event occurring is also high (i.e. close to 1). At the other end of the plot shows that when the customer is not likely to switch the predicted probability of the event occurring is also low (i.e. close to 0). Few cases are misclassified since there are a few Ns (not likely) appearing on the likely side, but more worryingly there are quite a few Ls (likely) appearing on the not likely side.

The above formula shows that once b_i are fixed, we can easily compute either the log-odds that $Y=1$ for a given observation, or the probability that $Y=0$ for a given observation. The main usage for a logistic model is to be given an observation (X_1, X_2 , etc.), and estimate the probability p that $Y=1$.

The output (Table 4.8.5.) provides the coefficient of Intercept= -1.079, factor 2=-1.089, and factor 4=-0.588. These coefficients are entered in the logistic regression equation to estimate the odds (probability) of likeliness to switch:

$$\text{Log-odds of switch} = -1.079 - 1.089 * \text{Factor2} - 0.588 * \text{Factor 4}$$

$$\text{Odds of switch} = \exp (-1.079 - 1.089 * \text{Factor2} - 0.588 * \text{Factor 4})$$

One additional unit of factor 2 is estimated to decrease log-odds of switch by 1.089, so multiplying odds of switching by $\exp (-1.089) \approx 0.34$.

One additional unit of factor 4 is estimated to decrease log-odds of switch by 0.588, so multiplying odds of switching by $\exp (-0.588) \approx 0.56$.

The follow equation gives the estimated probability of switching:

$$\text{Probability of switch} = \frac{1}{1 + e^{-(-1.079 - 1.089 * \text{Factor2} - 0.588 * \text{Factor 4})}}$$

From logistic regression analysis is explored that factor 2 and factor 4 are significant factors for the switching behaviour of mobile phone users. Factor 2 represents the combination of technological aspects (frequent network problems with the current mobile service providers) and price (a higher price will make them switch to a competitor). The combination of technological aspects with price affects significantly the switching behaviour of customers. Factor 4 which represents service quality (assurance) is an important factor as well. The knowledge and courtesy of employees, and their ability to convey trust and confidence affect significantly the switching behaviour of customers. Finally, a model is developed, which describes switching behaviour and the effect of main influence factors.

Chapter 5

Conclusions & Recommendations

5.1 Introduction

Many researchers studied telecommunication industries and the determinants that affect customers to switch from one mobile phone service provider to another. There are many factors affecting customers' switching behaviour in a competitive mobile service market (Martins, Hor-Meyll, & Ferreira, 2013). It is important to understand why a consumer prefers another service provider rather than the original one. Switching behaviour plays an important role in the demand of the market, since it affects the demand, raises the supply and prevents the new competitors to enter in the market (Lim, Yeo, & Mei Ling, 2018).

The study contributes to the existing literature by analyzing the factors that affecting customer switching intention in the mobile service industry. With the analysis, the study identifies and synthesizes findings, examines the results and compares with the literature review. Chapter 5 provides conclusions about which factors affect the switching behaviour in the Cypriot market and the findings are compared with those of previous studies. Chapter 5 also provides the general conclusion, the limitations, and implementations of the study and recommends future research on the switching behaviour of mobile phone customers in Cyprus.

5.2 General Conclusion

The study provided evidence on the drivers of customer switching in the Cypriot market, evaluated their power and finally created a model to assess the probability of switching based on the examined factors. Based on the literature of previous studies that were conducted in different countries, the study identified the drivers for the switching behaviour of mobile phone users. All the above statistical tests and the hypotheses have satisfied the objective of the study to investigate the factors that influence the consumers to switch from their current mobile service provider to another.

The reliability analysis (Cronbach's alpha values) indicates that the variables are reliable and that the measurement scales were stable and consistent. The questionnaire was answered by 160 participants getting their demographic characteristics of age, gender, level of education, type of job, and level of monthly income. The Chi-square test showed that the demographic characteristics have no significant association with switching intention of mobile phone users and are independent.

The Cross Tabulation Analysis showed that the consumers who don't have the original intention to switch are more likely to switch under specific circumstances. They will most likely switch if switching costs are low, and if another mobile service provider offers a lower price. If another mobile service provider offers better network coverage, better call quality, or faster internet they will most likely switch to another provider. Consumers will most likely switch for more satisfaction, even if their original intention was not to. They would switch to another mobile service provider with more reliability, for a better customer service, for better facilities, and with more responsiveness. They will most likely switch for more value for money, even if their original intention was not to.

The correlation coefficient among explanatory variables showed the correlation between the independent variables and the intention to switch. If the switching costs are low, the intention of customers to switch will be increased. If the price they pay is fair and reasonable, it will reduce their intention to switch. A higher price from their current mobile service provider will increase their intention to switch. They are more likely to

switch if another mobile service provider offers a lower price as well. Frequent network problems, good network coverage, and good call quality reduce their intention to switch. If another mobile service provider provides better network coverage, better call quality, and faster internet from their current provider the intention to switch increases. The sum of satisfaction reduces the intention to switch. Nevertheless, even if they are not satisfied with their current provider, they are not likely to switch.

Moreover, the correlation coefficient showed that when they get reliable service quality their intention to switch will reduce. Nevertheless, they stated that another mobile service provider with more reliability would make them switch. When they get assured service quality are not likely to switch. Nevertheless, another mobile service provider with better customer service could make them switch. The tangibility in their service quality reduces their possibility for switching behaviour. Nevertheless, another mobile service provider with better facilities would increase their intention to switch. The empathy in service quality reduces their intention to switch. Nevertheless, they stated that another mobile service provider with more empathy would increase their intention to switch. The responsiveness in service quality reduces their intention to switch. Nevertheless, they stated that another mobile service provider with more empathy would increase their intention to switch. According to their perceived service value they stated that the price of their current mobile service provider is the best in the market, but their switching intention was high. Also, they stated that they would switch to another mobile service provider with more value for money, and they are willing to pay more to ensure good network coverage, call quality and faster internet, increasing at the same time their intention to switch.

The principal component analysis provided eight components. The combination of the willingness to help customers and to provide prompt service, the provision of care, the individualized attention to customers, and the good customer service employees show a high weight in component 1. The combination of technological aspects with price affects significantly the switching behaviour of customers and shows a high weight in component 2. The combination of a good price and a good value for money shows a high weight in component 3. The variable with the highest loading in component 4 is the knowledge and

courtesy of employees, and their ability to convey trust and confidence. The element that carries the most weight in component 5 represents the switching costs. The ability to perform the promised service dependably and accurately combined with satisfaction are highly weighted in component 6. The appearance of physical facilities, equipment, personnel and communication material shows the most weight in component 7. The element that carries the most weight in component 8 represents the provided technology, the satisfaction of customers and the ability of mobile providers to perform the promised service dependably and accurately.

From logistic regression analysis explored that factor 2 and factor 4 are significant factors for the switching behaviour of mobile phone users. Factor 2 represents the combination of technological aspects (frequent network problems with the current mobile service providers) and price (a higher price will make them switch to a competitor), which affects significantly the switching behaviour of customers. Factor 4 which represents service quality (assurance) is an important factor as well. The knowledge and courtesy of employees, and their ability to convey trust and confidence affect significantly the switching behaviour of customers. The hypothesis "Is it possible to develop a model that describes switching behaviour and the effect of main influence factors" is supported, and the final model is developed.

The frequent network problems with current mobile service provider is found to be important factor. The technological aspect which is found to be important factor is similar with other researches. Consumers are looking for new or upgraded technology from a competitor (Lee & Murphy, 2005). The technology must be accurate, consistent, error-free, user-friendly and reliable (Babu & Sundar, 2018). Awwad and Neimat (2010) and Prasad and Prasanna (2016) found that changes in technologies are important. The technology is found to be an important factor that affects the loyalty of consumers (Lee & Murphy, 2005). Technology can influence a customer's understanding of service quality (Babu & Sundar, 2018). John (2011) concluded that network quality enhances the loyalty of customers. Sathish, Santhosh Kumar, Naveen and Jeevanantham (2011) concluded that the factor network coverage is important as well. According to Venkatesh (2019) the network service quality is one of the major factors for consumers. Kumar, Rajyalakshmi,

and Asadi (2017) found that mobile phone customers switch providers due to network coverage in general and in their area in particular. Poor network coverage and frequent network problems are found to be important factors that affect the switching behaviour in Chennai (Sathish, Santhosh Kumar, Naveen, & Jeevanantham, 2011). According to Rahman (2012) the network quality is one of the important factors. Kouser, Qureshi, Shahzad, and Hasan (2012) found that network coverage is significantly related to the switching behaviour. John (2011) stated that network quality, enhance the loyalty of customers.

The price is found to be important factor since a higher price would make them switch to a competitor. The price which is found to be important for switching behaviour is consistent with findings of other studies. Keaveney (1995) found that price was in the third important subcategory. Calvo-Porrall and Lévy-Mangin (2015) suggested that mobile service providers should improve the consumers' understanding of the offered services, taking into account the prices and offer functional benefits. John (2011) suggest that to retain customers' loyal and satisfaction telecommunication service providers should take into account offered prices as well. Liang, Ma, and Qi (2013), Lee and Murphy (2005), and Uddin, et al. (2014) found that price influences customer's switching behaviour. Uddin and Akhter (2012) showed that fair price influence customer satisfaction and has a positive direct impact. Prasad and Prasanna (2016) concluded that price is important as well. According to Uddin, Hossain, and Rahman (2014) most of the mobile phone customers are price sensitive since an increase or decrease in price can change customer behaviour. Liang, Ma, and Qi (2013) found that high price is the most common reason for switching. According to Roos, et al. (2004) the mobile phone service providers who have low price strategies cause frequent switching of customers.

The polite employees who convey trust and confidence are found to be important for customers since they affect their intention to switching. The service quality (assurance) is found to be important for switching behaviour is consistent with findings of other researches. According to Venkatesh (2019) the call rate is one of the major factors for consumers. John (2011) who examined the factors that influence consumer's loyalty of Bharath Sanchar Nigam Limited in India suggested to improve customers' assurance.

Arokiasamy and Abdullah (2013) who examined the SERVQUAL model to test the impact of service quality on customer satisfaction in the cellular telecommunication service in Malaysia concluded that assurance influences positively customer satisfaction. Zhao, Lu, Zhang, & Chau (2012) who studied the effects of customer satisfaction in mobile communication services concluded that service quality has significant and positive effect on customer's cumulative satisfaction. Uddin, Hossain, and Rahman (2014) found that better service quality is one of the most important factors for customers to switch from one to another service provider. Akbar (2013) concluded that service quality has a significant impact on trust as well. Agyei and Kilika (2014) concluded that service quality is one of the most significant predictors for customer loyalty. According to Keaveney (1995) service encounter failure is the second most common reason for switching service providers.

5.3 Limitations of the Study

The study examines the switching behaviour of mobile phone users in the Cypriot market. Although the research findings provide some new insights to researchers, there were some gaps and limitations through the completion of the research. The limitations are stated below for discussion.

The sample size of 160 respondents of this study may not be a proper representative of the target audience. The results could be different and more representative to the population of the Cypriot market if there were more respondents. The sample may not be large enough to represent accurately the populations' attitude. Maybe a bigger sample could offer different and more representative results. A large amount of data from all types of demographic characteristics in practice could help to identify better the factors that affect switching behaviour.

A convenience sampling method was adopted to take answers from a group of people easy to contact or to reach. Convenience sample was used to collect information from the population who are conveniently available to provide this information. There was a

limitation on the sampling method. If a different method was employed, the study would have different results and conclusions.

There was a limitation of the few cases of intent to switch. The only question that was used as dependent variable was "I am likely to switch from my current mobile service provider to another". More variables/ questions could be used as dependent variables for the examination of several cases. The follow questions, that were used as independent variables could be used as dependent variables in several cases for the examination of the model: "I would switch to another mobile service provider with low switching costs", "I would switch to another mobile service provider for lower price", "I would switch to another mobile service provider for better network coverage", "I would switch to another mobile service provider for faster internet", "I am not satisfied with my current mobile service provider and I would switch to another", "I would switch to another mobile service provider with more reliability", "I would switch to another mobile service provider with more assurance", "I would switch to another mobile service provider with more tangibles", "I would switch to another mobile service provider with more empathy", "I would switch to another mobile service provider with more responsiveness", "I would switch to another mobile service provider with more value for money".

The groups that are more likely to switch from one mobile service to another should be examined more in depth. Taking into account the demographic factors (age, gender, level of education, type of job, and level of monthly income) a more targeted examination of groups could be useful to search the reasons why they are more likely to switch. Consumers 18-24 years old should be examined more about the reasons they are more likely to switch, since they showed more intention to switch compared to other ages. Men are more likely to switch from women, and they should be examined about the reasons why they are more likely to switch compared to women. Most of the respondents who have Bachelor Degree answered that are likely to switch, and should be examined about the factors that affect their intention compared to others how have other level of education. Students showed more intention to switch compared to others, and the factors should be identified compared to others with different job status. Most of the respondents

that are likely to switch had monthly gross income up to €500, and a further research could examine the reasons why those with lower income are more likely to switch.

The study focuses on one single sector, that of mobile phone operations. The study examines only the switching behaviour of mobile phone users, trying to identify the potential drivers in the mobile service industry. The mobile phone industry is characterized by high mobility of customers in switching among providers. The literature, the final results, and the conclusions concentrate on the mobile phone industry. The findings can't be generalized for the whole service sector. The general conclusions and the practical implementation is focused only on the mobile phone industry of the Cypriot market.

5.4 Practical Implementations of the Study

The research provides findings that can be adapted by mobile service providers to develop successful customer loyalty strategies and competitive advantages. The study provides findings for several practical implications. The study, the results, and the feedback are expected to be useful for researchers, telecommunication service providers, and consumers as well. Empirical results give recommendations to mobile phone operators in Cyprus. The thesis finally proposes a synthesized model of consumer switching behaviour. The results are expected to help telecommunication service providers in Cyprus to understand the factors that affect the consumer's behaviour and contribute to the improvement of the telecommunication industry by minimizing the weaknesses and threats, and providing better products and services to consumers.

The data help marketers to understand the factors that affect the consumer's behaviour in telecommunication services in Cyprus. The frequent network problems with current mobile service provider is found to be important factor. The price is found to be important factor since a higher price would make them switch to a competitor as well. The polite employees who convey trust and confidence are found to be important for customers since they affect their intention to switching. The results are expected to have direct implications for customer relationship managers and researchers who want to predict

and analyze the switching behaviour of mobile phone customers. The results provide improvement and support for better services from mobile service providers of the telecommunication industry. Furthermore, the study is expected to add value to the sector by opportunities to mobile service providers for maintenance, improvement, and changes in their companies.

The results of this research will contribute to the provision of better services. The findings could greatly benefit companies in the telecommunication industry. The study highlights the importance of the impact of factors like technology, price and assurance on switching behaviour of consumers in Cyprus. The findings of the study recommend mobile operators to focus on specific factors that affect the switching behaviour of their customers. The findings of the research have implications for the managers of mobile service firms. Understanding the influencing factors allows mobile service managers to focus in the most effective and efficient ways to prevent switching behaviour and as a result to reduce losses. The mobile service providers can make use of the information that is provided to retain customers, satisfy their expectations and minimize losses. Mobile phone service suppliers are recommended to focus on the expectations of customers and formulate operations and marketing strategies, to satisfy their customers.

The model of customer switching behaviour in a mobile service industry offers the implications for managers of mobile service companies. The need to develop customer retention strategies makes managers take actions to prevent customer switching. Managers of mobile service companies should investigate their own customers' reasons for switching intention. The sales managers must encourage front office personnel to offer service quality services with high standards. Managers should take into account that frequent network problems and a higher price will make customers switch to a competitor. Managers should know that employees who are polite, and convey trust and confidence minimize the possibilities of switching behaviour.

The study raises practical implication since the new findings can be applied by the mobile service operators. Managers in the industry will need to pay attention to the dimensions

of switching behaviour, to make better marketing strategies and to attract more customers. The managers should take into account the factors that influence customers' loyalty. It is important to build trust among the customers to retain them. To retain customers, the managers should employ strategies and examine the factors that affect their switching intention. When managers have a better understanding of the provided service, they will not lose their existing customers. Knowing the factors that affect the likeliness to switch, they will gain a competitive advantage for their companies and minimize the risk of losing customers.

5.5 Recommendations for Future Research

Based on the research methodology, the data analysis, the findings, and the conclusions the study provides relevant and appropriate recommendations for future research as well. The findings suggest whether mobile operators should put more focus on some important factors. Examining more carefully the reasons that customers decide to switch their current mobile service provider the study provides suggestions on which factors should be taken into account from mobile service companies to retain their customers' loyalty.

The companies should take into account the consumer's needs to minimize the possibility of switching to another competitor. Mobile operators need to develop programs to increase customer retention and prevent switching behaviour. According to the findings of the research, mobile service providers must consider the importance of frequent network problems combined with a high price. The knowledge and courtesy of employees, and their ability to convey trust and confidence affect significantly the switching behaviour of customers. Assurance is important as well to retain customers. The companies' management must implement new concepts to maximize the retention of consumers and minimize the risk of switching behaviour. The companies must consider the factors like technologies, price, and assurance.

A further study can be taken up to understand better the factor which combines technological aspects and price, and the factor of assurance. It would be interesting to

evaluate better the frequent network problems, and the impact of a higher price from the current provider. It is important a further study on service quality, in knowledge and courtesy of employees, and their ability to convey trust and confidence (like employees who are polite, and convey trust and confidence). The above factors affect significantly the switching behaviour of customers and should be examined in depth.

As this study is the initial study on the switching behaviour of mobile users in Cyprus, an interesting extension of future work would be the examination of other factors suggested by other researchers. For future research, it is suggested that other factors that may affect the consumer switching behaviour can be examined as well. Other studies shall add other factors that influence the switching intention of mobile phone users. Other researchers can examine factors that could be suitable for the creation of a model to assess the probability to switch to another mobile phone provider. There may be some other factors that can have an impact on consumers' switching behaviour, like corporate image, marketing, promotion/ advertising, tariff packages (contract services/ no contract services), the impact of family/friends, ethical problems, inconvenience, attraction by competitors, core service failure, response to failed service, competition, etc., to assess the probability of switching based on them.

For further research in the Cypriot market, it is suggested to use a bigger sample size to represent accurately the attitude of the population. A bigger sample would better represent the mobile phone users of the Cypriot market and provide results that are more generalizable for the Cypriot telecommunication industry. Bigger sample size by incorporating a more representative sample of society would help to examine the Cypriot market better. Concerning the sampling method, it is suggested to be used another than the convenience sample. Probably another sampling method could be more appropriate for the examination of the switching behaviour of consumers.

Future research by other service sectors would be helpful to examine the switching behaviour of consumers as well. By analyzing the profile of their customers, service firms will be able to provide special offers and create strategies for their retention. The further

examination of switching behaviour will enable service providers to become more competitive and provide customized solutions to problems of their customers. The research can be applied in other service industries as well to get information for the switching behaviour of services in general aspects.

The research can be occurred from mobile phone companies to examine the needs and the behaviour of their customers to improve specific gaps and bad practices. Mobile phone companies should analyze their customers to understand their differences (among age, gender, level of income, educational level, job status, etc.). They could explore research according to their profile to test their customers' needs and important factors that will make them switch. Therefore, they will get information about the important factors that make their customers switch to another mobile provider.

Finally, the study can be helpful for further research studies in similar perceptions, together with various improvements. The findings raise some points of concern which the researchers in marketing may want to investigate further. The findings of the research help mobile phone operators, and managers of other service firms as well. Future research may integrate new dimensions to examine how they influence consumers' decisions to stay or leave. The study suggests that researchers may want to use the consumer switching behaviour model to investigate other factors that affect them. As retention of consumers is significantly related to profitability, analysis of the switching behaviour of mobile phone users is of prime importance.

Appendices

Appendix A

Survey Questionnaire

| Variable | No | Questions |
|----------|-----------|---|
| X1 | 1 | Age |
| X2 | 2 | Gender |
| X3 | 3 | Level of education |
| X4 | 4 | Job Status |
| X5 | 5 | Level of monthly gross income |
| Y | 6 | I am likely to switch from my current mobile service provider to another |
| X6.1 | 7 | It would take me a lot of time to get information in order to change my current provider |
| X6.2 | 8 | It would take me a lot of effort to change my current provider |
| X6.3 | 9 | It would cost me a lot to change my current provider |
| X6.4 | 10 | I would switch to another mobile service provider if switching costs are low |
| X6.5 | 11 | What amount do you consider as low switching cost to switch to another mobile service provider? |
| X7.1 | 12 | I am happy with the price I pay for my mobile service |
| X7.2 | 13 | The price I pay for my mobile service is fair and reasonable |
| X7.3 | 14 | I am not ready to pay a higher price on my network |
| X7.4 | 15 | A higher price will make me switch to a competitor |
| X7.5 | 16 | I would switch to another mobile service provider for a lower price |
| X7.6 | 17 | How much lower would you like to pay for another mobile service provider if you switch? |
| X8.1 | 18 | There are frequent network problems with the current mobile service provider |
| X8.2 | 19 | The network coverage of the current mobile service provider is good |
| X8.3 | 20 | I would switch to another mobile service provider for better network coverage |
| X8.4 | 21 | The call quality of the current mobile service provider is good |

| | | |
|--------|-----------|---|
| X8.5 | 22 | I would switch to another mobile service provider for better call quality |
| X8.6 | 23 | The internet speed of the current mobile service provider is good |
| X8.7 | 24 | I would switch to another mobile service provider for faster internet |
| X9.1 | 25 | I am satisfied with my current provider |
| X9.2 | 26 | I feel I made the right decision when I chose my current provider |
| X9.3 | 27 | I would recommend my current provider to others |
| X9.4 | 28 | I speak well about my current provider |
| X9.5 | 29 | I would like to stay with my current provider |
| X9.6 | 30 | I am not satisfied with my current mobile service provider and I would switch to another |
| X10.1 | 31 | Has excellent connection quality everywhere |
| X10.2 | 32 | Does not terminate unexpectedly my calls due to low or no signal |
| X10.3 | 33 | Allows me clear voice calls |
| X10.4 | 34 | Allows me calls without wait/ interruption |
| X10.5 | 35 | Has good network coverage |
| X10.6 | 36 | Provides me the service promised |
| X10.7 | 37 | I would switch to another mobile service provider with more reliability |
| X10.8 | 38 | Are polite |
| X10.9 | 39 | Convey trust |
| X10.10 | 40 | Convey confidence |
| X10.11 | 41 | I would switch to another mobile service provider with better customer service |
| X10.12 | 42 | Has a good appearance of physical facilities |
| X10.13 | 43 | Has modern looking hardware equipment, furniture, and fittings |
| X10.14 | 44 | Has good customer service employees |
| X10.15 | 45 | Has a good communication material (face-to-face communication, broadcast media, mobile channels, electronic and written communication) with customers |
| X10.16 | 46 | I would switch to another mobile service provider with better facilities |
| X10.17 | 47 | Understand my needs |
| X10.18 | 48 | Try to resolve my problems and issues |
| X10.19 | 49 | Provide me an individualized attention |
| X10.20 | 50 | I would switch to another mobile service provider with more empathy |
| X10.21 | 51 | Can help and advise me about service plans |
| X10.22 | 52 | Can solve my technical issues |
| X10.23 | 53 | Can solve my billing problems |

| | | |
|--------|-----------|---|
| X10.24 | 54 | Can provide me prompt service |
| X10.25 | 55 | Can resolve my problems and issues |
| X10.26 | 56 | Are helpful through the call center |
| X10.27 | 57 | Are knowledgeable |
| X10.28 | 58 | Are pleasant |
| X10.29 | 59 | I would switch to another mobile service provider with more responsiveness |
| X11.1 | 60 | The price of my mobile service provider is cheap and affordable |
| X11.2 | 61 | The price of my mobile service provider is reasonable |
| X11.3 | 62 | The price of my mobile service provider is the best in the market |
| X11.4 | 63 | My mobile service provider offers good value for money |
| X11.5 | 64 | I would switch to another mobile service provider with more value for money |
| X11.6 | 65 | How much more are you willing to pay to ensure good network coverage? |
| X11.7 | 66 | How much more are you willing to pay to ensure call quality? |
| X11.8 | 67 | How much more are you willing to pay to ensure fast internet? |

Appendix B

Cross Tabulation Analysis

| Cross tabulation | | | X6.4 | | X7.5 | | X8.3 | | X8.5 | | X8.7 | | X9.6 | |
|------------------|------------|------------------|-----------|----------|----------|-----------|-----------|----------|----------|----------|----------|-----------|----------|----------|
| | | | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Y | 1 | Count | 10 | 9 | 9 | 10 | 11 | 8 | 9 | 7 | 7 | 11 | 9 | 2 |
| | | Expected Count | 6.3 | 7 | 7 | 6.3 | 7.3 | 6.2 | 7.2 | 7.5 | 6.8 | 7.8 | 7.5 | 11.1 |
| | | % within Y | 38.50% | 34.60% | 34.60% | 38.50% | 42.30% | 30.80% | 34.60% | 26.90% | 26.90% | 42.30% | 34.60% | 7.70% |
| | | % within X value | 25.60% | 20.90% | 20.90% | 25.60% | 24.40% | 21.10% | 20.50% | 15.20% | 16.70% | 22.90% | 19.60% | 2.90% |
| | % of Total | 6.30% | 5.60% | 5.60% | 6.30% | 6.90% | 5.00% | 5.60% | 4.40% | 4.40% | 6.90% | 5.60% | 1.30% | |
| | 2 | Count | 1 | 6 | 2 | 5 | 4 | 3 | 3 | 4 | 2 | 3 | 2 | 2 |
| | | Expected Count | 2.7 | 3 | 3 | 2.7 | 3.1 | 2.6 | 3 | 3.2 | 2.9 | 3.3 | 3.2 | 4.7 |
| | | % within Y | 9.10% | 54.50% | 18.20% | 45.50% | 36.40% | 27.30% | 27.30% | 36.40% | 18.20% | 27.30% | 18.20% | 18.20% |
| % within X value | | 2.60% | 14.00% | 4.70% | 12.80% | 8.90% | 7.90% | 6.80% | 8.70% | 4.80% | 6.30% | 4.30% | 2.90% | |

| | | | | | | | | | | | | | |
|--------------------------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | % of Total | 0.60% | 3.80% | 1.30% | 3.10% | 2.50% | 1.90% | 1.90% | 2.50% | 1.30% | 1.90% | 1.30% | 1.30% |
| Total | Count | 39 | 43 | 43 | 39 | 45 | 38 | 44 | 46 | 42 | 48 | 46 | 68 |
| | Expected Count | 39 | 43 | 43 | 39 | 45 | 38 | 44 | 46 | 42 | 48 | 46 | 68 |
| | % within Y | 24.40% | 26.90% | 26.90% | 24.40% | 28.10% | 23.80% | 27.50% | 28.70% | 26.30% | 30.00% | 28.70% | 42.50% |
| | % within X value | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| | % of Total | 24.40% | 26.90% | 26.90% | 24.40% | 28.10% | 23.80% | 27.50% | 28.70% | 26.30% | 30.00% | 28.70% | 42.50% |
| 1: Agree | | | | | | | | | | | | | |
| 2: Strongly Agree | | | | | | | | | | | | | |

Appendix C

Correlation Coefficient

| Variables | | | X6.4 | X7.1 | X7.2 | X7.4 | X7.5 | X8.3 | X8.5 | X8.7 | sum_tech_nology | X9.6 | sum_satisfaction | X10.7 | sum_serv.quality_reliability |
|---|---|-------------------------|--------|---------------------------|---------|----------------------------|--------|--------------------------|--------|---------------------------------|-----------------|---------|------------------|--------|------------------------------|
| Ken dall's tau_b | Y | Correlation Coefficient | .283** | -.132* | -.210** | .207** | .295** | .191** | .159* | .156* | -.358** | -.516** | -.408** | .354** | -.324** |
| Variables | | | X10.1 | sum_servquality_assurance | X10.6 | sum_serv.quality_tangibles | X10.2 | sum_serv.quality_empathy | X10.9 | sum_serv.quality_responsiveness | X11.3 | X11.5 | X11.6 | X11.7 | X11.8 |
| Ken dall's tau_b | Y | Correlation Coefficient | .278** | -.222** | .260** | -.198** | .193** | -.141* | .240** | -.216** | .131* | .269** | .180* | .212** | .231** |
| ** . Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | | | | | | | | |
| * . Correlation is significant at the 0.05 level (2-tailed). | | | | | | | | | | | | | | | |

Appendix D

Principal Component Analysis

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings ^a |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|--|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total |
| 1 | 15.874 | 39.685 | 39.685 | 15.874 | 39.685 | 39.685 | 10.529 |
| 2 | 3.773 | 9.433 | 49.119 | 3.773 | 9.433 | 49.119 | 4.872 |
| 3 | 3.136 | 7.840 | 56.959 | 3.136 | 7.840 | 56.959 | 5.409 |
| 4 | 1.716 | 4.290 | 61.249 | 1.716 | 4.290 | 61.249 | 6.256 |
| 5 | 1.483 | 3.708 | 64.956 | 1.483 | 3.708 | 64.956 | 1.937 |
| 6 | 1.263 | 3.157 | 68.113 | 1.263 | 3.157 | 68.113 | 7.764 |
| 7 | 1.233 | 3.083 | 71.196 | 1.233 | 3.083 | 71.196 | 7.672 |
| 8 | 1.053 | 2.633 | 73.829 | 1.053 | 2.633 | 73.829 | 6.834 |
| 9 | 0.930 | 2.326 | 76.155 | | | | |
| 10 | 0.898 | 2.244 | 78.399 | | | | |
| 11 | 0.839 | 2.098 | 80.496 | | | | |
| 12 | 0.728 | 1.820 | 82.317 | | | | |
| 13 | 0.610 | 1.525 | 83.842 | | | | |
| 14 | 0.590 | 1.476 | 85.318 | | | | |
| 15 | 0.550 | 1.376 | 86.694 | | | | |
| 16 | 0.495 | 1.238 | 87.932 | | | | |
| 17 | 0.468 | 1.170 | 89.102 | | | | |
| 18 | 0.430 | 1.075 | 90.177 | | | | |
| 19 | 0.400 | 0.999 | 91.176 | | | | |
| 20 | 0.383 | 0.959 | 92.134 | | | | |
| 21 | 0.351 | 0.878 | 93.012 | | | | |
| 22 | 0.303 | 0.757 | 93.770 | | | | |
| 23 | 0.274 | 0.686 | 94.455 | | | | |
| 24 | 0.249 | 0.622 | 95.078 | | | | |

| | | | | | | | |
|----|-------|-------|---------|--|--|--|--|
| 25 | 0.211 | 0.528 | 95.606 | | | | |
| 26 | 0.199 | 0.497 | 96.102 | | | | |
| 27 | 0.185 | 0.463 | 96.566 | | | | |
| 28 | 0.184 | 0.460 | 97.026 | | | | |
| 29 | 0.165 | 0.411 | 97.437 | | | | |
| 30 | 0.145 | 0.364 | 97.801 | | | | |
| 31 | 0.136 | 0.341 | 98.142 | | | | |
| 32 | 0.122 | 0.306 | 98.448 | | | | |
| 33 | 0.114 | 0.285 | 98.733 | | | | |
| 34 | 0.105 | 0.262 | 98.994 | | | | |
| 35 | 0.096 | 0.240 | 99.234 | | | | |
| 36 | 0.078 | 0.195 | 99.429 | | | | |
| 37 | 0.070 | 0.175 | 99.604 | | | | |
| 38 | 0.062 | 0.154 | 99.759 | | | | |
| 39 | 0.057 | 0.142 | 99.900 | | | | |
| 40 | 0.040 | 0.100 | 100.000 | | | | |

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Appendix E

Structure Matrix

| | Component | | | | | | | |
|---------------|-----------|--------|-------|-------|--------|-------|--------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| X10.25 | 0.870 | | | 0.457 | | | -0.475 | |
| X10.22 | 0.827 | | | | | | -0.428 | |
| X10.24 | 0.826 | | | | | | -0.477 | 0.459 |
| X10.26 | 0.811 | | | 0.418 | | | -0.404 | |
| X10.23 | 0.805 | | | | | | | |
| X10.28 | 0.791 | | | | | | -0.598 | |
| X10.27 | 0.777 | | | | | | -0.569 | |
| X10.18 | 0.770 | | | 0.467 | | | | |
| X10.21 | 0.754 | | | 0.470 | | | -0.521 | |
| X10.19 | 0.688 | | | 0.556 | | | | |
| X10.17 | 0.653 | | | | 0.529 | | -0.426 | |
| X7.4 | | -0.797 | | | | | | |
| X8.1 | | 0.651 | | | | 0.437 | | 0.571 |
| X11.1 | | | 0.837 | | | | | |
| X7.2 | | | 0.813 | | | | | |
| X11.2 | | | 0.782 | | | 0.446 | | |
| X11.4 | | | 0.738 | 0.466 | | | | |
| X7.1 | | | 0.720 | | | | | |
| X11.3 | | | 0.674 | | | | | |
| X10.9 | 0.401 | | | 0.886 | | | | |
| X10.8 | 0.426 | | | 0.850 | | | | |
| X10.10 | 0.449 | | | 0.847 | | | | |
| X6.3 | | | | | -0.685 | | | |
| X10.3 | | | | | | 0.855 | -0.414 | |
| X10.4 | | | | | | 0.824 | | 0.440 |
| X10.6 | 0.416 | 0.497 | | | | 0.785 | -0.478 | 0.576 |
| X10.2 | | | | | | 0.738 | | |

| | | | | | | | | |
|---|-------|-------|--|-------|--|-------|--------|-------|
| X10.5 | | 0.533 | | | | 0.712 | -0.486 | 0.577 |
| X9.3 | | 0.525 | | | | 0.702 | | 0.520 |
| X9.4 | 0.507 | 0.458 | | | | 0.699 | | 0.620 |
| X9.2 | 0.473 | | | | | 0.642 | | 0.619 |
| X10.12 | | | | | | | -0.888 | |
| X10.13 | 0.481 | | | | | | -0.853 | |
| X10.15 | 0.543 | | | 0.511 | | | -0.743 | |
| X10.14 | 0.629 | | | 0.568 | | | -0.715 | |
| X8.2 | | | | | | 0.436 | | 0.916 |
| X8.4 | | | | | | 0.415 | | 0.852 |
| X8.6 | | | | | | | | 0.779 |
| X10.1 | | 0.479 | | | | 0.596 | -0.483 | 0.613 |
| X9.1 | 0.468 | 0.575 | | | | 0.512 | | 0.587 |
| Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. | | | | | | | | |

Appendix F

Logistic Regression Results

| Dependent Variable Encoding | |
|-----------------------------|----------------|
| Original Value | Internal Value |
| Not Likely | 0 |
| Likely | 1 |

| Classification Table ^{a,b} | | | | | |
|--|--|------------|--|--------|--------------------|
| Observed | | | Predicted | | |
| | | | I am likely to switch from my current mobile service provider to another | | Percentage Correct |
| | | | Not Likely | Likely | |
| Step 0 | I am likely to switch from my current mobile service provider to another | Not Likely | 57 | 0 | 100.0 |
| | | Likely | 23 | 0 | 0.0 |
| | Overall Percentage | | | | |
| a. Constant is included in the model. | | | | | |
| b. The cut value is .500 | | | | | |

| Variables not in the Equation | | | | | |
|---|-----------|------------------------------------|--------|--------|-------|
| | | | Score | df | Sig. |
| Step 0 | Variables | REGR factor score 1 for analysis 1 | 8.507 | 1 | 0.004 |
| | | REGR factor score 2 for analysis 1 | 14.656 | 1 | 0.000 |
| | | REGR factor score 3 for analysis 1 | 0.344 | 1 | 0.557 |
| | | REGR factor score 4 for analysis 1 | 7.337 | 1 | 0.007 |
| | | REGR factor score 5 for analysis 1 | 1.753 | 1 | 0.185 |
| | | REGR factor score 6 for analysis 1 | 2.913 | 1 | 0.088 |
| | | REGR factor score 7 for analysis 1 | 0.608 | 1 | 0.435 |
| | | REGR factor score 8 for analysis 1 | 6.365 | 1 | 0.012 |
| | | Overall Statistics | | 24.292 | 8 |
| Block 1: Method = Forward Stepwise (Wald) | | | | | |

| Iteration History ^{a,b,c,d} | | | | | |
|--|---|-------------------|--------------|------------------------------------|------------------------------------|
| Iteration | | -2 Log likelihood | Coefficients | | |
| | | | Constant | REGR factor score 2 for analysis 1 | REGR factor score 4 for analysis 1 |
| Step 1 | 1 | 81.877 | -0.764 | -0.749 | |
| | 2 | 80.222 | -0.968 | -1.023 | |
| | 3 | 80.179 | -1.009 | -1.077 | |
| | 4 | 80.179 | -1.010 | -1.079 | |
| | 5 | 80.179 | -1.010 | -1.079 | |
| Step 2 | 1 | 77.893 | -0.746 | -0.671 | -0.397 |
| | 2 | 75.187 | -0.997 | -0.985 | -0.541 |
| | 3 | 75.040 | -1.074 | -1.082 | -0.584 |
| | 4 | 75.039 | -1.079 | -1.089 | -0.588 |
| | 5 | 75.039 | -1.079 | -1.089 | -0.588 |
| a. Method: Forward Stepwise (Wald) | | | | | |
| b. Constant is included in the model. | | | | | |
| c. Initial -2 Log Likelihood: 95.984 | | | | | |
| d. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001. | | | | | |

| Omnibus Tests of Model Coefficients | | | | |
|-------------------------------------|-------|---------------|----------|--------------|
| | | Chi-square | df | Sig. |
| Step 1 | Step | 15.805 | 1 | 0.000 |
| | Block | 15.805 | 1 | 0.000 |
| | Model | 15.805 | 1 | 0.000 |
| Step 2 | Step | 5.140 | 1 | 0.023 |
| | Block | 20.945 | 2 | 0.000 |
| | Model | 20.945 | 2 | 0.000 |

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